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RALPH H. BLANCHARD, EDITOR

FIRE INSURANCE UNDERWRITING

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FIRE INSURANCE UNDERWRITING

BY
PRENTISS B. REED

FIRST EDITION
THIRD IMPRESSION

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PREFACE

Since insurance against loss by fire became a business, the underwriters responsible for its results have found it necessary to limit acceptance of business to persons, properties, forms of contracts, and amounts of insurance which, in combination with obtainable rates, will produce a premium income in excess of the outgo for losses and expenses. In this book I have tried to show what underwriters must consider before accepting business, where they may find information to guide them, and how they should formulate their decisions.

Underwriting is a combination of producing and selecting business, and distributing amount at risk. To succeed, the underwriter must produce enough business to support his organization, must select it, and must distribute amount at risk so that he will consistently show a profit, or, if his organization is a mutual company, assure the regular payment of dividends.

The book had its origin in the scholarship course formerly maintained by the fire insurance companies at Columbia University. Readers are assumed to have some general knowledge of risks, policies, fire loss, rating methods, the workings of agency and brokerage offices, and company operations. The book should enable a student to familiarize himself with the work of underwriting by informing him what is done, why it is done, and how it is done.

I am deeply indebted to all those members of the insurance fraternity who helped me with information and advice during the book's preparation. The untimely death of Vice-president Frank S. Hatfield of the Phoenix Insurance Company of Hartford prevented him from finishing his review of my material. Chris Sheffe, Assistant Manager of The London Assurance, and three residents of my native city, Atlanta, Dowdell Brown, Manager of the Southern Department of the Commercial Union Assurance Company, Eugene Ransom, Assistant Manager, and Ralph

Hendee, Agency Superintendent, gave me great help by their pertinent criticisms. Ashby Hill, Vice-president and Secretary of The Home Group, and Edward P. Folley, Production Manager of the Crum & Forster Group, also gave me special help in the work. They should not, however, be charged with responsibility for any statements I have made or conclusions I have drawn.

PRENTISS B. REED.

NEW YORK,
April, 1940.

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FIRE INSURANCE UNDERWRITING

CHAPTER I

INTRODUCTORY

The sale of policies and the adjustment and payment of losses sustained by policyholders are the fundamental operations of the fire insurance business. The practices of the business which, if intelligently followed, will make the average year's result profitable are summarized in the word *underwriting.*

The fire insurance business shows average regular results over a period of time because the insurable property of a country is not a combustible unit which can be destroyed by a single fire but is an aggregation of separate risks: buildings, their contents, and property in the open, such as lumber piles and haystacks, most of which are spaced or walled so that fire starting in one risk does not often spread to another.

The number of risks in any civilized country is large. The number destroyed or damaged by fire in any year is relatively small. Although fire at times reaches conflagration proportions, it does not ordinarily extend beyond the building of origin, particularly in areas where there is efficient fire protection.

Fires have occurred so frequently in the past that a reliable forecast can be made of how often they will occur in the future and the amount of damage that they will cause. Guided by past experience, the fire insurance business sells policies at rates that will provide a sufficient premium income from the large number of risks insured to pay the losses on the relatively small number that each year are damaged or destroyed by fire.

Carriers.—*Stock companies, mutuals, reciprocals* or *interinsurance exchanges,* and groups of underwriters, such as those at

Lloyd's, are the kinds of carriers engaged in the fire insurance business.

Stock companies as distinguished from mutuals usually write at fixed premiums; and their stockholders benefit by the increased value of their stocks and by dividends, if the business earns a profit, or suffer by decreased value and lack of dividends, perhaps even by assessment, if the business operates at a loss. The policyholders of such companies do not ordinarily participate in their profits or losses. Stock companies transact the larger part of the fire insurance business in the United States.

Mutual companies share their profits with their policyholders by paying them dividends and usually have power to assess their policyholders when incurred losses and expenses are in excess of current income, although many mutuals issue nonassessable policies. Formerly the operations of mutual companies were confined to restricted territories and classes. In the last 10 years, however, the mutual companies have tended to expand operations into new territories and classes.

Reciprocals or interinsurance exchanges are associations whose members insure the property of one another. Reciprocals necessarily restrict their business to that of a membership presumably financially able to undertake the obligations.

A group of underwriters who individually insure stipulated percentages of the risks covered by the policies that they sign is known as a *Lloyd's* (or Lloyds) group. The group of underwriters at Lloyd's, London, is the oldest group of such underwriters and also the oldest insurance group in existence.

In their contract relations with policyholders the carriers are *insurers*, and in their ways of doing business they are in general so much alike that hereafter, except in matters of contract, they will be referred to as companies.

The Sale of Policies.—Relatively few fire insurance policies are sold by the carriers direct to the policyholders, as most policies are sold through *producers*, *i.e.*, through *agents* or *brokers*. Agents are company representatives; brokers are representatives of the policyholders. The stock companies sell practically all their policies through producers. Although a number of mutuals sell through producers, others deal direct with policyholders. Reciprocals deal direct with policyholders. Underwriters at Lloyd's

sell all policies through brokers. Selling policies is termed *production.*

Adjustment and Payment of Loss.—Losses of less than $100 are frequently adjusted by the local agent who wrote the policy, but many small losses and almost all losses greater than $100 are adjusted by *adjusters*, men skilled in loss work.

Insurance and Reinsurance.—The term *insurance* is ordinarily used to describe the contract by which an insurance carrier insures a person against loss of property. The term *reinsurance* describes the contract by which one carrier insures, in whole or in part, the liability of another.

Underwriting.—The purpose of underwriting is (1) the production of a premium volume large enough to maintain and gradually to augment the company organization and (2) the making of a fair profit on the volume or, in the case of the mutual or reciprocal organization which does not operate for profit, the keeping of outgo within income.

Companies try to sell their policies to reliable persons and try to insure the kinds of property on which past experience has been profitable. They also try to use policy forms free from ambiguities or provisions that might lead to misunderstandings or difficulties in case of loss and that do not impose on the insurer a greater liability than the rate warrants. They try to avoid doing business with persons or insuring property or using policy forms when excessive expense, excessive loss, or controversy, with its attendant danger to relations with valuable producers or policyholders, might result. The practice of considering probable experience and deciding whether to insure or not to insure certain risks or persons is termed *selection.*

Companies try to get from each risk the maximum premium consistent with the necessary precaution against losing too much in a single fire. They therefore graduate the amounts to be written on risks and adjoining or adjacent risks according to the probable loss in case of fire, often reinsuring part of the *gross* amount so that the remaining *net* amount will conform to the desired graduation. The practice of avoiding concentrations of amount at risk is termed *distribution.*

Companies try to have their losses adjusted properly and paid promptly. Overpayment of losses destroys the value of under-

writing efforts, and underpayment or unjustifiably delayed payment drives away the persons who are desirable as policyholders.

Companies, except the relatively few that deal direct with policyholders, must satisfy the legitimate requirements of the agents and brokers who vigorously compete with one another for the business to be had in their respective communities.

Agents and brokers are vitally interested in production, and, apart from their interest in the fortunes of the companies, they try to select business according to the cost of handling, also according to the probable effect that any business might have on their future relations with company or policyholder. They try to limit their dealings to persons who pay their bills promptly and who are reasonable, avoiding dealings with persons of bad credit or with those who might give both them and their companies bad advertising after suffering a suspicious loss or making an exorbitant claim.

A company must produce a volume of business large enough to support an adequate organization. Such a volume can be underwritten with assurance of satisfactory results because, on the whole, fire insurance rates are adequate, and enough experience has been accumulated to enable the *underwriters*, who are officers or employees of the company, to make a proper selection of business and a proper distribution of the amount at risk. If, therefore, the company accepts the better risks and rejects the poorer; gets the prevailing rates on risks that it accepts; uses proper forms; writes liberal amounts on those risks where losses will probably be small, and small amounts on those where losses will probably be large; does not risk too much in a single block or fire area; and gives proper attention to the adjustment of its losses, it will, over a period of time, experience a ratio of loss to premiums that will make the business profitable.

Causes of Loss.—Loss under a policy is caused by destruction or damage of the property by fire in such a manner and to such an extent that the insured will suffer a loss for which the company will be liable under the form of policy that he holds. The amount of loss under the policy is determined by the extent of damage to the property and the terms of the policy. All losses are the result of accident or intent or a combination of the two. Accidental fires occur because of *physical hazard;* intentional fires, because of

noral hazard. Losses paid under policies are, at times, exaggerated by fraud.

Physical Hazard.—The physical hazard of a risk depends upon conditions that affect the chance of its accidental destruction by fire. These conditions are (1) construction, (2) occupancy, (3) exposure, and (4) protection.

Moral Hazard.—The moral hazard of a risk depends upon conditions that may cause it to be neglected in such a way that fire is likely to occur or may cause it to be intentionally set on fire by the insured. These conditions are (1) ownership, (2) interests, (3) value, (4) tenancy, (5) occupancy, and (6) location. The moral hazard of a risk may be *inside moral hazard* or *outside moral hazard.* By some underwriters the term inside moral hazard is used to designate the hazard of the person or persons named in the insurance contract, whether as insured or as payee. By others it is used to designate also persons who, although not named in the contract, frequent or occupy the risk. In similar manner the term outside moral hazard is used by some underwriters to designate the hazard of any persons not named in the insurance, whereas by others it is used to designate only such persons as do not frequent or occupy the risk.

The moral hazard of a person insured depends upon conditions that determine the probability of his intentionally burning the property, aggravating the damage before or after the fire, or attempting to collect a deliberately inflated claim. These conditions are (1) his characteristic attitude toward the crime of arson and the attempt to defraud an insurance company; (2) his condition, financially, physically, mentally, and socially; and (3) his opportunities for success with an incendiary fire or a fraudulent claim.

A prominent underwriter writes as follows regarding inside moral hazard:

> There are really two classes into which moral hazard as distinguished from physical hazard may be divided.
>
> First: That which has to do with arson, incendiarism, the procuring of fires or intentional carelessness which invites fires, or after the fire the making of dishonest and fraudulent claims, or the increasing of a loss by active means or intentional neglect of the property damaged.

Second: The things which are temperamental with the insured or his surroundings or employees, that are expressed in poor housekeeping, carelessness in removing rubbish, in making needed repairs, in caring for protective appliances, or in prohibition of smoking, and in general the neglect of maintaining property in good condition and in a state of cleanliness, particularly in those essentials which, when neglected, tend to breed fires.[1]

The term moral hazard is loosely used. It should mean the hazard of the insured's setting fire to the property or making a fraudulent claim. Another term should be used to indicate the hazard of poor housekeeping, carelessness, or neglect of maintenance when these are not intended by the insured to set the property on fire. Some underwriters use the term *personal hazard* rather than moral hazard to include the two classes. The latter class is at times called *morale hazard.*

Underwriting Information.—A company requires much general and special information in order to underwrite business. Certain information is necessary to prepare policies that will be correctly written contracts. Additional information is needed to make the sales of policies transactions that will collectively show a profit for the company and individually be free from embarrassing consequences to the company.

A company must know whether the character and credit of a person who seeks to hold a policy are such as to warrant insuring him. It must know whether the characteristics and location of the property,[2] its *construction, occupancy, exposure,* and *protection,* are such as to warrant making it the subject of insurance. If they are, the company must know further what rate should be charged for the insurance and what amount should be written or retained under the policy.

Fire Insurance Rates.—The rates charged by the majority of stock companies doing business in the United States are made by various rating organizations which have developed schedules of basis rates and charges and credits, all of which are more or less based on experience. Rates are intended to reflect the fire hazard of the various risks and classes rated, according to construction, occupancy, protection, and exposure; but because of

[1] BARBOUR, R. P., "The Agent's Key to Fire Insurance," 4th ed., p. 146.
[2] See Chap. XI.

competition or politics, they are in many instances distorted. There is also a lack of knowledge as to the effect of the several elements of the fire hazard. The various rating systems attempt to relate the frequency and extent of property loss caused by accidental elements of fire hazard to the value of the property exposed. A rating system treats with the property in a given territory under average or normal conditions but does not and cannot take into consideration all peculiarities of individual pieces of property. It does not, for instance, differentiate between old and new buildings of the same construction or between well-assorted and ill-assorted stocks of the same kind of merchandise. Neither does it consider the character or resources of a policy-holder or the unusual trouble or expense often encountered when adjusting losses with claimants who are grasping, ignorant, or careless; who lack definite knowledge about their own property; and whose records covering its acquisition, use, or value are ambiguous or inadequate.

Rates also take into consideration the insurance payment to be made under a contemplated form, the rate for a form embodying a *coinsurance clause* or *average clause*[1] being lower than for a form that does not.

Common and Competitive Interests.—Frequently several fire insurance companies will insure at the same time the same person or the same property. One company may insure the building, another the contents, and still another the *rents* or the *use and occupancy*.[2] But it is also often the case that several companies will participate in all the insurance on a pro-rata basis. Active agents generally represent more than one company, and active brokers generally do business with more than one company. Hence, fire insurance companies have many interests in common, although at the same time they compete vigorously with one another.

Association and Cooperation.—The needs and customs of the fire insurance business have made it advisable for large groups of companies to associate for purposes of self-government and also to conduct many activities on a cooperative basis. Governing bodies seek to regulate relations of companies and producers; and

[1] See Coinsurance Clause, p. 285, and Average Clause, p. 286.

[2] See Chap. VII.

cooperative associations seek to reduce the expense of doing business, eliminate undesirable practices, or aid particular groups of companies in their competition with other companies for special classes of business.[1]

Underwriting Profit or Loss.—The following company underwriting exhibit for a calendar year shows how underwriting profit or loss is computed.

TABLE I

PREMIUMS FOR 1934:		
Total premiums for year	$ 693,640.09	
Add unearned premiums as of December 31 of previous year	651,901.96	
Total	1,345,542.05	
Deduct unearned premiums as of December 31 of current year	696,345 44	
PREMIUMS EARNED DURING THE YEAR		$649,196.61
LOSSES:		
Losses paid during year	221,984.98	
Add unpaid losses as of December 31 of current year	35,914 47	
Total	257,899.45	
Deduct unpaid losses as of December 31 of previous year	56,387.00	
LOSSES INCURRED DURING THE YEAR		$201,512.45
LOSS ADJUSTMENT EXPENSES:		
Loss adjustment expenses paid during the year	21,079.04	
Add loss adjustment expenses unpaid as of December 31 of current year	2,708.30	
Total	23,787.34	
Deduct loss adjustment expenses unpaid as of December 31 of previous year	3,593.00	
LOSS ADJUSTMENT EXPENSES INCURRED DURING THE YEAR		20,194.34
UNDERWRITING EXPENSES:		

[1] See Cooperative Activities, Appendix J.

Underwriting expenses paid during the year	349,985.52		
Add underwriting expenses unpaid December 31 of current year	40,781.27		
Total	390,766.79		
Deduct underwriting expenses unpaid as of December 31 of previous year	33,063.14		
UNDERWRITING EXPENSES INCURRED DURING THE YEAR		357,703.65	
UNDERWRITING LOSSES AND EXPENSES			579,410.44
GAIN FROM UNDERWRITING DURING THE YEAR			$ 69,786.17

The computation is often condensed into the following form:

TABLE II

1934:		
Premiums written		$693,640.09
Losses incurred	$201,512 45	
Loss expenses incurred	20,194.34	
Underwriting expenses incurred	357,703.65	579,410.44
Trade profit		114,229.65
Unearned premium reserve Dec. 31, 1934	696,345.44	
Unearned premium reserve Dec. 31, 1933	651,901.96	
Increase in reserve		44,443.48
Underwriting profit		$ 69,786.17

The terms *total premiums for year*, *premiums written*, and *unearned premiums* are explained in the third paragraph following. The terms *losses paid* and *expenses paid* cover losses and expenses actually paid during the period, regardless of the fact that some are chargeable to fires and transactions in other years. The terms *losses incurred* and *expenses incurred* are used respectively to cover losses and expenses resulting from fires and transactions that occurred during a given period (the calendar year 1934 in the foregoing example), as contrasted with the losses and expenses actually paid during the same period. Losses and expenses that occur in the early part of a period will generally have been paid by its end; but some losses, generally those which occur near the end of the period, are not adjusted, and some expenses are not

billed in time to be paid before the company's books are closed. If amounts are not definitely settled, they are entered on the books at estimated figures.

The profit or loss of an insurance company on its yearly business is computed in the same way as the profit or loss of any other business institution, except for the factor of unearned premiums. If a steel company sells and delivers 100,000 tons of steel during a year at an average price of $60 a ton, its receipts for the year will be $6,000,000. If its costs of operation, charges for depreciation, and taxes total $5,500,000, its net profit will be $500,000. But if an insurance company writes policies during a year on which the premiums total $6,000,000 and incurs losses and expenses aggregating $5,500,000, its *trade profit* will be $500,000, but its *underwriting profit* may be more or less than that figure.

When the steel company delivers its product and collects for it from the buyers, the money has been earned. But when the insurance company delivers its policies and collects the premiums from its policyholders, it has only begun to earn the money that it has taken in. At any time during the term of a policy the insured may return it for cancellation, or the company may see fit to cancel it. Upon its cancellation, the company must return the part of the premium that it has not earned. Not until all policies written during the year expire does the company earn all the premiums received during that year. The sum total of the premiums of these policies is termed *premiums written*. As long as any policy remains in force, the company must treat the unearned premium as a liability and maintain a reserve out of which to liquidate it. Should the financial condition of the company become impaired, the insurance department of the state where the company is domiciled may use the reserve to reinsure the business in another company. Because of such possible use, the reserve is often referred to as the *reinsurance* reserve.

In the operation of an insurance company the reserve for unearned premiums tends to increase or decrease as its business increases or decreases. Therefore at the end of a year of decreasing business, the underwriting profit of a company may be greater than the trade profit, owing to the fact that the unearned premium reserve has decreased, and the amount by which it has decreased during the year has been added to the trade profit. Conversely,

during a year of increasing business the underwriting profit may be less than the trade profit. Occasionally the over-rapid expansion of a company's business produces such an increase in unearned premium reserve as to wipe out the company's surplus and impair its capital.

Policies are written for *short terms* (terms less than one year), for one year, and for *long terms* (terms longer than one year).[1]

The clerical labor required to maintain a record that would show from day to day or even from month to month the unearned premium on each policy written by an insurance company would cost a considerable sum of money. Consequently, the state insurance departments have developed an accounting formula by which the unearned premium reserve is computed. This is applied to information taken from companies' records which show from month to month a summary of premiums written according to the month and year in which each policy was issued and the month and year in which each expires.

Table III is prepared according to this formula.

The formula is based upon the assumption that if the business of a company has been done in an orderly fashion and there are no wide fluctuations in its monthly writings, the aggregate amount of premiums unearned on all policies written in the same year for the same term can be estimated by applying the "fraction unearned" to the aggregate amount of the premiums themselves with a result that will closely approximate the aggregate amount that would be shown if the unearned premiums on all policies were separately computed and totaled.

In connection with business written for one year or less, it is assumed that the amount of premiums unearned would be nil on policies written on the first day of the year and the full amount on those written on the last. The average amount of premium unearned on each policy is, therefore, assumed to be one-half.

In connection with business written for two years, it is assumed that on the 2-year business written during the first year, the amount of premiums unearned would be nil on the policies written on the first day of the year and one-half on those written on the last. The average amount of premium unearned on each policy is, therefore, assumed to be one-fourth. On the 2-year business

[1] See Short Rate Table, p. 266.

written during the second year, the amount of premiums unearned would be one-half on the policies written on the first day of the year and the full amount of those written on the last. The average amount of premium unearned on each policy is, therefore, assumed to be three-fourths.

TABLE III.—RECAPITULATION OF FIRE PREMIUMS

	Year written	Term	Gross premiums charges less reinsurance	Fraction unearned	Amount of premiums unearned
1	1934	One year or less	$ 232,569.14	½	$116,284.57
2	1933	Two years	4,482.55	¼	1,120.64
3	1934		3,852.04	¾	2,889.03
4	1932	Three years	244,927.54	⅙	40,821.26
5	1933		244,495.59	½	122,247.80
6	1934		281,368.15	⅚	234,473.46
7	1931	Four years	1,576.90	⅛	197.11
8	1932		1,907.63	⅜	715.36
9	1933		1,551.77	⅝	969.85
10	1934		284 18	⅞	248 65
11	1930	Five years	19,770.30	1/10	1,977.03
12	1931		33,059.35	3/10	9,917.81
13	1932		31,672.90	½	15,836.46
14	1933		30,543.73	7/10	21,380.61
15	1934		33,361.05	9/10	30,024.95
16		Over five years	415.20	Pro rata	86.87
17		Advance premiums		100%	
18		Totals	$1,165,838.02		$599,191.46
19		Marine and other premiums	189,783.28		97,153.98
20		Grand totals	$1,355,621.30		$696,345.44

The fractions for 3- and 5-year business are set up on similar assumptions.

The formula will not produce an adequate unearned premium reserve if applied to a rapidly increasing business. On the other hand it will produce an excessive reserve if applied to a rapidly contracting business.

CHAPTER II

ORGANIZATION AND OPERATION

An insurance company is an organization with assets to guarantee the policies issued, with personnel trained in the handling of business, and with suitable equipment. The company operates by producing and selecting business, distributing amount at risk, and adjusting and paying losses, accounting at stated intervals for the results of its operations as a whole and making a special accounting for any part of its operations that show unusual profit or loss. Based on the results of these accountings, it formulates its underwriting policy.

Organization.—The principal office of a company is organized for the general administration of its affairs. If the company is an American company, the principal office is known as the home office; if it is a foreign company, the office is known as the United States branch. Many companies have bought or formed other companies which are operated jointly. A combination of jointly operated companies is termed a *group* or a *fleet*. Generally the operation of a group, or a fleet, is directed from the principal office of the controlling company.

At the principal office there are, ordinarily, departments for handling financial and investment matters; for developing business through agents or brokers or, in some cases, from the public; for handling business written by agents or placed by brokers; for supervising losses; for accounting; and for preparing statistical records.

Some companies maintain only one office, supervising all business from it. Others organize on a regional plan by establishing *department offices* or *branch offices* in the more important cities.

A company organized to supervise a nationwide business from its principal office usually maintains in that office territorial departments for handling Eastern, Western, Southern, and Pacific Coast business. A company with its principal office in New York City generally maintains also a department for

handling metropolitan business. A company organized on the regional plan generally maintains department offices in such cities as Boston, Chicago, Atlanta, Dallas, and San Francisco. Many Hartford and Philadelphia companies maintain branch offices in New York. Department and branch offices are maintained by some companies in other cities and towns.

Special risk departments for special classes of business; *sprinklered* or *improved* risks, automobile, and in some cases *inland marine*,[1] are maintained in many company offices.

Company department and branch offices are manned by salaried officers or employees. Each company office has jurisdiction over the agents in the territory supervised by the office. They receive instructions from the office and report and account to the office.

The officers of an American insurance company are ordinarily a president and one or more vice-presidents, secretaries, and assistant secretaries. In recent years the large fleets have often been headed by a chairman of the board. The officers of a foreign company are ordinarily a manager, one or more assistant managers, secretaries, and assistant secretaries. In some company organizations there will be a treasurer.

Investments are generally handled by the chairman, president, or manager who will be aided by a finance committee. The general underwriting policy is almost always directed by the president. Vice-presidents and assistant managers generally have charge of one or more departments, and the departments themselves may be actively operated by a secretary or assistant secretary.

Many company offices also do business with brokers, particularly offices in New York, Chicago, Philadelphia, and Boston.

General Agencies.—Instead of supervising agents from a company office, some companies appoint *general agents*, who operate on a commission basis. General agencies receive an *overwriting*, or *overriding*, commission on the policies issued by the agents reporting to the general agent.

The term general agent is used indiscriminately to designate three classes of men: (1) those who maintain independent offices and are compensated on a commission basis for general business

[1] See Appendix M.

produced by agents in a definite territory; (2) those who operate in the same manner but confine their business to a special class, such as oil risks or inland marine business; and (3) salaried company employees in charge of a definite territory or definite class of business.

Field Men.—The work of making agency connections is done largely by traveling employees of companies or general agencies known as *field men*, who have jurisdiction over certain geographical areas known as territories or fields, and who are charged with the duties of establishing agencies; supervising the business produced by the agencies; and also, in some cases, adjusting losses or arranging for the adjustment of losses in their respective fields.

These field men are accorded the titles of *state agent* or *special agent* or even general agent in case of long service or conspicuous ability.

The personality of the field man counts for much, as it is a highly important factor in his development of a following among the agents in the territory that he is to cover. The field man should have a thorough knowledge of the business, as the agents and the policyholders, on whom he will frequently call in company with the agents, will expect him to tell them how to solve their insurance problems.

The field man must cooperate with the officers and employees of the company, and they with him. He is the liaison officer, keeping the company and the producers in his territory in touch with one another.

Agents.—Agents are representatives of the company in their respective territories. There are two kinds: (1) *policy writing* and (2) *non-policy writing*. Agents of the first kind are by far the more numerous, but those of the second kind are rapidly increasing in number.

Policy-writing agents are empowered to issue, endorse, or cancel policies and to collect premiums and pay return premiums, as occasion demands. They are not authorized to adjust losses except by special arrangement. The agents in large cities have wide powers so that they may compete successfully with company offices.[1]

[1] In very large cities the agent becomes, to all intents and purposes, a general agent because of his connection with brokers or with subagents.

A few agents are salaried, but the majority are compensated on a commission basis, *flat* or *graded*, with, in some cases, an additional commission *contingent* upon the agent's making a profit for the company. A flat commission basis is one that allows the same percentage on each premium; graded, one that provides for different percentages on different classes of business. The usual contingent commission arrangement provides for an additional allowance to the agent of a stipulated percentage of any profit which he makes for the company.

New York City Company Solicitors.—Practically all New York City company offices and agencies maintain special *solicitors* charged with the duty of calling on brokers for the purpose of making connections with them or getting business. In many respects these solicitors[1] are like the field men who appoint agents and keep in touch with them after they are appointed. They generally devote their attention to a particular person in the broker's office who ordinarily gives out the business.

Brokers.—Brokers engage in the business of acting in behalf of the insured in effecting or managing insurance. They view all matters from the standpoint of the insured, ordering policies for their customers from company offices or from agents. In New York City almost all business is produced by brokers, who are in all cases, there or elsewhere, compensated on a commission basis.

Company Operation.—A company operates by appointing agents and making arrangements to do business with brokers or, if it does not do business through agents or brokers but writes direct, by soliciting property owners for their insurance. Companies that operate through agents receive advices from them of policies written and accept and continue the business or order it canceled as circumstances warrant. In many cases they reinsure a part or all of the liability under a policy. Each month they receive accounts from the agents and expect checks in payment of the balances due on previous accounts. When doing business with brokers, they accept or reject offerings and continue or cancel policies as they do when operating through agents. When losses occur, they receive loss reports, assign adjusters to investigate

[1] As there are solicitors in agency and brokerage offices who call on the public, the two kinds of solicitors should not be confused.

claims and adjust the losses if the claims are in order. They receive reports from the adjusters; decide what to do in doubtful cases; and pay, compromise, or resist in court, according to what the facts in hand seem to justify. At the end of each year they report to the state departments of insurance the results of their year's operations and their financial condition.

The first requisite of underwriting is to produce business. The first step taken by a newly organized company in its efforts to produce is to choose the territory in which it will operate and obtain the necessary license or licenses to do business in it. Thereafter it must make connections through which business is to be had and cultivate, aid, and supervise the connections. As time passes, the company will develop a record for each connection and an aggregate record for the territory. With some connections the record will show a profit and satisfactory attention to business details; with others it will not. The company will accordingly try to increase its business with the good connections and restrict it with the others, in many cases withdrawing from them. It will continue to do business in the territory or withdraw from it, according to the territorial record.

Choice of Territory and License to Do Business.—The choice of territory is a function of management. Each state, and also the District of Columbia, regulates the insurance business by law and requires of an insurance company a license to do business. A company not domiciled in a state must *enter* the state by complying with its requirements, paying a license fee, and standing ready to pay such other fees and taxes as the laws impose.

In each state there is a prevailing rate scale and an accepted rate of commission paid to producers, and there are records showing the yearly volume of premiums received by each company and the yearly losses paid.

Within each state there are regions of different economic importance and cities and towns with different types of buildings and personal property and different degrees of efficiency in the protection that fire departments and water supplies afford.

Each state has its laws, politics, and customs which affect insurance, and each important municipality has its ordinances and local sentiment.[1]

[1] See Chap. X, p. 188.

After entering a state, a company proceeds to do business in it. It is essential that the company receive enough premiums from the business that it does in a state to justify the cost of the fees and licenses that it must pay and also the cost of supervising the business.

Non-agency Companies.—A few companies do not operate through agents and brokers but do business direct with property owners, sending salaried representatives to call on them. These representatives in some cases merely take applications for insurance and send them to their companies; in others, execute binders and deliver them pending the writing of policies.

Agency Companies.—The companies that produce through agents and brokers appoint agents and also arrange to do business with brokers in New York City or any other locality where brokers place business. Making agency and brokerage connections is the first step in the operation of such companies.

Making Agency Connections.—In seeking to make agency connections, a company competes with other companies for the business that the agents control, as under the American Agency System an agent is free to represent more than one company. In some territories an agent who represents stock companies will not be permitted to represent mutuals, and an agent who represents stock companies which belong to an association will not be permitted to represent stock companies which are not members of that association.

A company that seeks to make agency connections tries to influence an agent to accept its representation by directing attention to the company's financial resources and business standing; by bringing him into contact with officers or employees whose personality will impress him favorably; by agreeing to write certain business for him; by assuring him of the service that he wishes; and, at times, by making a reciprocal arrangement with him under which the company will send him business in his own territory that brokers control and place with the company office, in return for which the agent will give the company a part of the business that he controls.

Appointment of Agent.—An agent is usually appointed by a field man, occasionally by a company officer. Appointment generally follows a visit to the office of the agent where the

prospective appointment is arranged, and details discussed. When appointment is made by the field man, it is confirmed by the company. Formerly a commission or letter of authority was forwarded to the agent. Recently, however, the new Agency Agreement, a result of the Social Security Act, has supplanted the commission or letter.[1]

Agency appointments are subject to the law of the agent's state, as agents operate under license. In several states an agent's license must be applied for and issued before he may receive his appointment or even receive company supplies in anticipation of his appointment.

When necessary arrangements have been made, and legal requirements fulfilled, blank policies and other supplies are delivered to the agent, and he is ready to begin producing for the company.

Operations of Agent.—An agent solicits prospects; accepts or rejects offers of insurance; writes policies, unless he is a non-policy-writing agent; and mails *daily reports*[2] to the company, in due course collecting the premiums due. When policyholders move their property, he accepts notice in behalf of the company and makes proper endorsement on the policies, collecting additional premiums or paying return premiums, according to the increase or decrease in the rates due to changes of location. If a policyholder desires to cancel his policy, the agent receives the policy and pays the return premium due. When a policyholder sells his property and desires to assign the policy to the purchaser, the agent will execute the company's assent to the assignment, if the purchaser is an acceptable policyholder or, in many cases, simply *endorse* the policy to show that the new owner is insured. If a loss occurs, the agent receives the notice from the policyholder and reports the loss to the company. In some instances, when the loss is small, the company will request the agent to adjust it. In most cases it will send an adjuster. When the loss has been adjusted, the company mails the agent a check or draft for delivery to the policyholder. In the course of business the company may order the agent to cancel a policy. If so, he carries out the order by (1) calling on the policyholder or telephoning him and giving him orally notice of cancellation or (2) serving written

[1] See Appendix B.

[2] Abstracts of policies.

notice on the policyholder in the presence of a witness who can testify to the service or (3) sending a notice to the policyholder by mail. Sometimes notice is sent by ordinary mail with Post Office Department receipt, Form 3817, sometimes by registered mail with a request that a receipt be taken and returned to the sender.[1] If the agent fails to take prompt action when the company orders a policy canceled, and the risk burns, the company, if it elects to do so, may sue the agent for the amount of loss paid, on the ground that he is responsible to the company because of his neglect.

At the end of each month the agent prepares an account covering premiums on policies issued and additional and return premiums, if any, on policies endorsed or canceled. The account includes a statement of commissions due the agent and return commissions due the company. This account is forwarded to the company, and the agent is expected to pay the *balance* due within a stipulated time after the end of the month.[2]

If the agent is paid a contingent commission, a statement of the company's profit or loss in his agency is prepared annually by the company and mailed to him, together with a check for any contingent earned.[3]

Supervision of Agencies.—Agencies are supervised by company field men and by the employees and officers at the branch office, department office, or home office having jurisdiction over them, unless they are under the jurisdiction of a general agency, in which case they are supervised by the general agent and his employees. Company offices and general agencies are in touch with the agencies by mail, telegraph, and telephone.

Agencies are expected to issue policies in numerical order and mail daily reports, endorsements, loss notices, monthly accounts, and checks paying balances promptly. These papers keep the company informed of conditions in the agency.

The field man in charge of the agency calls on the agency from time to time and learns through personal contact with the agent or his associates how business is going on. The company office or the field man will intervene in the operations of the agency if the company's interest requires action.

[1] See Chap. VIII, p. 151.

[2] The rule of the Western Underwriters Association is 45 days; that of the Eastern Underwriters Association, 60 days.

[3] See Appendix C.

Unusual Incidents.—Unusual incidents in the business of an agency may signify to the company that it should make an investigation. If a policy number is not accounted for within a reasonable time after the use of the subsequent policy number, the missing daily report may have been mislaid or may have been lost in the mails. In any event, the company must find out what has happened to the policy itself.

If the date of commencement of the policy is considerably earlier than the date of arrival of the daily report, it may indicate the rewriting of a risk which another company saw fit to cancel as soon as it received its own daily report. In such a case the agent may be trying to avoid the chance of friction with the insured by returning the policy of the first company for *flat cancellation, i.e.*, for cancellation as of date of issue without return premium, although it may actually have been in force from the time when he wrote it until he canceled it and replaced it with the second company. In order to relieve the insured from paying an earned premium on the canceled policy and then paying a full premium on the second policy, the second policy will be dated back to the commencement date of the canceled policy. The receipt of a daily report showing that a policy has been written for a *broken term*[1] is generally an indication that another company has canceled its policy subsequent to the time of issuance and that the agency has rewritten it for the unexpired time. In either case an explanation from the agency is in order.

Delayed loss notices may indicate doubtful claims or claims that should properly be made against other companies.

Delayed accounts and slow payment of balances generally indicate financial trouble. A sudden increase of business from an agency which has had trouble meeting its balances is likely to indicate that there has been a wholesale rewriting of business in one company in order to liquidate the balances due another company by cancellation of its policies.

An agent who has taken offense at some action of the company may cease writing policies for it and renew its expiring policies in another company. He may notify the company of his intention to cease writing for it, or he may act without notice. Failure to receive daily reports renewing expiring policies may be the first indication to the company that the agent has shelved its supplies.

[1] A part of a regular term.

The company cannot compel resumption of business. If it cannot persuade the agent to resume, its only recourse is to appoint a new agent.

Suspension of Agency.—After a company has appointed an agent, it may at any time suspend his authority to transact business. The company usually suspends an agent because he has failed to pay his balances or has caused the company to suffer loss by writing a specifically prohibited risk or one so poor as to indicate complete lack of underwriting judgment. An agent may be suspended by the field man having jurisdiction over him or by an officer or official of the company. While suspended, the agent may not issue policies without incurring personal liability for losses on them. Suspension may be made effective by oral order, by telephone conversation, by telegraph, or by letter. It should always be confirmed by letter if it has been effected orally or by telephone or telegraph.

Reinstating an Agency.—The powers of a suspended agent may be reinstated at any time by oral, telephone, telegraph, or written order. Reinstatement should be confirmed by letter.

Closing an Agency.—When company and agent decide to end their relations, it is customary for the former to take up the unused policies and the commission, or letter of authority, or void the agency agreement. When this is done, the agent is not expected to endorse or cancel outstanding policies. In some cases, however, the company will close an agency but grant the agent special authority to endorse or cancel such policies as occasion may require. In many cases a company on closing an agency will arrange to reinsure its unexpired policies with some other company remaining in the agency, an arrangement which will allow the agent to substitute policies of the reinsuring company at any time for those of the reinsured. When any policies of a closed agency cannot be accounted for, the missing numbers are sometimes advertised in a local paper. Some companies have been advised by counsel that the legal advantage to be gained from advertising missing policies is questionable.

Making Brokerage Connections.—A broker is free to buy for a customer insurance from any company willing to sell it. The relation of the broker to the company is similar to the relation of the wholesaler to the manufacturer or of the purchasing agent to

the dealer from whom he orders merchandise. Connections with brokers must therefore be made by offers of service on the part of the company that will be valuable to the broker. There is practically no difference between the way a company tries to induce a broker to begin doing business with it and the way it tries to persuade an agent to accept an appointment, except that a company cannot give business to a broker, as it can occasionally to an agent.[1]

Operations of Broker.—Brokers not only solicit insurance and place business with companies, but they also devise proper forms and secure favorable rates for their clients, check and deliver policies, collect premiums, adjust losses, and advise their clients in all insurance matters. A broker may handle a business which, because of size, simplicity, or company help, will permit him to operate without any employee. On the other hand, a brokerage firm may have a national organization with numerous branch offices. In a large brokerage office the business is generally produced by the officers or partners and by special solicitors. The administrative personnel handling fire business will generally be a *placer*, an *entry clerk*, a *policy checker*, and an *engineer* and his assistant, with stenographers and typists according to the volume of business handled. In addition there will be an adjuster competent to handle claims in behalf of policyholders, with an assistant to send out loss notices, prepare proofs of loss, follow up loss collections, and attend to other details.

Supervision of Brokers.—Brokerage connections are supervised by company officers and employees or agents with whom they do business. At the company office or agency, the placer (the broker's employee who calls to place the business) will be pressed for the better business that the broker controls and will be asked to reduce his poorer offerings. Some person in the company or agency will keep in close touch with the broker himself or, if the brokerage office is a partnership or corporation, with one or more of the partners, officers, or senior employees.

Unusual Incidents.—The unusual incidents in the business of a brokerage connection that call for investigation are practically the same as those discussed in the business of an agency.[2]

[1] See p. 18.

[2] See p. 21.

If a request is made to date a binder back by several days or weeks, or if a binder is asked for a broken term, there will be reason to believe that another company has *recalled* its binder or canceled its policy.

If a loss is reported late, the claim may be of doubtful validity.

Overfrequent offerings of substandard business may indicate that the broker is trying to place poor business for other brokers or has an unattractive clientele.

Slow payment of premiums indicates a cramped financial condition on the part of the broker or his clients; and a sudden increase of business from a broker whose business has been attended by troublesome collections may indicate that another company has ceased doing business with him.

Cessation of offerings may mean that the broker has taken offense at some act of the company or agency or that some other company has begun to get the business.

Record of Agent or Broker.—Each year a company office or general agency compiles a record of the premiums written and losses incurred[1] through each agency under its jurisdiction or through each broker with whom it has done business. The record is reviewed, and in many cases the result is communicated to the producer, particularly if markedly favorable or markedly unfavorable. Agency records include a card or blank on which such information is entered as date of agent's appointment, his general experience and qualifications, and the names of other companies represented. The same card or blank may give a summary of town conditions and state what business is to be written and what avoided. A folder is generally maintained for each agency in which is kept the important correspondence with the agency and possibly the yearly classification of the agent's business.

Record of Territory.—The aggregate of the records of agents and brokers in a given territory leads to the development of an underwriting policy for the territory or to withdrawal from the territory if there appears to be no hope of finally achieving a favorable record in it.

[1] See p. 8.

CHAPTER III

PRODUCTION, SELECTION, RETENTION, DISTRIBUTION

Underwriting efforts are directed toward selling policies, accepting desirable business and rejecting undesirable, and keeping within safe limits the net amounts at risk subject to loss by any one fire.

Policies are sold as the result of contacts between producers and the public. Arrangements for making these contacts easy and frequent and the salesmanship exercised after they are made are the essentials of production.

Business that promises to be profitable is desirable; that which promises to be unprofitable is undesirable. The examination of business offered for writing or open for solicitation and the determination of what to accept and what to reject are the details of selection.

Deciding upon the net amount to be risked on a given piece of property or a group of properties and the reinsurance of any excess amount written results in a *retention*. Retentions in keeping with the annual income of a company assure a proper distribution of its total amount at risk.

Production is a joint activity of the producers and the companies. Both are interested in income. Selection starts with the producer who seeks business that he can handle at a profit or that will lead to other profitable business, but who ordinarily rejects business that might cause expense or trouble with no immediate or future compensation. Selection is, however, chiefly the work of the companies, as they are under the necessity of making income cover or exceed outgo.

Retentions are arranged by the company or by the general agent or agent who shares in the company's profit through a contingent commission.

Methods of Producers.—The agents who produce business by direct contact with the public, all brokers, and the few salaried solicitors of the companies which write direct necessarily employ

the same methods in their efforts to get business. Some of these methods seek to keep in the minds of the prospects and clients thoughts which will lead them to initiate or continue business with the producer. Others bring to bear on prospects or clients forces which will tend to have the same effect. Avertising and personal solicitation are the two general methods used to produce new business, whereas service and reminder are those ordinarily used to assure the renewal of existing business. Personal contacts, reciprocity, pressure, and family connections are also used to get and hold business.

Advertising.—Agency and brokerage advertising is done principally by mailing or distributing to a list of customers or prospects material calling attention to hazards, forms of policies, record of loss payments, strength of companies, facilities for service, and many other details. Strong companies which give prompt service and accord equitable treatment to producers and policyholders have great advertising value.

A strong company attracts business, as the public accepts its policies freely, and the producers feel that when dealing with it they do not run the risk of being embarrassed by any failure in the security that they are selling their clients. Large property owners and money-lending institutions make intensive studies of the financial condition of companies and set standards to govern acceptance of their policies. Banks, life insurance and mortgage companies, building and loan associations, and department stores often limit the amount of a policy that they will accept from a fire insurance company; and some such institutions go to the extent of grading amounts according to the character of the risks, *e.g.*, accepting a larger policy from a given company on a fireproof building than on an ordinary brick building. Some, also, set a limit on the gross amount of insurance in a given area that they will accept from a company. The financial condition of a company must be reported at stated intervals to the respective insurance departments of the states in which it operates. The annual statement made to these departments shows assets and liabilities, also the record of the year's business. The properties and securities constituting assets are listed in appropriate schedules which are available for examination, and which are published by the insurance departments.

Supplementing strictly agency and brokerage advertising, companies do some advertising in newspapers and magazines, chiefly the latter, and also prepare and imprint for their agents material for distribution. The stock companies do some general advertising through the National Board of Fire Underwriters; and the mutuals, through the American Mutual Alliance.

Solicitation.—Solicitation may be general or specific. A producer may solicit a prospect and ask him for all his business. On the other hand, he may try to interest the prospect in filling a definite need for insurance protection in connection with a specific risk, a need of which the prospect may or may not be conscious. In the latter case the producer may set out to sell a contract in which the prospect is already interested or try to interest him in a contract of which he has not heard. Once having aroused the prospect's interest, the producer will try to handle him so that the efforts of any competitors who may be after the same business will be forestalled.

A producer treating with a prospect may present for his consideration any of the following circumstances or combination of them, adapting his selling tactics to the personality of the prospect and the general or specific subject of the prospect's business or the single risk. He may assure the prospect that he can give him the best protection the insurance market affords, calling attention to the reputation in the community of the producer's office which has sold sound insurance over a period of years, demonstrated its ability to meet competition and sell at minimum cost in keeping with genuine security, and therefore been able to attract business from friends and acquaintances of the prospect to whom the producer will frequently refer. If a question of cost or a question of policy form is raised, the producer will make use of his technical knowledge of rates and forms or bring into the discussion associates or employees who are specialists. Arrangements may be made for an engineering inspection of the property with the idea of suggesting improvements in construction or protection that will reduce the rate. If the rate is the minimum to be had, efforts may be directed toward drafting a form that will afford the maximum coverage. At this stage of negotiations the producer will probably recount instances in which he has protected his clients in the past and

steered them through the adjustment of losses or through troubles connected with their insurance. Occasionally a prospect or client will have some poor business ordinarily difficult to place, and the producer will offer to care for the poor if he can also get the good. A large producer can place a certain amount of poor business because he has enough good business to maintain the desired average. Finally, there is to be exercised the personal power of persuasion which is most highly developed in the strictly salesman type of producer.

In some cases a company aids a producer by sending a field man, a specialist, or even an officer to accompany him when he calls on an important prospect, doing so in an effort to help the producer with special knowledge, or the prestige of the association, or personal qualities.

Service.—A producing agent or broker serves the policyholder by seeing that he gets the best policies to be had at the lowest cost commensurate with full cover and real security.

The highly competent agent or broker possesses the information, skill, and experience necessary to analyze the insurance needs of a prospect and to suggest forms of insurance that ought to be carried or the elimination of forms that duplicate protection or that are in conflict with each other. A technical knowledge of the business must be brought to bear on the interest of the policyholder and the property on which he needs protection. Primarily the form of contract that will protect him must be arranged, the amount of the contract fixed, the form drafted, and the rate analyzed. If these details are properly handled, the broker or agent is safe against attack by competitors on the score that he has failed to get the policyholder what he was entitled to. Special offices or organizations able to handle unusual business often help a producer to solve a problem by putting their personnel and facilities at his disposal. A consideration of the amount of the insurance may require a check of values, perhaps even an audit, an inventory, or an appraisal. In some kinds of insurance, notably rents, use and occupancy, and leasehold,[1] there are a variety of forms to suit the varied needs of the interests which are to be protected by the insurance. An analysis of the rate may lead to a complete engineering inspec-

[1] See Chap. VII.

tion of the property with a detailed report showing how certain expenditures for improvements will result in a reduction of the rate. If such is the case, a comparison of present expenditure with future premium savings is necessary.

In some instances the agent or broker will find ways of making risks and interests insurable that have previously been uninsurable.

The physical improvement of a risk has been mentioned in the previous paragraph. Occasionally the condition that makes an interest uninsurable can be removed, or its effect modified. A lease, for example, may contain a *fire clause* under which the landlord may terminate it following a relatively small damage of the building by fire. Such a fire clause makes the probability of total loss of the leasehold so great that no underwriter would be warranted in approving a leasehold interest policy with a total-loss provision. The lessee, however, needs protection against the contingency of losing his lease as the result of fire. An enterprising agent or broker may be able to arrange for a revision of the lease so that the fire clause will permit cancellation only in case of substantial destruction of the building.

Efficient loss service by agent or broker enables him to enjoy the benefit of the best of all advertisements, the satisfied customer. Such service requires the handling of persons, whether claimant, company adjuster, or experts employed to render service or prepare information, in such a manner as to leave the claimant with a memory of courteous as well as fair treatment. Technical skill and information help to assure proper results but are needed less than proficiency in dealing with persons. The agent or broker of good standing can almost always rely for technical details on the company adjusters assigned to his losses.

A company's efforts to increase its business through desirable producers is helped by serving their needs. Some companies put much effort and expense into the work of helping agents and brokers sell policies. Special service men are sent by those companies to help the producers with use-and-occupancy or general-cover contracts. Help with rate revisions, large lines, unusual forms, and other problems must be given when requested by producers if their business is to be held. Field men or inspectors must be sent promptly to aid agents who are in competition

with other agents and need accurate rate analyses, appraisals, special authorizations, or advice as to the kind of form that will give the greatest protection when two or more forms are to be considered. In some cases *accommodation lines* (lines that the company ordinarily would not carry) must be carried for producers whose records warrant such help. Adjustments must be handled promptly and properly, minor technicalities and unimportant errors overlooked, and loss payments made promptly. In dealings with brokers, policies must be written or endorsed and delivered promptly.

Reputation.—The reputation of the producer for handling the insurance of his clients so that their losses have been paid in full, and without unpleasant controversy, will be due largely to his maintaining connections with strong and well-managed companies. To gain a reputation that will be of value in his efforts to produce business, the producer must know the details of the fire insurance business and the peculiarities of the different kinds of property which he will be asked to insure. He must be able to deliver to his customers policies which, in case of loss, will not only indemnify them but also cause them to be treated in their adjustment negotiations so that they will continue to give their business to the producer. The record of a company for its treatment of policyholders who have suffered losses is, therefore, a highly influential factor in the production of business. In the mercantile world the slogan "A satisfied customer is the best advertisement" is generally accepted. In the insurance business the policyholder is the customer. Over a period of years a company will deal with a fair average of the citizenship of the territory in which it operates; and unless it leaves a genuine impression of fairness with its policyholders who suffer loss, it cannot expect to survive. Although some publications record what evidence they can collect bearing on a company's treatment of its policyholders, there is much that is never recorded, as countless incidents occur during the business life of the company which leave memories pleasant or unpleasant with the persons who hold its policies and the active agents and brokers who deal with it.

Credit Extension.—Some business is produced because the agent or broker can arrange an extension of time for the payment

of the premium or make an arrangement for paying it in installments. Prior to the great depression, credit was a considerable factor in getting business; but since 1929, credit losses have greatly reduced the use of credit as a production factor. Credit burdens are now being shifted to finance companies.

Personality.—The factor of personality also enters into production. Much business is placed on the basis of friendship, and some as the result of entertainment. Some producers have the ability to inspire confidence and friendly feelings, as a result of which they develop a following.

The necessity for division of labor has required the insurance companies to assign many functions to particular individuals who are not directly connected with production activities, *e.g.*, *inspectors* and *adjusters*. These individuals must deal with producers and policyholders. Their personalities will help or hinder the producers according to the manner in which these affect the policyholders.

Reciprocity.—Reciprocity produces business through the producer's purchase of goods or services from persons who, in return, will buy policies from him. By concentrating his purchases of certain articles with a single merchant, the producer may get in return a part or all of the insurance of the merchant. By combining real estate with insurance, many agents exchange their services in looking after property for not only the commissions paid on rent collections but also the commissions to be earned on the insurance. The lawyer and the physician are sometimes brought into reciprocal arrangements with the producer, both getting the work originating from the producer's business organization or family and in return placing their insurance with him. At times a producer will employ for service in his office or organization a person who can bring with him control of certain business. Directorates, bank deposits, and loans complete the usual list of reciprocal arrangements. To increase its volume of business a company may agree with a bank to keep on deposit a stipulated sum, in return for which the bank through an agent or broker will place with the company certain insurance under the bank's control. The agent or the broker himself will keep an account at the bank that gives him business. A company may also arrange investments that will

influence production. It may buy a bond issue and, when doing so, arrange for a stipulated line on the property that is bonded. Reciprocal arrangements for the exchange of specific reinsurance between companies are generally made with the idea of equalizing the income and outgo of reinsurance premiums rather than of increasing production. In some cases a company can, by sending brokerage business to an agent, get in return the agent's direct business.

Pressure.—Some business is produced by pressure, principally political, social, and financial. Producers whose political connections enable them to promise real or fancied favors are often able to get business because of their power. Producers who are prominent in clubs and social organizations draw business from the membership. Others whose financial connections enable them to control the bank credit available to their customers use that power in their operations. Recently the insurance departments of a number of states have prohibited agents and companies from exerting pressure on the placing of business through the control of mortgages. At times a company is in a position to put pressure on a producing connection that is under obligation to it. The connection may have some business difficult to place and other business easy to place. By carrying the difficult business the company may exert constant pressure on the connection to give the company good business.

Selection as Practiced by Producer.—Producers who expect to keep in good standing with their companies select business with an eye to the profit or loss of the companies as well as to the effect that writing or avoiding particular business will have on their immediate personal fortunes. From the standpoint of the producer, business presents possibilities of (1) expense, (2) control, (3) affecting the relations of the producer with his companies or with prospects or policyholders.

Expensive Business.—The expense attending the writing of some business exceeds the commission that the agent or broker receives from it. Business which is remote, of trifling value, or excessive in its demands for service will often necessitate expenditures for travel alone that will make the cost of handling it exceed the income derived from it. Such business is to be avoided unless the loss due to handling it is offset by the profi

made on other business to which it leads or with which it is connected. Some prospects who are confronted with the payment of a premium on which the producer's commission is no more than a dollar will try to get from the producer services that, on a time basis, are worth many times the dollar that the producer will earn.

Control of Business.—The agent or broker, but particularly the agent, seeks to maintain at all times a control over his business that enables him to arrange for the endorsement or cancellation of any policy, should occasion require. Although a broker is under no legal obligation to comply with the wishes of the company with which he has placed a policy to assist in the endorsement or cancellation of it, he runs the risk of losing his market with the company if he will not or cannot cooperate with it. The agent, however, is under legal obligation to act according to the instructions of his principal and may incur financial responsibility for loss caused a company through failing to endorse or cancel a policy after being instructed to do so. The agent, furthermore, is responsible to the company for the premiums on the policies that he writes. In many instances, policies are delivered before the premium is paid to the agent, and it is he who must assume the risk of collection. It is therefore essential that his business be limited to policyholders and mortgagees or other payees of known address so that notices of cancellation may be served on them at any time. The owner who stores his household effects in a warehouse and, after insuring them, goes away to an unknown address may cause the agent who wrote his insurance some anxious hours, should the company instruct the agent to cancel the policy.

Business Likely to Cause Controversy.—Risks that promise to be difficult subjects of adjustment and policyholders who are prone to be in trouble with their fellow men because of grasping dispositions or questionable ways of life are avoided by the agent or broker who plans to be a permanent factor in the insurance business. Controversial adjustments result in unfavorable publicity for the agent or broker whose policies are involved, frequently resulting in the loss of all the claimant's future business and in many cases other business which may be influenced by it. Suspicious fires and fraudulent claims under policies

he has written bring agent or broker into disrepute with insurance companies.

Distribution by Producer.—Producers distribute business among their companies sometimes according to agreement that certain business shall go to certain companies but more often in an effort to keep the companies in the same relative position as to yearly premium volume.

Selection as Practiced by Companies.—Companies try to select business so that over a period of time it will show an underwriting profit. Company officers in charge of underwriting determine from a study of class records which classes in a territory are to be written freely and which are to be written cautiously or avoided. Formerly many companies maintained strict *prohibited lists*[1] covering consistently poor classes, but at present the tendency is to leave the underwriter free to consider a good risk in any class.

The companies expect their underwriters to accept business on which the prevailing rates are, in the judgment of the company, adequate to cover expenses and the losses to be expected and, in the case of stock companies, promise also a margin of profit for the service rendered. They expect them to reject business on which the rates offered are inadequate or business which presents probabilities of loss due to moral as contrasted with physical hazard.

The work of selection, therefore, requires a consideration of the individual risks offered and the circumstances attending them.

The company underwriter accepts or rejects a specific piece of business according to the record of the producer offering it; the record of the class to which the risk belongs; the reputation of the insured; the character, location, and condition of the risk; and the amount, rate, and form of the policy that is to cover.

Selection contemplates that, in his consideration of any piece of business, the underwriter will be guided by whatever general information he has and whatever special information is available in his office or is to be had through the resources of his organization. The steps of mapping and examining[2] are methods by which selection is aided.

[1] See Appendix F.

[2] See Chap. IV.

Record of Producer.—The record of a producer over a period of time will show a profit or loss for the company he represents as agent or with which he deals as broker. The established producer who is dependent upon the insurance business for his livelihood has acquired from his contacts with company representatives and his experience with his own affairs a comprehensive knowledge of underwriting. He has also learned the peculiarities of the persons and property in his community as he has developed his clientele and accumulated his business. Usually he settles down into a close relationship with companies whose methods suit his business and whose personnel are pleasant to deal with. By use of his underwriting knowledge, he spares himself unnecessary trouble and embarrassment.

In many cases the business of such a producer will show a consistent profit from year to year. The companies he represents or deals with can therefore accept practically anything he offers with the expectation that the average result will be profitable. His business is so well selected before it reaches the company that little is left for the underwriters to do but arrange any necessary reinsurance. But in other cases the results of the business of a producer will be consistently bad or will be erratic. He may get his business from a poor class of policyholders or a hazardous class of risks. He may be a poor judge of persons, or he may be hard pressed financially and driven to handle business that other producers refuse. A company represented by such a producer or dealing with him must therefore scrutinize carefully all his offerings if it expects to make a profit on his business.

Record of Class.—The class record is a guide to what may be expected of the average risk of the class considered. If the record is good, less attention is required to the individual risks than if it is poor or bad. As an example, much less information about protected dwellings is asked for by the underwriters than about woodworking risks or chemical works.

Reputation of the Insured.—The reputation of the insured is an indication of his desirability as a policyholder. A property owner who is well known and in good repute in his community can be expected to give his property the care and attention that keeps the danger of fire at a minimum, to conduct himself in

such a manner that he will not arouse in others a desire to set fire to it, and to act in good faith in matters connected with his insurance. An unknown person who has created no reputation in the community is an uncertain factor, as no one knows what to expect of him. A person who is not in good repute, who is known to have been involved in suspicious or fraudulent fires or claims, can be expected to be involved again if he is a policyholder.

In many instances the deciding factor in the acceptance or rejection of business is the reputation of the insured. For a good insured whose business comes through a producer with a good record a company will accept a risk that ordinarily it would reject; whereas for an insured who is not in good repute, or who has an unsatisfactory past record, a company will hesitate to write anything.

Character, Location, and Condition of Risk.—The character of the property making up the risk, its location and condition, may be such that it is subject to no hazards except those which the rate is supposed to cover. A well-built and well-kept dwelling in a city or town with a good water supply and fire department can safely be assumed to be a good risk and to be subject to no danger of accidental fire that has not been considered in the prevailing rate and to no danger of intentional destruction. But a roadhouse which is frequented by irresponsible persons, particularly when the ownership is of undesirable character, is likely to become subject to the hazard of accidental fire resulting from lack of care or attention to cooking, heating, or lighting devices, particularly if the income of the owner is a target for racketeers. It is also subject to the hazard of being set on fire by guests who, under the influence of liquor, lose their ability to be careful with matches or cigarette butts or who become violent and destructive. Enemies of the owner or neighbors who resent the presence of the house may set fire to it, or the owner may find his efforts to maintain his business so difficult that he will himself attempt to realize on his insurance policy.

The location of a risk often affects its desirability and, therefore, its value, sometimes to the extent of creating a dangerous moral hazard, and sometimes exposing it to unusual danger of communicated fire or lack of adequate fire-department protection.

The condition of a risk, whether in good repair or dilapidated, clean or dirty, old or new, affects at times both the hazard of intentional and that of accidental fire.[1]

Amount, Rate, and Form.—The amount, rate, and form of a policy that comes before the underwriter for consideration should be in keeping with the value of the property, the hazards that threaten it, and the financial loss that the insured would suffer if the property should be damaged or destroyed. If the amount of insurance is, either by itself or in conjunction with other insurance, from 75 to 100 per cent of the value of the property, or if the policy contains a coinsurance or average clause naming a like percentage, the loss to be expected under the policy will always be proportionate to any damage suffered by the property. In connection with property subject to total loss, particularly property outside the limits of fire-department operations, an amount of insurance in excess of the value of the property may operate as an incentive to the owner to burn it.

Published rates are intended to pay for the obligation assumed by the insurer under standard forms. Rates to be used in connection with coinsurance clauses will not pay for the obligation assumed under forms omitting coinsurance. Likewise a rate to be used in writing per diem use and occupancy insurance is inadequate when writing coinsurance use and occupancy.

Standard forms limit the amount to be paid to the actual loss sustained by the insured. They therefore do not encourage intentional fires. But a form that obligates the insurer to pay more than the actual loss may sometimes do so.[2]

Selection Practice.—Fire insurance is by no means a business in which scientific exactness is attainable, as its transactions involve at one and the same time persons, property, and contracts. It relies for its results on averages as they have manifested themselves over periods of time in the behavior of policyholders, the loss or damage of property by fire, and the payments made under policies. The selection of business is not made according to the precise standards that must be adhered to in chemistry or engineering but according to the varying opportunities that come to the underwriter to get

[1] See Chap. XI.

[2] See Chap. XII.

premiums in exchange for policies which he expects will not burden him with losses beyond his expectations. Selection cannot be divorced from production but must always be carried on in conjunction with efforts to maintain or increase it and also with the requirements that proper retentions be arranged and that the company's amount at risk be distributed.

The great majority of the policies written by established agents are approved by company underwriters, and the great majority of the offerings tendered companies by reputable brokers are accepted.

Very few risks are uninsurable because of physical reasons, provided an adequate rate is to be had and an amount in keeping with the hazard is written or retained. It is therefore a recognized practice to accept a poor risk of good ownership from the established producer who must protect the owner, if other good risks controlled by the producer are to be written. The good business of most producers by far outweighs the questionable. Producers whose business shows a consistent loss are sooner or later eliminated from the ranks.

Selection of fire insurance offerings is in some respects like the investigation of applications for credit, and the results are probably very much the same. The applications rejected by the better grade of retail stores—those above the installment-plan level for general purchases—are a very small percentage of all applications.

The absolute rejections of business by good underwriters are relatively few. Yet from time to time offerings are submitted that show some undesirable features and upon investigation are rejected because ownership, occupancy, location, or condition subjects them to moral hazard and its unpredictable results.

Selection is based upon the first assumption of underwriting, *i.e.*, that in large groups of separated risks the average yearly fire loss can be estimated with reasonable certainty. This assumption is the result of observing that the fire loss in such groups tends to repeat itself from year to year with an upward or downward trend according to improvement or deterioration of the risks in the groups and in any fire-fighting facilities that protect them. Within these large groups there will be sub-

groups, termed *classes*, made up of risks that are alike. As examples there are dwellings, banks and offices, wholesale houses, retail stores, metalworkers, woodworkers, storage buildings, sheds, and yards. Classes themselves are made up of such a large number of risks that the average yearly fire loss in each class can also be accurately estimated, and a rate scale established for the class which, if observed, will assure a company a reasonable margin of profit.

There is no assumption that the fire loss in any individual risk can be estimated with any similar degree of certainty. No underwriter, therefore, can so carefully select his business as to avoid all risks that will burn. He can, however, if he knows the average experience of insurance companies, handle the risks that are submitted to him for writing in such a way as to produce a similar experience for his own company. Therefore, in deciding whether to accept or reject an offered risk, it is essential that he have in mind the general experience, or record of the class to which the risk belongs, whether it has been profitable or unprofitable in all territories, or whether it varies. Classes that are unprofitable in one territory are sometimes profitable in another. An industrial class generally unprofitable will often be profitable in a particular territory where natural advantages such as stable labor conditions, cheap raw material, or low freight rates insure prosperity for the industry.

There is such an essential relation between the fire loss in a class and the average rate of the risks in the class that the underwriter, who can never get such actuarial information as the values of all individual risks in the class and the amounts of all losses that have occurred, depends upon rates and class records as the registration of this experience. These two are roughly, but adequately, the cost records of the underwriter, and he uses them as a prudent manufacturer uses his cost records in pricing his product for sale. If terms of delivery are acceptable, and the credit of the prospective purchaser is good, the manufacturer is ready to fill an order at a price which, according to his cost record, will allow him the profit necessary to the continued existence of his business.

When the underwriter is offered business, he first asks the class of the risk and whether the building, the contents, the rents,

the use-and-occupancy, or the leasehold interest is to be covered. Each of these will generally be rated separately, the building rate ordinarily being the lowest; and the contents, the highest. In some classes the record has been good on buildings and poor or bad on contents. One item of a risk may be more acceptable than another. If the class record for the item offered has been good, one reason for accepting the risk is established. The underwriter then proceeds to a consideration of the ownership and physical hazard of the risk, whether the particular risk is above or below the average. Ordinarily the published rate is a guide to the grade of the risk. If the rate is a low one for the class, it indicates that the risk is above the average; if high, that it is below the average. There are, however, some factors that make for the desirability or undesirability of a risk which are not reflected in the rate. One of these is the age of the risk, as old risks are often poor. If the grade of the risk is average or better, there is another reason for accepting it. There is then the question of ownership. If the record and standing of the owner are up to the average of good citizenship or above it, acceptance of the offering, subject to a consideration of the form to be used in writing the policy, is in order. If it is a standard form which is prescribed for use in connection with the rate and therefore contains the terms of insurance that will be paid for by the rate, the offering is acceptable, subject to a final consideration of whether the amount of any other insurance in the company covering at or near the location of the risk makes it inadvisable to take on the additional amount offered. These general steps in selection are always the same in principle but are taken in varying order and treated with varying degrees of importance according to circumstances. In some classes the emphasis is on ownership, particularly in farm property, odd stocks such as antiques, art stocks, army and navy stores, rag stocks, and seasonal dwellings. In other classes, particularly storage warehouses, where the insured has access to his property only under supervision, and in the better manufacturing plants, the physical hazard of the individual risk is emphasized.

For the purpose of aiding in the selection of business written by agents, the companies print upon the backs of their daily reports questions designed to produce information that will guide

them in their actions. These questions inquire into the knowledge of the agent as to the insured, the risk, and the insurance. They may include any group of the following:

1. *When did you last inspect the risk?*

The answer will inform the company whether the agent has seen the risk and, if so, whether the date of his inspection was sufficiently recent to warrant the assumption that he has a knowledge of the risk in its present condition.

2. *How far is the risk located from the agency?*

The risk may be too far away for proper supervision by the agent and too far away to justify the cost of inspection.

3. *Is this risk under protection?*

The answer to this question is useful in connection with risks which are not shown on the company's map. In many dwelling areas a class rate is charged for dwellings within a specified distance of a hydrant, and a higher rate for dwellings beyond that distance.

4. *How long have you known the insured?*

Long acquaintance with an insured will have familiarized the agent with his character and conduct. Answers indicating that the agent has only recently become acquainted with him may indicate that he is a newcomer and that his past residence should be looked up.

5. *How long has the insured been at this location?*

If the insured has only recently moved into the location, there may be occasion to investigate his record at the old one.

6. *What are the race and nationality of the insured?*

Individuals of certain races and emigrants from certain nations are prone to hold attitudes toward insurance and the crime of arson that make them undesirable as policyholders. Emigrants from other nations are as acceptable as are natives.

7. *Is the building now occupied?*

Vacant property is undesirable because of its lack of supervision, which may allow trespassers to make use of it and possibly set fire to it through carelessness or malice.

8. *Is building occupied by owner?*

Owner occupancy is, in general, superior to tenant occupancy, as the owner is interested in his building, whereas the tenant is interested chiefly in his contents.

9. *If tenant, give name.*

The name of the tenant will enable the company to investigate him if it is advisable to do so.

10. *Other insurance in this company on or in this building or within* 100 *feet?*

This information is useful chiefly in connection with business in rural sections or in towns or villages for which the company does not maintain an accurate map. It is valuable in connection with any property that is not shown on the company's maps.

11. *Is this direct or brokerage business?*

The agent himself may have produced the business, or it may have been placed with him by a broker or by another agent. If the risk is an inferior one and is reported as having been brokered to the agent, prompt investigation is in order, because some other company may have refused to write or continue on it.

12. *Has any company declined this risk?*

If the answer is "no," it is a point in favor of acceptance; if "yes," it warrants immediate investigation of the risk and possibly conference with the agent who has written it.

13. *Why?*

Some companies decline a risk because they have already written insurance on it or have written insurance near by for an amount that makes it unwise for them to accept it. Some companies decline classes that other companies write. But if a company has declined or canceled a risk because of its physical condition or an actual or possible moral hazard connected with it, the risk ought not to be accepted by another company without full investigation.

14. *Has insured ever suffered loss by fire, and, if so, what was the cause of the fire?*

The record of an insured who has suffered a fire loss is important. Investigation may reveal that the fire was of accidental origin and that neither fire nor claim warranted an adverse criticism. On the other hand, the history of a fire may clearly suggest that it was of incendiary origin or that the claim was exaggerated, perhaps to the degree of fraud. Sometimes both fire and claim are subject to severe criticism. Some persons

have suffered several fire losses. Companies try to avoid incendiaries, perpetrators of fraud, repeaters, and grasping or otherwise undesirable claimants.

15. *Is the building on leased ground? When does lease expire? Has insured privilege of renewal?*

Whereas in some sections of the country many buildings stand on leased ground, in others such buildings are unusual. Ordinarily, when a lease expires, the building on the leased ground ceases to be the property of the lessee and becomes the property of the owner of the ground. At the beginning of the lease and for the better part of the term, the owner of the building ordinarily will have no reason to welcome its destruction; but when a lease which cannot be profitably renewed is about to expire, the situation may change. Privilege to renew the lease enables the lessee to keep his building.

16. *Age of building? Condition? When painted? Dimensions?*

The information asked for informs the underwriter whether he is insuring a new or an old structure, whether it is in a state of good repair or has been allowed to run down. Recent painting indicates care and attention, whereas deferred painting may register an owner's straitened financial situation or his deliberate neglect of the property. From the dimensions of the building the underwriter will know whether it is of normal size, oversized, or undersized. He will also be able to form an idea as to the cost of replacement, which when considered in connection with the age and condition of the building will enable him to make an estimate of its value. The value can then be compared with the amount of insurance.

17. *Are chimneys brick? Any tile or brick on edge? Any stovepipes through roof or partition?*

This question develops the degree of the heating hazard which is reduced to a minimum by standard brick chimneys and by the arrangement of stovepipes so that they do not menace adjacent woodwork or inflammable contents.

18. *Are foundations stone, brick, or concrete? Solid or on pillars?*

Solid foundations ordinarily indicate a better building than do pillars.

19. *What is present cash value of building above foundation?*

The underwriter will compare the answer to this question with his estimate of the value of the building based upon information developed by Question 16.

20. *Is property mortgaged? For what amount?*

Property may be mortgaged for an amount which is in keeping with its value, but it may be mortgaged for so much that the owner will have little or no equity in it. A heavy mortgage debt may impose such a burden on the insured as to produce a motive for burning the property and throwing the burden on the insurance company.

21. *What is present cash value of the whole property mortgaged?*

Answer to this question may correct an improper inference drawn from the preceding question. As an example, several pieces of property may be included in the same mortgage. No amount will be allocated to any piece of property, and therefore the only amount of the mortgage will be its full amount. What may, therefore, appear to be an excessive mortgage on the property under consideration may turn out to be a mortgage in keeping with the value of all property covered by it.

22. *Is the insured reliable and doing a profitable business?*

No company wishes to deal with unreliable policyholders or to protect a failing enterprise.

23. *How long has he been in business?*

The established merchant is ordinarily a better risk than a new and inexperienced one. A merchant who is a newcomer to a town may have a past record requiring investigation.

24. *What was the amount of the last inventory, and when was it taken?*

The answer to this question not only will give the underwriter the opportunity of estimating the value of the stock but in sections where the iron-safe or record-warranty clause is used will indicate whether the inventory requirements of the clause have been complied with.

25. *What was the amount of sales for the last year?*

The ratio of sales to inventory—the turnover—indicates whether the business is active or slow.

26. *Is a daily sales record kept, and, if so, does it show both cash and credit sales?*

Here again is information bearing upon compliance with the iron-safe or record-warranty clause. In connection with small outlying stores the question is important.

27. *What is present cash value of furniture and fixtures?*

In some businesses the ratio of the value of furniture and fixtures to the value of the stock is much higher than in others. Answer to the question not only will reveal whether the normal ratio exists but will also indicate whether the amount of any insurance on the furniture and fixtures is in keeping with their value.

28. *What is total amount of fire insurance carried in all companies on each item of this policy?*

From the answer to the question the underwriter is able to determine first whether or not his company is the sole insurer of the property or whether there is other insurance and, if so, what is the amount.

29. *What are the exposures of the risk?*

The answer enables the underwriter to determine the degree of the exposure hazard.

Details of Occasional Importance.—In connection with some business the underwriter will spare himself possible embarrassment by clearing up certain important details before accepting it.

On business received from brokers, the address of the insured and of any payee should be in hand, so that a proper notice of cancellation can be sent out, if necessary. The insured's address is of particular importance when the property is stored in a warehouse.

On all business, the name of the insured and the name of any payee should clearly identify the person, firm, or corporation intended.[1]

Distribution.—An excessive amount at risk subject to loss by one fire may impair the solvency of a company. A number of excessive individual amounts carried on risks of high susceptibility to damage, even though the risks are separated so that no two or more will be involved in the same fire, may, in time, produce a high loss ratio. In the past, some companies allowed amounts at risk to accumulate in a congested area until the totals exceeded their loss-paying powers and they

[1] See Chap. VIII.

were bankrupted or compelled to reinsure or liquidate by conflagrations such as those of New York, 1835; Chicago, 1871; Boston, 1872; Baltimore, 1904; and San Francisco, 1906. Many companies have experienced periods of excessive loss due to commitments on the freely burning classes out of proportion to their premium incomes. On the other hand, a company's opportunity to profit on its writings may be stifled through the constant restriction of its commitments on good risks to amounts which are inadequate to produce the premium income necessary to provide for fixed expenses. Distribution of amount at risk is necessary to avoid excessive loss by any one fire, and graduation of the amounts written or retained on individual risks according to the expected extent of damage is necessary to assure regularity in annual loss ratios.

Underwriting efforts directed toward effecting a proper distribution of amount at risk must be guided by the loss probabilities of each risk offered or written and the relation that its location causes it to bear to other risks on which the company or fleet or office is interested. Distribution is planned according to a system of limits and lines. Such a system will embrace in its scope the entire territory from which business may be drawn and will provide, in theory at least, for all classes of risks and for blocks, areas, and regions.

Limits and Lines.—In arranging its system of limits and lines a company seeks to avoid losing too much in any one fire. The effect on the company's accounts of a very large loss due to a single fire or of the combined loss due to the burning of a number of risks on which disproportionately large losses occur will be the same. In either case the profit of several years' operations may be wiped out.

Certain classes and territories have been consistently profitable for the fire insurance companies; others, consistently unprofitable. Limits and lines should be liberal in the former but conservative in the latter. As profitable classes may be cited protected bank, office, and mercantile buildings; powerhouses; and dwellings, except the flimsy types at one extreme and palaces at the other. Notably profitable territories have been Connecticut, Pennsylvania, District of Columbia, Virginia, and Florida. As unprofitable classes, woodworkers, mattress fac-

tories, tobacco barns, five- and ten-cent stores may be cited; as unprofitable territories, Massachusetts, Mississippi, South Carolina, Tennessee, Missouri, and Arkansas.

Line Books.—A well-organized company or underwriting office will keep its system of limits and lines recorded in a line book which from time to time it will amend or supplement to conform to changes or extensions in the system, reflecting the company's changing experience on given classes. The classes which the company or office seeks to avoid will be listed in the book, and the base lines will be fixed on the classes it expects to write. Generally, certain states, cities, areas, blocks, and even individual risks of unusual value will be listed for specific treatment.[1]

Limits.—A company may establish limits for a single risk, a block, and certain specific areas, such as the congested districts of large cities. The state of New York provides by law that a fire insurance company shall not carry net on a single risk an amount of insurance greater than 10 per cent of its capital and surplus. It thus sets up a legal limit comparable to the limit provided in the banking law on the amount that a bank may lend a single borrower.

There is no mathematical formula for fixing limits. They are established by company managements according to such factors as the financial strength of the company; the volume of business written; the physical hazard of the risk, block, or area; and the record of the state and town where they apply.

Risk limits are established according to the probabilities of loss, block and area limits according to conflagration hazard, a hazard which is constantly under observation by the National Board of Fire Underwriters as well as by the insurance companies. The group system under which several companies are operated by the same management has brought about an emphasis on group, rather than individual-company, limits.

Lines.—Lines are the amounts which are actually to be written or retained on given risks, and they are fixed according to the probable extent of the losses which might occur in them and also according to the volume of income from their classes. On the best risks, a maximum line, the class limit, will be written. On

[1] See Appendix G.

other risks, lines will be graded downward as probabilities of loss in the risks increase until a minimum amount is reached below which it is not deemed necessary to go. A system of lines seeks to maintain a rough level in the probable amount of loss to be sustained on any one risk and to avoid peaks that will tend to distort the company's experience. Lines are arranged by regulating the amounts accepted on given risks or by reinsuring the excess above the amount that the company wishes to retain. The rate is generally accepted as indicating the line to be carried. The line written is often limited so that the premium income would be large enough to absorb at least three probable maximum losses per annum. Reinsurance against extraordinary losses is a very important safeguard particularly where a comparatively small number of risks are insured, but it should not be allowed to influence underwriting to such an extent that the principle of arranging lines on the basis of maximum probable loss is ignored. As the number of risks increase, the amount of insurance assumed on any one risk can also be increased without violating underwriting principles.

Underwriting experience has shown that physically there are superior, ordinary, and inferior risks. In the superior, the extent of loss averages much less than in the ordinary and inferior. If there are several divisions of a risk, one may be superior, one ordinary, and one inferior. Forms under which risks are written vary in their terms, so that under some there will be a larger payment in case of loss than under others. Any consistent system of lines must recognize the differences among physically superior, ordinary, and inferior risks, and any use of the system must take into consideration the probable loss to be experienced under different kinds of forms. Beginning at the top with the superior classes on which the largest lines are to be written, appropriate smaller lines are fixed for the ordinary and inferior classes, the lines in all cases being intended for the best risks of each class when written under standard forms. These lines are *base lines* and are subject to increase by stipulated percentages in superior cities and regions and to decrease by other percentages in inferior ones. Within the classes there will be risks which are not the best but which are acceptable for smaller amounts.

There is no mathematical formula or accepted rule for fixing the line that a company of given financial strength or premium volume should carry on a given risk. In the past some effort has been made to establish a line scheme on the basis of schedule rates. Because of the lack of authoritative data,[1] it is impossible to put lines on a strict mathematical basis. If risks of a given class were all of the same value, under the same character of ownership, of the same degree of susceptibility to combustion and damage, and protected and exposed alike, it would be possible to record the losses occurring in them and in a relatively short period of time evolve a mathematical rate scale and line scheme. But actually there is a wide range in the value of risks,[2] and to confuse the situation there are different characters of ownership; there are innumerable differences in both combustibility and damageability; protection and exposure differ; and so many incalculable elements influence the frequency and extent of loss that mathematics fails for lack of definite factors. Judgment and experience must approximate what cannot be computed. Every successful company has evolved by trial and error the method that it follows in fixing lines. It will not be scientific, and the lines will not always be consistent, but they will be of "that sort of rough equality which, though not exact, is yet sufficient for carrying on the business of common life."[3] Lines on good risks are naturally larger than those on poor ones. A maximum line will be fixed for an office building of best construction in a city of the best class; a minimum, for a millinery-stock or unprotected frame barn. If fire occurs in the office building, it will probably be extinguished promptly with no greater loss, even under the most adverse conditions, than 5 or 10 per cent of the value of the building. But if fire gets a real start in either of the other risks, the loss will probably be total. It is, therefore, in order to write many times as much on the first-class office building as on the millinery or hay barn.

[1] Moore, F. C., reproduced in Appendix G.

Mowbray, Albert H., "Some Aspects of the Theory of Net Lines," *Proceedings of the Fifty-first Annual Meeting of the Fire Underwriters Association of the Pacific* (1927), pp. 123*ff*.

[2] See Chap. XI.

[3] Smith, Adam, "Wealth of Nations."

Lines must be in keeping with the financial strength of the insurer and also bear some regular relation to its yearly volume of premiums and spread of business. A company or group with a well-developed agency plant in all states, and doing a large volume of business, should write larger lines than one operating in a restricted territory and receiving only a small premium volume. Lines should vary according to classes of towns, as in well-protected towns there will be a smaller percentage of serious or total losses than in towns where the protection is poor. A line must bear some regular relation to all other lines written on risks on the same class if any regularity of result is expected. Whereas the foregoing facts are generally accepted, companies and underwriters have so many different experiences, and so many problems arise out of the economic phases of the business, that any plan to be followed in fixing lines must allow for a reasonable latitude in the use of judgment. For the past 25 years there has been a general trend in the United States toward a lower burning rate.[1] In 1910 the burning rate was 58 cents; in 1937, 25 cents. This trend has been accompanied by a fall of the average rate received by the stock fire insurance companies from $1.07 in 1910 to $0.69 in 1937.[2] Changes in limits and lines have been markedly upward since the end of the World War, justified by the reduction in the burning rate and by the increase of the financial strength of fire insurance companies.

Single Risk.—To fix the proper line to be carried on any risk requires consideration of the risk itself, the hazards threatening it, the conditions of the form used, and occasionally special situations affecting insurance in the territory or at the location or in the class to which the risk belongs. A risk may be detached, cut off, or exposed. It may be subject to total loss by one fire; or it may embrace two or more divisions, with little probability of fire's spreading from one to another. The extent of loss to be expected on it will depend upon its construction, occupancy, protection, exposure, and condition. The risk may present any

[1] The burning rate is calculated by dividing the yearly fire loss by the yearly amount of insurance written (not premiums). It is ordinarily expressed in terms of the number of cents paid in loss for each $100 of insurance written.

[2] See Fire Insurance by States, p. 108.

or all items[1] commonly insured; (1) building, (2) personal property, not for sale; (3) stock; (4) right of possession or use (rent, use and occupancy, or leasehold); (5) liability, legal or contractual. Ordinarily the building item is the preferred item, the extent of loss on it in protected risks being generally less than on the contents. Consequently, in protected risks, larger lines are customarily written on buildings than on their contents. On the other hand, in unprotected risks, the extent of loss on the building is likely to be greater than on the contents, because the latter may be removed during a fire that will destroy the building. Some types of contents, however, are noncombustible and not even very susceptible to fire damage, so that as a rule the extent of loss they suffer is not great, even though the building is destroyed. As an example may be cited the stocks of acid phosphate stored in frame sheds at fertilizer plants. The sheds may burn up completely, but much of the acid phosphate can generally be recovered and sold at a relatively good price. In some unprotected risks, and in protected risks when the probabilities of building and contents are similar to those in fertilizer sheds, the line on contents should properly be higher than on building.

In superior types of buildings with light occupancies, such as office buildings and banks, the average extent of loss to the building is small. In even the average run of buildings in a highly protected city, the average extent of loss is not great. The record kept by one prominent New York builder who has estimated a great number of building losses for the insurance companies shows that, on Manhattan Island, less than 4½ per cent of the losses handled by his office involved an extent of damage exceeding 50 per cent of the value of the building.

In some risks the contents will be of a single kind, insurable under a single item, as is the case with a dwelling and the household furniture in it. But in others there will be several kinds, insurable as separate items, and in protected risks each kind will ordinarily show a different extent of damage in case of fire. In a garment-working plant, for example, the contents may be insured as three separate items: (1) stock, (2) machinery and fixtures, and (3) patterns. Ordinarily the machinery and

[1] See Chap. VII.

fixtures will be damaged least; the stock, more; the patterns, most. A contents line should allow for the degree of damage that the contents may be expected to suffer because of the building housing it. As an example, machinery or metal cabinets on the lower floors of a heavy brick-and-joist building will be crushed by its collapse in a severe fire, whereas the same kind of contents in a fire-resistive building or even in a one-story non-fireproof building will suffer in many cases only lightly should fire occur, as no great weight of debris will be thrown upon them. As the great majority of risks containing stock, machinery, and patterns are written under schedule or blanket policies, the propriety of any line to be fixed depends upon the ratio that the preferred item bears to the total amount of insurance in a schedule policy or the ratio that the value of the preferred property bears to the value of all the property if the insurance is blanket. In some cases it is preferable to write the smaller line which is proper for the higher rated item of the risk rather than the larger which is proper for the lower rated item. This is so when the company has a choice between the items and when it is seeking to increase its premium income but wishes to keep its amount at risk as low as possible.

Rent and rental-value items ordinarily suffer an extent of loss no greater than the building item and frequently less; hence they are looked upon by underwriters as being preferred and as justifying lines equal to or even in excess of building lines.

Use-and-occupancy items suffer an extent of loss that bears no regular relation to the loss suffered by the building item. The extent of loss under a per diem form will generally be less than under any other type. The extent of loss under a coinsurance or guaranteed-amount form is often surprisingly high. Under present-day methods of manufacturing very little can be saved on use-and-occupancy losses by transferring operations to other plants, as profit margins are small, and any increase of production costs destroys the possibility of earning a net profit. Each use-and-occupancy line must be fixed according to the expected time period of suspension and the peak income of the business covered.

Leasehold items often have a probability of total loss upon a 50-per-cent damage to the building. Lines on such items

should, therefore, generally be about 50 per cent of the building line. But as most leasehold policies decrease in amount from month to month, lines on leasehold items may require periodic readjustment of reinsurance.

Legal or contractual liability items in some cases warrant the lines that would be written on the property itself. Insurance on the liability of a lessee to restore a building in case of fire presents exactly the same question of line as does insurance on the building itself. Under such insurance there would be slightly larger payments for partial losses, because usually such insurance does not allow deduction for depreciation. But when in connection with a depot or warehouse the liability of a common carrier for freight in its possession is insured, there is likely to be a disproportionately high claim if a valuable shipment is lost. It is not possible to apply the principle of coinsurance or average to insurance of legal liability, because the carrier does not know the value of the freight in its possession.

In some cases the property described in an item may be located, divided, or arranged so that only a part of it will ordinarily be involved in any one fire. If so, the line to be carried over the entire property should be based on the possible loss in the part. The property is really several risks and justifies a line several times as large as for one risk. In underwriting language the expressive term *amount subject* is used to mean the amount of insurance likely to be subject to loss by one fire in a risk or a group of risks insured under one policy.

Vertical cutoffs, horizontal cutoffs, and open-space cutoffs determine the amount subject, or *normal loss expectancy*,[1] in connection with buildings, permanent machinery, and fixtures. But with movable property, such as stock and supplies, the actual distribution at any time determines it.

The conditions of the form to be attached to the policy will in some cases be a factor in determining the line to be written. The terms of some forms will require a payment in case of loss greater than that required under others. As instances may be cited the broad and restricted forms under which profits and commissions are written. Under the broad form a damage to

[1] All students of underwriting should read C. A. Vlachos, "The Normal Loss Expectancy."

the merchandise may result in a total loss under the policy; but under the restricted form the loss under the policy is always in proportion to the damage to the property.[1] It is therefore proper to write larger lines under restricted profits forms than under broad profits forms.

A form may be subject to limitations or exclusions, which may be definite or contingent. An excess policy may have a definite amount of loss stated which must be exceeded before the excess policy can be called upon for payment. On the other hand, it may be an excess policy only upon the contingency of specific insurance; and if it is, the decrease or increase of specific insurance will increase or decrease the expected payment under it. The form carrying the definite limitation warrants a larger line than the one carrying the contingent. Exclusions operate in the same manner. Exclusion of foundations, or other named property, presents no uncertainty, and a line can be fixed accordingly. But when the exclusion of "property specifically insured" appears in, say, a floater policy covering at several locations, the possible existence of specific insurance and how it will affect the floater must always be considered. As an example, a floater policy covered garments while in five clothing factories, with a provision that it covered only the value of the garments in excess of the specific insurance in any factory. When loss occurred, the garments in all the factories except the one that burned were fully covered by specific insurance, a situation that threw the entire loss on the floater policy. Under a floater policy the line to be carried should be no greater than the amount that the underwriter is willing to lose at the worst location included.

The ratio of insurance to value bears directly upon the expected payment under a form. When average, coinsurance, or pro-rata distribution clauses are not used, smaller lines on protected property are in order than when they are, unless the underwriter knows that adequate insurance will be carried as long as the company is on the risk. The limitations of average and coinsurance clauses ordinarily fix the extent of payment under the form at an amount consistent with the extent of damage to the property. When, therefore, these clauses are used, the underwriter feels safe in basing his line upon the assumption of pay-

[1] REED, PRENTISS B., "Adjustment of Fire Losses," Chap. VII.

ment according to possible extent of damage. He will be safe when the clauses are true average clauses; but when dealing with coinsurance clauses, he is always likely to encounter the unexpected situation of having his own liability disproportionately increased by the presence of insurance that satisfies coinsurance requirements but does not contribute in case of loss.[1] A disproportionate payment may be demanded under a blanket form in territories that use the Gradual Reduction Rule in apportioning losses, but fortunately this rule has been falling into disuse since the National Board of Fire Underwriters promulgated a set of rules designed to provide for all kinds of apportionments.

In fixing lines on buildings in states where there are valued-policy laws the underwriter must not be misled into thinking that, because the building will be valued in case of total loss at the amount for which it was insured, he will be able to distribute his insurance proportionately in case of partial loss and pay half the policy if half the building is destroyed. On the contrary, he may face a condition of marked underinsurance but at the same time pay a total loss under the policy.

Exposing Risks.—In fixing the line to be carried on a risk, the underwriter must take into consideration the amount that he may be carrying on any other risk within exposing distance or possibly within an entire conflagration area. Exposure may be so great as to require the treatment of two or more risks as one, carrying as the aggregate on or in them no greater line than would be carried on one. On the other hand, two risks may adjoin but be cut off by a standard fire wall with a parapet of proper height. In such a case it is common underwriting practice to write a line and a half over the two risks. When three cutoff risks adjoin, the common practice is to write two lines over the three. There are, however, no hard and fast rules here, as superiority or inferiority of construction, coupled with the town record, will often cause underwriters to give special treatment to special situations. Exposure in general is a problem calling for an estimate of the probable amount subject to loss in the group of risks exposing one another.

Block.—A block may be entirely occupied by a single risk but generally is made up of several risks. These may or may

[1] See Coinsurance Clause and Average Clause Contrasted, p. 286.

not be cut off by fire walls. It is, therefore, customary for a company or underwriting office to fix a limit to be written on a block after taking into consideration the construction, occupancy, and exposure of the individual risks in the block, together with their condition and any other factors that would tend to spread or confine a fire which might break out in the area. The width of the streets or other boundaries of the block are considered, as are also the public and private protection and the record of the town. In filling a block limit the advisability of doing so on the lower or higher rated risks or parts of the risks should be considered. For example, if all insurance to be written in the block is to be written on buildings, the premium income to be derived from the block will be less than if all insurance is to be written on contents. In city blocks building rates are lower than stock rates.

Conflagration Area.—An area subject to conflagration hazard will be made up of a number of congested blocks and risks. It may have some definite fire boundary, such as an unusually wide street, a river, or a park. The limit to be written in the area should be fixed, after considering the character of the risks and blocks that make it up, in the light of the protection available and the record of the area and of the city or town in which it is located. Some areas are subject to unusual hazards, as is a large part of Oklahoma City because of the encroachment of oil-drilling operations, where wells were actually drilled and operated in the back yards of residential properties, and several within a stone's throw of the state's capital.

City or Town.—A city or town will generally comprise several areas. If the volume of business received in a particular city or town is quite substantial, it may be advisable to establish limits for certain areas and an aggregate limit for the city as a whole. The degree of the conflagration hazard should be considered—both the ordinary conflagration hazard and that which might be brought into existence by earthquake, flood, tornado, or hurricane. Formerly, conflagration hazard was the great specter that haunted underwriters. But in the building boom following the World War, many cities made improvements in their congested areas and also increased the efficiency of their fire-fighting facilities. Old buildings were torn down; shacks were cleared away; anti-wood-shingle ordinances were passed;

fire departments were more highly motorized; and wide boulevards were opened for traffic, boulevards which incidentally became good fire breaks. As a result the fear of conflagrations that existed formerly has been lessened.

The following is illustrative:

> Fire starting in a wholesale grocery warehouse at the waterfront of New London, Connecticut, during the height of the great hurricane of Wednesday, September 21, 1938, was driven by a wind at times reaching 100 miles an hour through a portion of the congested business district, causing a loss estimated at approximately $1,000,000. In addition to the main fire area, flying brands started many exposure fires in nearby residential streets. These additional fires greatly harassed the overtaxed fire fighting forces, which could obtain little assistance from outside the city because the storm had disrupted all means of communication and roads were blocked by fallen trees and debris.
>
> More than fifty buildings were destroyed or damaged. These were of brick and joist and frame construction and from one to four stories in height. Several sprinklered properties were involved in the fire. A four-story sprinklered building, although considerably damaged, stopped the spread of the fire to the northwest. . . . After nearly seven hours' work a determined stand by the fire department checked the spread of the fire to the northeast.
>
> Probably no conflagration has been fought under more numerous handicaps. Not only did the hurricane break fire streams into little more than a bath spray and make hose lines immovable, but falling trees greatly delayed the response of the apparatus. All light and power services were cut off. Both fire alarm and telephone systems were out of service. Only foot messengers were able to get help from nearby towns. The local radio station was out of service. In addition, the extremely high tide at the height of the storm inundated much of the fire area.[1]

Excess Accounts.—Almost all companies have found that they can safely carry very large lines on superior risks.[2] To make a consistent increase of lines to be carried on such risks, a company may operate an *excess account*, treating it as if it were a reinsurer and ceding to it a definite amount on every good risk where enough is written to exceed the company's normal line.

[1] *Quarterly of the National Fire Prevention Association*, October, 1938, p. 123.

[2] See figures of Western Adjustment and Inspection Company, p. 117*ff*. Observe the relatively small number of large losses.

Many companies have abandoned the actual keeping of the account in order to save bookkeeping costs, having found over a period of time that the account was consistently profitable. Their retentions, however, are based upon the normal line plus the percentage allotted the excess. The effect of excess accounts is to increase net or retained lines.

CHAPTER IV

PROCEDURE

Underwriting procedure begins with the acts of the producer who solicits the business or who is offered it. He may know the person to be insured, the property to be covered, and any payee interest to be protected well enough to feel that the business is desirable. His knowledge of person, property, and interest may be great enough to enable him to arrange the details of the insurance without having to make special investigation or inspection. On the other hand, before soliciting the business or before accepting the offer of it, he may find it necessary to investigate the record and standing of the prospect; inspect the property; and make inquiry into its value, the interests in it, and the encumbrances on it. If the business is to be written, a knowledge of these details will enable him to fix the amount of the insurance and choose or draft the form to be used in writing it. Character and credit information bearing on the person to be insured may be necessary to decide whether he will probably be reasonable and intelligent in his dealings and whether he can be expected to pay any premium for which credit is extended him. An accurate description of the property and a correct statement of its location are necessary in writing a policy, and a fair valuation of every item of property is requisite to fixing a proper amount of insurance on it. When details have been settled, the producer must choose a company or group of companies to carry the risk. There then follows preparation and delivery of a policy or policies, after which the producer stands by to afford a medium of contact between policyholder and company. From the standpoint of the producer, underwriting procedure is directed toward determining the certainties and probabilities of business as to

1. The sum to be received as commission.
2. Expense of handling.

3. Promptness of premium payment.
4. Control of liability by notice of cancellation.
5. Value of business to producer as a lead to other business.
6. Possibility of controversial adjustment and bad advertising of producer's office.
7. Effect on producer's relations with companies.

Further steps in procedure are taken as information about the insurance passes from producer to company. If the insurance has been placed by a broker with a company or a metropolitan agency, much of what is outlined in the following sections will have to be done by the company underwriter before a binder is signed. If the insurance is written by an agent, the company will ordinarily receive promptly an abstract of the policy in the form of a daily report. It is then incumbent on the company to accept the business on the judgment of the agent or to make its own investigation of the insured and the property and possibly a critical examination of the form. From the standpoint of a company, the details of underwriting procedure are followed in order to determine the certainties and probabilities of any piece of business as to

1. The character and financial condition of the insured.
2. The nature of the risk, its construction, occupancy, exposure, and protection.
3. The adequacy of the premium—the rate.
4. The probable amount subject to loss by any one fire.
5. The relation of insurance to value.
6. Effect that acceptance or rejection will have on the company's relations with the producer offering the business.

Producer.—The producer is in direct contact with the prospect and the property and should be skilled in the preparation of contracts of insurance. Property, fire damage, persons and interests insured, rates, and forms of contracts are prime factors in underwriting. These factors must be properly valued and treated in the handling of underwriting problems, many of which must be solved by the producer. A proposal for insurance calls for inquiry as to what the property is, how it may be damaged by fire, who is the person to be insured, what is his interest, and what are to be the rate and the terms of the contract

to be embodied in the policy. The producer may know both the person and the property involved in the proposal. Such will generally be the case when the prospect is a known resident of the community and the property is of substantial value and desirable as a risk. The producer, generally being in direct contact with the prospect, gets any information about his character and standing from personal contact or association with him or by local inquiries at banks and business houses. The producer also, generally having access to the property, gets information as to its construction, occupancy, exposure, and protection from actual inspection. He may estimate its value or have the prospect furnish an estimate, statement, or appraisal. A statement from the prospect as to interests in or encumbrances on the property completes the information needed to prepare or select policy forms; and after the commencement and expiration dates have been agreed upon, the insurance may be placed or written.

Equipment in the offices of producers includes (1) lists of prospects; (2) lists of property in process of erection or assembly; (3) advertising material; (4) survey blanks; (5) expiration records; (6) forms; and (7), in the case of agencies, blank policies and endorsements.

The producer follows a procedure the purpose of which is to give each piece of business proper attention from the time when he receives the order to write it until the policy expires. The procedure followed by one of the highly efficient New York brokerage offices is set forth below as an example.

Orders.—Business originates with orders which the members of the firm or the solicitors receive at the office or, more often, while they are away from it calling on customers or prospects. An order is an authorization for the firm member or solicitor to place a certain amount of insurance on specified property for a stated term according to a form agreed upon or to be worked out. As soon as possible, the order is reduced to writing. If it is received in the office, the firm member or solicitor immediately writes it out or dictates it to a stenographer. If it is received away from the office, it is dictated over the telephone. As soon as an order is written out, it is assigned a number taken

from the order book and given to the order clerk who records it and makes out a binder to be signed by the company. The binder is then given to the placer.

Covering Orders.—The placer goes with the binder to a company office and tenders the business. If it is accepted, the counterman or other authorized person initials the binder which the placer then returns to the order clerk who acknowledges the order to the insured and advises him that it has been covered. The order is then entered in the order book. If the risk is such that any one company will accept only a part of the insurance, it will be necessary for the placer to go to several companies to cover it.

Preparation and Delivery of Form.—If the order is for a policy that is to cover according to a standard printed form, preparation of the form will be completed by typing into appropriate blank spaces the amount of insurance and the location of the property. But if the order is for a policy that is to cover according to a specially prepared form, the firm member or solicitor will probably collaborate with the manager of the office's fire department in drafting it. If the form is complicated, advice of company or organization men, adjusters, or lawyers may be taken. Many special forms for large insured are carefully drafted and afterward printed. The use of such forms assures concurrency of all policies if several insurance companies are covering on the same risk. Two copies of the completed form are delivered to the company, which then proceeds to write the policy.

Check and Entry of Policy.—When the policy is received from the company, it is given to the policy checker, who compares it with the order; checks rate and premium; and, if everything is in order, gives it to the entry clerk, who enters it in the insurance register and files a copy of the form in the record file folder.

Billing and Delivery.—From the entry clerk the policy goes to the bill clerk; and after the bill has been prepared, policy and bill are delivered to the insured.

Expiration Record.—The clerk in charge of expirations posts the expiration record from the register. This record is kept so that the broker knows each day what policies are expiring and can make necessary arrangements beforehand for their renewal.

In all respects except one, the procedure followed by local agents is similar to that followed by brokers. The agent, being empowered with binding authority for companies represented and being furnished with blank policies, is able to effect insurance coverage for which orders have been received rather than use the service of a placer to secure the coverage from companies, as is the custom with brokers.

There are, of course, times when greater facilities are needed than those furnished by the companies represented by the agent, in which cases it is necessary to place the excess line or lines with another agent; under such circumstances the commission is divided between the two agents on a basis that is mutually agreeable.

Business Offered Companies.—Business comes before company underwriters in various ways. In one instance an offering will be tendered by a broker or placer calling in person at the counter or department of a company or metropolitan agency. In another, a policy written by an agent will be registered by the arrival of a daily report at the office of a company or general agency. In still another, an agent may ask a visiting field man to authorize the writing of a risk. Each piece of business written by agents or tendered for the company's acceptance requires a decision by the company to accept or reject, perhaps unconditionally, perhaps conditionally. Many pieces of business also require a decision as to the portion to be written or retained and the channels through which the excess shall be placed or reinsured. Frequently, agents or brokers who are negotiating with owners for handling their insurance will pave the way for placing it by asking companies or offices for authorizations, *i.e.*, for agreements to accept definite amounts of insurance when the time comes for binding.

New York City Business.—In New York City, business is offered by brokers who call at the offices with binders prepared for signing or initialing. At times the broker himself calls at the counter or desk; but when business is being offered by the larger brokerage offices, the placer usually calls. He is an employee who is charged with the duty of placing the broker's business with various agencies and companies. The company's counterman usually reviews an offering; checks his map for

the daily report covers a mercantile or manufacturing risk, the insured's credit standing and business history are also looked up. Dun and Bradstreet, Inc., furnish credit information and business history, including in many cases a record of fires or other casualties involving insurance. The Retail Credit Company and, in certain sections, the Hooper Holmes Bureau and other organizations of similar nature furnish special reports on the condition, character, and standing of persons who may be policyholders or applicants for insurance. Special reports are also prepared and filed with companies by their own field men, by adjusters and loss-department men, and in some cases by agents. All offices index certain names, businesses, and locations in a *K.O. file* (with intent to keep off).

Classification.—Proper handling of premium, commission, reserve, and possible future-loss figures requires that a daily report be classified and the company's class number noted on it. Premiums and losses must be recorded according to classes in order to determine what classes are profitable and what are unprofitable and to accumulate data for classified results for the National Board of Fire Underwriters and certain states requiring such results. Commissions in some transactions are payable according to classes. The classification of the daily report enables the accounting department to verify the commission charged by an agent compensated on a graded basis and enables the classification department to handle properly the premium entry and any subsequent money entry. The National Board of Fire Underwriters have, in the past, assembled the experience of their member companies on the different classes.

Mapping.—In underwriting procedure, mapping is a step that creates a record of amount at risk according to location and makes available to the underwriter the information in hand bearing on the physical characteristics of the risk described in the daily report being mapped. In some cases it also makes available information bearing on owners, occupants, or neighbors. The maps made by the Sanborn Map Company cover the largest areas and the greatest number of risks and are therefore the most important underwriting equipment of a company or office doing an extensive business. These maps vary in size from a single sheet showing the central area of a small town or

village to sets of many volumes for the largest cities. On the first sheet appears a brief town report giving population, prevailing winds, street conditions (paving and grades), water supply, pumping stations, length and sizes of water mains, number and type of hydrants, personnel and equipment of the fire department, and a descriptive list of city ordinances affecting the fire hazard. On the same sheet is a key map for the areas covered by the individual sheets of the map or the volume if there is more than one volume. Following the first sheet come the numbered sheets of the map. The sheets are 21½ by 25½ inches with a margin on all sides of ½ inch. With the exception of light residential and large manufacturing areas, which may be indicated at a scale of 100 feet to the inch, a scale of 50 feet to the inch is used. A sheet drawn according to the 50-foot scale covers an area of 1,025 by 1,225 feet, or 1,255,625 square feet (approximately 30 acres). On these sheets are shown the buildings and structures in a given area, also the water mains, hydrants, and fire-alarm boxes of the public fire protection. A color scheme is used to indicate the various types of construction—fireproof, brick, frame, concrete block, adobe, veneer, or metal clad. Symbols show the materials and thicknesses of walls and the height of any parapets, roof coverings, and wall and floor openings, with any protective arrangements, and also many of the special hazards of manufacturing risks and the private fire protection of practically all risks that are equipped with standpipes, tanks, or automatic sprinklers. These maps are corrected from time to time as changes are made in the areas and risks shown. In the larger maps, skeleton sheets devoid of color and omitting many symbols but showing the outlines of all buildings are bound between the regular sheets, showing the high-value section of a city. The skeleton sheets are designed to afford more space for recording data than is available on the regular sheets.

Sanborn maps are the basic charts of underwriting. They furnish a foundation on which rating and inspection services rest, as these services correlate their work and reports with the locations as designated on the maps. The maps serve two purposes in the operation of an insurance company or office. They provide a place for recording all the information in hand

bearing on a section, block, or risk, at times also on owners, tenants, and occupants; and they provide a place for recording amount at risk by location. The information that an active office accumulates is rendered available by making folders for sections, blocks, or risks and recording on the map the number or description of the folder or even a synopsis of what it contains. Thus a map may be marked to show that a large amount will be accepted on a given risk or, on the other hand, that the company is to keep off it. As business is written, the amounts, coverages, and expirations of the policies are entered on the maps, so that at any time the company or office has a record of amount at risk by location.

Diagrams of individual risks are made and published by the various pools, such as the Factory Insurance Association, the company bureaus, and the independent inspectors. Diagrams are often made by field men and also by brokers and agents. The large brokerage and agency offices that give engineering service often produce excellent diagrams.

Inspection reports are written statements of physical conditions, construction, occupancy, protection, and exposure and also of the inspector's opinion as to the grade of the risk according to the standard prescribed for the class to which it belongs and the percentage of damage to be expected in case of fire. Many reports will point out specific conditions and recommend ways and means for improving them. In many cases, diagrams and inspection reports are prepared to supplement each other.

As mapping is ordinarily done, the map clerk receives the daily report and finds on the map the risk to which the insurance attaches. If the daily report is a renewal, a record of the old daily report should appear on the map. If the daily report supplants a binder, the record of the binder should appear on the map. The map clerk erases the old policy number or the record of the binder preparatory to mapping the daily report. (If the daily report is new business, there will be nothing to erase.) He then draws with a pencil a small conventional arrowhead within the ground plan of the risk as it appears on the map and from within the point of the arrowhead draws with the aid of a rule a pencil line leading off like the shaft of an arrow. Along this line he writes in pencil the policy number, amount insured,

coverage, expiration, and reinsurance, if any. If the risk is a large one, the arrowhead may be dispensed with, as a straight line drawn wholly within the boundaries of the risk will be long enough to carry the necessary writing. If the office in which the map clerk is employed is a general agency representing several companies or a company office in which a fleet of companies are handled, the abbreviated name of the individual company is added to the information entered. The office then has on the map a record at the location to which it can refer at any time and find out what policies cover in or on the risk, what items they cover, what is the amount of each, when they expire, and what reinsurance is carried.

After putting on the map the information shown on the daily report, the map clerk may indicate on the daily report certain information shown on the map. Generally it is he who classifies the daily report, as classification can be more intelligently done with the map as a guide. If no other policies cover in or on the same risk or within exposing distance, he will place a check mark in the spaces provided on the daily report for entering such information; but if other policies do cover, he will enter in the spaces their numbers, amounts, and coverages, with reinsurance, if any. When this step has been taken, the daily report shows what the map reveals as to amount at risk. If other policies are shown, it is customary to pull their daily reports from the files and note on those daily reports the number and amount of the new policy. Such notation makes each daily report indicate what the map shows as to amount at risk. If the file number of any special diagram, survey, report, or inspection slip is recorded on the map, it is generally also entered on the daily report, and the diagram, survey, report, or slip itself is pulled from the files and made available for examination.

Line Cards.—A company will receive some business which is located outside the area shown on the map of a given town and in order to keep a record of it will enter the policy, the amount, the coverage, and the expiration on a card which will be filed according to location. In some cases a similar card will be maintained for a risk shown on the map, *e.g.*, a storage warehouse. A line card for a storage warehouse will enable the underwriter to list in greater detail the various policies covering in it than the smaller

space of the map will permit. Names of insured and commodities or articles covered can be entered, so that at any time the card will give a true reflection of the company's commitments. The conventional line card is filed alphabetically in a cabinet and, except that it does not show physical conditions, serves all the purposes of a map.

When a daily report has been mapped, the office will have learned all that there is to be known from information in hand as to the physical hazard of the risk and can estimate the probable loss to be expected in the risk. This being estimated, the line can be fixed, and any necessary reinsurance effected. After it has been mapped, the daily report is appropriately marked or stamped and frequently left between the sheets of the map, but with the edge exposed, awaiting examination.

Some companies do not map daily reports for policies covering dwellings and, in some cases, a few other classes, when the amounts of insurance are small.

Examination.—When the daily report has been handled through the previous steps in the office's routine, it is ready for *examination*, a step in which the work of the previous steps will be reviewed and the probabilities attending the business estimated. Examination will include a check by the *examiner* of the notations on the daily report evidencing the time of its receipt, its entry on the policy record, its checking at the fire- and credit-record desk, its classification, and its mapping. It will also include a check of amount, rate, and premium and an examination of the form. The probabilities attending the underwriting transaction represented by the daily report will be determined by (1) state and locality,[1] (2) class and risk,[2] and (3) contract.[3]

If examination shows that the daily report has passed through all previous steps, the examiner proceeds to consider the information developed by those steps. If a step has been omitted, the daily report is sent back to the proper desk or marked so that it will be sent back later. There follows a consideration of the information, whether it is sufficient to indicate what the prob-

[1] See Chap. X.
[2] See Chap. XI.
[3] See Chap. XII.

abilities are what information is needed. Information as to state and locality is acquired by the examiner from a study of statistical records, from contact with experienced office and field men, and from travel in his territory. Information as to a class is acquired in much the same way. The information in both cases is general. But information as to a risk is special and is developed by the fire- and credit-record desk and by the map desk. The work of these two desks is directed toward bringing to light the circumstances that ordinarily determine the probabilities of accidental or intentional origin of fire and extent of damage. Information as to contract is in part general and in part special. The printed portion of the insurance contract does not appear on the daily report. The examiner must know it. The written portion, however, does appear, either in full or in sufficient abstract to be considered intelligently. Contract stipulations and conditions may affect the adequacy of the rate, the probable amount of loss to be paid, and the getting of a valid release when making payment.

Examination of the daily report includes consideration of the following:

1. Does the name of the insured indicate that in case of loss it will be possible to make payment by check or draft drawn exactly as the name of the insured appears and thereby discharge the company from liability?
2. Is the rate adequate for the obligation assumed?
3. Is the premium the correct result of multiplying the amount of insurance by the rate?
4. Is the term stated the same as the period of time between commencement and expiration dates?
5. Is the amount on the body of the daily report the same as the amount on the form?
6. If there are two or more items on the form, does the sum of the amounts of the items equal the amount of the policy?
7. If the form stipulates that the policy covers pro rata on each item, is the sum of the amounts of the items as shown on the form correct?
8. If there are two or more items on the form, does the word *nil* or some word of equivalent meaning appear in the space provided at the right of any item for which no amount appears?

If not, does the form stipulate that no insurance shall be in force under any item unless an amount is written in the space provided?

9. Are the warranties, clauses, and permits in the form properly applicable to the risk described?

10. Under the form, what is the probable amount subject to loss by any one fire?

When the daily report has been examined, the business found to be acceptable at the rate, and the probable maximum loss under the policy estimated, any daily reports for other policies covering on or in the same risk are generally examined, and possibly those of other policies covering in or on exposing property. The amount to be carried or retained is then fixed; any necessary reinsurance arrangements are completed; and any arrangements or rearrangements of reinsurance made necessary under previously issued policies are also completed. If required reinsurance is not available, the examiner may ask the agent to cancel the policy and rewrite it for a smaller amount. In many instances the examiner will need to do little more than has already been done by the map clerk. In urgent cases a letter is written, or a rush inspection slip is sent to the field man.

Examination may indicate that there is not sufficient information in hand to make an intelligent decision as to accepting or rejecting the business or for fixing the amount to be carried or retained. The map, inspection report, risk file, or fire and commercial record may suggest special circumstances needing consideration. If so, a special report will be asked for from an inspector or from a concern like Dun and Bradstreet, Inc., or the Retail Credit Company. Possibly an inspection slip will be prepared and sent to the field man, who will be expected to return it with his findings and recommendation after inspecting the risk.

Information relative to important individual risks, their hazards, care and administration, special features, and protection, is collected by the various inspection bureaus and offices that issue reports to the companies maintaining or patronizing them. The Eastern Underwriters Inspection Bureau is one of the company-maintained bureaus. The inspection bureau operated by Vlachos and Company of Jersey City and Philadelphia and the National Inspection Company of Chicago are privately owned.

At some point in his examination the underwriter will decide that he has enough information to accept or reject the risk unconditionally or that he can accept it if certain conditions are complied with. If the risk is to be unconditionally rejected, possibly because of excessive physical hazard or an unfavorable past record of fires suffered by the insured, the underwriter will write, telephone, or telegraph the agent to cancel the policy and will arrange to follow up the request for cancellation unless the policy comes in promptly. But if the risk can be accepted provided certain physical defects are corrected, or the form can be amended to eliminate an objectionable feature, the agent or field man will be so informed, and the daily report held in suspense until advices have been received warranting final action.

Corrections of physical defects are often made under the advice of insurance engineers who are trained to handle details of construction, protection, occupancy, and exposure from the standpoint of fire prevention. Their general work is directed toward reducing fire hazard by planning buildings or suggesting improvements to existing ones; by laying out systems of tanks, water mains, hydrants, hose, sprinkler systems, and other equipment; and by designing safeguards for special hazards.

Filing Daily Report.—When examination has been satisfactorily completed, and the business has been accepted, the daily report is filed and remains in the file unless needed for various reasons, chiefly for endorsement, cancellation, or notice of loss.

Handling Endorsements.—Endorsements are received from the field, and date stamped, after which they are handled in many cases through the same routine as a daily report. If the endorsement changes the amount of insurance, location, or expiration, the map record will be corrected, and any necessary correction made in reinsurance arrangements. If the endorsement changes the name of the insured, the new name will be checked by the fire- and credit-record desk. In any event the endorsement will be read by map clerk and examiner and finally pasted on the daily report which will then be returned to the file. Endorsements changing premiums go through the same accounting and statistical routine as daily reports.

Cancellation.—When a policy is received for cancellation, the daily report is taken from the file, or "pulled," and, with the canceled policy attached to it, goes to the map desk so that the entry can be erased from the map and any necessary rearrangements of reinsurance effected. At the end of its journey the daily report will be stamped "canceled" and placed in the dead file, and the policy will be sent to the policy file. Canceled policies go through the same accounting and statistical routine as daily reports.

Loss.—At any time after an insurance contract takes effect, a loss may occur. If so, the insured ordinarily reports it to the producer who will care for the requirement of giving written notice to the company. In many cases the producer will act as adviser of the insured in the adjustment of loss. Ordinarily when the company learns of the loss, it is referred to the field man (the special agent in charge of the territory where the risk is situated) who will either undertake the adjustment himself or assign it to an adjuster who is expected to investigate the occurrence and adjust the loss if he finds no fraud or violation of contract conditions. Many agents are specially authorized by their companies to refer losses to company-owned adjustment bureaus, and in some cases to other adjusters, at the time the losses are reported to the company. On receiving papers evidencing an adjustment, the company makes payment by check or draft which it puts in the hands of the producer for delivery to the insured. In some cases, if the loss is adjusted by the company's field man, he will issue a draft in payment. After a loss has been adjusted, the producer may have the amount paid reinstated by endorsement of the policy. In many instances information brought to light during the adjustment may make it advisable for him to rearrange the amount and coverage of the insurance. In like manner a company may decide, after receiving the adjuster's report, to ask the producer for more insurance on the risk or on other business written for the insured or, on the other hand, may ask for a reduction of its commitment, a change in the form, or, perhaps, for cancellation of its policy and no further insurance of either risk or insured.

Loss Information.—Loss notices received at company offices are sent through the underwriting departments in order that

the underwriters shall know what risks and persons are suffering losses. Reports made by adjusters are also read by the underwriters and, where unusual, are often digested, and the pertinent information indexed by the fire- and credit-record desk or recorded by the map clerk.

Expiration.—At expiration a daily report will be taken out of the file for examination in connection with the renewal if the business is renewed; if not, it will be taken out in order to clear the active file. In case of renewal, a check will be made to see whether the expiration date and the renewal date coincide and whether reinsurance arrangements have been properly cared for. The entry on map or line card of a daily report that is not renewed will be erased; if advisable, retentions under other policy numbers covering in the same risk or in exposing risks will be changed; and reinsurance that has become unnecessary will be canceled. In connection with an unrenewed daily report, thought will also be given to the advisability of addressing the field man or agent, inquiring why the insurance was not renewed. Eventually, expired daily reports go to the dead file where they are generally kept for one year or longer, depending on the company's practice.

Review of Records.—At intervals the company underwriters review the records of risks, localities, classes, and producers and try to further their fortunes where the records have been good and remedy, wherever possible, unprofitable situations.

CHAPTER V

POLICIES AND POSSIBILITIES

With the issuance of a policy a contract of insurance arises with its legal rights and obligations, and a business transaction takes place that will contribute to the profit or loss of the company, either directly or through its effect on other transactions.

In their work of selection underwriters supervise the issuance of policies and watch over them while they continue in force in the hope of reducing to a minimum the number of policies which will cause the companies to lose money or result in unsatisfactory experiences with producers and policyholders. Underwriters, therefore, consider the circumstances attending the opportunity of issuing a policy or allowing one already issued to continue in force and decide to issue or continue or decide not to do so, according to the probable experience that the circumstances indicate.

The approach to underwriting begins with an examination of the fire insurance contract—What are its essentials, how it is created and how it operates, the standard policies that embody the contract, and the possible experience of a company in connection with a contract or policy.

The Fire Insurance Contract.—The fire insurance contract is a conditional agreement to indemnify the insured for direct loss or damage by fire and any other hazards specifically assumed, to the property described.

Essentials of Insurance Contract.—An insurance contract covering property will exist when the following essentials have been agreed upon: (1) the parties, (2) hazards insured against, (3) property to be covered, (4) amount of insurance, (5) rate of premium to be charged, (6) length of time the contract is to continue in force, provided the person who is to be the party insured has an insurable interest in the property.

Creation of Contract.—The fire insurance contract is created by agreement between the insured and the insurer. Although

in almost all jurisdictions an oral agreement between the insured, or a person authorized to act for him, and an officer, authorized employee, or agent of a company is sufficient to protect the insured temporarily, prudence requires that an insurance contract be reduced to writing as promptly as possible. In almost all cases, therefore, the contract is created by the use of a binder or a policy. A binder is a brief preliminary memorandum containing only the essentials of the contract which is to be set forth in the completed policy. In many cases agreements are made, binders signed, or policies issued fixing the commencement of the contract for a definite time in the future. The contract created by oral agreement or binder will be treated by a court as embodying all the terms and conditions which were to be stated in the policy.

In theory, the contract created by oral agreement or binder comes into existence as a completed matter; but in fact, the necessities of some situations are such that binders must occasionally be executed with the understanding that much important information is "to come."

The preliminaries leading up to the issuance of a policy and the assumption by the company of the obligation attending it generally follow one of two courses. Usually a producer solicits a prospect who agrees to take a policy of stated amount, term, and premium. If the producer is an agent, the insurance contract can generally come into being immediately by oral agreement upon the subject matter, amount, premium, and term and also the company, should the agent represent more than one company, in which the policy is to be written. If the producer is a broker and not an agent, he has no authority to bind, so he will offer the prospect's risk without delay to a company or agent and, if it is accepted, will have a binder signed or initialed. Occasionally, however, an owner or a custodian of property reverses matters and approaches a producer, seeking insurance.

Some insurance contracts are preceded by a written application in which the applicant sets forth over his signature certain information and makes statements upon which the company judges the advisability of issuing a policy and prepares the policy if one is issued.

Operation of Contract.—The insurance contract begins at the time agreed upon between the insured and the insurer and continues, unless terminated earlier by avoidance, cessation, payment of total loss, or cancellation, until a definite expiration date and hour. From commencement to expiration its validity and continuance are dependent in general upon the interest of the insured and the hazard of the property continuing unchanged.

When fire or other peril covered occurs during the life of the insurance contract, it is incumbent on the insured to give the insurer immediate notice of any loss, protect the property from further damage, and make claim. Adjustment and payment normally follow.

After the occurrence of a partial loss, the contract continues in force but for the reduced amount. After adjustment and payment of such a loss, the insured may ask that the amount paid be *reinstated.*

The contract terminates when the full amount of the insurance is paid as the result of loss; when, under the New York standard policy or similar policies, a material part of the building falls; when the contract is canceled or becomes void; or when it has run for its full term and expires.

Policies.—Insurance is a business which, according to the United States Supreme Court, is not interstate commerce and consequently is subject to state rather than federal jurisdiction. In many states the form of the fire insurance policy is prescribed by law. In such states the prescribed policies are known as *standard policies.* Typical standard policies are those of California, Iowa, Massachusetts, Michigan, New Jersey, and New York. With minor exceptions the insurance contract stated in all the standard policies is the same. The exceptions most often noted are differences in (1) uninsurable and excepted property, (2) provision for cancellation, and (3) effect of fall of building. The New Jersey standard policy, which is the same as the former New York standard policy in use prior to 1918, and slightly modified versions of it are the most widely used. There has recently been submitted to the National Association of Insurance Commissioners a new policy[1] drafted by a committee of which

[1] See Appendix A.

the Hon. Louis H. Pink, Superintendent of Insurance of New York, is chairman. The committee hopes that the proposed policy will be adopted as standard in all states.

Those conditions of the standard policies which may be changed are subject to extension or restriction by special provisions in forms and endorsement and all conditions are subject to statutory definition and judicial interpretation. They are further subject to treatment according to general and local customs.[1]

New York Standard Policy.—The state of New York adopted a standard policy in 1886. The same policy and others that vary from it in only minor details are still used in a large number of states. The New York standard policy was revised effective Jan. 1, 1918, and since then it has been adopted by 14 other states and the District of Columbia. It is chosen to show how the details of the fire insurance contract have been formulated into policy stipulations and conditions. Those quoted hereafter are taken from that policy.

Premium.—The policy provides that the company

IN CONSIDERATION OF THE STIPULATIONS HEREIN NAMED AND OF.....DOLLARS PREMIUM

Prepayment of the premium is not necessary to put the policy in force. The delivery of the policy by the company or agent is accepted as evidencing an extension of credit, and the acceptance and retention by the insured implies his promise to pay the premium.

A company which has delivered a policy may be unable to collect the premium within the usual 60-day period and, if so, must continue to carry the reserve against the premium and also the risk assumed under the policy unless it is canceled. An agent who has delivered a policy is responsible to the company for the premium and cannot escape his responsibility unless the policy is canceled.

The premium is a sum of money computed by multiplying the amount of insurance by the rate charged. Rates are quoted in amounts that will buy $100 of insurance. The rate may be adequate or inadequate to cover the fire hazard of the risk or the

[1] See Chap. X; also Chap. XII.

form of the policy. A rate adequate for a modern, fire-resistive office building in New York would be inadequate for a cotton gin in a small Southern town, and a rate adequate for a policy subject to the 80 per cent coinsurance clause would be inadequate for a policy lacking coinsurance and representing only a small part of the value of the property.

The Insured.—The company

does insure.....
and legal representatives,

The insured may be identifiable, accessible, and legally competent to make valid contracts. If he is, it will be possible for the company to cancel the policy at any time by giving proper notice or, in case of loss, to fix the amount, make payment, and receive a discharge of liability. If he is not, it may be difficult or impossible to cancel the policy; and in case of loss, court proceedings may be necessary to fix the amount and arrange for payment and discharge.[1]

In case of the insured's death the policy continues in effect, insuring legal representatives, *i.e.*, the insured's executor, administrator, heirs-at-law, or next of kin, as the case may be.

The insured may be a person of integrity and ability and may be in good condition financially and otherwise. If he is, the premium under the policy will probably be paid promptly; the property will receive a high degree of care and attention; and, if loss occurs, a reasonable claim will be made which can be paid promptly, with resulting satisfaction and good advertising for producer and company. If the insured is not such a person and is not in good financial condition, there may be difficulty in collecting the premium; the property may be allowed to deteriorate and get into a dangerous condition; or it may even be set on fire for the purpose of collecting the insurance. If accidental loss occurs, an exaggerated or fraudulent claim may be made which may involve trouble, expense, and perhaps litigation before it can be disposed of, with resulting unpleasant advertising for producer and company.

Extent of Insurance.—The policy, within the amount of insurance stated, insures

[1] See The Insured, p. 146; also Name of Insured, p. 268.

to the extent of the actual cash value (ascertained with proper deductions for depreciation) of the property at the time of loss or damage, but not exceeding the amount which it would cost to repair or replace the same with material of like kind and quality within a reasonable time after such loss or damage, without allowance for any increased cost of repair or reconstruction by reason of any Ordinance or Law regulating construction or repair and without compensation for loss resulting from interruption of business or manufacture,

The actual cash value of the property may be easy to determine or may be difficult.[1] If it is easy, the amount of insurance under the policy can be written to equal the cash value or any desired percentage of it, 90, 80, or 75, as the case may be. If insurance is in proper relation to value, one possible cause of controversy in case of loss will not exist. Insurance in excess of actual cash value requires the insured to pay an excessive premium and may be responsible for an inflated claim in case of total loss. The policyholder may assert that the company accepted the premium and ought to agree that the value was as great as the insurance. Insurance in excess of actual cash value may tempt a policyholder to set the property on fire, conceal the incendiary act, and deceive the adjuster as to the cause of the fire and the value of the property. Property, the value of which is difficult to determine, is often responsible for losses that are troublesome and expensive to adjust.

Proper deductions for depreciation are necessary in almost all computations of actual cash value which are based upon the cost of the property or the cost of replacing it. In marine insurance the stipulation as to depreciation is expressed as "deductions for the value of new over old." Depreciation is often a subject of controversy in loss adjustments. Circumstances that make it difficult to determine what would be proper deductions for depreciation make for controversy.

Property may change in value. There may be a change in prices which will increase or decrease its value. There may be a change for the better in its quality, as is the case with commodities that improve with seasoning or aging, or there may be a change for the worse due to deterioration. Property made up of separate articles may increase or decrease in value because articles are added or removed. Property such as the contents of oil tanks changes in value as the quantity is decreased or increased.

[1] See Extent of Insurance, p. 269.

As value is not necessarily the same from day to day, the policy prescribes that the value at the time of the loss shall govern the amount which the insured may collect.

After loss or damage by fire it might cost more to repair or replace the property with material of like kind and quality within a reasonable time than the property was worth. The policy does not obligate the company to pay the cost of repair or replacement but, on the contrary, limits it to a payment "not exceeding what it would cost." If the actual cash value is less than this cost, only the actual cash value is collectible under the policy. Under this limitation, questions of cost of repair or replacement arise, also questions of what is a reasonable time.

After a fire the insured may be required by ordinance or law regulating construction or repair to rebuild or replace framework with brickwork or old-style wiring with wires in conduits, at an increased cost. Any allowance for such increased cost would be a payment for something that did not exist at the time of the fire and is not covered by the policy.

Loss often results from interruption of business or manufacture. Such loss is a loss of use and not a loss of property. It can, however, be specially insured by one of the several *use-and-occupancy* forms. Loss of *rents* or the *rental value* of a building can also be specially insured under a rent or rental-value form.

In some states a statute requires that the full amount of insurance carried on a building shall be paid if the building is totally destroyed, regardless of the actual cash value of the building. Such a statute is termed a *valued-policy* statute, or law.

Term, Commencement and Expiration.—The policy insures

for the term of .....
from the.....day of.....19...., at noon,
to the.....day of.....19...., at noon,

On rare occasions it is difficult to find out the date and hour of a fire that destroyed isolated property. Ordinarily the date and hour are fixed by fire-department records and in outlying areas by the memory of the neighbors.

Hazards Insured Against.—The policy insures

against all DIRECT LOSS AND DAMAGE BY FIRE and by removal from premises endangered by fire, except as herein provided,

The lightning hazard is customarily included by the addition of the lightning clause, and the hazards of explosion, windstorm, sprinkler leakage, riot and civil commotion, smoke and smudge, and damage by motor vehicle and aircraft may now be included for an additional premium under special provisions of *extended coverage* or supplemental contract. The *smudge* hazard is that of smoke emanating from a stationary heating apparatus which suddenly functions improperly but without setting anything outside itself on fire.

Direct Loss and Damage by Fire.—The policy covers direct loss and damage by fire, *direct* meaning immediate or proximate as distinguished from remote. When fire consumes, scorches, cracks, melts, heats, or evaporates solid, liquid, or gaseous property, it does direct damage. The results of fire, however, may include things other than combustion, such as the fall of a building or injuries to property by water, by firemen, or by efforts of persons to remove it to a place of safety. The results of fire will also include rain damage to the interior of a building, if the owner, acting with reasonable diligence, has not had time to repair the roof or other openings in the building caused by the fire. But if the owner, instead of acting with reasonable diligence, should refuse to take any steps to protect his property, and some time later further loss should occur as the result of rain, the further loss would be a consequence of the owner's negligence. The policy does not cover loss that is the consequence of an independent intervening cause.

Fire is a friendly or a hostile agency according to its origin and the place in which it is burning. Fire intentionally started for producing useful heat in a fireplace, stove, furnace, kiln, or similar receptacle is a friendly fire. It continues to be friendly so long as it remains within the limits where it is intended to burn, and any damage done whether by heat or by smoke is not covered by the policy. Fire outside a place or receptacle in which fire is intended to burn is a hostile fire. The word "fire," as used in the policy, refers to hostile fire.

Friendly Fires.—Damage is frequently caused by friendly fires. A chair may be left in front of a fireplace where the heat will be sufficient to blister or scorch the chair without causing actual ignition. The damage in such a case is not covered, as

the fire causing it is friendly. Many claims of this sort are encountered in connection with fireplaces, electric irons, smoking furnaces, smoking oil stoves, and smoking oil heaters and in manufacturing plants with a wide variety of appliances. The increasing use of oil heaters in dwelling houses has been responsible for a number of claims for smoke damage, due to failure of the heater to function properly. Losses of this nature brought into use the *Smoke or Smudge Supplemental Contract Endorsement.*[1]

There are many casualties in glassworks due to the breaking of tanks containing cullet, which is glass in the making, the break allowing the white-hot cullet to run into the pit under the tank or over the floor of the plant. The heat from the molten cullet frequently does serious damage. Unless fire occurs, such casualties are not true fire losses. They often bring about serious controversies, as it is generally impossible, because of the excitement and confusion following the break, to obtain conclusive evidence with regard to what actually happened.

The use of heat in industry is responsible for occasional claims resulting from the failure of furnaces, ovens, stills, retorts, or other units under their own heat. The extensive use of gas and oil is responsible for many claims following explosions under circumstances that present no real element of hostile fire. Claims are made also for articles unintentionally thrown into fireplaces or furnaces or left in the ovens of stoves for safekeeping. Such claims are improper.

Carelessly handled cigarettes, cigars, and pipes produce a great number of claims which, though small, are often causes of controversy. The mere scorching of a fabric or surface by the heat of the burning tobacco is certainly not a hostile fire. In most of the "cigarette-burn" claims it is impossible to determine whether there was any actual fire in the fabric or on the surface.

Consequential Losses.—Consequential losses are not covered unless specifically assumed. These losses are the consequence of fire but not the result of direct damage to the property by fire. For purpose of illustration, suppose that a dealer in fresh meats preserves his stock in a building equipped with electric refrigeration, the power being obtained from a public powerhouse in a

[1] First prepared in the office of the Phoenix Insurance Company of Hartford.

distant section of the city. Suppose that the power line supplying his premises passes a certain structure many blocks away. This structure burns; its walls fall across the power line and break it. If emergency lines cannot be quickly run, there will be a sufficient interruption of service to allow a rise of temperature in the meat-storage rooms. If this happens, the meat may spoil, causing the dealer to sustain a loss. This loss will not be covered under the dealer's policy covering the meat, as the meat was not damaged by direct action of fire.

Amount of Insurance.—The policy insures

to an amount not
exceeding..... Dollars,

The amount stated is the largest amount the company may be called upon to pay except possibly in the case of a contested claim and prolonged litigation, when, because of interest and court costs, the company may be required to pay considerably more to satisfy a decision adverse to its interests.

The Property.—The policy limits its consideration of loss

to the following described property while located and contained as described herein, or pro rata for five days at each proper place to which any of the property shall necessarily be removed for preservation from fire, but not elsewhere, to wit:

(*Space for description of property*)

The property may be described, and its location stated correctly, in the policy. If so, in case of loss, it can be identified as the property intended to be the subject matter of the contract. If not, controversy may arise, and even litigation ensue. Ordinarily there is little difficulty in identifying the property, but occasionally disputes arise because of ambiguous language used in describing it.

Description and Location of Property.—Only the property falling within the description and location stated in the policy becomes subject to the protection of the policy.

Party Walls.—Adjoining owners frequently erect structures separated by a single wall built at joint expense. Occasionally the owner who builds last, purchases from his neighbor the right to use the wall for one side of his building. Party-wall agreements are frequently reduced to writing and placed on record, as are deeds, mortgages, and other instruments evidencing

ownership of real estate. Occasionally, however, party walls are erected or used without written agreement.

Damage to the finish on one side of a party wall falls wholly on the owner of the building in which the damage occurred, but half of any damage to the wall itself falls on each owner.

Improvements and Betterments.—Many city tenants alter or improve their premises to suit special needs. Such premises are generally leased for a term of years with the understanding that the tenant shall submit any plans for alterations to the landlord, who may become the owner of the improvements as soon as they are installed. It is sometimes difficult to determine where improvements and betterments end and the building itself begins. Differentiation between improvements and building may be impossible without the aid of original plans and specifications. Improvements and betterments are insurable by the lessee.

Additions and Extensions.—Most policies covering buildings incorporate in the form the words "additions and extensions adjoining and communicating." Losses in separate and independent adjacent structures sometimes give rise to controversy as to just what is an addition. In some cases the structure will be rated for insurance independently of the building. If so, that fact is a strong indication that the structure is not an addition but a separate entity.

Subsequently Erected Structures.—A structure may be erected subsequent to the commencement of a policy which describes a group of buildings as the property insured. Such a structure, although forming one of the group, does not fall within the property described by the policy unless the policy itself stipulates that it shall.

Subsequently Acquired Personal Property.—Articles of personal property may be acquired and brought into the premises described subsequent to the commencement of a policy describing furniture, fixtures, machinery or equipment, or merchandise. Such articles fall within the property described by the policy.

Combustibility and Damageability of Property.—The property may be of such a character and so arranged that if it takes fire it will be seriously damaged or even destroyed. On the other hand, its character and arrangements, its surroundings, and the

nearness and efficiency of the fire department may be such that it will suffer only slight loss in case of fire.[1]

Characteristics Affecting Expense of Handling Insurance.—The property may be accessible, worth replacing, in good repair or sound condition, and easy to value with reasonable accuracy. If so, the expense of inspecting it will be low, and the adjustment of any loss on it will be easily and promptly made without unusual expense.

Five-days Provision.—During or after a fire, personal property may be removed to preserve it from damage. If it is, the insurance follows it and covers for a period of 5 days. If the property is removed to several locations, the insurance covers pro rata in each location. Only the amount of insurance in excess of any loss sustained at the original location follows the property removed.

Stipulations and Conditions Are Part of Policy.—The policy states

> This policy is made and accepted subject to the foregoing stipulations and conditions, and to the stipulations and conditions printed on the back hereof, which are hereby made a part of this policy, together with such other provisions, stipulations and conditions as may be endorsed hereon or added hereto as herein provided.

The proviso makes the finished document into a contract which at any time can be changed by endorsement or addition.

Stipulation and Conditions.—The printed stipulations and conditions of the policy appear in 200 numbered lines, which are grouped under appropriate marginal headings in bold-faced type.

> **Fraud, misrepresentation, etc.** This entire policy shall be void if the insured has concealed or misrepresented any material fact or circumstance concerning this insurance or the subject thereof; or in case of any fraud or false swearing by the insured touching any matter relating to this insurance or the subject thereof, whether before or after a loss.

A person seeking insurance may conceal or misrepresent a fact or circumstances which, if revealed to the company, would cause it to refuse to issue a policy, to demand a greater premium, or to use a more restricted form. Such a fact or circumstance

[1] See Character of Risk, p. 222.

would be material. In case of loss the company, upon discovery of the misrepresentation, could declare the policy to be void.

Before a loss the insured might make arrangements for setting fire to the premises and prepare spurious evidence of value to be presented in support of the claim to be made. After a loss he might swear falsely in an affidavit or proof of loss, or while being examined under oath.

Uninsurable and Excepted property. This policy shall not cover accounts, bills, currency, deeds, evidences of debt, money, notes or securities; nor, unless specifically named hereon in writing, bullion, manuscripts, mechanical drawings, dies or patterns.

The articles of property declared to be uninsurable are easily destroyed under circumstances which make proof of their previous existence difficult. The articles excepted are of a similar nature but can be insured by so stating in the policy.

Hazards not covered. This Company shall not be liable for loss or damage caused directly or indirectly by invasion, insurrection, riot, civil war or commotion, or military or usurped power, or by order of any civil authority; or by theft; or by neglect of the insured to use all reasonable means to save and preserve the property at and after a fire or when the property is endangered by fire in neighboring premises.

As stated, the fire policy does not cover losses which occur as the result of war.

Fire loss due to riot may be covered under separate policies or by the addition to fire policies of the extended coverage endorsement. These coverages may also include riot damage done by breakage, mutilation, fouling, and acid throwing as well as by the setting of fire.

The civil authorities may order that a house shall be burned because persons with a dangerous contagious disease have occupied it. They may order property destroyed to stay the progress of a conflagration. In many policies the latter act is by special provision recognized as incidental to the conflagration, and loss occasioned by it is covered.

Theft may occur before a fire, but the complete destruction of the premises may make proof of it impossible. It may occur during or after a fire and leave clear evidence of its occurrence. Thieves sometimes set fires to conceal evidence of theft.

During and after a fire the insured generally uses the reasonable means at his command to save and preserve the property. Occasionally he does not, and excessive loss results.

20 **This entire policy shall be void, unless otherwise provided**
21 **by agreement in writing added hereto,**
22 **Ownership, etc.** (a) if the interest of the insured be other than
23 unconditional and sole ownership; or (b) if
24 the subject of insurance be a building on ground not owned by
25 the insured in fee simple; or (c) if, with the knowledge of the
26 insured, foreclosure proceedings be commenced or notice given
27 of sale of any property insured hereunder by reason of any mort-
28 gage or trust deed; or (d) if any change, other than by the death
29 of an insured, take place in the interest, title or possession of
30 the subject of insurance (except change of occupants without
31 increase of hazard); or (e) if this policy be assigned before a loss.

All standard policies, except the Massachusetts form, provide that they shall be void if the insured's interest, unless otherwise stated in the policy, is other than unconditional and sole ownership. That interest is the most extensive that can exist in property. However, other interests exist which are insurable, as any person who might suffer a present or future financial loss, should a piece of property be destroyed or damaged, has an *insurable interest* in it. If such an interest is properly described in a policy, it will be valid.[1]

A person may own a building which stands on ground belonging to another. Under such a condition, the building will ordinarily in time become the property of the landowner. A New York standard policy covering such a building will not be valid unless the separate ownership of the land is definitely indicated in the policy.

The policy is a personal contract, and the stipulations for avoidance are intended to limit its protection to the person insured while he continues to hold the same interest in the property he held at the time the policy commenced.

Unpermitted foreclosure proceedings; change, other than by the death of the insured, in the interest, title, or possession of the property; or the assignment of the policy before a loss without the consent of the company will render it void, as such acts impair or destroy the interest of the insured. Endorsement of the policy to permit them will preserve its validity.

[1] See Insurable Interests, p. 138.

The policy, however, is not rendered void by an unfavorable change in the insured's financial condition which does not evidence itself in an act forbidden by the policy. As an instance, the insured may be a corporation, which, at the time the policy was written, was in good condition and standing and was officered by persons of integrity. During the life of the policy, the stock of the corporation may be acquired by unscrupulous persons who oust the original officers and place themselves or henchmen in charge. Owing to the fact that a corporation is a legal entity, such a change, although vital to the fortunes of the insurance company, is without effect upon the validity of its policy. As another instance, a policy may have been issued to an individual upon an investigation of his financial condition, which at the time was found to be good. He may encounter reverses and be under such financial pressure that he will sell, mortgage, or assign all his assets except the particular property covered by the policy, which will promise him funds if the property should be destroyed by fire. The change in his financial status will change him from a desirable to an undesirable policyholder, but it will not void his policy.

Unless otherwise provided by agreement in writing added hereto this Company shall not be liable for loss or damage occurring

Other insurance. (a) while the insured shall have any other contract of insurance, whether valid or not, on property covered in whole or in part by this policy; or

The insured may or may not have other insurance. In some territories the total amount of insurance permitted to be maintained will be stated in the policy. In many territories the policy will contain a permit for other insurance without limit as to amount.

Increase of hazard (b) while the hazard is increased by any means within the control or knowledge of the insured; or

The property's character, location, surroundings, and protection against fire may remain unchanged during the term of the insurance contract. If so, the company cannot successfully deny liability in case of loss because of dangerous conditions in the property except because of the keeping, using, or allowing on the premises of prohibited articles listed in lines 48 to 51 of the

policy. If the property or anything connected with it changes so that the danger of fire is greater and the company is not informed of the change and does not *endorse* the policy agreeing to it, the company may successfully deny liability in case of loss. The test of increase of hazard is the question: What effect would the change in circumstances have upon the rate? If the change would increase the rate, the increase of the hazard is proved.

The stipulation in lines 38 to 40 is an attempt to protect the insurer against any unfavorable physical change in the property or in the surroundings of it. The stipulation, however, does not protect the insurer against the all-important change from careful to negligent management, which may come about in properties, and the increased risk of fire due to deterioration in chimney walls or overheated bearings in machinery which is not greased regularly or is allowed to get out of alignment. Neither does it protect against the increased possibility of damage which is caused by the increased congestion in premises following the bringing in of additional stock which hinders access to protective apparatus and will create difficulties in salvage or repair operations in case of fire. Nor does it protect the insurer against the increased risk of fire due to a person with incendiary proclivities moving into property that is near enough to spread fire to the insured property. A known *repeater*—a person who has suffered several suspicious losses—can move into a building without voiding the insurance on it, provided the nature of his occupancy is not more hazardous than that permitted in the policy.

41 **Repairs, etc.** (c) while mechanics are employed in building,
42 altering or repairing the described premises
43 beyond a period of fifteen days; or

By conditions in the form attached to them, policies may extend the period of time allowed for repairs.

Mechanics at work altering or repairing premises increase the danger of fire by creating shavings or chips, by bringing in combustible materials, by using blowtorches, and often by smoking while at work.

44 **Explosives,**
45 **gas, etc.** (d) while illuminating gas or vapor is gener-
46 ated on the described premises; or while
47 (any usage or custom to the contrary not-
48 withstanding) there is kept, used or allowed on the described
premises fireworks, greek fire, phosphorus, explosives, benzine,

49 gasoline, naphtha or any other petroleum product of greater
50 inflammability than kerosene oil, gunpowder exceeding twenty-
51 five pounds, or kerosene oil exceeding five barrels; or

Little illuminating gas or vapor is generated today anywhere except in gasworks. In many risks, however, the article mentioned in lines 48 to 51 are kept, used, or allowed. In underwriting language they are called *prohibited articles*. Most of them can be handled with reasonable safety when used or stored according to fire-prevention standards, and under such conditions their presence may be permitted under the policy by the use of a special permit or under the terms of the *Work and Materials Clause*.

52 **Factories.** (e) if the subject of insurance be a manufac-
53 turing establishment while operated in
54 whole or in part between the hours of ten P. M. and five A. M.,
55 or while it ceases to be operated beyond a period of ten days; or

The development of electric lighting has removed one of the objections to night work in factories. Better design and better operating methods have reduced the hazards of hot bearings or breakages. Many policies on factories now carry permits to work at all hours.

A factory may cease to operate because of the temporary shortage of raw materials or orders or to take inventory or to make repairs. It may cease to operate because of labor troubles. Temporary cessation is to be expected occasionally. But prolonged cessation of operations may indicate the end of the factory's usefulness or serious financial difficulties.

Special permits are required for periods of cessation of operations longer than allowed under the standard policy conditions.

56 **Unoccupancy.** (f) while a described building, whether in-
57 tended for occupancy by owner or tenant, is
58 vacant or unoccupied beyond a period of ten days; or

Short vacancy periods are to be expected in many types of property. Prolonged periods leave the property exposed to trespass and accelerate deterioration. Vacancy often indicates reduction or complete loss of value.

Permits in many policy forms provide for longer periods of vacancy.

59 **Explosion,**
60 **Lightning.** (g) by explosion or lightning, unless fire
61 ensue, and, in that event. for loss or damage by fire only.

Damage done by explosion often so closely precedes fire that there is no possibility of separating the explosion damage from the fire damage. In many states fire insurance companies are prohibited by law from covering the explosion hazard of steam boilers, flywheels, power wheels, and engines. They are, however, legally permitted to insure against other kinds of explosions, and the peril may be assumed under separate explosion policies or under the terms of the Extended Coverage Endorsement or Additional Hazards Supplemental Contract when added to the fire insurance policy.

The hazard of explosion inherent to the occupancy, known as *inherent explosion*, is not infrequently included in the fire form attached to policies covering certain types of properties.

There is also a *Natural Gas Explosion Clause* used in connection with fire policies covering properties situated in localities where natural gas is in common use.

Practically all policies have attached to them the lightning clauses under which the lightning hazard is assumed.

Chattel mortgage. Unless otherwise provided by agreement in writing added hereto this Company shall not be liable for loss or damage to any property insured hereunder while encumbered by a chattel mortgage, and during the time of such encumbrance this Company shall be liable only for loss or damage to any other property insured hereunder.

A chattel mortgage may secure the balance due on a particular article bought on the installment plan. If so, it registers a very common situation, as many articles are regularly bought on that plan. But a chattel mortgage may cover all personal property named in a policy and may evidence a financially involved policyholder.

The existence of a chattel mortgage may be permitted by endorsement. Frequently the chattel mortgagee is named as a payee of the policy.

Fall of building. If a building, or any material part thereof, fall except as the result of fire, all insurance by this policy on such building or its contents shall immediately cease.

A building may fall as the result of structural weakness, failure of the supporting earth, windstorm, weight of snow, impact, or explosion. If it does, the insurance ceases except

in the case of explosion with ensuing fire when it remains effective but is liable only for the damage done by the fire.

Added Clauses. The extent of the application of insurance under this policy and of the contribution to be made by this Company in case of loss or damage, and any other agreement not inconsistent with or a waiver of any of the conditions or provisions of this policy, may be provided for by agreement in writing added hereto.

The foregoing provision permits the incorporation into a policy of the stipulations that affect the extent of payment in case of loss and of any other agreement consistent with the provisions of the policy.[1]

Waiver. No one shall have power to waive any provision or condition of this policy except such as by the terms of this policy may be the subject of agreement added hereto, nor shall any such provision or condition be held to be waived unless such waiver shall be in writing added hereto, nor shall any provision or condition of this policy or any forfeiture be held to be waived by any requirement, act or proceeding on the part of this Company relating to appraisal or to any examination herein provided for; nor shall any privilege or permission affecting the insurance hereunder exist or be claimed by the insured unless granted herein or by rider added hereto.

A policyholder may take the position after a loss that the company has waived some of the stipulations and conditions of the policy or that some representative of the company has agreed with him that the policy should be a more liberal contract than stipulated by the document itself. The waiver stipulation seeks to limit the insurance contract to the terms of the policy.

Cancellation of policy. This policy shall be cancelled at any time at the request of the insured, in which case the Company shall, upon demand and surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be cancelled at any time by the Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand.

The insured or the company may at any time cancel the policy.[2] Either may do so by following the policy provisions.

[1] See Covers, p. 141; also REED, PRENTISS B., "Adjustment of Fire Losses," Chap. XIII.

[2] See Chap. VIII. p. 151.

The prerequisite of cancellation by the insured is definite communication to the company or its representative of a decision to cancel, ordinarily evidenced by a surrender of the policy. The prerequisite of cancellation by the company is that the company shall give the insured five days' written notice of cancellation.

Lines 110 to 112 provide that notice of cancellation shall be given to any mortgagee named in the policy but not named as the insured.

Pro rata liability. This Company shall not be liable for a greater proportion of any loss or damage than the amount hereby insured shall bear to the whole insurance covering the property, whether valid or not and whether collectible or not.

At the time of loss the insured may have other insurance covering the same property. If so, the liability of the policy is pro rata.[1]

Noon. The word "noon" herein means noon of standard time at the place of loss or damage.

Solar time and standard time are the same only in rare cases. The policy commences and expires by standard time.

Mortgage interests. If loss or damage is made payable, in whole or in part, to a mortgagee not named herein as the insured, this policy may be cancelled as to such interest by giving to such mortgagee a ten days' written notice of cancellation. Upon failure of the insured to render proof of loss such mortgagee shall, as if named as insured hereunder, but within sixty days after notice of such failure, render proof of loss and shall be subject to the provisions hereof as to appraisal and times of payment and of bringing suit. On payment to such mortgagee of any sum for loss or damage hereunder, if this Company shall claim that as to the mortgagor or owner, no liability existed, it shall, to the extent of such payment be subrogated to the mortgagee's right of recovery and claim upon the collateral to the mortgage debt, but without impairing the mortgagee's right to sue; or it may pay the mortgage debt and require an assignment thereof and of the mortgage. Other provisions relating to the interest and obligations of such mortgagee may be added hereto by agreement in writing.

When a policy is written to protect the mortgagee, it ordinarily names the owner as the insured and the mortgagee as a payee. In rare cases a mortgagee is named as the insured, and the policy is made to cover only the mortgagee's interest.

[1] See REED, *op. cit.*, Chap. XIII.

The policy provides that, if a mortgagee is named in it as payee but not named as the insured, it may be canceled as to the mortgagee's interest by giving the mortgagee a 10 days' written notice of cancellation.

Occasionally, after mortgaged property suffers damage by fire, the owner will fail to complete the details of an adjustment, and the mortgagee, to protect his own interest, must do so.

When the policy describes mortgaged property, loss is generally made payable to the mortgagee by use of a standard mortgagee clause. Under that clause the policy may be void as to the insured but may continue to be valid as to the mortgagee. When such is the case, the company will frequently pay a sum of money to the mortgagee for which it is not indebted to the insured, taking from the mortgagee articles of subrogation and assignment[1] or a complete assignment of the mortgage debt, dependent upon whether part or all of the debt is covered by the insurance payment made.

Requirements in case of loss. The insured shall give immediate notice, in writing to this Company, of any loss or damage, protect the property from further damage, forthwith separate the damaged and undamaged personal property, put it in the best possible order, furnish a complete inventory of the destroyed, damaged and undamaged property, stating the quantity and cost of each article and the amount claimed thereon; and, **the insured shall, within sixty days after the fire, unless such time is extended in writing by this Company, render to this Company a proof of loss,** signed and sworn to by the insured, stating the knowledge and belief of the insured as to the following: the time and origin of the fire, the interest of the insured and of all others in the property, the cash value of each item thereof and the amount of loss or damage thereto, all encumbrances thereon, all other contracts of insurance, whether valid or not, covering any of said property, any changes in the title, use, occupation, location, possession, or exposures of said property since the issuing of this policy, by whom and for what purpose any building herein described and the several parts thereof were occupied at the time of fire; and shall furnish a copy of all the descriptions and schedules in all policies and if required, verified plans and specifications of any building, fixtures or machinery destroyed or damaged. The insured, as often as may be reasonably required, shall exhibit to any person designated by this Company all that remains of any property herein described, and submit to examinations under oath by any person named by this Company, and subscribe the same; and, as often as may be reasonably required, shall produce for examination all books of account, bills, invoices, and other vouchers, or certified copies thereof,

[1] REED, *op. cit.*, p. 369.

if originals be lost, at such reasonable time and place as may be designated by this Company or its representative, and shall permit extracts and copies thereof to be made.

Appraisal. In case the insured and this Company shall fail to agree as to the amount of loss or damage, each shall, on the written demand of either, select a competent and disinterested appraiser. The appraisers shall first select a competent and disinterested umpire; and failing for fifteen days to agree upon such umpire then, on request of the insured or this Company, such umpire shall be selected by a judge of a court of record in the state in which the property insured is located. The appraisers shall then appraise the loss and damage stating separately sound value and loss or damage to each item; and, failing to agree, shall submit their differences only, to the umpire. An award in writing, so itemized, of any two when filed with this Company shall determine the amount of sound value and loss or damage. Each appraiser shall be paid by the party selecting him and the expenses of appraisal and umpire shall be paid by the parties equally.

Company's options. It shall be optional with this Company to take all, or any part, of the articles at the agreed or appraised value, and also to repair, rebuild, or replace the property lost or damaged with other of like kind and quality within a reasonable time, on giving notice of its intention so to do within thirty days after the receipt of the proof of loss herein required; but

Abandonment. there can be no abandonment to this Company of any property.

When loss payable. The amount of loss or damage for which this Company may be liable shall be payable sixty days after proof of loss, as herein provided, is received by this Company and ascertainment of the loss or damage is made either by agreement between the insured and this Company expressed in writing or by the filing with this Company of an award as herein provided.

Suit. No suit or action on this policy, for the recovery of any claim, shall be sustainable in any court of law or equity unless all the requirements of this policy shall have been complied with, nor unless commenced within twelve months next after the fire.

Subrogation. This Company may require from the insured an assignment of all right of recovery against any party for loss or damage to the extent that payment therefor is made by this Company.

Lines 126 to 200 of the policy refer to losses.[1]

A loss may occur during the term of the policy. If so, its adjustment should be an accurate determination of the amount which the insured is entitled to collect from the company. To make such a determination, the adjuster and the claimant must fix the amount of loss or damage to the property and also the

[1] The subject of adjusting and paying losses is discussed in Chap. IX. Only an outline of what may attend the occurrence of loss is given here.

proportion of the loss or damage which is collectible under the policy. The work necessary to attain the desired result may be aided or hampered by the character or state of repair or preservation of the property; by the integrity, intelligence, and ability or the lack of these qualities on the part of any person participating in or interested in the adjustment; by community sentiment; by the existence or lack of facilities for handling adjustment work; by favorable or adverse laws and court decisions; and, in some instances, by the wording of the policy contract.

The conditions of the policy are drafted for the purpose of relieving the company from liability for certain losses, *e.g.*, loss suffered as the result of gasoline being kept, used, or allowed on the premises or loss suffered by the insured on property which has been moved from the location stated in the policy to another location. But, owing to the exigencies of business, the company is often forced to pay for such a loss or lose the future business of the claimant and perhaps also the other business of the producer who handles it. Because of misinformation, sometimes an agent or other representative of the company, when writing a policy, will omit property which the insured intended to cover, and later the property omitted may be damaged by fire. Circumstances may be such that the company will make an *ex gratia* payment covering the omitted property, feeling that by doing so its relations with the policyholder and the producer will be strengthened. In claims which are contested, there are the usual mishaps of litigation as a result of which the company is sometimes required to pay for a loss that was never in the contemplation of the contract. Other losses which are not covered by the policy are occasionally collected by fraud.

At times, the adjuster will report serious unfavorable circumstances. If he does, and if the property is not a total loss, the company may deem it advisable to cancel the policy subject to the adjustment.

When an adjustment has been completed, payment must be made to the person or persons entitled to receive it, whether insured or designated as payees under the policy, and the company must obtain conclusive evidence of such payment so that it can successfully plead discharge of liability should other persons appear and make claim. Evidence of payment is created when

the person receiving it endorses the company's check or draft and cashes or deposits it. The evidence becomes conclusive when the bank or the company honors the properly endorsed instrument and takes possession of it.

When the policy specifically names the insured and the payee, if there is any payee, little difficulty is experienced in making payment and getting a discharge of liability. A check or draft properly drawn is generally delivered by the company to the agent or broker, who, in turn, delivers it to the insured or payee. The endorsement of each is guaranteed in due course by the bank where the instrument is cashed and deposited. It is only when insured or payee is not designated by name or when a legal representative must act in case of death or disability or when one or more persons entitled to share in the proceeds cannot be found that trouble arises.

As a result of developments during the adjustment, the company and the insured may find it desirable to continue business relationship with increased understanding of each other's problems and, in many cases, with strengthened confidence in each other. On the other hand, they may find it desirable to sever their business relationship. Contacts between the claimant and the adjuster may have been satisfactory or may have developed radical disagreements, antagonisms, suspicion, or evidence of downright fraud. After loss, the insured may rehabilitate his property; reinstate his insurance, possibly with a revision of amount and form; and arrange to give other insurance that he may have to the company which has satisfactorily settled his loss. The company on its part will do whatever it can to aid the insured in handling his insurance properly. In other cases the insured may feel that he has been mistreated and will be dissatisfied to the extent of canceling all insurance placed with the company and seek another company to carry it. On the other hand, the fire may bring to the company's attention hazardous materials, processes, or arrangements in the property that it had overlooked, and, therefore, the company may cancel its policy, feeling that the property is dangerous as a risk or that the insured is undesirable as a policyholder and in the future will avoid the risk, the insured, and other property belonging to him.

CHAPTER VI

CAUSES AND EFFECTS OF FIRE

As listed by the National Board of Fire Underwriters, the causes of fires are:

1. Chimneys, flues, cupolas, and stacks, overheated or defective.
2. Conflagration.
3. Electricity (except electric irons and similar small devices).
4. Explosions.
5. Exposure.
6. Fireworks, firecrackers, balloons, etc.
7. Friction, sparks occasioned by running machinery.
8. Gas—natural and artificial.
9. Hot ashes and coals—open fires.
10. Hot grease, oil, tar, wax, asphalt, ignition of.
11. Hot irons (including electrical devices).
12. Incendiarism.
13. Lightning—buildings rodded.
14. Lightning—buildings not rodded.
15. Matches—smoking.
16. Miscellaneous—cause known but not classified. (For unknown see No. 27.)
18. Open lights.
19. Petroleum and its products.
20. Rubbish and litter.
22. Sparks arising from combustion (other than No. 23).
23. Sparks on roofs.
24. Spontaneous combustion.
25. Steam and hot-water pipes.
26. Stoves, furnaces, boilers and their pipes.
27. Unknown.
28. Unknown origin, but investigation important.

More than 90 per cent of all fires which result in insurance claims are of accidental origin. Almost all small fires are accidental. Incendiary fires, relatively few in number, account for a disproportionately large part of the yearly fire loss. The destructive and damaging effects of fire, fire fighting, and the events attending and following fires are combustion, heat, smoke, water damage, breakage, and soilure, with further damage at times by rain, heat or cold, mildew, rust, deterioration, or decomposition.

Fire generally burns itself out or is extinguished in the property where it originates but occasionally spreads to other property, sometimes causing conflagrations such as those which occurred at Chicago in 1871 and at San Francisco, following the earthquake in 1906. Towns and villages many miles apart may be destroyed by spreading forest fires.

Accidental Fires.—The causes of accidental fires are detailed by the National Board of Fire Underwriters according to the way in which fires due to the causes originate. The details follow:

1. Chimneys, Flues, Cupolas and Stacks, overheated or defective.
   (1) burning soot, (2) chimney, burning, overheated or defective, (3) cupola, (4) defective chimney stopper, (5) defective flues, (6) defective stack, (7) flues, overheated or defective, (8) open chimney hole, (9) overheated cupola, (10) overheated stack, and (11) stacks.
2. Conflagration.
3. Electricity (except Electric Irons and Similar Small Devices).
   (1) defective electric wire, (2) defective motor, (3) electricity, (4) electric light, and (5) trolley wires.
4. Explosions.
   (1) alcohol explosion, (2) automobile, backfire, (3) chemical explosion, (4) dust explosion, (5) explosion, (6) explosion of generator, (7) powder explosion, (8) torpedo explosion, (9) varnish explosion, and (10) water-back explosion.
5. Exposure.
   (1) adjoining fire, (2) bonfire, (3) burning brush, (4) exposure, and (5) prairie fire.
6. Fireworks, Fire Crackers, Balloons, etc.
   (1) balloons, (2) fire crackers, and (3) fireworks.
7. Friction, Sparks occasioned by Running Machinery.
   (1) cotton picker, sparks from, (2) friction, (3) hot journal, (4) picking machine, (5) sparks from carding machines, (6) sparks from

gins, (7) sparks from grinders, (8) sparks from motor, (9) sparks from picker, (10) sparks from running machinery, (11) sparks from thresher, and (12) sparks from wool mixer.

8. Gas—Natural and Artificial.
   (1) defective gas fitting, (2) defective gas pipes, (3) defective gas stove, (4) defective meter, (5) defective gas tubing, (6) gas engine, (7) gas explosion, (8) gas generator, (9) gas leak, (10) gas meter, (11) gas, natural and artificial, (12) gas stove, (13) overheated gas engine, and (14) overheated gas stove.
9. Hot Ashes and Coals—Open Fires.
   (1) ashes, (2) carelessness with charcoal, (3) coals dropping from furnaces, (4) coals dropping from grate or stove, (5) coals, hot, (6) defective grate, (7) grate, (8) hot ashes, (9) hot coal, (10) open fires, (11) overheated grate, (12) sparks from forge, (13) sparks from furnace, (14) sparks from grate, (15) sparks from stove, (16) sparks from tinner's furnace, (17) stove upset, and (18) tinner's furnace.
10. Hot Grease, Oil, Tar, Wax, Asphalt, ignition of.
    (1) asphalt boiling over, (2) burning pitch, (3) defective tar still, (4) grease, burning, (5) hot asphalt, (6) hot grease, (7) hot oil, (8) hot tar, (9) hot wax, (10) overheated wax holder, (11) pitch kettle, (12) tar burning, (13) tar kettle, (14) varnish kettle boiling over, and (15) wax kettle.
11. Hot Irons (including Electrical Devices).
    (1) electric irons, (2) flat irons, (3) gas smoothing irons, (4) hot iron, (5) overheated iron, and (6) tailor's goose.
13. Lightning—Buildings rodded.
14. Lightning—Buildings not rodded.
15. Matches—Smoking.
    (1) carelessness with matches, (2) carelessness in smoking, (3) children and matches, (4) cigarettes, (5) cigar stubs, (6) pipes (smoking), and (7) smoking.
16. Miscellaneous—Cause known but not classified.
    (For Unknown see No. 27).
    (1) burning carbon, (2) burning lime, (3) carelessness, (4) defective air shaft, (5) defective drying rooms, (6) drying room, (7) film ignited, (8) fireless cooker, (9) hot castings, (10) hot glass, (11) hot metal, (12) hot plaster, (13) incubator, (14) kettle boiling over, (15) kilns, (16) lime slaking, (17) miscellaneous, cause known but not classified, (18) molten metal, (19) overheated dryer, (20) overheated dry room, (21) overheated generator, (22) overheated kettle, (23) overheated kilns, (24) overheated muffler, (25) quicklime, (26) slaking lime, and (27) vulcanizer.

18. Open Lights.
    (1) carelessness with candle, (2) carelessness with lamp, (3) carelessness with torch, (4) Christmas tree, (5) clothes igniting from gas jet, (6) curtain igniting from gas jet, (7) curtain igniting from gas stove, (8) curtain igniting from lamp, (9) flash light, (10) fumigating, (11) gas jet, (12) gas jet too near woodwork or ceiling, (13) open lights, (14) painter's torch, (15) thawing water pipes, and (16) torch.
19. Petroleum and its products.
    (1) benzine, (2) carelessness with oil stove, (3) defective gasoline stove, (4) defective oil pipes, (5) filling lighted lamps, (6) gasoline, (7) kerosene, (8) kerosene stove, (9) lamp upset, (10) lantern upset, (11) naphtha explosion, (12) oil, (13) oil tank, (14) overheated oil tank, and (15) petroleum and its products.
20. Rubbish and Litter.
    (1) burning rags, (2) burning rubbish, (3) litter, and (4) rubbish.
22. Sparks Arising from Combustion (other than 23).
    (1) locomotives, sparks from, (2) sparks arising from combustion, and (3) sparks from locomotives.
23. Sparks on roofs.
    (1) sparks from chimney, (2) sparks from cupola, and (3) sparks from stack.
24. Spontaneous Combustion.
    (1) overheated coal bunker and (2) spontaneous combustion.
25. Steam and Hot Water Pipes.
    (1) defective heating pipes, (2) hot water pipes, (3) overheated steam pipes, (4) overheated water or steam pipes, and (5) steam pipes.
26. Stoves, Furnaces, Boilers and their pipes.
    (1) bakers' ovens, (2) boiler, (3) curtain igniting from stove, (4) defective boiler, (5) defective furnace, (6) defective heater, (7) defective setting boiler, (8) defective stove pipes, (9) furnace, (10) furnace too near woodwork, (11) overheated boiler, (12) overheated furnace, (13) overheated oven, (14) overheated stove, (15) stove overheated or defective, (16) stove pipes, (17) stove too near woodwork, (18) wood too near boiler, and (19) wood too near stove.
27. Unknown.
    (1) rats or mice and matches and (2) unknown.

An accidental fire generally originates because of a defect or hazard in or connected with a risk. The hazards most frequently responsible for accidental fires are treated in the rating schedules as causes. These causes originate combustion.

The extent of the destruction or damage done following the origin of the fire is dependent upon (1) the quantity of combustible material through which the fire can spread; (2) the arrangement of the risk, whether it favors spread of fire or tends to retard it; (3) the combustibility and damageability of the property; (4) the adequacy and effectiveness of fire-fighting arrangements; and (5) the tendency of the property to deteriorate slowly or rapidly after being damaged.

Incendiary Fires.—Incendiary fires fall into two general classes, those set for the purpose of collecting insurance and those set for other reasons. Property is sometimes set on fire by the insured or the payee named in the policy in order to collect insurance. The interested person may actually start the fire or hire an incendiary to do so or may omit some act of care, knowing that fire will be the result. Occasionally property is set on fire by persons who hold no interest in it or in the insurance. Malice or spite, desire for excitement, desire to thwart a rival, desire to rid a neighborhood of objectionable property, or effort to conceal thefts are motives for such actions. The extent of destruction or damage done by an incendiary will in many cases be aggravated by the use of inflammables or by arrangements specially made to spread fire, to impede fire fighting, or to cause a rapid deterioration of any property not consumed.

Intentional Carelessness.—Intentional carelessness is one method of starting or spreading a fire. It may take many forms and is difficult to detect. Failure to repair a broken or worn heating device; failure to remove inflammable litter; failure to grease important bearings; failure to keep fire doors, equipment, and alarm systems in order may be unintentional or may be intentional.[1]

Fires Set to Collect Insurance.—The reasons for setting fires to collect insurance are (1) financial pressure on the insured or the payee of the insurance, (2) temptation due to insurance in excess of real value, (3) greed, and (4) desperation when property may be destroyed by some peril against which there is no insurance or may be lost to some adverse interest that threatens to take possession of it.

Financial pressure may cause a policyholder to set fire to valuable property which cannot be promptly sold or used as

[1] See pp. 5 and 6.

collateral but which will produce insurance money if burned. Mortgagees or payees who are overloaded with good but slow paper may set fire to insured property in which they are interested. Temptation or greed may, in one case, lead a policyholder to set fire to valuable but overinsured property; in another, to a collection of insured articles which are worn or obsolete; and in still another, to property which has become a frozen asset. In each case the incendiarism will be committed in the hope of making money on the venture. Desperation may drive a person whose home is threatened by the encroaching erosion of a stream or by a mine cave-in, or whose title is attacked by a claimant, to set the house on fire and try to collect the insurance.

Fires Set for Other Reasons.—Fires are sometimes set for other reasons than that of collecting insurance. Malicious fires attend family feuds, neighborhood irritations, labor troubles, agricultural distress, business rivalry, and crime. Occasionally spite fires are set to vent the incendiary's spleen against the general economic scheme of things. The pyromaniac, the hobo, and the disgruntled trespasser are responsible for some malicious fires. Occasionally a volunteer fireman will be apprehended setting fire to property and will confess that he started numerous other fires because of his love of excitement. The volunteer fireman who is paid for each fire that he attends will have a financial temptation to start fires.

A costly class of incendiary fires that are not started by owners in order to collect their insurance is the warehouse or bailee-risk fire in which premises are burned in the hope of destroying the evidence of a shortage of goods. Occasionally burglars willfully burn property in the hope of concealing their burglary or delaying pursuit. On rare occasions incendiarism is resorted to in order to hide murder. Family feuds are responsible for a few incendiary fires, generally in connection with efforts to distribute an estate or contest a will. Neighborhood irritations in the form of risks that are offensive, that depreciate adjacent values, or whose occupants are objectionable are responsible for some fires. The fire resulting from labor troubles, whether a minor one or a serious one attendant upon a strike, is comparatively frequent, though in recent years there has been a tendency to use other forms of sabotage, notably acid throwing, machinery wrecking, and stench bombs. Agricultural distress

expresses itself in barn burning and the firing of warehouses or other premises where surplus products are stored. Fires due to business rivalry have declined in relative importance. Today they are generally encountered only in enterprises controlled by or preyed upon by racketeers or gangsters.

Efforts to Prevent Fires.—In order to reduce the hazard of fire, almost all municipalities require conformity to certain standards in the construction of buildings, certain rules in the storage and handling of commodities known to be explosive or inflammable, and certain methods of safeguarding manufacturing processes which have been found to be fire breeders. Municipalities have also provided public protection in the form of water supplies and fire departments for the purpose of fighting fire. Many property owners install private protection to supplement the public protection afforded by the municipalities, the most effective private device being the automatic sprinkler.

Laws against arson are in force in varying form in all states, and state, county, and municipal officers are charged with the duty of enforcing them. Some states and municipalities maintain fire marshals who devote their activities to combating arson. The National Board of Fire Underwriters, through their Arson Department, supplement the work of the various civil authorities in connection with arson cases.

Effects of Fire.—Fire consumes combustible property and, by giving off heat and smoke, destroys or damages adjacent property. In protected areas the water and chemicals used by fire departments also damage property. In any area hurried removal of property from premises endangered by fire may cause breakage, tearing, scratching, deformation, or waste. Some damage is done by firemen who break windows, pry open doors, and cut holes in floors and roofs hunting for the seat of a fire, admitting air to smoky premises, or ridding premises of water. When fire involves a structure of several stories, the roof, the upper floors, and their contents may fall on lower floors as supports burn away. In any structure with high masonry walls, the walls may fall and crush the contents or crush adjoining structures and their contents.

Fire tends to spread from the place of its origin, always upward when there is any upward path that it can follow and in any

other direction in which inflammable material will carry it. Burning embers at times fall to the bottom of spaces between studs and cause an outbreak of fire below the place of origin; and accumulated gas, sometimes the gas generated by an incipient fire, will by flashing spread fire throughout an entire structure.

Fire spreads from floor to floor in a building through floor openings, such as stairway openings, elevator and other shaft openings, and belt holes. It may spread from a lower floor through a shaft and, after skipping several floors, mushroom on a higher floor as accumulated heat ignites combustible contents. Fire ordinarily spreads from division to division of a building or from building to building through door openings and window openings in the wall. It also spreads from one roof to another when roofs are inflammable and sometimes spreads to another building through a roof opening, such as a skylight. In some cases the heat generated by the burning of one building is great enough to cause the ignition of another if any inflammable material is exposed to the radiating heat.

Smoke discolors some forms of property and contaminates others, particularly foodstuffs. Hot smoke from resinous, sticky, or greasy substances often condenses when it comes in contact with a surface and deposits on it a film of gum or grease.

Water or the chemical compound of acid, alkali, and water used in extinguishing a fire sometimes does considerable damage to susceptible building materials or contents. Building finish, plaster, and decorations are particularly subject to water damage. Soluble contents may be dissolved and carried away by hose streams, whereas other contents may be damaged by wetting, staining, and chemical change or physical disturbance.

After a fire, further damage may occur as a result of the exposure of the property to the weather or from decomposition, mildew, or rust.

Loss Due to Fire.—In any area great enough to produce dependable average indications, the yearly loss due to fire generally varies within a comparatively narrow range, except when affected by such unusual occurrences as conflagrations, booms, and depressions. The loss follows the economic trend of the times, increasing or decreasing as values increase or

decrease. In a new and rapidly growing country, fires are more frequent in proportion to the number of risks than in an old country where the rate of growth is slow.

No complete record has been made of the yearly fire loss in the United States, but an accurate record of loss payments by admitted insurance companies is maintained by each of the insurance departments of the several states. The loss payments of the admitted stock fire insurance companies are summarized and published yearly.[1] Other loss payments are made by mutuals, reciprocals, Lloyds, and nonadmitted companies. The stock companies, however, make such a large percentage of all loss payments that their figures are a trustworthy guide to the yearly fire loss. These figures, beginning with the year 1910, appear as column 3 in the exhibit on page 109.

Stock-company Fire Insurance Experience.—The figures in Table IV, page 109, taken from "Fire Insurance by States," show, for the United States:

1. *Net risks written*, the aggregate net amount of insurance written by the companies, the sum total of the amounts insured by the policies written during the year, less the amounts reinsured.

2. *Net premiums received*, the aggregate amount of premiums charged for the policies, less the amount paid for reinsurance.

3. *Net losses paid*, the aggregate amount paid because of losses, less the amount recovered from reinsurance.

4. *Average rate of premium*, the rate, in cents per $100, ascertained by dividing net premiums received by net risks written.

5. *Percentage of loss paid to risks written*, ordinarily termed *burning rate*, the rate of loss, in cents per $100, ascertained by dividing net losses paid by net risks written.

6. *Percentage of loss paid to premiums received*, ordinarily termed *loss ratio*, the percentage ascertained by dividing net losses paid by net premiums received.

These figures show a minimum variation in net losses paid of $6,637 between the years 1917 and 1918, only .003 per cent; a maximum upward variation of $62,684,996, 31.9 per cent,

[1] "Fire Insurance by States," an annual publication of the *Weekly Underwriter* of New York in which the results of the business of the stock companies appear.

TABLE IV

Year	Net risks written	Net premiums received	Net losses paid	Average rate of premium	Loss paid to risks	Percent loss paid to premiums
1938	$63,045,637,053	$434,965,743	$167,520,093	0.69	0.27	38.5
1937	64,941,176,071	449,308,911	160,808,047	0.69	0.25	35.8
1936	63,179,552,334	447,330,231	172,400,078	0.71	0.27	38.5
1935	65,322,260,987	460,748,917	154,196,767	0.71	0.24	33.5
1934	56,949,900,333	404,569,986	172,606,647	0.71	0.31	42.7
1933	51,606,486,405	382,393,949	173,172,963	0.74	0.34	45.3
1932	53,166,386,992	415,886,921	251,285,438	0.78	0.47	60.4
1931	59,181,997,797	479,650,714	276,824,674	0.81	0.47	57.7
1930	62,911,307,908	543,944,826	301,647,535	0.86	0.48	55.5
1929	77,318,261,774	688,293,924	317,550,254	0.89	0.41	46.1
1928	73,218,703,220	675,441,184	311,198,710	0.92	0.43	46.1
1927	71,141,015,500	673,053,184	313,355,834	0.95	0.44	46.6
1926	74,791,178,945	699,058,896	367,611,295	0.93	0.49	52.6
1925	68,227,758,159	661,457,254	364,213,919	0.97	0.53	55 1
1924	63,207,546,913	615,461,685	340,807,679	0.97	0.54	55.4
1923	64,212,007,615	622,240,735	329,112,310	0.97	0.51	52 9
1922	54,632,686,788	545,463,196	311,687,842	0.99	0.57	57.2
1921	49,373,684,409	520,800,771	303,513,839	1.05	0.61	58.3
1920	60.191,270,225	617,797,749	259,078,114	1.02	0.43	41.9
1919	46,543,948,039	500,590,317	196,393,118	1.07	0.42	39.2
1918	42,727,583,258	456,517,823	207,707,386	1.06	0.49	45.5
1917	42,641,045,906	455,857,783	207,714,023	1.07	0.49	45.5
1916	33,269,885,732	339,475,610	174,923,983	1.02	0.53	51.6
1915	29,449,013,016	307,989,481	164,861,182	1.05	0.56	53.7
1914	28,297,662,796	304,289,225	177,007,948	1.07	0.63	58.3
1913	28,079,016,161	298,552,292	158,379,195	1.06	0.56	53.3
1912	26,791,084,482	289,690,405	152,951,893	1.08	0.57	52.9
1911	26,018,195,582	287,086,974	154,810,178	1.10	0.59	54.0
1910	26,381,607,258	280,506,314	139,889,933	1.06	0.58	49.9

between 1919 and 1920; and a maximum downward of $78,112,465, 31.8 per cent, between 1932 and 1933. Percentages of the first year are stated in each comparison. The minimum variation was between the two years of the war period, when there was very little change in industrial, financial, and social conditions. The maximum upward registered the postwar depression which

began with the break of the silk market in Japan early in 1920 and spread rapidly through the United States, causing a great slump in values of accumulated merchandise and a great increase in the number of incendiary and unexplained fires. The maximum downward reflected the loss of confidence in the fall of 1932, which culminated in the bank-holiday period in March of the next year and the feeling of relief that followed the political efforts made immediately thereafter to revive business. There is much disagreement among underwriters as to the major factor among those which were responsible for the unprecedented decrease of loss in 1933 and the absence of any normal upward variation since. During the 29 years for which figures are tabulated, there was no great conflagration.

These figures, which show the close relation of the yearly loss by fire to the activity of general business, also show that fire insurance has a prime element of cost which varies less from year to year than the miller's cost of wheat or the manufacturer's cost of cotton or copper. This element is the number of cents that, on the average of American business, must be paid out in loss for each $100 of insurance written. It is aptly termed the *burning rate.* Since 1910 it has fallen irregularly from 58 to 27 cents, averaging a little more than 1 cent a year. Its greatest irregularities have attended (1) the beginning of the World War period, when between 1913 and 1914 it rose 7 cents; (2) the postwar depression in 1921, when after falling 20 cents from its high point in 1914 it rose 18 cents; and (3) in 1933 when it fell 13 cents. The fall of this rate, registering the decrease in the prime element of cost in the fire insurance business, has been attended by a steady fall in the price of insurance, registered by the average rate of premium since 1921. In 1910 the average rate was $1.06 for each $100 of insurance written. The average rate rose to $1.08 in 1912 and, after changing slightly from year to year, stood at $1.05 in 1921. From that figure it has fallen with only one rise of $.02 in 1927 to its present figure of $0.69.

Considering the foregoing, it is a fair conclusion that fire insurance deals with averages which over long periods of time can almost be reduced to certainties.

The following brief commentary and charts are based on the preceding figures:

The combined premium and loss ratio of the admitted stock fire insurance companies for 1937 is now available through the publication of the last issue of "Fire Insurance by States." The combined expense ratio of companies, members of the National Board of Fire Underwriters, is also available, likewise the government's estimate of this year's population. The information, together with that for previous years, has made it possible to produce the graphs which follow and, while they present nothing which is not already known to company executives, they emphasize certain details of today's situation and suggest a change in the trend of the loss ratio in the early future.

In 1937 there was an increase in the amount of insurance written by the stock fire insurance companies. The amount, as reported in "Fire Insurance by States" under the heading "Risks Written," is the only increase shown for the year. There were decreases in premiums received and losses paid, also in the average rate of premium, the burning rate, and the loss and expense ratio. Thus it appears that although the stock fire insurance companies carried a greater amount at risk than they did the year before, they received less money for their service, but, fortunately, were called upon to pay out less money in losses.

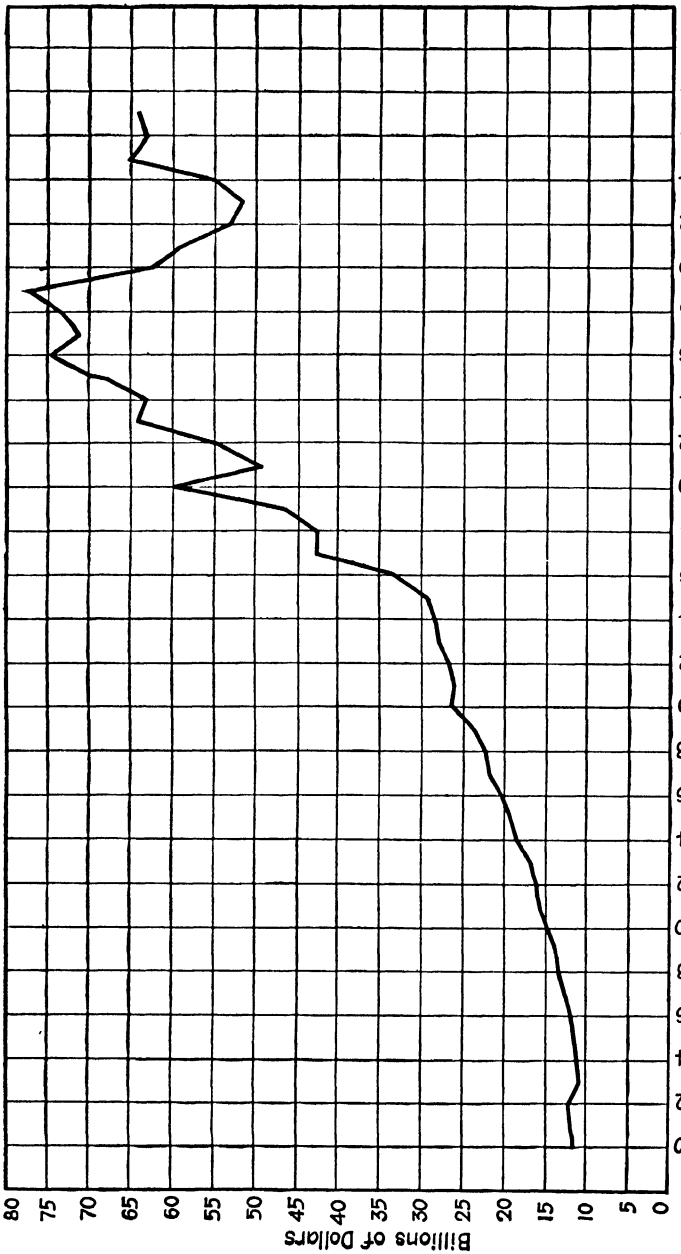
Peak Years

The graphs emphasize the fact that since the income peak year of 1926 both premiums and losses have decreased by a much greater percentage than the amount of insurance written has decreased. That amount reached its peak in 1929. Premiums for 1937 were 37 per cent below the peak, losses 56 per cent, but the amount of insurance only 17 per cent.

The great decrease in the burning rate has resulted in a similar decrease in the average rate of premium with a resulting decrease in premiums received. The average rate of premium has never failed to reflect, with but slight delay, the rate at which property burns. As far back as 1910 the difference between the average rate of premium and the burning rate was 49 points. At the end of 1937 it was 44 points. Competition within the business keeps the average rate of premium at a level which will just about pay the cost of distributing the fire loss.

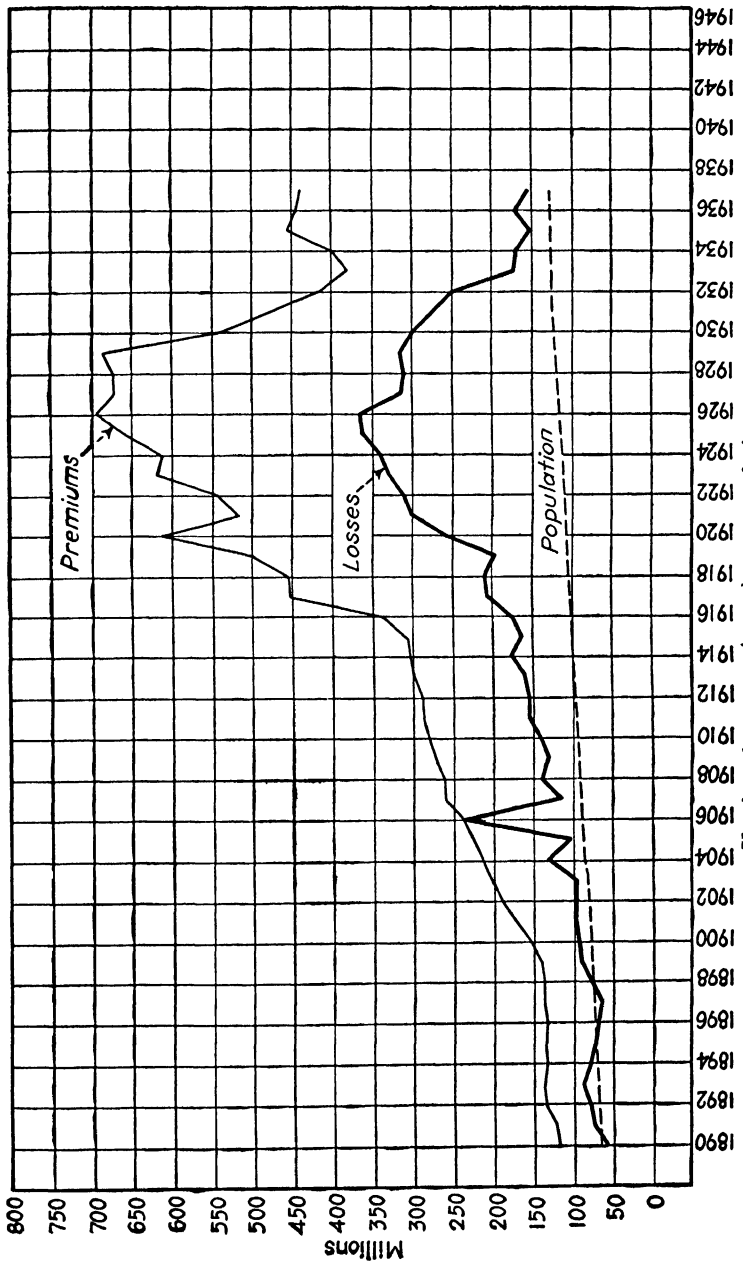
The decrease in the burning rate since 1932 has been much greater than the prior trend would warrant. If the past is any index of the future, an increase in the rate will soon occur. The graphs suggest 1940 as the year it will begin.

In the past 27 years there have been three marked rises in the loss ratio. After 1909 it rose 10.5 points in five years, after 1919 it rose 19.1 points in two years, and after 1929 it rose 14.3 points in three years.



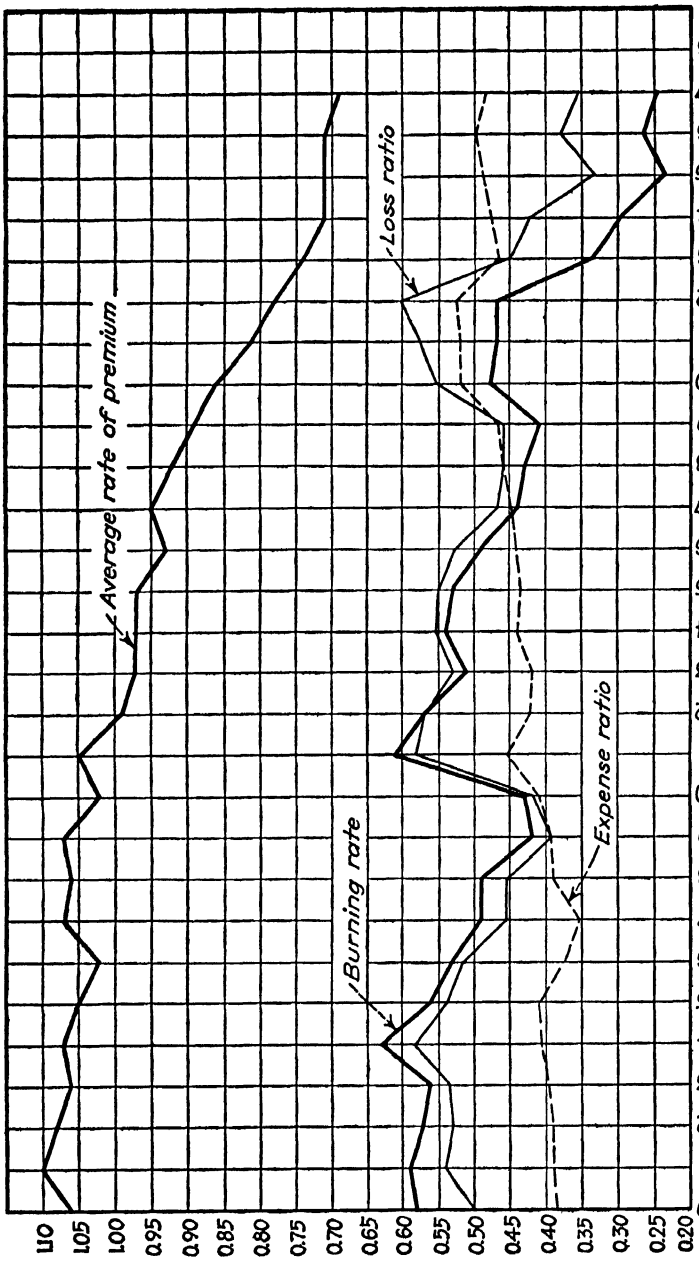
Yearly volume, risks written.

This and the following four charts were prepared by the author and Paul I. Thomas from the figures of admitted stock fire insurance companies as compiled in "Fire Insurance by States."

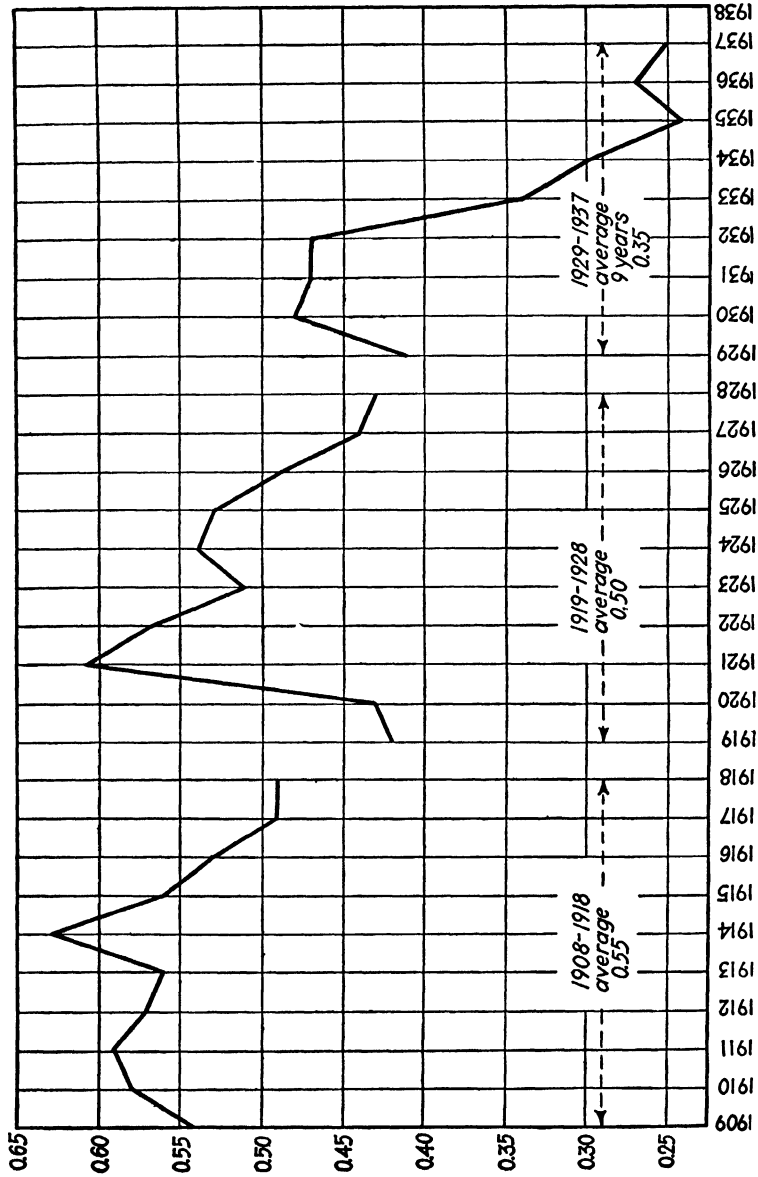


Yearly volume premiums, losses, population.

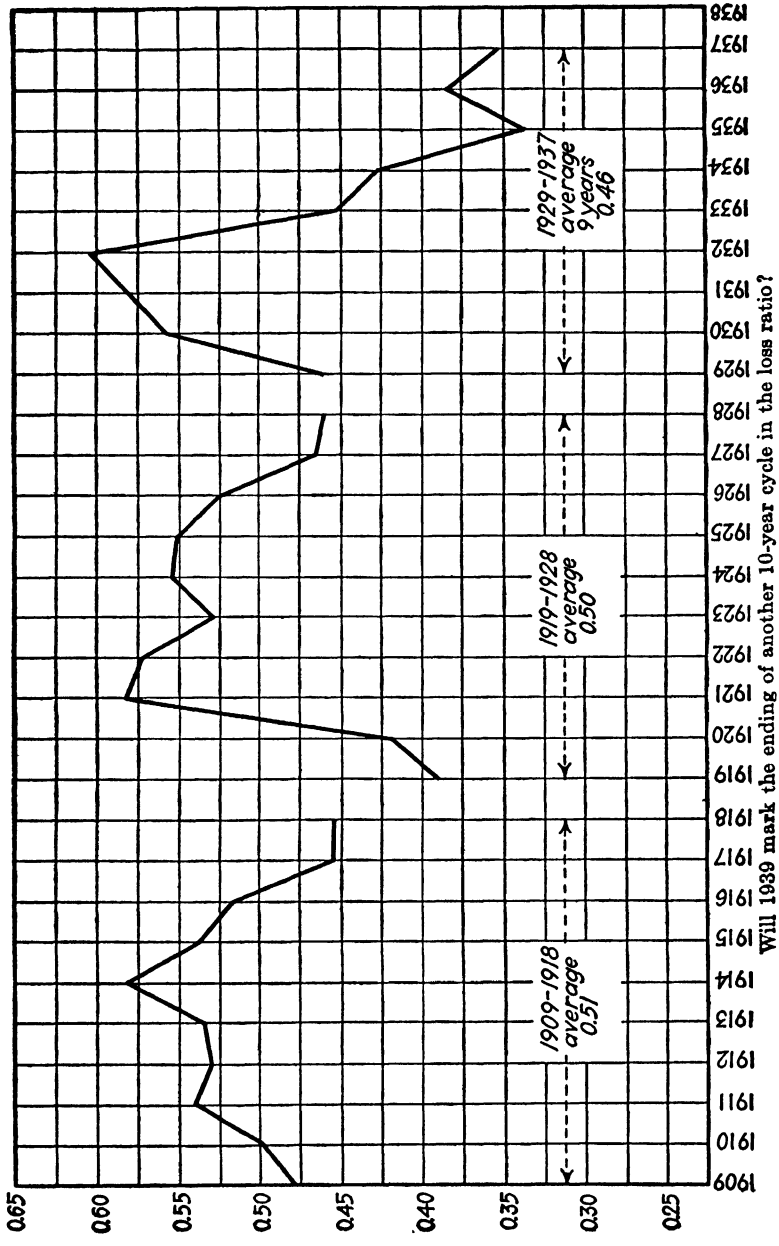
Population from the World Almanac.



Average rate of premium, burning rate, loss ratio, and expense ratio.
Expense ratio from the National Board.



Is there a cyclic and downward trend in burning rate?


0.65
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1936
1937
1938
1909-1918 average 0.51
1919-1928 average 0.50
1929-1937 average 9 years 0.46
Will 1939 mark the ending of another 10-year cycle in the loss ratio?

TABLE V

1931

Category	Number of losses	Amounts	Loss to insurance
1	3,298	No claims	—
2	38,252	Less than $ 100	$ 1,165,941.49
3	15,409	$ 100– 500	3,767,585.18
4	6,801	500– 1,000	4,586,256.03
5	7,009	1,000– 2,500	9,743,667.56
6	2,616	2,500– 5,000	7,917,164.23
7	1,333	5,000– 10,000	6,989,430.40
8	590	10,000– 25,000	8,501,141.93
9	171	25,000– 50,000	5,225,175.47
10	60	50,000– 100,000	3,964,038.54
11	13	100,000– 200,000	1,466,238.68
12	1	200,000– 300,000	232,919.66
13	1	300,000– 400,000	342,900.87
15	1	500,000– 1,000,000	1,453,612.32
Totals	75,356		$55,356,072.36

1932

1	3,488	No claims	—
2	40,894	Less than $ 100	$ 1,152,378.11
3	15,251	$ 100– 500	3,698,712.04
4	6,698	500– 1,000	4,585,018.15
5	6,438	1,000– 2,500	9,154,239.27
6	2,301	2,500– 5,000	7,007,761.02
7	937	5,000– 10,000	5,834,020.63
8	495	10,000– 25,000	6,742,491.11
9	123	25,000– 50,000	3,906–019.00
10	48	50,000– 100,000	3,037,120.69
11	11	100,000– 200,000	1,346,604.86
12	4	200,000– 300,000	821,967.42
13	1	300,000– 400,000	339,018.63
14	1	400,000– 500,000	445,887.61
Totals	76,690		$48,071,238.54

1933

1	5,571	No claims	—
2	40,361	Less than $ 100	$ 1,096,297.63
3	13,534	$ 100– 500	3,240,993.24
4	5,572	500– 1,000	3,759,614.91
5	5,110	1,000– 2,500	7,216,315.18
6	1,704	2,500– 5,000	5,210,240.98
7	727	5,000– 10,000	4,404,393.14
8	348	10,000– 25,000	4,741,362.94
9	103	25,000– 50,000	3,179,657.72
10	43	50,000– 100,000	2,447,268.29
11	14	100,000– 200,000	1,787,619.84
12	2	200,000– 300,000	502,843.89
13	1	300,000– 400,000	331,310.75
14	2	400,000– 500,000	965,266.88
Totals	73,092		$38,883,085.39

TABLE V.—(*Continued*)

Category	Number of losses	Amounts	Loss to insurance
1934			
1	5,154	No claims	—
2	41,534	Less than $ 100	$ 1,174,017.13
3	13,348	$ 100– 500	4,142,729.99
4	5,084	500– 1,000	3,400,020.82
5	4,465	1,000– 2,500	6,167,220.31
6	1,453	2,500– 5,000	4,329,957.52
7	636	5,000– 10,000	3,693,827.46
8	317	10,000– 25,000	4,192,206.04
9	111	25,000– 50,000	3,389,327.88
10	34	50,000– 100,000	1,942,686.41
11	18	100,000– 200,000	1,985,148.49
12	3	200,000– 300,000	657,045.64
13	4	300,000– 400,000	1,386,950.15
15	3	500,000– 1,000,000	1,927,751.92
16	2	Over $1,000,000	3,780,097.01
Totals	72,166		$42,168,986.77
1935			
1	3,978	No claims	—
2	37,906	Less than $ 100	$ 1,049,145.43
3	11,045	$ 100– 500	2,554,767.79
4	3,920	500– 1,000	2,611,198-64
5	3,468	1,000– 2,500	4,714,770.77
6	1,171	2,500– 5,000	3,503,307.34
7	494	5,000– 10,000	2,947,256.38
8	255	10,000– 25,000	3,382,622.51
9	80	25,000– 50,000	2,459,454.63
10	40	50,000– 100,000	2,393,282.43
11	12	100,000– 200,000	1,422,522.97
12	2	200,000– 300,000	342,859.78
15	1	500,000– 1,000,000	568,172.23
Totals	62,372		$27,949,360.90

The graph on which I put the question—Will 1939 mark the ending of another 10-year cycle in the loss ratio?—certainly suggests that it will.[1]

Number of Fires and Sizes of Losses.—The yearly number of fires, like the yearly amount of loss by fire, also tends to vary within a comparatively narrow range, and the proportion of small and large fires to remain very much the same. Here, again, there is no comprehensive record to be had, but there are two

[1] REED, PRENTISS B., "Graphs Indicate Fire Insurance Trends," *Weekly Underwriter*, July 9, 1938, pp. 63–65.

TABLE VI.—SUMMARY OF NUMBER OF LOSSES

Category	Amounts	1931	1932	1933	1934	1935	Total for 5 years
1	No claim	3,298	3,488	5,571	5,154	3,978	21,489
2	Less than $ 100	38,252	40,894	40,361	41,534	37,906	198,947
3	$ 100– 500	15,409	15,251	13,534	13,348	11,045	68,587
4	500– 1,000	6,801	6,698	5,572	5,084	3,920	28,075
5	1,000– 2,500	7,009	6,438	5,110	4,465	3,468	26,490
6	2,500– 5,000	2,616	2,301	1,704	1,453	1,171	9,245
7	5,000– 10,000	1,133	937	727	636	494	3,927
8	10,000– 25,000	590	495	348	317	255	2,005
9	25,000– 50,000	171	123	103	111	80	588
10	50,000– 100,000	60	48	43	34	40	225
11	100,000– 200,000	13	11	14	18	12	68
12	200,000– 300,000	1	4	2	3	2	12
13	300,000– 400,000	1	1	1	4	.....	7
14	400,000– 500,000	.....	1	2	.....	.....	3
15	500,000– 1,000,000	2	.....	.....	3	1	6
16	Over $1,000,000	.....	.....	.....	2	.....	2
		75,356	76,690	73,092	72,166	62,372	359,676

groups of statistics that are reliable indices, one covering a very large number of losses in the West and the other, all losses in New Zealand. The Western Adjustment and Inspection Company formerly prepared each year at its Chicago office a summary of the fire losses adjusted by its employees.[1] The territory covered embraced Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. A similar summary of fire losses is prepared by the Census and Statistical Office at Wellington, New Zealand, covering all that country.[2] Extracts from both records are presented.

Statistical figures of the Western Adjustment and Inspection Company cover the 5-year period 1931–1935, and are summarized by number, amount, and percentage.

These figures, presented in 16 categories according to size of loss, show how a large percentage of fires in the territory covered by the operations of the "Western" produced yearly

[1] Tables V to IX. This record was discontinued at the end of 1938.
[2] Tables X to XIII.

TABLE VII.—SUMMARY OF AMOUNTS PAID

Category	Amounts	1931	1932	1933	1934	1935	Total for 5 years
1	No claim	—	—	—	—	—	—
2	Less than $ 100	$ 1,165,941.49	$ 1,152,378.11	$ 1,096,297.63	$ 1,174,017.13	$ 1,049,145.43	$ 5,637,779.79
3	$ 100– 500	3,767,585.18	3,698,712.04	3,240,993.24	4,142,729.99	2,554,767.79	17,404,788.24
4	500– 1,000	4,586,256.03	4,585,018.15	3,759,614.91	3,400,020.82	2,611,198.64	18,942,108.55
5	1,000– 2,500	9,743,667.56	9,154,239.27	7,216,315.18	6,167,220.31	4,714,770.77	36,996,213.09
6	2,500– 5,000	7,917,164.23	7,007,761.02	5,210,240.98	4,329,957.52	3,503,307.34	27,968,431.09
7	5,000– 10,000	6,989,430.40	5,834,020.63	4,404,393.14	3,693,827.46	2,947,256.38	23,868,928.01
8	10,000– 25,000	8,501,141.93	6,742,491.11	4,741,362.94	4,192,206.04	3,382,622.51	27,558,824.53
9	25,000– 50,000	5,225,175.47	3,906,019.00	3,179,657.72	3,389,327.88	2,459,454.63	18,159,634.70
10	50,000– 100,000	3,964,038.54	3,037,120.69	2,447,268.29	1,942,686.41	2,393,282.43	13,784,396.36
11	100,000– 200,000	1,466,238.68	1,346,604.86	1,787,619.84	1,985,148.49	1,422,522.97	8,008,134.84
12	200,000– 300,000	232,919.66	821,967.42	502,843.89	657,045.64	342,859,78	2,558,636.39
13	300,000– 400,000	342,900.87	339,018.63	331,210.75	1,386,950.15	.....	2,400,080.40
14	400,000– 500,000	.....	445,887.61	965,266.88	.....	.....	1,411,154.49
15	500,000– 1,000,000	1,453,612.32	.....	.....	1,927,751.92	568,172.23	3,949,536.47
16	Over $1,000,000	.....	.....	.....	3,780,097.01	.....	3,780,097.01
		$55,356,072.36	$48,071,238.54	$38,883,085.39	$42,168,986.77	$27,949,360.90	$212,428,743.96

TABLE VIII.—SUMMARY OF PERCENTAGES OF NUMBER OF LOSSES

Category	Amounts	1931	1932	1933	1934	1935	Total for 5 years
1	No claim	4.377%	4.549%	7.621%	7.141%	6.378%	5.9745%
2	Less than $ 100	50.761	53.323	55.220	57.554	60.774	55.3129
3	$ 100– 500	20.449	19.887	18.517	18.497	17.708	19.0691
4	500– 1,000	9.026	8.734	7.624	7.045	6.284	7.8057
5	1,000– 2,500	9.301	8.395	6.991	6.188	5.560	7.3650
6	2,500– 5,000	3.471	3.000	2.331	2.013	1.878	2.5703
7	5,000– 10,000	1.504	1.221	0.995	0.881	0.792	1.0919
8	10,000– 25,000	0.782	0.646	0.477	0.440	0.409	0.5574
9	25,000– 50,000	0.227	0.160	0.140	0.153	0.129	0.1634
10	50,000– 100,000	0.080	0.062	0.059	0.048	0.064	0.0626
11	100,000– 200,000	0.018	0.015	0.020	0.024	0.020	0.0190
12	200,000– 300,000	0.001	0.006	0.002	0.004	0.003	0.0033
13	300,000– 400,000	0.001	0.001	0.001	0.006	.....	0.0020
14	400,000– 500,000	.....	0.001	0.002	.....	.....	0.0008
15	500,000– 1,000,000	0.002	.....	.....	0.004	0.001	0.0016
16	Over $1,000,000	.....	.....	.....	0.002	.....	0.0005
		100.000%	100.000%	100.000%	100.000%	100.000%	100.0000%

TABLE IX.—SUMMARY OF PERCENTAGES OF AMOUNTS PAID

Category	Amounts	1931	1932	1933	1934	1935	Total for 5 years
1	No claim	—	—	—	—	—	—
2	Less than $ 100	2.1063%	2.3972%	2.8195%	2.7841%	3.7537%	2.6540%
3	$ 100– 500	6.8061	7.6942	8.3352	9.8241	9.1407	8.1932
4	500– 1,000	8.2850	9.5380	9.6690	8.0628	9.3426	8.9169
5	1,000– 2,500	17.6018	19.0430	18.5590	14.6250	16.8690	17.4158
6	2,500– 5,000	14.3023	14.5778	13.3998	10.2681	12.5345	13.1660
7	5,000– 10,000	12.6263	12.1362	11.3273	8.7596	10.5450	11.2362
8	10,000– 25,000	15.3572	14.0260	12.1939	9.9415	12.1027	12.9732
9	25,000– 50,000	9.4392	8.1255	8.1775	8.0375	8.7997	8.5486
10	50,000– 100,000	7.1610	6.3180	6.2939	4.6069	8.5629	6.4890
11	100,000– 200,000	2.6487	2.8013	4.5974	4.7076	5.0896	3.7698
12	200,000– 300,000	0.4208	1.7099	1.2932	1.5581	1.2267	1.2045
13	300,000– 400,000	0.6194	0.7053	0.8518	3.2890	.....	1.1298
14	400,000– 500,000	.....	0.9276	2.4825	.....	.....	0.6643
15	500,000– 1,000,000	2.6259	.....	.....	4.5715	2.0329	1.8592
16	Over $1,000,000	.....	.....	.....	8.9642	.....	1.7795
		100.0000%	100.0000%	100.0000%	100.0000%	100.0000%	100.0000%

results that are very much of the same pattern. They show that whereas some 80 per cent of the losses were in categories 1, 2, and 3 and were less than $500 each, the aggregate amount of these losses was only about 11 per cent of the total loss. The losses that from year to year aggregated the greatest amount were those in categories 5, 6, 7, and 8 and ranged from $1,000 to $25,000. Although these were slightly less than 12 per cent of all losses, they aggregated about 55 per cent of the total loss. The figures also show that the percentages of losses in categories 1 to 10, those which were less than $50,000, did not vary so much from year to year as the percentages of those of greater amount. The percentage of losses less than $100 increased from year to year.

The figures support the underwriting practice of fixing lines on risks written according to the amount of loss that will ordinarily occur rather than according to the amount that will possibly, but only rarely, occur.

The figures are an excellent example of the theory of probability. They show that the smallest losses, those which occur most frequently, tend to repeat themselves with a very high degree of regularity and that the larger losses, which occur less frequently, tend to repeat themselves with less regularity.

The very small number of very large losses makes it impossible to deduce the frequency of their occurrence from an experience no longer than 5 years.

The premiums and losses for the stock companies in the 13 states covered by the Western Adjustment and Inspection Company and the losses adjusted by that company for the 5-year period were as follows:

	1931	1932	1933	1934	1935
13 states:					
Premiums	148,077,708	131,317,961	121,793,658	130,402,332	132,532,849
Losses	93,037,291	79,405,826	60,276,086	66,122,140	44,229,417
Western Adjustment and Inspection Company:					
Losses	55,356,072	48,071,239	38,883,085	42,168,987	27,449,361
Per cent	59.5	60.5	64.5	64.0	64.0

TABLE X

Loss category	Number of separate fires	Amount of loss	Proportion of Loss to total loss	Proportion of Fires to total fires
			Per cent	Per cent
1929				
Under £ 10....	2,429	£ 8,881 s.17 d. 8	0.81	47.97
£ 10 and under 25....	577	8,531 1 7	0.78	11.39
25 and under 50....	280	9,334 13 10	0.85	5.53
50 and under 100....	276	18,586 12 3	1.70	5.45
100 and under 200....	363	48,916 19 1	4.47	7.17
200 and under 300....	274	65,015 4 7	5.95	5.41
300 and under 400....	180	61,435 19 5	5.62	3.55
400 and under 500....	142	61,574 0 11	5.63	2.80
500 and under 750....	228	137,801 17 4	12.60	4.50
750 and under 1,000....	128	107,143 19 11	9.80	2.53
1,000 and under 2,000....	111	145,557 12 10	13.31	2.19
2,000 and under 3,000 ...	38	91,430 6 8	8.36	0.75
3,000 and under 4,000....	17	59,753 2 11	5.46	0.34
4,000 and under 5,000 .	6	26,430 13 7	2.42	0.12
5,000 and over..... ..	15	243,174 3 0	22.24	0.30
Totals.....	5,064	1,093,568 5 7	100.00	100.00
1930				
Under £ 10....	2,464	£ 9,812 s. 0 d.10	0.97	50.67
£ 10 and under 25..	530	7,783 18 5	0.77	10.90
25 and under 50...	252	8,856 18 8	0.88	5.18
50 and under 100....	228	16,011 10 1	1.58	4.69
100 and under 200 ..	303	42,964 7 9	4.24	6.23
200 and under 300...	200	48,140 11 5	4.75	4.11
300 and under 400....	143	49,681 7 1	4.91	2.94
400 and under 500....	142	63,026 1 0	6.22	2.92
500 and under 750....	256	155,256 15 9	15.33	5.26
750 and under 1,000 ..	135	115,915 1 11	11.44	2.78
1,000 and under 2,000....	141	187,760 6 5	18.53	2.90
2,000 and under 3,000....	33	78,960 17 0	7.79	0.68
3,000 and under 4,000....	11	37,559 12 4	3.71	0.23
4,000 and under 5,000..	10	44,715 3 1	4.41	0.20
5,000 and over.....	15	146,614 5 1	14.47	0.31
Totals..... . .	4,863	1,013,058 16 10	100.00	100.00
1931				
Under £ 10....	2,548	£ 8,235 s.11 d. 0	0.72	52.86
£ 10 and under 25...	472	7,092 17 3	0.62	9.79
25 and under 50...	238	8,155 8 0	0.71	4.94
50 and under 100....	192	13,601 9 2	1.17	3.98
100 and under 200....	265	37,397 13 4	3.26	5.50
200 and under 300....	213	52,087 17 10	4.53	4.42
300 and under 400....	147	50,363 17 7	4.38	3.05
400 and under 500 ..	127	56,809 18 11	4.95	2.64
500 and under 750....	276	167,877 10 3	14.62	5.73
750 and under 1,000....	136	116,527 13 1	10.15	2.82
1,000 and under 2,000....	143	196,135 3 1	17.08	2.97
2,000 and under 3,000....	31	74,638 15 5	6.50	0.64
3,000 and under 4,000..	8	26,939 7 10	2.35	0.17
4,000 and under 5,000....	6	26,531 2 2	2.31	0.12
5,000 and over.....	18	306,133 10 11	26.65	0.37
Totals.....	4,820	1,148,527 15 10	100.00	100.00

TABLE X.—(*Continued*)

1932

Loss category	Number of separate fires	Amount of loss	Proportion of	
			Loss to total loss	Fires to total fires
			Per cent	Per cent
Under £ 10 ...	2,639	£ 7,800 s. 9 d. 8	1.01	58.88
£ 10 and under 25....	405	6,070 14 6	0.79	9.04
25 and under 50....	213	7,361 18 6	0.95	4.75
50 and under 100 ...	174	12,164 7 3	1.58	3.88
100 and under 200 ...	199	28,351 16 7	3.68	4.44
200 and under 300 ...	151	37,240 19 3	4.83	3.37
300 and under 400....	134	45,941 9 4	5.95	2.99
400 and under 500....	123	54,600 4 1	7.08	2.74
500 and under 750....	211	130,021 2 5	16.86	4.71
750 and under 1,000....	96	82,052 6 8	10.64	2.14
1,000 and under 2,000....	97	125,179 2 8	16.23	2.16
2,000 and under 3,000....	16	38,998 0 3	5.05	0.36
3,000 and under 4,000....	7	24,993 3 2	3.24	0.16
4,000 and under 5,000 ...	5	21,583 8 10	2.80	0.11
5,000 and over.....	12	148,941 15 8	19.31	0 27
Totals	4,482	771,300 18 10	100.00	100.00

1933

Under £ 10....	2,821	£ 8,112 s.10 d. 0	1.42	64.82
£ 10 and under 25....	373	5,659 13 10	0.99	8 57
25 and under 50....	173	6,047 10 4	1.06	3 98
50 and under 100....	166	11,693 17 11	2.04	3.82
100 and under 200....	172	24,972 4 6	4.36	3 95
200 and under 300....	142	34,679 10 9	6.05	3.26
300 and under 400....	108	36,943 2 6	6.45	2 48
400 and under 500....	99	44,101 17 9	7.69	2.27
500 and under 750....	137	82,542 5 11	14.40	3 15
750 and under 1,000....	68	57,322 9 6	10 00	1.56
1,000 and under 2,000 ...	59	79,237 17 8	13.82	1.36
2,000 and under 3,000....	14	32,786 2 5	5.72	0.32
3,000 and under 4,000....	7	24,411 12 0	4.26	0.16
4,000 and under 5,000....	2	8,676 14 10	1.51	0.05
5,000 and over.....	11	115,951 14 9	20.23	0.25
Totals.....	4,352	573,139 4 8	100.00	100.00

TABLE XI.—SUMMARY OF PERCENTAGES OF NUMBER OF LOSSES

Loss category	1929	1930	1931	1932	1933	Total for 5 years
£ £						
Under 10	47.97%	50 67%	52 86%	58.88%	64.82%	55.03%
10 and under 25	11.39	10 90	9 79	9.04	8 57	9 92
25 and under 50	5.53	5.18	4.94	4 75	3.98	4 87
50 and under 100	5 45	4 69	3.98	3.88	3.82	4.55
100 and under 200	7.17	6.23	5.50	4.44	3.95	5.44
200 and under 300	5.41	4.11	4.42	3.37	3.26	4.05
300 and under 400	3.55	2 94	3 05	2.99	2.48	3 00
400 and under 500	2.80	2 92	2.64	2.74	2.27	2.67
500 and under 750	4.50	5.26	5.73	4.71	3.15	4.67
750 and under 1,000	2.53	2.78	2.82	2.14	1.56	2.35
1,000 and under 2,000	2.19	2.90	2 97	2.16	1.36	2.30
2,000 and under 3,000	0.75	0.68	0.64	0.36	0.32	0.54
3,000 and under 4,000	0 34	0 23	0.17	0.16	0.16	0 20
4,000 and under 5,000	0.12	0 20	0.12	0.11	0 05	0.11
5,000 and over	0.30	0 31	0 37	0.27	0.25	0 30
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

TABLE XII.—SUMMARY OF PERCENTAGES OF AMOUNTS PAID

Loss category	1929	1930	1931	1932	1933	Total for 5 years
£ £						
Under 10	0.81%	0.97%	0.72%	1.01%	1.42%	0.93%
10 and under 25	0.78	0.77	0.62	0.79	0.99	0.76
25 and under 50	0.85	0.88	0.71	0.95	1.06	0.86
50 and under 100	1.70	1.58	1.17	1.58	2.04	1.57
100 and under 200	4.47	4.42	3.26	3.68	4.36	3.97
200 and under 300	5.95	4.75	4.53	4.83	6.05	5.16
300 and under 400	5.62	4 91	4.38	5.95	6.45	5.31
400 and under 500	5.63	6.22	4.95	7.08	7.69	6.09
500 and under 750	12.60	15.33	14.62	16.86	14.40	14 64
750 and under 1,000	9.80	11.44	10.15	10.64	10.00	10.41
1,000 and under 2,000	13.31	18.53	17.08	16 23	13 82	15.96
2,000 and under 3,000	8.36	7.79	6.50	5.05	5.72	6.89
3,000 and under 4,000	5.46	3.71	2 35	3 24	4.26	3.78
4,000 and under 5,000	2.42	4.41	2.31	2.80	1 51	2.78
5,000 and over	22.24	14.47	26.65	19.31	20 23	20 89
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

TABLE XIII.—FIRE INSURANCE, 1929–1933 (CALENDAR YEARS).—EXTENT OF LOSS—QUINQUENNIAL TOTALS

Loss category	Number of separate fires	Amount of loss	Average amount of loss per fire	Proportion of loss to total loss
Urban Areas				
£ £		£ s. d.	£ s. d.	Per cent
Under 10	9,144	27,912 17 0	3 1 1	1.42
10 and under 25	1,311	19,410 19 3	14 16 1	0.98
25 and under 50	558	19,436 10 10	34 16 8	0.99
50 and under 100	427	30,177 1 10	70 13 5	1.53
100 and under 200	464	65,567 9 7	141 6 2	3.32
200 and under 300	330	80,562 19 3	244 2 7	4 09
300 and under 400	254	87,305 17 7	343 14 6	4.43
400 and under 500	197	87,530 14 9	444 6 4	4 44
500 and under 750	344	210,000 19 9	610 9 4	10.65
750 and under 1,000	195	167,063 11 11	856 14 9	8.48
1,000 and under 2,000	206	278,504 1 6	1,351 19 3	14.13
2,000 and under 3,000	59	139,972 1 5	2,372 8 2	7.10
3,000 and under 4,000	21	73,173 16 2	3,484 9 4	3.71
4,000 and under 5,000	13	58,045 15 1	4,465 1 2	2.95
5,000 and over	44	626,296 1 4	14,234 0 0	31 78
Totals	13,567	1,970,960 17 3	145 5 6	100 00
Remainder of Dominion				
Under 10	3,588	14,246 2 9	3 19 5	0.55
10 and under 25	980	14,612 3 9	14 18 2	0.56
25 and under 50	520	17,518 10 2	33 13 9	0.68
50 and under 100	527	35,921 17 11	68 3 3	1.38
100 and under 200	784	109,000 7 5	139 15 11	4.23
200 and under 300	630	151,868 5 2	241 1 3	5 86
300 and under 400	446	152,933 1 3	342 18 0	5.90
400 and under 500	433	191,341 2 5	441 17 11	7.38
500 and under 750	759	460,634 9 11	606 17 11	17.76
750 and under 1,000	368	311,897 19 2	847 11 0	12 03
1,000 and under 2,000	344	453,508 6 5	1,318 6 9	17.49
2,000 and under 3,000	72	174,306 6 4	2,420 18 5	6 72
3,000 and under 4,000	29	100,483 2 1	3,464 18 8	3.87
4,000 and under 5,000	16	69,891 7 5	4,368 4 3	2.69
5,000 and over	27	334,519 8 1	12,389 12 2	12.90
Totals	9,523	2,593,282 10 3	272 6 4	100.00
Dominion Totals				
Under 10	12,901	42,842 9 2	3 6 5	0.93
10 and under 25	2,357	35,138 5 7	14 18 2	0.76
25 and under 50	1,156	39,756 9 4	34 7 10	0.86
50 and under 100	1,036	72,057 16 8	69 11 1	1.57
100 and under 200	1,302	182,603 1 3	140 5 0	3.97
200 and under 300	980	237,164 3 10	242 0 1	5.16
300 and under 400	712	244,365 15 11	343 4 2	5.31
400 and under 500	633	280,112 2 8	442 10 4	6.09
500 and under 750	1,108	673,499 11 8	607 17 0	14.64
750 and under 1,000	563	478,961 11 1	850 14 7	10.41
1,000 and under 2,000	551	733,870 2 8	1,331 17 9	15.96
2,000 and under 3,000	132	316,814 1 9	2,400 2 2	6.89
3,000 and under 4,000	50	173,656 18 3	3,473 2 9	3.78
4,000 and under 5,000	29	127,937 2 6	4,411 12 6	2.78
5,000 and over	71	960,815 9 5	13,532 12 3	20.89
Totals	23,581	4,599,595 1 9	195 1 1	100.00

The figures from New Zealand indicate that the effects of fire in that country are comparable to those in ours.

Predictability of Fire Loss.—The three groups of figures in the sections immediately preceding support the primary assumption of underwriting, *i.e.*, that in any sufficiently large group of risks the fire loss can be predicted within limits that permit the safe operation of an insurance company.

CHAPTER VII

RISKS, ITEMS, INTERESTS, COVERS

In producing and selecting business and fixing lines, the underwriter is called upon to consider the desirability of the dwellings, banks and offices, mercantile risks, special hazards, and miscellaneous risks that come before him as subjects of insurance. Each risk offered will have, because of its construction, occupancy, exposure, and protection and sometimes because of its state of repair or preservation, a possibility of taking fire, and of sustaining a probable degree of loss. The fireproof office building in a protected city can be expected to suffer very little damage from fire, but the unprotected hay barn will almost certainly be destroyed if it takes fire. The dwelling in good repair is not so likely to take fire as the one with cracked chimneys.

Risks are commonly accessible to company representatives and can be easily inspected at an expense no greater than the cost of an hour's transportation. Generally they are open for inspection at all times and incidentally more or less under the eye of the public. From the standpoint of supervision and the cost of inspection, such risks are desirable. But there are some risks which are remote and, therefore, expensive to visit and inspect; there are others which are locked and without attendants for many hours during the day; and there are still other risks which can be inspected only after a permit has been secured. Camps or summer bungalows, for example, may not only be remote and, therefore, expensive to inspect but located where there are few persons who will ordinarily see them, and they may suffer from neglect or trespass.

In connection with the property or combination of property making up a risk, any one of several items of insurance may be written, and frequently the underwriter will be called upon to consider the relative desirability of, say, the building item of a

risk as contrasted with the furniture item, stock item, fixture or machinery item, rent item, use-and-occupancy item, profits item, or leasehold item. Under some items of insurance, if the property is insured for 100 per cent of its value, the percentage of insurance loss, in case of fire, will be the same as the percentage of damage to the property. If, for instance, 1,000 bales of cotton are covered by an item of insurance equal in amount to the value of the cotton, and 500 bales are destroyed, there will be a 50-per-cent insurance loss following the 50-per-cent damage to the property. There are, however, items of insurance, notably use-and-occupancy and leasehold insurance, where in case of damage to the property the percentage of insurance loss may be much greater than the percentage of the property loss.

The interest of unconditional and sole ownership is the one most frequently insured, but there are other interests, such as those of vendees, mortgagees, or custodians, which are insurable and which, if insured separately, will present differing probabilities of the extent to which they will be involved by loss or damage to the property and of the amount of payment to be made under policies insuring them. The complete destruction of property entitles an owner to collect the value of it, provided it is sufficiently insured. In the case of a vendor, however, whose interest is separately insured, the greatest amount collectible is the total of what is owing to him in principal and interest at the time of loss.

Risks, items, and interests are insured under specific, blanket, floating, reporting, per diem, contribution, or guaranteed-amount covers.

Under a 300-day per diem use-and-occupancy cover, a single day's suspension of business will result in a loss payment no greater than $\frac{1}{300}$ of the amount of insurance. But under a contribution or guaranteed-amount cover, a single day's suspension during the peak period of a fluctuating business may result in a loss payment considerably greater than $\frac{1}{300}$ of the amount of insurance.

Risks, items, interests, and covers are presented in various combinations for the underwriter's consideration, each combination having its particular probability of insurance payment in case of loss.

Risks.—Risks are described and classified according to occupancy. The National Board of Fire Underwriters' standard fire classification, effective Jan. 1, 1932, lists the following classes:

Class Tabulation Numbers	Buildings and contents unless otherwise stated.
4	Churches and Chapels.
6	Public Buildings, Hospitals, Sanitaria, Asylums, Jails, Public Homes, Museums of Art.
8	Educational Institutions, Colleges, Schools, Convents and Academies.
10	Residence Property (Private) and Outbuildings—including Summer and Winter Homes. Excluding Farm Property.
16	Farm Property including Live Stock, Growing Crops and Hay and Grain in Stacks in field.
101	Mercantile and Office Buildings—including Bank and Telephone Exchange Buildings.
160	Mercantile Stocks, Household Furniture in Mercantile Buildings, Office, Bank and Telephone Exchange Contents.
254	Warehouses of all kinds, including Tobacco, Cotton, Cotton Yards and Compresses, and Wharves.
316	Woodworkers including Saw Mills.
324	Metal Workers.
372	Chemical Workers including Paint and Pharmaceutical.
396	Textile and Cloth Workers, including Laundries and Cleaning Establishments.
390	Mining Risks—all classes including Mining Dredges.
402	Cotton Gins.
420	Cereal and Flour Mills, Stock Food Elevators, Grist and Feed Mills and Grain Elevators and Warehouses.
460	Miscellaneous Manufacturing Specials not otherwise classified.
470	Oil Risks—Mineral including Refineries, Derricks, Pipe Lines, Oil Tanks and Sumps, Distributing and Filling Stations.
474	Food and Food Products Plants, Breweries, Distilleries, Ice Factories, Wineries, and Sugar Houses, Sugar Cane and Beet Sugar Refineries.
620	Hotels, Boarding Houses, Clubs and Y.M.C.A.
636	Public Garages and Airplane Hangars.
650	Lumber Yards, Wholesale, Retail and Mill, including Forest Products.
656	Miscellaneous Non-Manufacturing Specials not otherwise classified.
670	Railway and Traction Properties, Lighting and Power Plants and Waterworks.

680 Theatre, Motion Picture Shows and Studios.
886 Sprinklered Risks—Manufacturing.
952 Sprinklered Risks—Non-Manufacturing.

A risk may be a building, a building and its contents, personal property in the open or a growing crop, or group of trees. Risks are considered in the rate schedules as forming units of the respective classes for which basis rates, charges, and credits are provided. Typical qualities attend most of the risks in the same class so that the probability of loss on or in a given risk is in many cases determined by the class to which it belongs. The property constituting a risk may be real property, such as a building or structure; or it may be a combination of real and personal property, such as a building containing fixtures and stock; or it may be personal property, such as lumber piled in an open yard. If a risk consists of a building and its contents, both may have the same probability of destruction or damage by fire, but in some cases the building will have the lesser and the contents the greater, or vice versa.

Physical and personal factors determine the probability of damage to a risk.[1] General physical factors are location, age, suitability, value, and condition. Special physical factors are construction, occupancy, exposure, and protection. General personal factors are population or group attitudes toward arson. Special personal factors are ownership, interest, and tenancy.

In connection with some risks, hazards not covered by the policy contract, such as that of explosion, may be expected to cause added damage at the time of fire, damage which will be so mixed with the fire damage that it cannot be separated from it.[2]

In the ordinary risk the materials and workmanship of the building are such that they will be replaceable if destroyed or subject to repair at usual cost if damaged. The contents will also be replaceable and, if destroyed, can be accounted for and properly valued or, if damaged, can be reconditioned or salvaged. There will be no conditions that will cause any real difficulty in deciding after a fire what damage was due to the fire and what was due to other causes.

[1] See Chaps. XI, XII, XIII.

[2] See Presence or Absence of Excepted Hazards, p. 253.

But in other risks the replacement or repair of the building will be impossible or unusually expensive. The articles making up the contents will not be replaceable or will be of such a character that if destroyed they cannot be accounted for or properly valued, or if damaged cannot be reconditioned or salvaged except with excessive loss. In connection with either building or contents it may be difficult to separate the damage due to fire from that due to other causes.[1]

Items.—The word *item* is taken from the policy and designates the property covered by a definite amount of insurance. A policy may contain one or more items, *e.g.*, a building item or a building item and a furniture item. Items are classified into the following groups according to the property which they cover:

1. Buildings and structures, which in many cases include permanent fixtures, machinery, and other equipment.
2. Personal property for use or exhibition.
3. Stocks of merchandise, which are also personal property but are for sale or for consumption.
4. Growing property, trees, shrubbery, crops.
5. Rights and liabilities or interest in use or sale.

Any two or more items may be combined into a *blanket item.*

The percentage of insurance loss under any item of group 1, 2, 3, or 4 will, if the property is insured for 100 per cent of its value, be the same as the percentage of damage suffered by the property. But the insurance loss under any item of group 5 may be different from the percentage of damage done to the physical property, because factors other than physical damage may affect the percentage of insurance loss.

Buildings.—A building item may cover any of the following kinds of structures: buildings, bridges, bulkheads, fences, piers, platforms, ramps, stacks, tanks, towers, tipples, or trestles. Items may cover buildings in any of the three stages of their life: (1) while in course of construction, (2) while standing as a completed structure, and (3) while being demolished. The tendency in recent years has been to increase the complexity of building equipment; hence much that was once insured as machinery, fixtures, or supplies is now insured as part of the building.

[1] See next section, Chap. XI, and pp. 240–245.

Building items may cover structures which if destroyed or damaged beyond a certain percentage of their value must, because of laws or ordinances, be reconstructed according to more expensive standards. In such cases the extent of the insurance granted will occasionally be increased under special conditions to include the cost of any demolition necessary to prepare for reconstructing and also the increased cost of the reconstruction but not beyond the total value of the structure at the time of the fire.[1]

The probability of loss under a building item will be dependent upon the probability of damage to the building.[2]

Personal Property for Use or Exhibition.—Items covering personal property for use or exhibition generally have as their subject matter the contents of art galleries, churches, libraries, or schools; farm equipment, furniture and fixtures, household furniture, livestock, machinery, supplies, patterns, or vehicles other than automobiles. Automobiles, if to be covered while in use, require special policies patterned after the marine contract. They are therefore rarely insured under ordinary fire policies.

The loss on personal property is often out of proportion to the extent of the damage caused by fire. As an instance, among the furnishings of a home, articles such as pieces of jewelry, fur coats, lacework, and expensive dresses are of higher value than most other articles of similar size, and consequently a relatively small fire can, at times, by damaging valuable articles, produce a relatively large loss. Another instance is the effect which the destruction of one part of a set will have on the value of the other parts. Consider, for example, an expensive pair of earrings. If one is destroyed and cannot be reproduced so as to match the other, the loss on the set is considerably greater than 50 per cent.

Accounts, bills, currency, deeds, evidences of debt, money, notes, or securities are listed in the New York standard policy as uninsurable. A very small fire might produce a very large loss if such articles were covered. There might also be great difficulty in determining whether they had been burned or

[1] *King et al.* v. *Niagara Fire Ins. Co.*, 125 N. E. 572 (1920); 55 *Insurance Law Journal* 250.

[2] See Chap. XI.

whether they had been concealed, stolen, or lost before or even after the fire.

Bullion, manuscripts, mechanical drawings, dies, or patterns are not covered unless specifically named in the policy. Gold and silver bars are rarely found outside vaults. The other articles are often difficult to value. Dies and patterns are accumulated in manufacturing plants, and only rarely are the "live" ones kept separate from those which are no longer used, the "dead" ones. Manuscripts, mechanical drawings, and paper patterns are easily destroyed.

The probable amount of loss to be paid by the company under a personal-property item will be determined by the probable damage to the property.

Stocks of Merchandise.—A stock item may cover any form of merchandise on sale or in storage awaiting sale or in process of manufacture or finishing preparatory to sale, whether liquid, solid, bulk, package, or unit. An item covering a stock of supply parts kept by a large industrial plant to furnish repairs for its own equipment will present all the characteristics of a stock item.

In some respects an item of *profits and commissions* is a stock item; in others, an interest-in-sale item. When the insurance under such an item is written in the name of the owner, it operates to increase the amount collectible on the stock and is, therefore, a stock item. But when written in the name of a selling agent, it is an interest-in-sale item.

There are stocks which are highly susceptible to damage, and there are stocks which are only slightly susceptible. But there are circumstances which from time to time affect the amount of damage that a stock will suffer, circumstances not directly related to the extent of burning or wetting.

Damage to merchandise is measured by the difference between its selling value before it was damaged and its selling value afterwards. Hence anything that affects the sale of goods damaged by fire will, within limits, affect the amount of insurance loss under the item covering them. A drop in the market after goods have been taken over by the insurer for salvaging will increase the loss, but this situation is not often encountered. Inability to remove perishable goods promptly after a fire and sell them

before deterioration sets in may greatly increase the loss. The requirements of boards of health in many cases call for condemnation and destruction of food and drug products which may have been damaged only slightly. These requirements occasionally produce unexpectedly large losses. In some stocks the unit sold is made up of several parts, any of which, if destroyed and not replaced, will greatly reduce the value of those remaining. The destruction of the coats in a stock of men's suits will, if there is no possibility of replacing the coats, result in a reduction of the selling value of any vests and trousers saved, thus producing a loss greater than the cost of the coats destroyed.

A stock item generally covers property that is constantly changing in quantity or composition as the result of purchases and sales. The policy, therefore, imposes on the insured the duty of permitting an examination of all books of account, bills, invoices, and other vouchers, as after the destruction of a stock of merchandise the books, if properly kept, will be the best evidence bearing on its value.

The probability of loss to be paid by the company under a stock item will be determined by the probability of damage to the stock and the probability of any embargo or condemnation by the civil authorities which in case of loss would reduce or destroy the value of any salvage.

Growing Property, Trees, Shrubbery, and Crops.—An item covering trees, shrubbery, or growing crops will generally have as its subject matter shade trees, fruit trees, standing timber, the shrubbery adjacent to a dwelling, tobacco (sometimes under shade cloth), wheat, or other plants or grains. These items are rarely encountered. The probability of loss to be paid by the company under such an item is determined by the probability of damage to the plants or trees themselves.

Rights and Liabilities, or Interest in Use or Sale.—Items covering rights and liabilities or interest in use or sale include (1) rents and rental value, (2) use and occupancy, (3) leasehold interest, (4) liability for loss of or damage to property of others, (5) profits and commissions. The probability of loss under any item falling into one of the five groups listed will be dependent upon circumstances set forth in the sections immediately following.

Rents and Rental Value.—The probability of loss to be paid by the company under an item of *rent* or *rental-value* insurance will be determined by the percentage of usable space which will probably be rendered untenantable by fire and also on the probable length of time required to repair the building. The contractual obligation of the tenant to continue to pay rent if he remains in possession is disregarded in rent and rental-value forms now in use. They provide that if the premises or any part shall be rendered untenantable by fire or lightning occurring during the term of the insurance, the company shall thereupon become liable for the rent or rental value of such untenantable portions and that the loss shall be computed from the date of damage until such time as the building could with reasonable diligence and dispatch be rendered again tenantable, although the period may extend beyond the term of the insurance.

Use and Occupancy.—The probabilities of loss to be paid under an item of *use-and-occupancy* insurance will not necessarily be measured by the probability of damage to the physical property, regardless of the form under which the item is written. The probable experience of the business after a fire affects the amount of loss, as does also the length of time necessary to rehabilitate the physical property. Ordinarily the loss under a use-and-occupancy item is less than the loss under the contents item. Because, however, a relatively short suspension of operations in a seasonal business may result in a relatively large loss of sales, and because a relatively minor damage to an important machine or section of a plant through which all production must pass may produce a total suspension of operations, losses under use-and-occupancy items may be proportionately greater than losses under items covering the physical property.

Leasehold Interest.—The probability of loss to be paid under an item of leasehold insurance will be determined by two factors: (1) the probable extent of damage to the premises in case of fire and (2) the terms of the fire clause in the lease or the provision of the statute or the principle of the common law prescribing the rights of the lessor and lessee in case of fire. If the lease is one that will continue after the occurrence of fire, the probable loss under the item of leasehold insurance will be about the same as it would be under an item of rent or rental-value insurance.

But if the lease is one that may be canceled by the occurrence of fire, the amount of loss will be greatly influenced by the contract rights of the lessor and lessee.[1]

Liability for Loss or Damage to Property of Others.—Items covering liability for loss or damage to property of others usually appear as (1) legal liability for loss, (2) lessee's liability to restore, or (3) warehouseman's liability for loss caused by errors and omissions. Only under items covering *lessee's liability to restore* is the insurance loss measured by the amount of loss on the physical property, assuming that the amount of insurance carried by the lessee fully covers the cost of replacing the property in case of its destruction. Under items covering *legal-liability* insurance or *warehouseman's liability* for loss caused by errors and omissions, the insurance loss is not necessarily in direct relation to the amount of loss to the physical property, because the insurance loss under such an item is dependent upon the existence at the time of the fire of liability on the part of the insured for the loss.

Profits and Commissions.—The loss under a profits-and-commissions item will not necessarily be measured by the damage to the merchandise if any of the *broad forms* are used, as under such forms a relatively moderate damage to the merchandise may result in a salvage operation and a total loss of profits. But under any of the *restricted forms* the percentage of loss of profits is restricted to the same percentage as the loss on the merchandise. Recent changes in profits-and-commissions forms have added a stipulation that no claim shall be made for loss of profits on any merchandise that can be replaced in time to be substituted in sales for the merchandise damaged. This stipulation reduces the probability of insurance loss.

Insurable Interests.—The insurable interests most frequently insured are (1) unconditional and sole ownership, (2) undivided fractional ownership, (3) conditional ownership, (4) vendor under contract of sale, (5) vendee under contract of sale, (6) lessor, (7) lessee, (8) bailor, (9) bailee, (10) mortgagor, and (11) mortgagee.

The insurance of an insurable interest will be attended by the probability that care and attention will continue to be given

[1] See REED, PRENTISS B., "Adjustment of Fire Losses," pp. 160–161.

to the property for the purpose of preserving it from loss by fire or that care and attention will be relaxed, sometimes to the extent of inviting loss. In some cases the insured will hold his insurance as protection and will seek to be indemnified only in case of loss; but in others he will speculate on it by willfully burning the property or by presenting after a fire, whether accidental or intentional, a fraudulently exaggerated claim. Each insurable interest will have its extent and value, each may be affected by fire, and any loss suffered by the holder of each will require measurement. The extent of each commonly insured insurable interest, how it will be affected by fire, how it will be valued, and how the loss suffered by the holder of it will be measured, is discussed in the sections following.

Unconditional and Sole Ownership.—The interest of an *unconditional and sole owner* extends to the entire property; the value of the interest is equal to the value of the property; any damage to the property affects the interest directly; and the loss to the interest is measured by the amount of damage to the property.

Undivided Fractional Ownership.—The interest of the holder of an *undivided fractional interest* in property extends throughout the property; the value of the interest is equal to the value of the same fraction of the property; any damage to the property affects the interest directly; and the loss to the interest is measured by applying its fraction to the amount of damage to the property.

Conditional Ownership.—The interest of a *conditional owner* is generally that of life tenant or remainderman. No other conditional ownerships are of sufficient importance to be considered here. There is some conflict of opinion among underwriters as to the respective values of the interests of life tenants and remaindermen. In theory the interest of a life tenant should be valued according to his expectancy. In fact, however, his interest is such that, if the property is damaged, he must meet the full cost of repairs to make it habitable. In theory the interest of a remainderman should be valued at the difference between the theoretical value of the life tenant's interest and the value of the property. In fact, the life tenant may refuse to insure his own interest or insure in an insolvent company and by either act endanger the remainderman's interest.

In practice it is impossible to arrange for satisfactory separate insurance on the two interests. As a consequence they are usually jointly covered by the same insurance.

Vendor under Contract of Sale.—The interest of a *vendor* under a contract of sale extends to the entire property sold, but its value is no greater than the amount of the debt due the vendor by the vendee. Unless otherwise provided in the contract of sale, the vendee must pay the debt, even though before it is due the property is damaged or destroyed by fire. Hence there is no way of measuring the vendor's loss in case of fire, unless the contract of sale provides some method for doing it. The practical method of insuring a vendor's interest is to merge it in the insurance with the vendee's interest or to make the vendor, to the extent of his interest, a payee of the insurance carried by the vendee.

Vendee under Contract of Sale.—A *vendee* under a contract of sale is almost always in the same relation to the property as he would be were he its unconditional and sole owner. As a rule, the contract of sale does not release him from his obligation to complete payment in case the property is damaged or destroyed. In many states the courts treat a vendee in possession of property and not in default on payments as unconditional and sole owner. The practical method of joining the interests of vendor and vendee in the same insurance is indicated in the previous section.

Lessor.—A *lessor* is generally an owner with the interest of unconditional and sole ownership. Generally he obligates himself in the lease to restore the property in case of fire, but occasionally he imposes the obligation on the lessee. If so, he still has his insurable interest; for if by reason of insolvency the lessee should be unable to restore the property after a fire, the lessor would suffer loss. In practice lessor and lessee are often joined as insured.

Lessee.—In many cases a *lessee* has no insurable interest in the property leased; but if the terms of the lease require him to restore the property in case of fire, he has an insurable interest which extends to the entire property and which is insurable for an amount equal to the cost of restoring the property, should it be destroyed. Any damage to the property directly affects his interest, and the loss to the interest is measured by the cost of

repairing or rebuilding the property. A lessee's insurable interest may exceed the value of the property, because he may have to replace a depreciated structure with a new one and, in doing so, pay the cost of clearing the site of the wreckage of the destroyed structure. The insurable interest of a lessee in the building that he holds under lease is not to be confused with the lessee's insurable interest in the lease itself.[1]

Bailor.—A *bailor* is generally an owner with the interest of unconditional and sole ownership and is insured as such. In many cases, however, bailors require bailees to effect insurance covering the goods held in bail.

Bailee.—A *bailee* has an insurable interest in the bailor's property that he holds in his custody. His interest arises because of his charges against the property and his lien upon it to secure payment and also because of his liability for the value of the property, should it be destroyed by fire resulting from his negligence. He may also acquire an interest through an agreement to insure the property for the benefit of the bailor. Hence the extent of the interest of a bailee is, in general, equivalent to that of unconditional and sole ownership and is affected in the same way in case of loss.

Mortgagor.—A *mortgagor* is an owner and is insured as such with the interest of unconditional and sole ownership.[2] Generally, however, insurance carried by the mortgagor is made payable to the mortgagee.

Mortgagee.—The interest of a *mortgagee* extends to the entire property mortgaged. Its value is equal to the amount owed him by the mortgagor or to the value of the property, whichever is less. It is generally accepted that any damage to the property directly affects his interests and that the loss to the interest is measured by the amount of damage to the property. Occasionally, mortgagee interests are separately insured, but generally they are protected by insurance written in the name of the mortgagor and designating the mortgagee as payee.

Covers.—All covers belong to one of the following groups: (1) specific, (2) blanket, (3) floating, or (4) reporting. By special

[1] See Leasehold Interest, p. 137.

[2] In North Carolina the courts hold that a mortgagor of real estate is not an unconditional and sole owner.

condition a cover may be restricted to such loss as shall be in excess of a given amount or of the amount to be paid by other insurance. Incorporated in a cover there may be an *exclusion* clause, excluding absolutely or conditionally certain properties from the coverage. *Pro-rata distribution*, *average*, *contribution*, *coinsurance*, *full-reporting*, and *three-quarter-value* clauses, and possibly other *limitation* clauses, are variously used with certain covers.

The amount of insurance loss under specific, blanket, floating, or reporting covers will be dependent upon (1) the ratio of insurance to value, (2) the existence of other insurance, (3) the presence or absence of excess provisions or exclusion or limitation clauses.

Specific Insurance.—*Specific* insurance is the simplest form of cover. It covers specifically described property at a specific location. The term is necessarily relative. A printing press in a printing plant may be the only property insured under a policy of specific insurance; yet if all the rest of the machinery in the plant is insured in a single-item form which covers nothing but machinery, the machinery item will also be specific insurance. The amount of loss under specific insurance will be dependent upon (1) the ratio of insurance to value, (2) the existence of other insurance, (3) the presence or absence of excess provisions, of exclusions, or of limitation clauses. In practice, relatively few exclusions are used in connection with specific insurance when it is not subject to average, contribution, or coinsurance provisions. In combination with nonconcurrent covers the liability of specific insurance in case of loss will be determined by the amount of the nonconcurrent insurance that must contribute with it.

Blanket Insurance.—*Blanket* insurance may be blanket as to location, blanket as to property, or blanket as to both location and property. The amount of loss under blanket insurance will be dependent upon (1) the ratio of insurance to value, (2) the existence of other insurance, (3) the presence or absence of excess provisions or exclusion or limitation clauses. Exclusion clauses are frequently made a part of blanket insurance, a common exclusion being property otherwise or specifically insured. In some jurisdictions, however, underwriting rules prohibit the use of such clauses. In combination with other covers, the

amount of loss under blanket insurance in case of loss becomes highly problematical unless the blanket insurance is written subject to an average clause.[1]

Because of the possibility of consequential loss in certain kinds of personal property, blanket insurance may sometimes be extended under special condition to cover the reduction in value of the part of the property at one location that may be caused by the burning of another part of the property at another location.

The liability of blanket insurance will be disproportionately high in case of loss if it does not contain a true average clause and if there are also a number of specific covers to contribute with it under the gradual reduction rule of apportionment.[2] That rule was once followed as a custom in the Western states and was used in Connecticut and New Jersey because of decisions by the highest courts of those states. Fortunately, the use of the rule has been largely discontinued since rules for apportionment were promulgated by the National Board of Fire Underwriters.[3]

Floating Insurance.—Floating insurance covers the described property wherever it may be within designated geographical boundaries. The amount of loss under floating insurance will be dependent upon (1) the ratio of insurance to value; (2) the existence of other insurance; (3) the presence or absence of excess provisions, of exclusions, or of limitation clauses. Limits of liability at certain locations within the area covered by floating insurance are generally provided for, and property specifically insured is generally excluded. Such limit or limits in floating insurance modify to a degree the contribution to be expected from specific insurance and also modify the effect of exclusions that otherwise would be the same as their effect in a blanket cover.[4]

Many floating covers take into consideration only the value in excess of the amount of the specific insurance carried at any location. Because of the possibility of consequential loss, floating insurance may be extended under special condition to

[1] See Coinsurance and Average Clauses Contrasted, p. 286.

[2] BARBOUR, R. P., "The Agents Key to Fire Insurance," 4th ed., p. 344. See also p. 349.

[3] Appendix H.

[4] See preceding section.

cover the reduction in value of the part of the property at one location that may be caused by the burning of another part of the property at another location.

Reporting Covers.—Reporting covers provide for insurance that, subject to a limit, fluctuates in amount according to the fluctuating value at risk. Under such a cover the insured is required to report the value at stated intervals, usually monthly. At any time between reporting dates, assuming that the last value has been fully reported, the insurance in force will equal the value at risk unless the value exceeds the stated limit. Reporting covers generally exclude property specifically insured and generally provide for contribution by the insured in case the value at the date of the last report was not fully reported. Under the present forms of reporting covers the amount of loss will be dependent upon the accuracy of the reports of value made by the insured and the existence or nonexistence of specific insurance. The operation of the *full-reporting clause* embodied in most of the reporting covers is in many cases similar to that of a coinsurance, or average, clause. But in case the value at risk exceeds the stated limit, and a loss occurs that is less than the amount of the limit, there is, if no other insurance covers, an inadequate ratio of insurance to value.

Excess Insurance.—Excess insurance covers only such loss as may be in excess of a stipulated amount. The stipulated amount may be fixed at, say, $50,000. If so, the excess insurance will not be liable for any loss unless it exceeds that figure. On the other hand, the stipulated amount may be contingent, as is the case when it is stipulated that the excess insurance shall be liable for loss only in excess of the amount collectible from specific insurance. Excess insurance may be specific, blanket, or floating. In many jurisdictions underwriting rules prohibit its use.

Policy Combinations.—The combinations of risks, items, interests, and covers begin with the single risk constituting a single item of insurance insured for an individual owner under a specific form. They reach to the extent of multiple-location risks with a long schedule of items insured for the benefit of a number of interests under a general cover which may be for a fixed amount or may provide for fluctuating amounts at the several locations according to values reported at regular intervals.

CHAPTER VIII

WRITING, ENDORSING, AND CANCELING POLICIES

In its completed form the policy is a document in which the conditions of the contract between the insured and the insurer are set out in detail. The stipulations are printed and constitute the body of the policy. There are appropriate spaces on the face of the policy for writing or typing in necessary figures or words or for pasting on forms or riders. The form or rider may be partly printed and partly written or typed or may be entirely printed or entirely typed. In order to facilitate their use, blank policies are combined with appropriately printed sheets so that, by using carbon paper when typing, a single writing will produce (1) the policy; (2) the daily report, which is the abstract for the company; and (3) the agent's record. The amount of the policy, the rate, the premium, the name of the insured, and the dates of commencement and expiration must be written or typed upon the blank policy. A description of the property and its location must appear on the policy or the form attached to the policy. Appropriate clauses and permits complete the policy. In some cases clauses and permits are stamped on the body of the policy with rubber stamps. Finally, the policy must be dated and signed by an officer, employee, or agent of the company or some other person specially authorized to sign.

After a policy has been written, circumstances may make it advisable to change some detail of it. If so, the change may be effected by means of an endorsement—a writing authoritatively signed and made part of the policy by being written upon it or attached to it.

Amount Insured.—The *amount insured* appears on the policy in figures and in words. In the case of reporting policies the amount may be provisional only, whereas the real amount of insurance will be determined by reports of value filed by the

insured at stated intervals. In the case of open policies there may be no amount, but certificates of insurance will be issued under the policy, and on each certificate an amount of insurance will be stated.

Items.—A policy may contain only one *item* of insurance, or it may contain several. Items may appear on separate forms attached to the policy or may be stated separately on a single form. If there are several items, the sum of the amounts insured under each should be the same as the amount of the policy. Property covered under one item of a form should not be covered in whole or in part under another item of the same form.

Rate.—The *rate* appears on the policy only as a figure. When two or more items of insurance are incorporated into the policy, and there are different rates applying to each item, sometimes the different rates will be stated, sometimes the average rate.

Premium.—The *premium* appears on the policy in figures and in words. The amount of the premium should be the result obtained by multiplying the amount insured by the rate. In the case of reporting policies the premium may be provisional, as the actual amount will depend on the values reported. The premium stated in open policies is often "one dollar" or even "open," as the actual premium will depend upon the certificates issued.

The Insured.—The full legal name of the person insured should be written or typed in the policy. If several persons are insured, all names should appear. In some instances, a person or two or more persons use a trade name. Although a trade or partnership name may be used in writing a policy, it is preferable to use the name of the person or the names of the persons. Efforts to include several persons by group description, such as "Heirs of John Doe," should be discouraged. In case of loss it might not be easy to find out just who the heirs of John Doe are. If a policy is to insure an association or a joint-stock company, the association or company name should be used. Policies in which the insured is a trade name, partnership, association, or joint-stock company frequently follow the insured's name with the phrase "as now or may hereafter be constituted." The use of the phrase allows for changes in personnel without avoidance of the policy. When a corporation is insured, its

name should be used. Occasionally a policy insures the separate or joint interests of a group of owners or other persons interested in the property. When such is the case, the names of all must appear, or the phrase "for account of whom it may concern" must follow the name of the person designated as insured.

Interest.—When the policy is to cover an interest other than that of unconditional and sole ownership, the intent is frequently expressed by describing the status of the insured. If, for example, John Doe is a lessee of property which, according to the term of the lease, he must rebuild or repair in case of fire, he has an insurable interest in it because of his obligation. If he decides to cover his obligation by insurance, the policy may properly be written by designating the insured as "John Doe, lessee." In similar manner a policy may properly designate "Richard Roe, owner of an undivided half interest" or "The New York Mortgage Company, mortgagee." In many instances, however, the interest held by the insured will be made the subject matter of the form, and, in the case of John Doe, lessee, the policy would name John Doe as insured, and the form would describe his "interest, as lessee of the property." In the cases of Richard Roe and the New York Mortgage Company similar descriptions of interest might be made in the forms.

Term.—The *term* of the policy should be stated in years, months, or days according to its length. It should check with the time between commencement and expiration dates. When a policy is written for an odd term, often called a *broken term*, for example, for the months and days between the eighth day of February and the tenth day of July, the word "time" will often be written in the blank space on the policy where the term is usually stated.

Form.—The *form* is attached to the policy and also to the daily report and to the agent's record. It should describe the property; state its location; and embody the conditions, clauses, and permits necessary to complete the contract, unless the clauses or permits are written or stamped on the body of the policy. In some sections, *e.g.*, in the South, underwriting rules require that the form state the occupancy of the property. If the interest of the insured is not that of unconditional and sole owner, the form may be elaborated and describe the interest as

well as the property. In Canada and England, the common name for form is *wording*.

It is customary to show on the form the amount insured which should be identical with that appearing on the body of the policy. When two or more policies are to cover a schedule, *i.e.*, when they are to cover according to a form containing two or more items, the form may be written, typed, or printed to show the full amount of insurance to be carried under all policies on each item but with a special condition to the effect that each policy shall cover pro rata on each item.

Essentials of Form.—The essentials of a form are (1) a correct description of the property and interest, if the interest is other than that of unconditional and sole ownership; (2) a correct statement of the location of the property; and (3) the special conditions, including any clauses and permits that are parts of the insurance contract. A form is a part of a contract. It should express in language free from ambiguity the intent of the parties to the contract. Vague descriptions and clauses in conflict with each other should be avoided when preparing a form. In describing classes or articles of property, an inclusive general description is preferable to a long list of classes or articles, but such indefinite expressions as *et cetera* or its abbreviation *etc.* should be avoided. The form that is attached to a policy must set forth in full all descriptions, locations, special conditions, and clauses and permits. An abstract of a form will often suffice for daily report and agent's record. If a special condition, clause, or permit is written out, typed, or stamped in full on the body of the policy, the writing, typing, or stamping is treated as part of the form.

Excepted Property.—All standard policies stipulate that certain articles of personal property are not covered unless they are specifically named. In the New York standard policy "bullion, manuscripts, mechanical drawings, dies or patterns" are listed as such articles. In some states the courts hold that an inclusive description, such as "all property" or "all personal property," will suffice to bring such articles under the cover of the policy. In others the courts hold that such descriptions do not suffice, and that if, for example, a manuscript is to be covered, the word "manuscript" must appear in the form. It is therefore

advisable that any policy intended to cover such articles of property should name them or should contain a proviso that it cover property "which by the terms of this policy must be specifically named in order to be covered."

Uniform and Special Forms.—Many forms, particularly those prepared to cover dwellings, schools, churches, mercantile risks, and ordinary special hazards and also forms covering rents and rental-value, use-and-occupancy, and even leasehold interest, are printed and need only to be filled in properly. Many printed forms contain two or more items. If no insurance is wanted on an item in such a form, the word "nil" or the word "nothing" should be written in the space provided for the amount of the item. If it is desired to use such a form for writing blanket insurance, the items may be bracketed with a single amount of insurance—the amount of the policy—applying to all.

Concurrency or Nonconcurrency of Forms.—Any form used for insuring items on which there is or may be other insurance should be concurrent with the form used in connection with the existing other insurance or with the form most likely to be used if other insurance is afterward to be written. In a given territory, most of the insurance will be written on uniform forms, the use of which, when two or more policies cover the same property, will eliminate nonconcurrency and its attendant troubles in the apportionment of losses.

Clerical Requirements.—Sufficient copies of a form should be made to supply the records of broker, agent, and company. One complete in detail, is necessary for the policy, whereas copies or abstracts are necessary for the broker's and agent's records and the daily report. All forms attached to policies should be signed in ink by an authorized person.[1]

Date of Policy.—The date of the policy should not be confused with the date of its commencement. Policies are frequently written before the latter date, particularly when they are to renew existing policies. On the other hand, they are often written some time after the insurance contract has commenced under a binder. A policy should, therefore, be dated as of the actual date of its completion and signature, except in South

[1] BARBOUR, R. P., "Agents Key to Fire Insurance," 4th ed., 1934, Chap. VI.

Carolina, where, because of a peculiar ruling of the Supreme Court, a policy may be treated as commencing on the date when it is completed and signed, regardless of the specified commencement date.[1]

Signature of Policy.—A policy should be signed in ink by an authorized person. The use of a facsimile rubber-stamp signature should be avoided.

Daily Report.—A daily report is an abstract of the policy and constitutes the company's record of it. The words and figures typed on the policy are reproduced on the daily report by carbon paper, and a copy of the form is pasted to it. Although clauses and permits must appear in full in the form on the policy itself, it is sufficient merely to mention them on the copy of the form attached to the daily report.

Certificate of Policy.—A certificate of a policy is an abstract of the policy prepared for the benefit of some party to the insurance contract other than the person who holds the policy. Mortgages or other payees generally hold the policies that are payable to them. When they do, certificates are generally held by the insured.

Endorsement.—An endorsement is a statement written upon or attached to a policy for the purpose of changing in some detail the insurance contract originally stated in the policy. Any endorsement should be free from ambiguous language and should be dated and signed. Copies should be made for brokerage, agency, and company records and also to accompany any certificates of the policy that may be outstanding.

Changes That May Be Made by Endorsement.—The details of the policy that may be changed by endorsement are:

1. Amount insured.
   a. By increasing or decreasing the amount of the item, when there is only one item, or, if there are two or more items, by changing, adding, or eliminating items.
2. Rate and premium.
3. The insured or his interest in the property.
4. Term, commencement and expiration.
5. Description and location of property.

[1] *Davis* v. *Home Ins. Co.*, 118 S. E. 536 (1923).

6. Policy conditions.
   a. Liability (lines 20 to 71, New York standard policy).
   b. Application of insurance and contribution (lines 72 to 77, New York standard policy).
   c. Mortgage interests (lines 108 to 125, New York standard policy).
7. Clauses and permits.

Cancellation.—All standard policies provide for cancellation either by the insured or by the company. They provide for cancellation by the insured at any time and by the company after a definite number of days following the giving of notice to the insured and also to the mortgagee, if named as a payee. The cancellation clauses of the more important standard policies follow:

California (lines 79 to 84):

This policy shall be canceled at any time at the request of the insured, in which case the company shall, upon surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be canceled at any time, without tender of unearned portion of premium, by the company by giving five (5) days' written notice of cancellation to the insured and to any mortgagee or other party to whom, with the written consent of the company, this policy is made payable, in which case the company shall, upon surrender of the policy or relinquishment of liability thereunder, refund the excess of paid premium above the prorata premium for the expired time.

Iowa (lines 58 to 63):

XI. This policy shall be cancelled at any time at the request of the insured; or by the company by giving five days' notice of such cancellation either by registered letter directed to the insured at his last known address, or by personal written notice. If this policy shall be cancelled as hereinbefore provided, or becomes void or cease, the premium having been actually paid, the unearned portion shall be returned on surrender of this policy or last renewal, this company retaining the customary short rates; except that when this policy is cancelled by this company by giving notice it shall retain only the pro rata premium.

As to Mortgagee (lines 64 to 67):

XII. If, with the consent of this company, an interest under this policy shall exist in favor of a mortgagee or of any person or corporation

having an interest in the subject of insurance other than the interest of the insured as described herein, the provisions and conditions hereinbefore contained shall apply in the manner expressed in such provisions and conditions of insurance relating to such interest, as shall be agreed upon by the company.

Massachusetts (lines not numbered):

This policy may be cancelled at any time at the request of the insured, who shall thereupon be entitled to a return of the portion of the above premium remaining, after deducting the customary monthly short rates for the time this policy shall have been in force. The company also reserves the right, after giving written notice to the insured and to any mortgagee to whom this policy is made payable, and tendering to the insured a ratable proportion of the premium to cancel this policy as to all risks subsequent to the expiration of ten days from such notice, and no mortgagee shall then have the right to recover as to such risks.

Michigan (lines 89 to 100):

This policy shall be cancelled at any time at the request of the insured, in which case the Company shall, upon demand and surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be cancelled at any time by the Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand.

As to Mortgagee (lines 108 to 112):

If loss or damage is made payable, in whole or in part, to a mortgagee not named herein as the insured, this policy may be cancelled as to such interest by giving to such mortgagee a ten days' written notice of cancellation.

Minnesota (lines 59 to 65):

This policy may be cancelled at any time at the request of the insured, who shall thereupon be entitled to a return of the portion of the above premium remaining, after deducting the customary monthly short rates for the time this policy shall have been in force.

This company also reserves the right, after giving written notice to the insured, and to any mortgagee to whom this policy is made payable,

and tendering to the insured a ratable proportion of the premium, to cancel this policy as to all risks subsequent to the expiration of ten days from such notice, and no mortgagee shall then have the right to recover as to such risks.

New Jersey (lines 51 to 55):

This policy shall be canceled at any time at the request of the insured; or by the company by giving five days' notice of such cancellation. If this policy shall be canceled as hereinbefore provided, or become void or cease, the premium having been actually paid, the unearned portion shall be returned on surrender of this policy or last renewal, this company retaining the customary short rate; except that when this policy is canceled by this company by giving notice it shall retain only the pro rata premium.

As to Mortgagee (lines 56 to 59):

If, with the consent of this company, an interest under this policy shall exist in favor of a mortgagee or of any person or corporation having an interest in the subject of insurance other than the interest of the insured as described herein, the conditions hereinbefore contained shall apply in the manner expressed in such provisions and conditions of insurance relating to such interest as shall be written upon, attached, or appended hereto.

New York (lines 89 to 100):

This policy shall be cancelled at any time at the request of the insured, in which case the Company shall, upon demand and surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be cancelled at any time by the Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand.

As to Mortgagee (lines 108 to 112):

If loss or damage is made payable, in whole or in part, to a mortgagee not named herein as the insured, this policy may be cancelled as to such interest by giving to such mortgagee a ten days' written notice of cancellation.

Wisconsin (lines 89 to 100):

This policy shall be cancelled at any time at the request of the insured, in which case the Company shall, upon demand and surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be cancelled at any time by the Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand.

As to Mortgagee (lines 108 to 112):

If loss or damage is made payable, in whole or in part, to a mortgagee not named herein as the insured, this policy may be cancelled as to such interest by giving to such mortgagee a ten days' written notice of cancellation.

The standard mortgagee clause usually attached to policies provides for 10 days' notice of cancellation to the mortgagee.

An insurance policy, being a contract made by the mutual agreement of the parties to it, may be canceled by their mutual agreement as well as by the methods provided in the cancellation clause. Cancellation affects the interests of the parties and, in many cases, the interests of other insurers of the same property. The effective cancellation of a policy before the occurrence of a loss will preclude the insured or payee from collecting anything under the policy and will also preclude any other company insuring the property from reducing its own payment to the amount for which it would have been liable had the canceled policy remained in force.

Cancellation by the Insured.—The insured may cancel his policy at any time by delivering it to the insurer or its agent or by declaring without equivocation to insurer or agent that he is canceling it. But if he delivers it to a broker to cancel for him or instructs the broker to cancel it, cancellation does not become effective until the broker has made contact with the insurer. A broker may not cancel a policy in behalf of the insured without being specifically authorized to do so. It is not within the province of this book to discuss the effective time of cancellation when the insured mails a policy to insurer or agent. In such a

case the circumstances attending the mailing and the law of the state where the mailing occurred govern. When a policy is canceled by the insured, the return premium is payable according to the *short-rate* table[1] used by the company.

Cancellation by Insurer.—The insurer may cancel the policy by giving the required notice to the insured and any payee; and at the expiration of the number of days stipulated in the policy, cancellation will be effective. The notice period runs from the time of receipt of notice. In many cases insurers succeed in canceling policies without giving any direct notice to the insured or payee. The officer or employee who decides to make the cancellation will communicate with the producer and ask him to cancel. The producer will then get in touch with the insured or payee and in due course get the policy. But when cancellation is imperative from the standpoint of the insurer, notice will be given the insured direct, generally by registered mail, in some cases by unregistered mail; and in critical cases, where the insured or payee has evidenced a purpose to evade receiving notice by mail, by personal service. Under some policies and the court decisions of some states the unearned premium must be tendered the insured with the notice of cancellation. Under the New York policy, a tender of unearned premium is unnecessary, though it must be refunded on demand. When a policy is canceled by the company, the return premium is payable pro rata according to the unexpired term.

Cancellation by Mutual Agreement.—An understanding and agreement between the insured and any payee and an officer, authorized employee, or agent of an insurer that a policy is to be canceled at a definite time will effect cancellation. Cancellations by mutual agreement generally occur when rearranging insurance. Such cancellations make it possible for the old insurance to be canceled and the new insurance to commence simultaneously, without creating a problem of contribution from the old insurance, should loss occur during the 5- or 10-day stipulated period of notice.

Cancellation and Substitution.—In agencies that represent two or more companies it is a common occurrence for one company to order the cancellation of a policy and for the agent, in an

[1] See p. 266.

effort to keep the business in his agency, to substitute the policy of another company for it. Ordinarily the substitution is completed, and no difficulty arises. But in some instances the property burns before the act of substitution is completed, and a controversy arises between the company whose policy is to be canceled and the company whose policy is being substituted over the question of which policy is liable for the loss. Controversies over cancellation and substitution are probably the most troublesome situations which the conduct of the insurance business develops. They generally arise because of the agent's anxiety to protect his client and hold the business, coupled with a reluctance to go through the procedure that would keep the situation free from any question as to which company was at risk, but would reveal to the client that one company did not want to insure him or the property. The proper procedure requires the agent to give notice of cancellation or immediately get a definite cancellation by mutual agreement, so that another policy may be substituted, or, failing to get such an agreement, delay the substitution until the time period under the notice has expired. Much litigation has arisen over attempted cancellations and substitutions. The Committee on Adjustments of the National Board of Fire Underwriters invites companies to submit their controversies to arbitration before the Committee in preference to taking them to court.

Evidence of Cancellation.—Delivery of the policy to company or agent is the common evidence of cancellation by the insured. When a policy is in existence and accessible, it is generally turned in, and the return premium computed according to the time when the company or agent receives it. But some policies are destroyed or lost; and when holders of such policies wish to cancel them, no delivery can be made. In such cases a letter or form signed by the policyholder and any payee giving notice of cancellation will be conclusive evidence of cancellation. The *lost policy receipt* is the regular form for use in such cases.

Receipt of the policy after notice by the company or agent of intent to cancel is the common evidence of cancellation by the company. In some cases, however, the insured or payee will not surrender the policy. In those cases, a copy of any written notice mailed the insured or payee or served on him, coupled

with the evidence of mailing or of service, will be evidence of cancellation. Many cancellation notices are sent by registered mail, the registered receipt card signed by the insured and, in case of payees, also the card signed by the payee being kept as evidence. Other notices are mailed under Post Office Department receipt, Form 3817, and the receipt kept as evidence. In the occasional case when notice of cancellation is given personally, the written statement or affidavit of the person giving the notice and the statement or affidavit of any witnesses who accompanied him are kept as evidence.

CHAPTER IX

ADJUSTING AND PAYING LOSSES

All standard policies require the insured to give notice of any loss and to make claim. On receiving notice that loss has occurred, the insurance company makes inquiry into (1) the origin of the fire, (2) the amount of loss or damage to the property, (3) the conditions affecting the sum for which it may be liable under the policy, (4) the interest of any person other than the insured in the property, and (5) the validity of the policy. The inquiry generally leads to negotiations with the insured which end in an agreement that a certain sum of money shall be paid to him or to the payee named in the policy. Such an agreement is an *adjustment.* After an adjustment has been made and evidenced by the proper papers, the company makes payment and takes a receipt which discharges it from further liability.

The objectives of loss work are (1) proper adjustments made at reasonable cost for the service, (2) the development of information that will be useful in future underwriting, and (3) the advertising that comes from the satisfied customer. Excepting instances when the claimant or the risk is such that the adjustment becomes difficult and costly, these objectives will be gained if proper adjusters are selected, an efficient loss-department routine is established, and an attitude is maintained toward loss work that will result in its being carried on in a spirit of cooperation with the underwriter. The choice of the adjuster or the adjustment office that is to handle any claim or series of claims and the mechanics of making assignments, of receiving and examining reports and loss papers, and of getting out checks or drafts are matters that can be well done or poorly done. Proper adjustments make for underwriting profit and when promptly made and followed by prompt payment encourage policyholders and producers to continue doing business with company or underwriter, thereby favorably affecting production. The claimant

who has been fairly treated by a capable adjuster will often disclose to him information which can be effectively used in asking for more of the claimant's business. Delay, bungling, or arbitrary or technical action drives business away. The constant investigation that adjusters are required to make educates them to be valuable advisers to the underwriters, who are always seeking more business on good risks, less on poor ones, and none at all on those which fall into the prohibited group. Undesirable claimants and "burning producers"[1] can be promptly eliminated from the business of an underwriter who is in close touch with the adjusters. The character of a producer will occasionally be revealed in a startling way by an adjustment situation that brings to light the fact that premiums paid by the claimant have never been remitted to the company or that a policy has been issued for one amount and reported at a lesser or has been surreptitiously altered after issuance. The best results accrue to company or underwriting office when good adjusting is combined with prompt and courteous loss handling, and routine and personnel are such that the real lesson of every loss is brought home to the underwriter.

Adjusters.—Agents, salaried company employees, independent adjusters, and company-owned bureaus adjust losses. The Fire Companies Adjustment Bureau covers the East, South, Southwest, Rocky Mountains, and Pacific Coast for the stock companies. The Western Adjustment and Inspection Company and the Underwriters Adjusting Company cover the Western territory, the former for the companies which are members of the Western Underwriters Association, and the latter for the companies which are members of the Western Insurance Bureau. The mutuals also maintain adjustment bureaus, but they are not comparable in size to those maintained by the stock companies. In New York the Committee on Losses and Adjustments of the New York Board of Fire Underwriters handles for member companies losses in which more than three companies, not of the same fleet or not represented by the same metropolitan agent, are interested, also losses in warehouses or on piers, fur losses, and losses which are investigated by the Fire Marshal. In Chicago

[1] Agents or brokers whose business consistently shows an excessive loss.

the Cook County Loss Adjustment Bureau supervises the adjustment of all losses of its member companies.

Selection of Adjusters.—The best adjusters are gifted with a talent for getting along with people and not only adjust losses properly but convince the claimants and producers that fair treatment has been accorded them. These adjusters, whether company employees, bureau men, or independents, are careful to conduct themselves so that their efforts to adjust losses at proper amounts will not offend the sensibilities of competent producers or respectable claimants. Adjustments must be fairly and promptly made; but there is no need for prodigality or overzealous haste, as the great majority of the policyholders and the established producers seek nothing more than proper treatment. In selecting an adjuster for permanent employment or for a specific task, the company or office doing so can well keep in mind the practice prevailing in diplomatic circles where it is universally recognized that however competent a man may be, he should never be sent to deal with a foreign government unless he is *persona grata.*

Salaried Adjusters.—Salaried adjusters are generally maintained by companies or offices which have a relatively large business in the area immediately accessible from the office where the adjuster is maintained. When many individual losses are to be adjusted, a salaried staff is the most economical organization. Three desirable ends are gained through the use of such a staff: (1) contact with policyholders and producers by direct representatives of the company, (2) inspections by these representatives of the properties involved in loss, and (3) the reduction of detail that can be made in loss papers because of the adjuster's daily presence at the office. When the work of the staff adjuster is coordinated with that of the underwriter, unreliable producers and bad business can be weeded out more rapidly than otherwise. The best results follow when the underwriter in charge of the territory covered by the staff is constantly in personal contact with the adjusters and encourages them to report promptly and fully by word of mouth or telephone on all circumstances which may have a bearing on underwriting matters.

Adjustment Bureaus.—Adjustment bureaus are company-owned cooperative organizations which adjust the great majority

of losses on agency business. Their use by the stock companies is practically essential on such business because their offices are well distributed and their men can reach losses promptly. Their use is economical because they generally represent most of the insurance involved in agency losses and their charges are prorated to the companies interested. Their men are usually well acquainted with the producers and public in the respective localities and are supervised by seniors who are generally men of marked talent.

Independent Adjusters.—Independent adjusters are professional men who operate as individuals or as associates in privately owned organizations. A company or underwriting office that does not have enough business to warrant a salaried adjuster can have its losses handled by an independent with economy. In some cases the company or office will consistently assign all its losses to the same independent and, to some extent, use him as an adviser. In other cases, however, particular independents will be used because of special fitness for particular types of losses or because of ability to get along with particular producers or policyholders without sacrificing the company's interest.

Routine.—When a loss is reported, it is assigned to some person or office for adjustment. If no unusual circumstances develop, it is expected that a proof of loss and a report will be promptly received, after which payment will be made; then, if value justifies it, the amount paid under the policy may be reinstated. But in many cases the adjuster will report a definite or possible violation of the policy contract and ask for instructions. In these cases the loss department generally confers with the underwriter who must consider what effect his company's decision will have on the producer, who in almost all cases will be vitally interested. After giving the adjuster's report consideration, the underwriter may consult with the producer. In any event he must cooperate with the loss department and help formulate the company's decision to adjust, compromise, or resist the claim as may seem best. During the course of an adjustment, the agent who wrote the policy or the company may be asked to change some condition by endorsement. If so, the adjuster should be called into consultation before any change

which might affect the outcome of the adjustment is made. Much information about persons, property, contracts, and conditions is brought to light by adjusters. It is essential that the underwriter have this information put before him, for which reason contact with the adjusters should be supplemented by arrangements for a review of their reports.

Ex Gratia Payments.—The attitude of a company or underwriting office toward the common errors and omissions made from time to time by its policyholders and producers in matters affecting insurance and brought to light by the occurrence of loss very greatly affects its reputation. In cases where there has been mutual mistake, the law itself will step in and through a court of equity decree a reformation of the contract to express the real intent of the parties. When, therefore, a clear situation of mutual mistake is developed, there is no occasion for treating a payment as *ex gratia*. But in many more cases policies will be issued just as the insured or his broker asked that they be issued, but the insured will have made some vital error or omission when stating his needs to company or agent or to the broker who was his representative. In such cases there will be no liability in case of loss, and any payment made will be *ex gratia*. The traditions and experience of the fire insurance business coupled with the severe competition among companies have caused fire insurance companies to indulge in probably less litigation than any other group of institutions receiving and disbursing yearly an equal sum of money. In situations free from fraud the companies dispose of a great number of claims for which they are not liable, or are liable only in part, on an *ex gratia* basis. Payment may be for the full amount asked, or a percentage of it as circumstances seem to justify.

The common situations presented and their usual treatment when there is no reason to suspect fraud or misrepresentation are the following:

Insurance Written in the Wrong Name.—Insurance written in one name when ownership or interest is in another is fairly common. Insurance of a dwelling in the name of the husband when title is in the wife, or vice versa, is a typical illustration. In such a situation it is a customary practice to consider whether

the policy would have been issued and the line approved had the real ownership been disclosed. If so, a full *ex gratia* payment will frequently be made; otherwise, not.

Insurance Describing the Wrong Property.—When, in the presentation of claim, it develops that the property involved in loss is not that described in the policy, it is customary to determine whether the property described is otherwise insured. If, for instance, the owner of two dwellings, one of which was destroyed, held two policies, but each policy described the unburned dwelling, and the two policies in the aggregate produced an amount of insurance in excess of the value of the unburned dwelling, it would be reasonable to infer that one policy was intended to cover the burned dwelling. In such a case, if it should not be possible to determine from the amount of each policy or from their histories which was intended to cover the burned dwelling, the company would probably offer to make an *ex gratia* payment. If two companies were interested, they would probably offer proportionate *ex gratia* payments.

In many cases the owners of household furniture will move to a new place of residence and forget to have their insurance transferred. In other cases they will move part of the furniture into a location not named in the policy. Occasionally merchants or manufacturers will do the same with part of their stock or machinery. In connection with household furniture moved into a new location, the usual procedure is to inquire whether the insurance would have been transferred if request had been made and, if so, what rate would have been required. If the new location was acceptable and the rate was no greater than the old, and if the company was open for the line, a liberal to full *ex gratia* payment will commonly be made. When part of the property is moved without permit and involved in loss, it is customary to go further than merely examining into the desirability of the new location and its relative hazard. In such a case it is customary to determine the value of the property remaining at the location where the insurance attaches and, if the value there equals or exceeds the amount of insurance, to reject the request for a payment. On the other hand, if, after deducting the value in the described location from the insurance, a remainder is found,

large enough to cover the value removed; and if the hazard in the new location is no greater than in the old, a liberal to full *ex gratia* payment may be made.

Increase of Hazard.—If loss occurs while the hazard is increased but is not caused by it, the common practice is to make an *ex gratia* payment based on difference in rate. For example, if the rate before the increase of hazard was $1, and according to the rating scale would be $1.25 after the increase, an *ex gratia* payment of 1.00/1.25, or 80 per cent of the loss, might be offered. Sometimes the loss will be paid *ex gratia* in full but after payment of the proper additional premium.

The foregoing situations illustrate how the practice of making *ex gratia* payments follows moral as contrasted with legal responsibility. The practice has been pursued by fire underwriters over a long period of time, and it is essential to underwriting success that the requests of honorable claimants and producers for such payments be given attention. If the payments are to be made, they should be made graciously; otherwise no feeling of gratitude arises in the persons receiving them.

Conditions Requisite to Adjustment.—The adjustment of a loss under a New York standard policy requires the determination of the following:[1]

1. The identity of the person, association, or corporation making claim as being the insured, or the legal representative of the insured named in the policy.
2. The nature and extent of the insured's interest in the property.
3. The actual cash value of the property at the time of the loss and the amount of loss or damage sustained,
   a. with proper deduction for depreciation,
   b. not to exceed what it would cost to repair or replace the property with material of like kind and quality within a reasonable time after loss and damage,
   c. without allowance for any increased cost of repair or reconstruction by reason of any ordinance or law regulating construction or repair,
   d. without compensation for loss resulting from interruption of business or manufacture.

[1] REED, PRENTISS B., "Adjustment of Fire Losses," pp. 3, *et seq.*

4. That the time of loss was after the commencement and before the expiration of the policy.

5. That the loss or damage was the direct result of fire, or of removal of the property from premises endangered by fire.

6. That the property lost or damaged was located and contained as described in the policy.

7. That the property lost or damaged was the property described in the policy.

8. That the insured has not concealed or misrepresented any material fact or circumstance concerning the insurance or the subject thereof, or been guilty of any fraud or false swearing either before or after the loss.

9. That no uninsurable property, or excepted property not specifically named in the policy is included in the claim.

10. That the loss was not caused by:

a. invasion, insurrection, riot, civil war or commotion, military or usurped power (except when riot hazard has been assumed),

b. theft,

c. neglect of the insured to use all reasonable means to save and preserve the property at and after a fire or when endangered by fire in neighboring premises (theft or neglect may be responsible for part of a loss, the rest of which is collectible),

d. explosion or lightning, unless fire ensue, in which event only the loss or damage caused by fire shall be considered (except when explosion hazard is assumed, or lightning clause attached).

11. That the policy has not become void because in the absence of written agreement to the contrary:

a. the interest of the insured is other than unconditional and sole ownership,

b. the subject of insurance is a building on ground not owned by the insured in fee simple,

c. with the knowledge of the insured, foreclosure proceedings have been commenced, or notice given of sale of any property described in the policy by reason of any mortgage or trust deed,

d. a change, other than by the death of the insured, has taken place in the interest, title or possession of the subject of insurance (except change of occupants without increase of hazard),

e. the policy had been assigned before the loss.

12. That, unless otherwise provided by written agreement on the policy, the loss occurred while

a. the insured had any other contract of insurance, whether valid or not, on property covered in whole or in part by the policy,

b. the hazard was increased by means within the control of knowledge of the insured,

c. mechanics were employed in building, altering or repairing the described premises beyond a period of fifteen days,

d. illuminating gas or vapor was being generated on the premises; or (any usage or custom to the contrary notwithstanding) there was kept, used or allowed on the premises fireworks, greek fire, phosphorus, explosives, benzine, gasoline, naphtha, or any other petroleum product of greater inflammability than kerosene oil, gunpowder exceeding twenty-five pounds, or kerosene oil exceeding five barrels,

e. the subject of insurance, if a manufacturing establishment, was being operated in whole or in part between the hours of ten p. m. and five a. m., or had ceased to be operated beyond a period of ten days,

f. a described building, whether intended for occupancy by owner or tenant, was vacant or unoccupied beyond a period of ten days.

13. That, unless provided by written agreement on the policy, no personal property, which, at the time of the loss was encumbered by a chattel mortgage, is included in the claim.

14. That no building described as insured, or any material part of such a building, has fallen except as the result of fire.

15. That the extent of the application of the insurance and the contribution to be made by the company in case of loss is correctly made.

16. That the policy had not been canceled before the loss.

17. That the interest of any mortgagee named as payee in the policy was in existence at the time of the loss.

18. That the insured has complied with the requirements in case of loss.

19. That there has been no impairment or destruction of the company's options to take articles of personal property at their adjusted value, or to repair, rebuild, or replace damaged or destroyed property should it elect to do so.

20. That any right of recovery from third parties is assignable to the company.

Insured and Interest.—When a claim is made under a policy, it becomes necessary to determine whether the insured has suffered a loss. If he has, it is then necessary to determine (1) the amount; (2) whether the insurer is liable; and if so, (3) for what proportion of the loss.

A representative of the insurer must locate and identify the insured and find out the nature and extent of his interest in the property at the time of the fire and how the destruction or

damage of the property affected the interest or will affect it. Unless the insured has an insurable interest in the property, he will suffer no loss by reason of its destruction and therefore can make no valid claim against the insurer. The test of insurable interest is the effect which the damage or destruction of the property will have upon the financial resources of the person claiming to have such an interest. If damage or destruction will cause him immediate or future monetary expenditure, deprive him of property which has a value measurable in money, or reduce the value of the property, he has an insurable interest. In the ordinary case the insured is an individual, partnership, association, or corporation. The individual or the responsible person or persons, as the case may be, will be known to the agent or broker through whom the insurance was arranged and will therefore be easy to locate and identify. The insurable interest will be that of unconditional and sole ownership. There will be no problem so far as insured and interest are concerned. But when identification of the proper person or persons cannot be made, a difficulty may arise that can be overcome only after unusual trouble or expense. When, for example, the policy names a group of individuals whose several names are not a matter of record, *e.g.*, "Heirs of John Smith," and does not name the individuals, considerable time and effort may be spent in gathering evidence sufficient to establish the identity of the persons really insured. In case of the insured's death or legal disability, his legal representative, executor, administrator, or guardian acts. If he dies intestate, there may be no need for administration, as, under some circumstances, his heirs at law or next of kin may make claim. At times, it will be a troublesome task to find out who are heirs or kin.

Cash Value and Loss and Damage.—Except when the insurance is written under a valued form, it is necessary, following a fire, to determine the nature and extent of the loss or damage to the property and measure it in money. If the insurance is subject to conditions of coinsurance or average, the cash value of the property also must be determined. There are three methods by which cash value and loss and damage may be determined: (1) by agreement, (2) by appraisal, and (3) by litigation. Agreement usually follows negotiations between

claimant and adjuster during which estimates, plans and specifications, cost records, inventories, or books of account are presented and examined. Appraisal may follow disagreement as to amount. In some states, Massachusetts, for example, the procedure of appraisal is called *reference*. Litigation for the purpose of fixing value or loss is a last resort and rarely indulged in.

Physical Conditions.—There are a number of physical conditions which ordinarily influence the result and expense of an adjustment. Some of these make for relatively definite and satisfactory adjustments accomplished at normal cost without difficulty or delay; others have the opposite effect. These physical conditions are (1) the character, condition, and location of the property, which determine whether it has a real and normal value and whether, in case of destruction, it can be examined, preserved from further damage, replaced, repaired, reconditioned, or salvaged at normal cost and (2) definiteness, comprehensiveness, and availability of the information bearing upon it.

Character, Condition, and Location of Property.—The character of the property itself and also its condition and location affect the possibility of valuing it properly and the possibility of replacing, repairing, reconditioning, or salvaging it. A well-built dwelling of appropriate size and modern design, located in a desirable neighborhood, can ordinarily be valued with little difficulty. In almost all cases, such a dwelling is worth the cost of replacing, less whatever depreciation has taken place in it due to wear and tear. The work of replacing or repairing it can be handled with dispatch, as there will be reliable builders at hand whose competition will insure a reasonable cost. Valuations or repair costs on the great majority of desirable and well-located buildings can be determined fairly and easily. But such is not the case when the building under consideration is of faulty design or workmanship, has fallen into disrepair, has been overtaken by obsolescence, or is so poorly located as not to be worth replacing.

Probably the most difficult problem in building valuation is the obsolete structure. Prior to the decision of the New York Court of Appeals in the McAnarney case,[1] no court in America

[1] *McAnarney* v. *Newark Fire Ins. Co.* (C.A. N.Y.), 519 N. E. 902 (1929); 70 *Insurance Law Journal* 760.

had been bold enough to recognize obsolescence as a factor of depreciation when an insurance policy covering a building was involved. Except, therefore, when it is covered by a valued policy, an obsolete building may be a difficult subject of adjustment in case of destruction or serious damage. It will be difficult enough to make a fair adjustment in case of total destruction; but it will be even more difficult to make one in case of damage, when the insurance is subject to the terms of a coinsurance or average clause. In some types of old buildings there are materials and workmanship which are almost impossible to duplicate today and can be duplicated only at an expense out of all proportion to the real value of the structure.

Deteriorated or injured buildings are troublesome subjects of adjustment. Age, weather, corrosive fumes, sinking or washing away of the earth under the foundations, earthquake, vandalism, or the concussion of near-by blasting may bring about depreciation which in many cases the owner does not offset by repair or renovations. A deteriorated or injured building will, in case of loss or damage, present a difficult problem of depreciation. The more the material is burned away the more the evidence of depreciation is destroyed, and the more the adjustment becomes a matter of guesswork. In such a building, particularly if it is dirty, if the plaster is cracked or the decorations faded, it will often be impossible after a fire to make a real separation of fire damage from damage due to deterioration or injury. A great many buildings in Charleston, S. C., were damaged by the earthquake of 1886. The underwriters realized that unrepaired damages might well be responsible for troublesome adjustments. The South Eastern Tariff Association, the governing body having jurisdiction over the situation for the stock companies, appointed a committee of company field men to inspect all structures in Charleston and record the conditions found in each. The results of the work were published in book form and distributed to the companies. The underwriters were therefore able to give proper consideration to any risk offered for insurance, and the adjusters had a guide to help them in eliminating from any building claim items of repair which were properly chargeable to the earthquake.

The same general circumstances that make the proper valuation or determination of the cost of replacing or repairing a

building uncertain also make the valuation of personal property and the damage to it uncertain. The suitable, well-selected, and properly cared-for articles that constitute the household furniture of a well-kept home are not difficult to value. But with the unusual articles and those which have served their time, valuation and the measurement of damage in terms of money become largely a matter of guesswork. At one end of the scale are the works of art; the libraries of rare books; the irreplaceable rugs, tapestries, pictures, and antiques which are found in the homes of the well-to-do. At the other are the outmoded, out-of-date, and otherwise unsuitable articles which are neither useful nor ornamental but which the householder clings to, even though they are relegated to the limbo of attic or basement.

Modern and useful fixtures and machinery, particularly when well selected, are ordinarily easy to value fairly and in case of damage do not offer difficult problems of repair. But the change in styles is so unceasing and the progress of invention so rapid that obsolescence is continually reducing the values of all except the relatively few articles which are too simple to be improved upon, such as tables, counters, shelving, pulleys, belts, and shafting. Because at times an industry will desert a whole section, leaving once well-equipped and prosperous plants without orders, there have been a number of machinery adjustments which have left behind them unpleasant memories in the way of trouble and expense. The plant that cannot meet competition because of location must move or sell out its machinery on a secondhand basis. Insurance on a rather large building and its machinery was shopped around the New York market with the statement that the property had not been operated for two years because the owners could not operate it profitably or find a tenant who would. Steam was kept on the boilers so that the fire pumps would be available in case of fire, and all machines were turned over once a week to keep the bearings free. One company referred the offering to its loss department and got from the general adjuster the statement that in case of loss there would be every reason to expect a most uncertain adjustment.

In some plants there is a tendency to accumulate patterns, lasts, models, or molds, many of which are never used a second time. They are most difficult subjects of adjustment, as there

is always a wrangle over the probability of their being needed in the future. Foreign-built machinery is at times troublesome, as is also the custom-built machine. In connection with both, the opportunities for replacement and repair are limited, and therefore the question of proper value or proper repair cost cannot be settled by competitive bidding.

Stocks of merchandise are easy to value properly when they consist of staple commodities, properly packed or displayed and in good condition. Such stocks are worth replacing and, when damaged, can usually be reconditioned or salvaged, so that adjustment will be easily and properly made. But when claims are presented upon mixed stocks made up of poorly selected assortments, upon stocks of out-of-style or out-of-date merchandise, or upon stocks which have deteriorated because of age or improper conditions of packing, housing, or storage, the making of a proper determination of cash value and damage becomes exceedingly difficult.

There is another characteristic of a stock of merchandise that determines quite positively the relative cost of inventorying and handling it. This is the unity or variety of the articles composing it together with the number of the articles themselves. It is easy to inventory 1,000 bales of cotton, load them in cars or on trucks, and move them; and in relation to the value of the cotton the cost of the work is not great. But to inventory, pack, and ship the contents of a large five- and ten-cent store is actually and relatively a more expensive proceeding. Any stock made up of a multiplicity of articles is relatively expensive to inventory and handle, and the expense increases in proportion to the variety of the articles.

Junk stocks are quite generally recognized as being uninsurable. Considering only those conditions which bear upon the question of adjustment, it is ordinarily impossible to value such stocks properly or measure in terms of money any damage that they may suffer. The articles making them up are usually collected in haphazard fashion at costs which may be no more than the indefinite pro-rata parts of the junkman's meager expense of existence. They are disposed of as occasion affords for whatever price may be obtainable. A step above the junk stock is the mixed secondhand stock; and above that is the secondhand stock

of a single line of merchandise, such as machinery, furniture, or spare parts, where proper rehabilitation, grading, and handling, together with a regular sales volume at consistent prices, may make it possible to determine value or damage with a reasonable degree of certainty. There are many stocks that present some and possibly all the problems of the junk stock. Any stock assembled by irregular purchases, whether the junk stock at the bottom or the high-type art gallery or genuine antique stock at the top, may present very difficult and expensive problems of adjustment.

Out-of-style stocks and deteriorated stocks are almost always troublesome. The value of merchandise is dependent upon the rate at which it will sell as well as upon the prices that it will bring. When a stock begins to go out of style, the sales from it become less frequent and have to be stimulated by price cutting, itself an evidence of decreased value. Sometimes a stock goes so badly out of style that sales practically cease, and the owner is reduced to the necessity of hawking it about piecemeal or as a job lot or holding on to it in the hope that some change in circumstances will again create a demand for it. Proper adjustment of a total or partial loss on such a stock is impossible.

The character of many stocks is such that if they do not move promptly into consumption they lose in quality, sometimes becoming worthless. Stocks of fresh meat, milk, fruit, vegetables, butter, eggs, bread, pastry, nuts, candy, and many other kinds of foodstuffs deteriorate rapidly under even the best conditions of storage and handling. Consequently there are many such stocks which are productive of all kinds of troubles when they are the subjects of adjustments. In many cases it is impossible to demonstrate how much deterioration had occurred before the fire started.

The location of merchandise must be considered when establishing its value. A stock of bathing suits would be in little demand in the polar regions, and a large stock of ulsters or fur coats would be a problem in Havana.

Location affects the results and expense of loss work by determining the distance between the property and the facilities that must be employed in marketing, valuing, or repairing it or in adjusting any loss that may happen to it.

Information Bearing on Value and Loss.—When definite and comprehensive information bearing on value and loss is available, the work of determining the amount of either is generally easy. Information bearing on value may include a record of how the property was created or acquired, what it cost, what was spent to maintain or hold it, what use was made of it, and what profit or loss was derived from its possession. In connection with buildings there may be plans and building contracts. In the adjustment of building losses it is generally possible to get information on design, construction, materials, and workmanship in sufficient detail to make satisfactory estimates of value or loss. Very few householders keep inventories of their furniture and personal effects, so that usually the testimony of the insured or the members of the family is the only information to be had when an article is burned beyond identification. In small shops, stores, or factories there is the same general lack of inventories of fixtures or machinery. But it is principally in connection with stocks of merchandise and manufacturing operations that the presence or absence of recorded information as to purchases, costs, sales, expense, and profit or loss determines the ease or difficulty of making an adjustment. It is because records are so important in connection with mercantile losses that the policy requires the insured to produce for examination his books of account, bills, invoices, and other vouchers and to permit extracts and copies to be made from them. Supplementing the policy are clauses variously known as the iron-safe clause or the record-warranty clause which preclude recovery unless proper records are kept and produced after a loss.

Situations are occasionally encountered in which the records will be adequate and satisfactory for one kind of loss but not for another. As an instance, stock may be housed in two separate structures, but all transactions will be recorded in one set of books which will not show how much stock is in each building. If the stock in both buildings is insured under a blanket cover, the failure of the records to show separate values will not matter; but if the insurance is specific in each building, and both buildings are destroyed at the same time, there will be no way of proving the separate values from the books. If there is an iron-safe or record-warranty clause in the policies, the insured will be barred from enforcing any claim whatsoever. If there is no such clause,

the respective claims are collectible, but there will be no possibility of stating them accurately.

If additional insurance is placed upon property which has been damaged by fire before the loss has been adjusted and the property repaired or reconditioned, the occurrence of a second fire before the adjustment of loss due to the first may bring about great difficulty in determining how to apportion the damage done by both fires to the two sets of insurance.

Personal Circumstances.—The personal circumstances that make for proper adjustment at normal cost are the intelligence, integrity, and competence of the claimant. The claimant who knows all about his property, what it was worth before the fire, how it was injured, and what must be done to restore it to its former usefulness, will, when he is also an honest and able man, present his claim and handle himself so that a minimum of time and expense will have to be put on the loss. But the ignorant, the grasping, the dishonest, or the incompetent person will be responsible for many wasted hours and, at times, unusual expense. Ignorance is frequently as hard to deal with as downright dishonestry. A hardheaded claimant who is thoroughly honest but genuinely mistaken about his values or the possibilities of repairing, reconditioning, or salvaging his property may make an adjustment both troublesome and expensive. The grasping or dishonest claimant can likewise make it necessary to run up a heavy expense bill before he can be brought to terms. The very large majority of the lawsuits brought against the companies are brought by claimants of these types. Lack of competence on the part of the claimant will very frequently make for expensive or unsatisfactory dealings, as the property will be neglected, the claim will not be presented properly, and the claimant will be at a loss to understand why so much is expected of him. In the hands of a competent claimant a damaged piece of property will be rehabilitated with slight loss. In the hands of an incompetent, a duplicate piece that has suffered an identical damage will be neglected or mishandled and in the end lose all its value.

Persons who advise claimants may give help or cause trouble in the same manner as the claimants themselves. Some agents, brokers, public adjusters, estimators, experts, and attorneys have reputations with underwriters as being forces for good or

for evil, as the case may be, in connection with claims which fall into their hands.

Contractual Circumstances.—Under some forms of insurance contract there are special conditions bearing on value or loss. Some of these special conditions make for satisfactory adjustments; others do not. A selling-price clause in a policy covering a manufacturer's stock will eliminate one frequent cause for controversy—the question of what percentage of general charges must be added to materials and labor costs in computing the cost of the stock. The use of reporting covers has the same general effect, as the price basis used in reporting values is generally acceptable in case of loss, eliminating many of the former disputes over the proper treatment of freight charges; discounts; and, in most instances, depreciation. On the other hand, a clause authorizing the insured to mutilate salvage by removing tags or trade-marks or by branding it as damaged may produce a quite unexpected result. Unless such a clause is supported by other language in the policy fixing the value of the articles in their mutilated condition and further stating whether the cost of mutilating shall fall on the insured or on the insurer, it may provoke as much trouble in the adjustment as the insured had hoped it would obviate.

Almost all profits forms are troublemakers in adjustments, the exception being the type that follows the stock adjustment. In some of these, even, there is a loss-of-sales feature which introduces an uncertain element. The present rent and rental-value forms eliminate most of the trouble that arose under the old forms.

Legal Circumstances.—Under the American system of law the federal government, states, and municipalities enact laws and ordinances, some of which affect loss adjustments. Federal, state, and municipal courts hear insurance cases. Our growing bureaucracy tends more and more to busy itself with what have been private affairs. Sometimes legal circumstances control the conduct and expense of an adjustment with, at times, a very marked effect upon its outcome. The federal legislation encountered in handling losses is principally that having to do with food, alcohol, and drugs and with customs duties and internal-revenue taxes. Practically all this legislation is administered by depart-

ments and bureaus. In some states there are penalty and anti-technicality statutes, passed for the purpose of discouraging insurance companies from resisting claims. There are also municipal ordinances which set up building zones and standards and health regulations and create boards or departments to enforce them. The federal-court decisions are, in general, fair to the insurance companies; but in several of the states the courts of last resort have seemed to go out of their way to enforce payments under insurance contracts, with the result that adjusting in those states is more difficult than elsewhere. When the pressure of adverse legal conditions is exerted in an adjustment, the cost of it rises, and the determination of cash value and loss or damage often becomes inaccurate.

Trade, Economic Conditions, Weather.—Trade and economic conditions and weather all affect the cost of adjusting and the propriety of its results. The building trade, as an instance, is well equipped to estimate the cost of repairs and to support the estimates by doing the work. Consequently it is ordinarily possible to adjust building losses properly at an average fair cost. There was a time when the manufacturers of certain types of patented machinery would not repair it in case of damage and refused, under the authority of their patent rights, to let anyone else produce repair parts. It was therefore exceedingly difficult to make proper adjustments of losses on such machinery. Some cities have mechanical facilities for drying and rehandling damaged merchandise that in others must be handled by hand.

In times of prosperity two factors help to produce satisfactory adjustment results at low cost: There is generally a demand for property and consequently a market by which to value it, together with full operation of the facilities for its repair or salvage; and there is a general feeling of enterprise which influences claimants to come to decisions quickly in order to resume their normal occupations. In time of depression the reverse is true.

Weather may prevent the examination of property or its preservation from further damage, causing in the meantime a repetition of inspections and efforts to cover, remove, or handle. Rain stops or hampers work that is not under roof and sometimes brings on flood conditions which cut off access to property.

Snow covers the scene of a fire, sometimes so deeply that adjustment must be postponed until the snow has melted. The necessity of protecting some kinds of property against cold or warmth may also be expensive after a fire loss has destroyed their normal protection.

Ordinance or Law Regulating Construction or Repair.—In states where the present or former edition of the New York standard policy is used, there is ordinarily a clear understanding of the policy stipulation that bars the making of claim for increased cost of repair or reconstruction due to ordinance or law. For example, only occasionally will any real effort be made to collect for the cost of rewiring premises in conduits, when prior to the fire the wiring had been of the old-style open variety.

Difficult situations, however, arise in connection with structures which if damaged more than, say, 50 per cent of their value may not be repaired. The common example is the frame risk in a fire zone, where frame construction is no longer permitted.[1]

Interruption of Business or Manufacture.—The policy conditions exclude compensation for loss resulting from interruption of business or manufacture. Such a loss may be collected under a use-and-occupancy cover, and this condition does not cause trouble in adjustments.

Commencement and Expiration.—Only rarely does a controversy arise over the time when a loss occurred. In some cases predated policies are issued after a fire by a corrupt agent or employee. In others remote property is destroyed under circumstances that preclude fixing the date or time.

Direct Loss or Damage by Fire.—The fire insurance policy covers against direct loss and damage by fire and by removal from premises endangered by fire; and although it does not say so in definite language, the fire must be hostile as contrasted with friendly fire.[2] Fire that is burning only where it is intended to burn, as in a fireplace or furnace, is friendly, and loss or damage due to excessive heat or smoke given off by it is not collectible under a policy. Claims, therefore, which are the result of ciga-

[1] See *Midwood Sanatorium* v. *Fireman's Fund*, (C.A. N.Y.) 185 N. E. 674 1933).

Rutherford et al. v. *Royal Ins. Co.*, (U.S.C.C.A.) 12 F. (2d) 880.

[2] See RICHARDS, GEORGE A Treatise on the Law of Insurance, 3d ed., p 284.

rette scorches as distinguished from true burns, smoking oil burners, scorched food on a stove when there is no ignition, and other similar accidents are troublesome.

Location and Identity of Property.—Ordinarily little difficulty attends identification of the property intended to be covered. When, occasionally, there is ambiguity or error in the wording used, inquiry must be made to determine the intent of both insured and company.

Concealment or Misrepresentation.—Concealment or misrepresentation of any material fact or circumstance operates to avoid the policy. In adjustment work the conditions most commonly found are misrepresentations of occupancies—a roadhouse, for instance, being described as a dwelling. Whenever concealment or misrepresentation have to be dealt with, the adjustment is likely to be troublesome and expensive.

Fraud and False Swearing.—Fraud of any sort, and willful false swearing in particular, will avoid the policy. When genuine fraud is encountered, the trouble and expense of resisting the claim is likely to be excessive.

Fires Set to Collect Insurance.—Incendiary fires set for the purpose of collecting insurance range in size and seriousness from the closet fire intended to destroy a few old garments and produce an insurance payment of less than $100 to the fires which destroy large buildings, stores, factories, warehouses, lumber yards, or other property. In all these fires there are only a few methods which can be followed by the incendiaries in their efforts to get money. As noted by the author in an experience extending over some 30 years, they seem to be (1) the burning of unsalable or useless property or property hard to sell or of little use, for the purpose of creating a sufficient appearance of loss or damage to support a claim; (2) the burning of salable or useful property or property ordinarily so but which cannot otherwise be promptly converted into money or successfully used as collateral to relieve financial pressure or which may be lost to an adverse interest or destroyed or damaged by a peril not insured against; (3) the burning of a relatively small value to be followed by the presentation to the insurer of a large claim supported by fictitious books or other spurious records.

In a great number of fires set for the purpose of collecting insurance money, various combinations of the methods described will be used. Method 3 is the one that the company adjuster can most successfully combat if he is able and aggressive. Method 2 is the most difficult and can seldom be successfully resisted unless a "break" brings a confession. Method 1 can often be exposed but has to be fought by painstaking investigation which must embrace a great number of related circumstances.

Burning of Worthless Property.—In ordinary times the most frequently encountered kind of fire set for the purpose of collecting insurance is the one prepared for and accomplished according to method 1. The furtive or hard-pressed holder of a household-furniture policy may hang discarded clothing in a closet, arrange a candle and newspaper to start a fire, and go for a call on a neighbor so that he can account for his whereabouts when the fire is discovered. He hopes that the clothes will be burned badly enough to make it impossible for the adjuster to determine their lack of value before the fire but hopes that there will be enough pieces left to make it possible to count the garments when he comes to adjust the loss. The event is planned in the hope that the policyholder can pass off the valueless articles as valuable and get at least something more out of his insurance than he could out of the old-clothes man. Sometimes the trick of bringing in damaged articles after the actual happening of the fire is employed, as its use reduces the chance of too little or too great burning of the articles intended for exhibition to the adjuster.

The same method and motive underlie the fraudulent fires started by owners of old buildings, out-of-date fixtures, worn-out machinery, and stocks which are out of style or out of season. When obsolescence has overtaken property, or deterioration set in, there is a reduced market for it or perhaps no market. The owner may, therefore, decide to offer it to his insurer in the shape of a claim.

Some serious household-furniture losses have been arranged by accumulating articles at low cost and using them to create the appearance of great value. Secondhand furniture is made to appear as new, and frequently reproductions are represented to be antiques. Pictures and other works of art, because of their

high value, small bulk, and the great susceptibility to injury that inheres in genuine articles, are frequently used by incendiaries as material for their operations.[1]

In the mercantile world great use is made of deception as to property in connection with incendiary fires. Here the adjuster encounters the seasonal stock that did not sell; the broken stock of which only unsalable odd lots remain; the job-lot stock; the stock which has deteriorated because of improper conditions of housing, packing, and use; the obsolete, out-of-style stock; and the stock infested by vermin or carrying disease germs, *e.g.*, of anthrax. Coming and going in the mercantile world are also groups of men who make a business of furnishing partly burned merchandise to be used for supporting claims.[2]

Burning of Valuable Property.—At times financial needs lead a person to set fire to what is ordinarily salable or useful property, in order to raise money on his insurance. A fire of this kind may involve a piece of property that is overlarge or a stock of good merchandise that cannot be sold because of market conditions. Such a fire is rather unusual except in panic times or in a case of acute individual misfortune. Following the market collapse of 1920, when the mercantile world was heavily overstocked, there were innumerable suspicious fires and many cases of proved arson in which good and ordinarily salable merchandise belonging to owners whose cash and credit resources had been exhausted was deliberately set on fire. Merchants in financial distress were often approached by members of professional arson gangs with proposals to arrange for a fire and set it so that it would burn the merchandise badly enough to render it unfit for sale in the ordinary channels of trade but not so badly that it could not be inventoried after the fire. These gangs became highly proficient in their operations. They learned how to place the stock so that it would be burned to the proper degree, and they learned how to set the fire so that there was little chance for the authorities to find out how it started. Fol-

[1] POWERS, KAPLAN, and BERGER, "The Rosso Case."

[2] An accurate and interesting account of crooked mercantile fires, some of which involved the use of stock which had been injured in previous fires will be found in "The Fire Raisers," by Harold Dearden, which deals with a series of fires in England engineered by Leopold Harris and his gang.

lowing such a fire it was difficult to determine the amount of loss except by selling the salvage to someone who could use badly damaged goods; and as a result the merchant generally succeeded in having the entire stock taken off his hands at the expense of the insurance companies.

Burning of Property Which May Be Lost.—The fire insurance policy recognizes the hazard attaching to property which may be taken away from the insured by foreclosure proceedings or by sale under a mortgage or trust deed. It stipulates that, unless otherwise provided by writing upon the policy, it shall become void if, with the knowledge of the insured, foreclosure proceedings are begun or notice given of sale under either of the instruments named. The instinct to protect himself is aroused when the insured becomes aware that he may lose the property or the equity that he has in it. Many incendiary fires have resulted from such a situation. As a rule, property does not bring its ordinary value at a forced sale; and rather than face the result of one, the insured who is willing to commit arson tries to realize on his insurance. There are sometimes cases of clouded titles because of which a person fears he cannot hold the property. There are others in which a birth or a marriage may change a person's fortune adversely, and the prospect of the one or the other may lead to a fire. Occasionally, property may be threatened with destruction by a peril that is not and perhaps cannot be insured against, and the owner in desperation will burn it to save himself from loss. Property threatened by a flood or erosion is an example, also buildings ravaged by termites.

Burning of Small Quantity of Property.—The scheming or desperate person who has no great amount of property to lose will sometimes arrange to burn his premises in such a fashion that no physical check can be made of the destruction and will try to support by fictitious evidence a claim far in excess of the actual loss. Burnings of this kind necessarily involve property which can be obliterated by fire so that the destruction claimed will at least seem possible when the fictitious claim is presented to the adjuster. Sometimes a flimsily built structure is burned, and claim is made, accompanied by appropriate plans and specifications for a substantial structure of the same outside measurements. Household furniture lends itself readily to

burnings of this kind. A small amount of furniture and wearing apparel will be burned, and an inventory presented which will show quantities and values far in excess of those actually involved. Mercantile losses offer the best field for incendiary ventures of this sort, as books and records play a more prominent part in mercantile losses than in others and can be made by skillful falsification to show values that never did exist or, if they did, had been greatly reduced when the fire occurred. Sometimes the details of the method are changed a bit; instead of falsifying records and running the risk of having the forgeries discovered by a painstaking adjuster or accountant, the records are kept honestly, and, just before the fire is to occur, the stock is almost all moved out. The income tax has been responsible for much evasive accounting, and the overcrowding of the accounting profession has led some accountants to succumb to temptation and sell their services for dishonest purposes. Consequently, the incendiary who expects to gain through an inflated merchandise account is quite likely to work in conjunction with an accountant of shady reputation.

Fraudulent Claim.—A fraudulent claim necessarily follows any fire that the insured may have started in order to collect insurance. There are, however, cases where, following an accidental fire, the insured seizes the opportunity to make claim for an amount far in excess of that to which he is entitled. In many cases a fraudulent fire will be combined with an inflated claim. The usual methods used to inflate claims are (1) overstatement of loss, (2) a statement of ownership that is not true, (3) a concealment of facts which, if known, would reduce or defeat the claim. The handling of fraudulent claims is a technical matter and belongs to the subject of adjusting.

Uninsurable and Excepted Property.—The policy condition declaring certain articles of personal property to be uninsurable and others to be uninsured unless specifically mentioned gives little trouble in adjustments.

Excepted Hazards.—The New York standard policy excepts from its cover loss due to invasion, insurrection, riot, civil war or commotion, military or usurped power, theft, and neglect of the insured to use all reasonable means to save and preserve the property at and after a fire or when endangered by fire in

neighboring premises or due to explosion or lightning unless fire ensue, in which event only the loss or damage caused by fire is considered.

It is unnecessary to consider all these hazards. Only a few of them are encountered by the adjuster. Fires set by rioters occur from time to time. When proof is clear, there is no difficulty in resisting claim. The chief causes of riots are racial antipathies, labor disputes, and agricultural distress.

Thefts occur before, during, and after fires. In many cases the fire destroys all evidence of any theft that occurred before it or during it, resulting in an unavoidable overpayment. But in other cases the fire does not destroy evidence of theft. For example, boxes of silk stockings may be removed from sections of shelving which were not within the range of the fire. When such is the case, it is possible to demonstrate that the stockings were not burned, and the policy provision excluding loss by theft can be enforced.

There is almost never a case where it is possible to prove conclusively neglect on the part of the insured to do what he should to save and preserve the property.

Explosion is a troublesome hazard. It causes trouble by occurring prior to or simultaneously with the outbreak of fire and destroying any real evidence of the extent of the explosion damage. In several classes of risks, *e.g.*, dwellings heated by natural gas, gas plants, grain elevators, and chemical plants, there is an inherent explosion hazard which the companies assume by amending the fire policy to cover it. Such action greatly reduces the trouble and expense of adjusting losses due to explosion followed by fire. Explosion which occurs as the result of a hostile fire's setting off some explosive substance or causing the bursting of a pressure container is treated by the courts, and properly, as part of the fire; and damage done by it is collectible. The troublesome adjustments following explosion losses are those in which there is no real evidence to be had that will definitely put the occurrence of the explosion before that of the fire or, if it does, will fail to show how much loss was due to explosion and how much to fire. When fire insurance is carried with one company, and explosion insurance with another, there is a strong invitation to troublesome adjustment.

The lightning hazard is now always assumed by use of the lightning clause. The hazard is a troublemaker only in connection with electrical equipment.

Avoidance of Policy or Suspension of Cover.—The special conditions which, unless permitted by written agreement attached to the policy, will operate to avoid it or suspend its cover while they exist are divisible into those which pertain to ownership and interest and those which pertain to the insurance and the hazard of the risk.

Ownership and Interest.—The policy provisions as to (1) unconditional and sole ownership; (2) building on ground not owned by the insured in fee simple; (3) foreclosure proceedings or notice of sale; (4) change in title, interest, or possession; and (5) chattel mortgage are intended to relate the insurance contract to the insured's interest in the property. They are frequently nullified by provisions in the form or by specific endorsement. The conditions which they prohibit do not ordinarily cause any marked trouble or expense in adjustment work except when a mistake has been made in the writing of the policy that must be corrected after the happening of loss.

Insurance and Hazard.—The policy provisions as to (1) assignment before a loss, (2) other insurance, (3) increase of hazard, (4) prohibited articles, (5) night work or cessation of operations, and (6) vacancy and unoccupancy are intended to prevent increases of moral or physical hazard. They, too, are frequently nullified or at least modified by form or endorsement. There are some troublesome and expensive adjustments owing to the conditions named here, principally in connection with (3) increase of hazard, (4) prohibited articles, and (6) vacancy and unoccupancy.

The trouble that arises in connection with *ownership and interest* and *insurance and hazard* is usually due to a claim on the part of the insured that he has been given a policy or a set of policies that does not reflect conditions known to the agent or agents at the time when they wrote the insurance or changes afterward of which they knew and which they should have endorsed on the contract.

Fall of Building.—The New York standard policy provides that if a building or any material part thereof fall, except as the

result of fire, all insurance by the policy on such building or its contents shall immediately cease. If a building collapses, it is fair to assume that very little value is left in the debris of the building itself and that great injury will be done to any contents. Many collapses are followed by fires, particularly those which occur when heating fires are burning. Claims following such collapses are troublesome matters and in many instances go to litigation, as the insured will allege that the fire caused the collapse, whereas the company will offer evidence to show that before the collapse the building was not on fire.

The San Francisco earthquake and fire were responsible for many fallen-building lawsuits; and as recently as 1936 a tornado at Gainesville, Ga., produced several similar suits. To meet the situation of a building's taking fire after a material part has fallen because of earthquake, it is the practice on the Pacific Coast to endorse the policy to include earthquake insurance and to void the fall-of-building clause, which is permissible under the California standard policy, so that the fire insurance will not cease. The tornado situation is handled by placing tornado insurance, either as a separate policy or as an extended coverage endorsement, with the *bridging-the-gap* clause, which makes the tornado insurance liable for any fire loss following the fall of a material part of the building as the result of tornado.[1]

Application of Insurance, Contribution, and Apportionment.—When value and loss have been determined, and when it has been established that the insurer is liable, it is necessary to reduce the liability to an amount of money by taking into consideration contribution required by any limitation clause and also the amount and coverage of any other insurance. Ordinarily it is not difficult to compute the amount of liability; but when policies are nonconcurrent, there may be very great difficulty.[2]

Cancellation.—Occasionally a claim is presented under a policy which the underwriter has reason to believe was canceled before the loss occurred. A question of fact will be presented which is for the underwriter or the adjuster to determine.

[1] There is much agitation for omitting the fall-of-building clause from any revision which may be made of the present New York standard policy.

[2] See Appendix E.

Mortgage Interest.—Almost all mortgagee interests are protected by attaching to the policy a standard, or contribution-form, mortgagee clause. Such a clause creates a special contract between the insurer and the mortgagee, a contract which cannot be invalidated by any act or neglect on the part of the insured, the mortgagor. Furthermore, under a standard mortgagee clause the mortgagee may claim the full amount of loss, subject only to coinsurance or average limitation, from the insurance that is payable to him and disregard other insurance on the same property that is not so payable. He must, however, give the insurer a participation in his mortgage to the extent that the insurer pays him more than is due the insured under the policy. This participation is subordinate to the collection by the mortgagee of the full amount of the mortgage debt due him.

Payee Interest.—When the policy designates a person or corporation as a payee, payment may be made to the payee with assurance that it will discharge the insurer from further liability. But when the policy designates a payee or payees by description, some uncertainty may exist as to the payee's identity. If, for example, the policy states that any loss shall be payable to whatever bank may have loaned money on the security of the property, it is necessary to find out the name of the bank. It may be found that several banks are interested.

Subrogation.—When loss is caused by any person, not a party to the insurance contract, under circumstances which make him liable, the insurer who pays the loss becomes subrogated to the rights of the insured and may proceed against the third party. Subrogation proceedings are effective when the third party is possessed of sufficient means to insure collection of any judgment obtained against him and when the insured has not given him a valid release.

Prior to the occurrence of loss the insured may release a third party from liability for possible losses without affecting the insurance contract. But if after a loss the insured releases the third party without consent of the insurer, his own claim is invalidated.[1]

[1] Subrogation recoveries are so infrequent that a possible recovery should never be considered in underwriting.

Payment and Discharge.—When a loss has been adjusted, and final papers are in the hands of the insurer, the matter of payment comes up for consideration. Under the New York standard policy, payment is due 60 days after proof of loss has been received by the company. In some states there are statutory regulations as to the time of payment.

Payment is to be made so that it will effectively discharge liability for the loss; consequently it is customary to draw any check or draft so that it will include the name of each person who is a party to the insurance contract and entitled to collect under it and also the name of any other who might be entitled to collect, *e.g.*, mortgagee not named as payee, an attaching creditor, or possibly others.

Any uncertainty as to the ability of a known person to accept payment which will fully discharge liability and give a full release creates danger and calls for clearing up, possibly at some expense, with attendant delay.[1]

[1] See p. 166.

CHAPTER X

STATE AND LOCALITY

Any general plan for producing and selecting business and fixing limits and lines must take into consideration state and local rate scales; state laws and court decisions; the character of the various population groups, geography, wealth, building construction, industries, and occupations; attitudes of producers and public toward rates and forms; and the grades of cities and towns. All these have their effects on the result of underwriting operations. Recognition of the differences which ordinarily make one state a more profitable field of operations than another and one city in a state ordinarily a more satisfactory place to do business than another is essential in efforts to make underwriting profitable.

The record of a state is a reliable guide to the probability of loss on business in the state. A good past experience on general business justifies the underwriter in assuming that losses will be lower than in a state whose record is not good. He will be warranted in writing larger lines in the state with a good record than in the state with a poor one. In the District of Columbia, Colorado, and Connecticut, for example, records have been good, and companies pursue a liberal policy as to acceptances and lines to be carried, writing risks and retaining amounts that would spell disaster in Tennessee and Arkansas. In Pennsylvania and Maryland—states with good records—many companies have even written farm business with profit. In South Carolina and Mississippi—states with bad records—companies which have written farm business have generally experienced excessive losses.

Rate Scale.—A *rate scale* that over a period of years produces a loss ratio of less than 50 per cent has in the past been looked upon as adequate. In the last few years, however, expenses of operating have taken an increasing percentage of company income, largely owing to decreasing volume; and in the future

TABLE XIV

State	30 years ending Dec. 31, 1929	9 years ending Dec. 31, 1938	Year ending Dec. 31, 1938
Alabama	54.8	50.8	38.2
Alaska	37.3	42.2	24.1
Arizona	45.6	49.9	44.9
Arkansas	64.3	57.3	43.1
California	60.0	39.0	35.5
Colorado	39.3	35.0	25.1
Connecticut	41.4	35.5	39.0
Delaware	49.6	39.4	25.7
District of Columbia	33.1	25.6	31.3
Florida	43.3	36.6	28.7
Georgia	56.2	53.2	39.2
Hawaii	14.0	9.2	9.2
Idaho	50.4	47.8	39.8
Illinois	50.1	48.4	39.5
Indiana	50.7	45.6	40.5
Iowa	53.4	55.4	49.9
Kansas	50.7	54.7	41.5
Kentucky	56.4	53.6	49.5
Louisiana	53.2	50.2	38.4
Maine	53.4	52.1	42.1
Maryland	64.1	43.7	38.6
Massachusetts	55.3	54.3	48.9
Michigan	54.6	52.7	43.5
Minnesota	56.8	49.2	42.1
Mississippi	61.1	58.3	40.5
Missouri	57.8	58.0	46.5
Montana	47.8	45.0	27.0
Nebraska	51.8	52.1	35.8
Nevada	44.9	37.2	30.5
New Hampshire	54.8	57.0	36.9
New Jersey	48.2	37.4	31.8
New Mexico	46.8	39.0	36.2
New York	49.9	44.3	37.9
North Carolina	50.2	53.1	34.8
North Dakota	55.5	50.5	27.6
Ohio	46.7	49.6	44.8
Oklahoma	50.4	48.3	33.4
Oregon	51.1	50.1	38.5
Pennsylvania	43.6	37.0	29.6
Rhode Island	53.9	45.9	53.3
South Carolina	55.4	55.8	38.1
South Dakota	49.4	43.0	35.0
Tennessee	58.9	56.5	34.6
Texas	58.9	51.3	44.0
Utah	47.5	43.0	30.3
Vermont	48.7	47.3	48.4
Virginia	49.0	48.7	39.2
Washington	48.0	53.3	35.6
West Virginia	44.3	47.3	33.6
Wisconsin	48.1	46.5	41.4
Wyoming	37.4	36.9	21.3
Average	51.5	46.6	38.5

it is probable that, to be adequate, a rate scale must produce over a period of years a loss ratio of not more than 40 per cent. In the face of an inadequate rate scale there is no possibility of making an underwriting profit on general business, the only hope of making a profit lying in confining writings to profitable classes.

Record.—The insurance record of a state is registered by the average loss ratio over a period of years. A study of the record will show whether the loss ratio has been reasonably steady from year to year during this period or has fluctuated. A steady loss ratio indicates a steady condition in the sufficiency or insufficiency of the rate scale of the state and no unusual losses, whereas an irregular loss ratio indicates either changes in the scale or unusual losses, perhaps conflagrations. In studying state records, consideration must be given to the economic change that began with the stock-market crash in 1929. An unprecedented reduction in the national burning rate began in 1932 and continued through 1936, since which year it has increased slightly. It is still far below the rate for any year prior to 1932. The future of this rate is unpredictable.[1]

The combined state loss ratios of the admitted stock fire insurance companies doing business in the various states and territories since 1899 follow. They are shown in Table XIV, (1) for the 30 years ending Dec. 31, 1929; (2) the 9 years ending December, 1938; and (3) for the year 1938.[2]

Arranged in ascending order, the state loss ratios (including Hawaii, the District of Columbia, and Alaska) for the three periods are:

TABLE XV

	30 Years Ending Dec. 31, 1929
1. Hawaii	14.0
2. District of Columbia	33.1
3. Alaska	37.3
4. Wyoming	37.4
5. Colorado	39.3
6. Connecticut	41.4
7. Florida	43.3
8. Pennsylvania	43.6

[1] See pp. 110–116.

[2] As compiled in "Fire Insurance by States"—Losses paid to premiums written.

TABLE XV.—(*Continued*)

	30 Years Ending Dec. 31, 1929
9. West Virginia	44.3
10. Nevada	44.9
11. Arizona	45.6
12. Ohio	46.7
13. New Mexico	46.8
14. Utah	47.5
15. Montana	47.8
16. Washington	48.0
17. Wisconsin	48.1
18. New Jersey	48.2
19. Vermont	48.7
20. Virginia	49.0
21. South Dakota	49.4
22. Delaware	49.6
23. New York	49.9
24. Illinois	50.1
25. North Carolina	50.2
26. Idaho	50.4
27. Oklahoma	50.4
28. Indiana	50.7
29. Kansas	50.7
30. Oregon	51.1
31. Nebraska	51.8
32. Louisiana	53.2
33. Iowa	53.4
34. Maine	53.4
35. Rhode Island	53.9
36. Michigan	54.6
37. Alabama	54.8
38. New Hampshire	54.8
39. Massachusetts	55.3
40. South Carolina	55.4
41. North Dakota	55.5
42. Georgia	56.2
43. Kentucky	56.4
44. Minnesota	56.8
45. Missouri	57.8
46. Tennessee	58.9
47. Texas	58.9
48. California	60.0
49. Mississippi	61.1
50. Maryland	64.1
51. Arkansas	64.3
Average	51.5

TABLE XVI

	9 Years Ending Dec. 31, 1938
1. Hawaii	9.2
2. District of Columbia	25.6
3. Colorado	35.0
4. Connecticut	35.5
5. Florida	36.6
6. Wyoming	36.9
7. Pennsylvania	37.0
8. Nevada	37.2
9. New Jersey	37.4
10. California	39.0
11. New Mexico	39.0
12. Delaware	39.4
13. Alaska	42.2
14. South Dakota	43.0
15. Utah	43.0
16. Maryland	43.7
17. New York	44.3
18. Montana	45.0
19. Indiana	45.6
20. Rhode Island	45.9
21. Wisconsin	46.5
22. Vermont	47.3
23. West Virginia	47.3
24. Idaho	47.8
25. Oklahoma	48.3
26. Illinois	48.4
27. Virginia	48.7
28. Minnesota	49.2
29. Ohio	49.6
30. Arizona	49.9
31. Oregon	50.1
32. Louisiana	50.2
33. North Dakota	50.5
34. Alabama	50.8
35. Texas	51.3
36. Maine	52.1
37. Nebraska	52.1
38. Michigan	52.7
39. North Carolina	53.1
40. Georgia	53.2
41. Washington	53.3
42. Kentucky	53.6
43. Massachusetts	54.3
44. Kansas	54.7

TABLE XVI.—(*Continued*)

	9 Years Ending Dec. 31, 1938
45. Iowa	55.4
46. South Carolina	55.8
47. Tennessee	56.5
48. New Hampshire	57.0
49. Arkansas	57.3
50. Missouri	58.0
51. Mississippi	58.3
Average	46.6

TABLE XVII

	Year Ending Dec. 31, 1938
1. Hawaii	9.2
2. Wyoming	21.3
3. Alaska	24.1
4. Colorado	25.1
5. Delaware	25.7
6. Montana	27.0
7. North Dakota	27.6
8. Florida	28.7
9. Pennsylvania	29.6
10. Utah	30.3
11. Nevada	30.5
12. District of Columbia	31.3
13. New Jersey	31.8
14. Oklahoma	33.4
15. West Virginia	33.6
16. Tennessee	34.6
17. North Carolina	34.8
18. South Dakota	35.0
19. California	35.5
20. Washington	35.6
21. Nebraska	35.8
22. New Mexico	36.2
23. New Hampshire	36.9
24. New York	37.9
25. South Carolina	38.1
26. Alabama	38.2
27. Louisiana	38.4
28. Oregon	38.5
29. Maryland	38.6
30. Connecticut	39.0
31. Georgia	39.2
32. Virginia	39.2

TABLE XVII.—(*Continued*)

	Year Ending Dec. 31, 1938
33. Illinois	39.5
34. Idaho	39.8
35. Indiana	40.5
36. Mississippi	40.5
37. Wisconsin	41.4
38. Kansas	41.5
39. Maine	42.1
40. Minnesota	42.1
41. Arkansas	43.1
42. Michigan	43.5
43. Texas	44.0
44. Ohio	44.8
45. Arizona	44.9
46. Missouri	46.5
47. Vermont	48.4
48. Massachusetts	48.9
49. Kentucky	49.5
50. Iowa	49.9
51. Rhode Island	53.3
Average	38.5

Attention is directed to the states of California and Maryland. For the 30-year period they show very high loss ratios as results of the conflagrations at San Francisco and Baltimore. For the 9-year period following 1929 their loss ratios were comparatively low.

Underwriters have felt that the rate scale in Massachusetts is inadequate. In spite of the generally good construction and protection in the state, it stood thirty-ninth in the 30-year period, forty-third in the 9-year period, and forty-eighth in 1938.

In the year 1935 New Hampshire showed the highest loss ratio in the United States, 61.5, owing to the burning of one large risk, with a loss of more than 10 per cent of the year's premiums for the state. Had the same loss occurred in New York, the effect on the loss ratio would have been slight.

There is no record of experience in cities and towns in any way comparable to the records of the states.

Laws and Courts.—The insurance laws of a state and the manner in which they are administered by the insurance depart-

ments and the courts will affect the state's insurance record. All states require the payment of certain fees for licenses for a company and its agents, also percentage taxes on premiums. Most states prescribe by statute, or departmental ruling, a standard form of policy, whereas others prescribe also the phraseology of many forms and clauses. In a number of states there are resident-agent laws requiring policies covering upon property within the state to be issued by an agent who is a resident of the state. In Texas, rates are made by state officials; and in Illinois, Louisiana, Mississippi, New York, and Virginia, they are controlled by law. In Louisiana, Mississippi, and New Jersey, it is illegal to discriminate between agents in the matter of commissions. Valued-policy laws are in force in some states and are almost always applicable only to buildings. The effect of a valued-policy law is to increase the probability of loss under policies covering buildings which are not well protected by efficient fire departments. The existence of such laws requires that more than ordinary attention be given to fixing amounts of insurance covering buildings. Another effect of such a law is to make blanket insurance on groups of buildings illegal. If several buildings are to be insured under a single policy, a specific amount of insurance must be allotted to each. Structures which, because of units or sections, may be considered as one building or as several should be treated as several. Valued-policy laws nullify the safeguards of average, coinsurance, and pro-rata distribution clauses when buildings are the subjects of insurance, and only by carefully adjusting the amount of insurance to each building covered can the normal insurance loss be provided for in valued-policy states. Statutes prohibiting the use of coinsurance, average, and certain other limitation clauses are in force in several states. In late years a number of anti-technicality statutes have been enacted. They provide substantially that a company when litigating a claim may not plead as a defense any breach of contract unless the circumstances which caused the breach also caused the fire or contributed to the loss. Other statutes require a full copy of any application to be incorporated in the policy if the company is to treat the answers as warranties in case of litigation. There are also statutes nullifying policy requirements as to proofs of loss or

abrogating or modifying the right of appraisal. New York has recently enacted a statute prescribing that an executory contract of sale involving real property insured shall not invalidate the policy. Some penalty statutes impose a money penalty on a company which is unsuccessful in litigation. Statutes nullifying policy requirements as to proof of loss or abrogating the right of appraisal, antitechnicality statutes, and penalty statutes impose on the underwriter an enhanced duty of avoiding as far as possible overinsurance of risks subject to total loss, risks and forms that will probably develop controversial adjustments, and policyholders whose record shows them to be frequent or contentious claimants. These statutes simply put an added emphasis on the rules of good underwriting by requiring a higher degree of selection, a more conservative underwriting policy in the states where they are in force. Some states provide by statute that the insurance department may examine into claims and establish procedure for doing so.

In a great number of states the common-law crime of arson has been made a statutory crime. The National Board of Fire Underwriters sponsors a model form of arson law which has been passed by many of the states. In New York there is a statute making the filing of a false proof of loss a criminal offense. Arson statutes and false-proof-of-loss statutes have a general rather than a specific effect in reducing moral hazard.

In each state there is a department of insurance, generally an independent department but at times operated in conjunction with another state department. Such departments are generally headed by a commissioner or superintendent of insurance whose attitude may be friendly or unfriendly toward insurance companies. Insurance departments in some states tend to exercise their supervisory powers with moderation; in others, with severity. Some departments have issued peremptory orders reducing rates, giving companies little opportunity to be heard on the subject. Departments exercise a certain degree of control over agents, who in some states must pass a qualification test. Some departments seem to invite complaints by claimants and press companies ostentatiously, whereas others handle such matters with strict impartiality. Some insurance departments have trespassed on the territory of the courts in their efforts

to bring about settlements, and others have used their prerogative in connection with proceedings for determining loss and damage in a manner which has made these proceedings highly expensive. In some states there are state fire marshals—officers charged with the duty of investigating into the origin of fires—some of whom are honorable and able officers; others, men of mediocre capacity and hampered by political obligations.

The courts of a state do much to make the insurance record. They administer and construe the law, generally reflecting in their decisions the popular attitude toward insurance companies. In some states they are impartial when trying insurance cases but in others, notably South Carolina, Tennessee, Mississippi, and Arkansas, are inclined to render decisions adverse to the interest of insurance companies. Reference to state loss ratios in the previous section will show that the four states named had very high loss ratios for the 9-year period. In some states the courts are empowered to appoint umpires in appraisal proceedings. Some court appointments are good, whereas others surround the appraisal with a political atmosphere. Hostile courts make difficult the successful litigation of improper claims.

Population Groups.—The people of a state will have a popular attitude toward insurance companies which makes itself felt in many of their contacts with insurance representatives. This attitude is the result of the racial and economic background of the people modified by their experience. It finds expression in the way they look on their insurance policies, whether as contracts for protection under which claims should be presented for actual loss sustained or as speculative investments to be turned into the maximum possible amount of cash after a fire. In any state, some claims will inevitably go to litigation; and during examinations or trials the popular attitude will express itself in the way testimony is given and verdicts are rendered.

Descendants of the Colonial population and the Western European races whose immigrants arrived after the Colonial period have generally held friendly attitudes toward insurance companies, except in the agricultural states where agrarian distress is frequent. In New England, however, the population loves to drive hard bargains with the companies when losses are being adjusted, an attitude which is reflected in references and

court trials as well as in negotiations between claimant and adjuster. In the Middle Atlantic states, except the metropolitan area of New York, there is less bargaining and more equity in the presentation of claims, and jury verdicts are less biased. In the South and West, where the population contains a high percentage of farmers and is also individualistic in its ideas, the temper of the people is easily aroused, and controversies are frequent. The popular attitude in states where insurance companies are numerous, as in Connecticut, New York, New Jersey, and Pennsylvania, is generally more friendly than in states where they are few, as in the latter the population thinks of the business as being carried on for the benefit of Eastern or Northern institutions.

Racial stocks from Mediterranean countries, Eastern Europe, and Western Asia have been prone to look on insurance as a speculative venture. Racial antipathies are responsible for many incendiary fires, and certain population groups carry on their feuds by burning out their enemies.

Business coming from stable, intelligent, and law-abiding groups of people is far more acceptable than that coming from transient, low-grade, or lawbreaking groups. In the better population groups the property owned is respected and cared for; physical hazard is therefore less, and moral hazard is far less. Their higher grade of intelligence tends to bring more light and less heat into loss adjustments, more definite information and less guesswork, with resulting greater satisfaction to both adjuster and claimant and less probability of hopeless disagreement and expensive appraisals or lawsuits. Law-abiding groups live better ordered lives than lawbreaking groups; they are less preyed upon by racketeers and crooked politicians and less subject to rivalries, feuds, and dissensions that express themselves in violence to life, limb, and property.

Geography.—Latitude, topography, metal and mineral deposits, soil, lakes, rivers, and proximity to the ocean influence underwriting results by affecting climate and at times by exposing regions and localities to the ravages of the elements.

Risks located in areas subject to earthquake, flood, hurricane, or drought are subject to increased loss, as these disturbances of the elements frequently start fires; breach or demolish fire

walls; break water mains and pipes; delay receipt of alarms; impede the movements of fire engines, trucks, and hose carts; hamper salvage work; and otherwise disable fire protection. With the possible exception of drought, they also tend to cause damage which may be inextricably mixed with fire damage and thus become responsible for difficult and unsatisfactory adjustment, often resulting in litigation. The San Francisco earthquake in 1906, by starting fires and breaking water mains, caused a conflagration which cost the insurance companies some $200,000,000 and filled the California courts with insurance litigation. The flood in the Connecticut River Valley in 1936 overflowed the dike protecting the lower part of Springfield, Mass., and submerged and liberated the fuel-oil supply of one of the large industrial plants. The oil spread over the surface of the water which was about 4 feet deep in the plant, became ignited, and destroyed completely the structure in which it burned. The fire department could not get its hose carts nearer than some 300 yards, and lengths of hose were carried to the plant in rowboats. The Gainesville, Ga., tornado in the same year was followed by several fires which broke out in the wreckage left by the wind. Litigation over several claims ensued. In one hurricane a serious fire broke out near the water front in Mobile, Ala., and was controlled with great difficulty owing to the handicaps experienced by the firemen while trying to keep on their feet and direct their hose streams in the sweep of the storm. The conflagration at New London, Conn., Sept. 21, 1938, was also due to a hurricane.[1] In the West, drought conditions in 1936 were accompanied by a marked increase in the number of fires as property became more and more combustible under the influence of continued dry weather. In January, 1937, flood conditions forced firemen at Cincinnati to wade in water up to their armpits while fighting fire in the Baltimore and Ohio Railroad shops and made fire fighting impossible in several other badly flooded cities.

Wealth.—In wealthy states there are great aggregations of insurable property and large numbers of persons who are desirable policyholders. In the sparsely settled and poorer states there is less insurable property and fewer persons who are desirable as policyholders. When insurable risks are widely

[1] See p. 57.

TABLE XVIII

State	1926	1933	1938
Alabama	$ 8,847,225	$ 5,031,795	$ 5,757,752
Alaska	504,289	229,325	341,671
Arizona	2,040,958	1,336,465	1,638,459
Arkansas	7,581,458	4,032,738	4,669,281
California	45,080,399	28,108,705	29,278,449
Colorado	5,075,806	3,079,420	3,318,388
Connecticut	12,274,229	8,624,160	8,181,482
Delaware	1,013,216	943,402	938,817
District of Columbia	2,632,278	1,750,007	1,670,838
Florida	15,772,568	6,231,698	6,758,154
Georgia	11,010,047	6,781,414	7,183,579
Hawaii	1,090,485	888,482	895,655
Idaho	2,401,279	1,388,742	1,418,993
Illinois	50,281,629	28,529,817	28,717,063
Indiana	15,524,609	9,709,304	10,328,768
Iowa	10,116,065	5,647,160	5,786,622
Kansas	8,326,157	4,708,419	4,430,249
Kentucky	10,231,481	6,905,077	7,371,140
Louisiana	10,272,352	5,878,888	7,120,860
Maine	5,949,926	4,460,319	4,285,092
Maryland	8,805,212	5,830,324	6,042,192
Massachusetts	30,425,810	21,113,880	18,962,803
Michigan	24,179,387	12,758,583	15,169,839
Minnesota	12,950,534	8,163,882	7,447,304
Mississippi	6,449,728	3,762,571	4,687,382
Missouri	19,026,563	11,839,676	10,002,036
Montana	3,606,582	2,149,443	2,376,725
Nebraska	5,303,178	3,276,621	2,993,967
Nevada	777,229	465,128	583,748
New Hampshire	3,487,629	2,862,718	2,881,110
New Jersey	34,496,346	23,662,896	23,345,498
New Mexico	1,306,001	1,031,526	1,256,779
New York	101,452,629	67,157,981	63,390,874
North Carolina	11,359,222	7,019,768	8,178,647
North Dakota	3,315,970	1,887,897	1,615,806
Ohio	31,954,194	18,025,794	19,543,676
Oklahoma	10,031,991	5,166,034	5,262,701
Oregon	6,826,111	4,025,502	3,772,091
Pennsylvania	56,595,034	33,509,761	32,088,553
Rhode Island	4,087,221	2,857,691	2,470,420
South Carolina	5,313,463	3,352,607	3,617,915
South Dakota	2,724,458	1,710,189	1,589,660
Tennessee	11,015,312	6,858,497	7,337,795
Texas	28,817,930	19,315,281	20,373,437
Utah	1,872,678	1,192,947	1,147,012
Vermont	1,386,773	932,321	807,454
Virginia	10,901,545	7,054,447	6,707,561
Washington	10,842,138	6,377,799	7,004,241
West Virginia	8,334,054	4,473,789	4,875,640
Wisconsin	13,675,232	8,631,239	8,487,867
Wyoming	1,363,090	842,571	853,698
Average	$698,709,700	$431,574,700	$434,965,743

separated, the cost of underwriting operations becomes disproportionately high.

Table XVIII shows the premiums written by the stock fire insurance companies in each state and territory for the years 1926, 1933, and 1938.[1] These years show, respectively, the highest premium income of the predepression era, the lowest during the depression, and the income for the last year ended before the publication of this book.

The foregoing figures not only show what part of the income of the stock fire insurance companies is produced by each state but also to what extent the several states were affected by the depression. The greatest decrease in income occurred in Florida, where a great real estate boom built up a large income, which was reduced more than 50 per cent when the boom collapsed and the depression set in. The smallest decrease was in Delaware, a state where conditions were stable.

General Construction.—When considering the probability of fire damage, the type and quality of the construction generally found in the locality will frequently be the deciding factor. In some localities it will be superior; in others, inferior, with various intermediate gradings. If most of the buildings in a block or section were built during the same period of time, their design and workmanship will tend to be similar. Economic conditions during the period will be reflected by the kind of buildings erected. Boom towns and sections are frequently filled with faulty construction and misfit buildings. In the land boom of the late 1880's much Northern capital was lost in Alabama where it was invested in buildings far too commodious and expensive for the communities to support. For years thereafter underwriters were plagued with troubles connected with them. On the other hand, the general construction in communities that have prospered normally and grown slowly is almost always good.

In many localities changes in industry and occupation stopped general building after a rather definite date. Whole sections of cities are filled with characteristic types of building which the underwriter visualizes at once when considering a risk. New York, for instance, is largely filled with fire-resistive con-

[1] Taken from "Fire Insurance by States."

struction below Chambers Street, largely with brick construction between Chambers Street and Fourteenth Street, largely with better construction north of Fourteenth Street, and again largely with fire-resistive construction in the Grand Central zone. All brick buildings of a certain size and type look alike when shown on an insurance map, but there is a wide range in the probabilities of loss in these buildings. A new brick building, for example, built with cement mortar will suffer much less in case of fire than an old building built with lime mortar. The lime mortar disintegrates under heat more readily than cement mortar, and the extent of damage in case of fire is consequently greater. A larger line is warranted on the new building than on the old one. Whole blocks and sections of cities and towns are filled with out-of-date or poorly constructed buildings, which because they are no longer useful are falling into disrepair. These areas are avoided by underwriters. On the other hand, there are blocks and sections which are in every respect desirable, new, properly designed, and of first-class workmanship. When considering business in such an area, the underwriter knows at once that the probabilities are favorable.

Industries or Occupations.—In many states and sections there will be a chief industry or occupation which will determine the economic status of the greater part of the population and also the kinds of property which it will create, accumulate, and offer for insurance. In northern New England, for example, is a large wood-pulp supply and therefore many paper mills. In the South the important occupation is farming, with cotton the chief product. Consequently there are cotton gins. In New York City there are garment-working risks; in Pennsylvania, mining risks and metalworking risks; in West Virginia, glass-making risks; in Texas and Oklahoma, oil risks; and in other states, other kinds of risks created by and dependent upon the chief industry.

Supply, demand, and competition greatly affect values in an industry and consequently affect the degree of care given the property used in it or depending upon it. When the industry prospers, values in it tend to increase, and great care is taken to preserve the property. Values in other property dependent upon it also tend in increase, and underwriting results are

generally good. As an example, the prosperity of the automobile makers greatly increased values in Middle Western cities and greatly increased the prosperity of those cities. But when an industry languishes, the values in it and also the values of other property dependent upon it tend to decrease. The reduction of the demand for bituminous coal, due to the greater use of oil for fuel and the building of hydroelectric plants, made it necessary to abandon many coal tipples and other structures connected with coal mining. The cheaper cost of operating cotton mills in the South has brought about the closing of many New England plants.

If the prospects of an industry become sufficiently unfavorable, decreasing values may lead to incendiarism in the hope of making collections on insurance policies. Many American towns grew up around a single factory or group of factories engaged in making the same kind of product. While the factories prospered, the towns prospered. The factories, as well as the stores, hotels, dwellings, and other risks in the town, were insurable and could be written freely, as they suffered only normal losses. Depressions from time to time produced temporary increases in moral hazard, as shutdowns decreased the pay rolls, and local stores became hard pressed, and employees lost homes by foreclosures. During depressions only the best business was acceptable. With returning prosperity results improved, and underwriting policy again became liberal. Some factories, however, by losing position in their industry, were compelled to shut down and were in time dismantled. The towns around them died. The acceptable business disappeared. Occasionally in such a town a venturesome speculator succeeded in insuring one of the risks which he had acquired at little cost, and fire occurred, to the chagrin of the underwriter who had been too trustful.

When a locality is dependent upon a single industry, underwriting results may be affected by the supply of raw materials used in the industry and by labor conditions. When the supply becomes precarious or the labor conditions chaotic, results become unfavorable. In many sections the exhaustion of timber has stopped the operation and destroyed the value of sawmills. Plants and industries have at times found it impossible to operate profitably because of intractable labor situations.

Many garment workers were driven out of New York City by labor troubles after the World War period, and many shoe factories moved from New England to the Middle West for the same reason.

In a locality where farming is the chief occupation, farm dwellings, barns and other buildings, equipment, produce, and livestock will be offered for insurance from the countryside, whereas warehouse stocks of the commodities produced or dairies or creameries, if the farming is given over to milk producing, will be offered from the towns, as well as the ordinary run of mercantile risks and dwellings. In some sections, chiefly where farms are small, the labor is native American, but the larger farms are very often worked by Negro or immigrant labor. Where farming prospers, there will be little fraudulent burning of risks; but where farmers are in distress, there may be much. Surplus farm production may glut the market for a commodity and cause the price to fall to a ruinous level. When such is the case, incendiary fires may be started in the barns or warehouses where there are large accumulations of cotton, tobacco, grain, or other commodities, to keep the surplus off the market and prevent a further fall in prices. When failure to respect topography and soil causes farm lands to wear out, the population generally shifts, and much property in the locality becomes uninsurable. Occasionally new lands and farming methods destroy the value of old ones, which otherwise would have continued undiminished. For example, the great economy of rice growing on the flat uplands of Arkansas has made it impossible for the old South Carolina rice fields to continue commercial production. In Arkansas the rice growers increase production and reduce costs by the use of mechanical aids in planting, flooding the fields, and harvesting.

Attitude toward Rates and Forms.—In some localities adherence to published rates and standard forms is closer than in others. Business originating in localities where competition is rife may be offered at cut rates under forms that do not contain the usual restrictions demanded by underwriting experience. Acceptance of such business is in many cases necessary to hold other business. In New York the state rating law with its requirements that rates and forms be filed with the Insurance

Department has greatly reduced the competitive market. Local boards and exchanges in many jurisdictions have by examination and audits of the records of the membership reduced to a minimum the use of cut rates and open forms. In other jurisdictions, however, there is considerable demoralization.

Grades of Cities and Towns.—All cities and towns of any importance have been inspected, studied, and graded by the National Board of Fire Underwriters according to water supply, fire department, fire-alarm system, police department, building laws, hazards, and structural conditions. Adverse climatic and exceptional conditions are also considered when they exist.

Adverse climatic conditions are frequency of high winds, snowfall in excess of 10 inches a month, severe cold weather, and hot dry weather. Exceptional conditions not due to climate or weather are those which may offset fire protection and increase the probability of starting fires.

The Grading Schedule is based upon the plan of assigning to the various features of fire defense found in cities of the United States, points of deficiency depending upon the extent of variance from standards formulated from a study of conditions in more than 500 cities; the natural and structural conditions which increase the general hazard of cities, and the lack of laws or of their enforcement for the control of unsatisfactory conditions, are graded in the same way.[1]

It is recognized that climatic conditions affect fire losses, by reason of the frequency of fires due to the heating hazard, by retarding the response of fire apparatus, by hampering effective fire fighting during cold weather and storm, by increase in combustibility due to hot and dry weather, and by the greater probability of fires spreading at time of high winds. Also that earthquakes, tornadoes, hurricanes, cyclones, blizzards, floods and other unusual conditions have an influence on the conflagration hazard.[1]

. . . include frequency and extent of forest fires which might extend into the city; tornadoes, hurricanes, and cyclones which result in numerous fires or interruption of fire service; blizzards and severe snowstorms which impede operation of the fire department; earthquakes of such intensities as to injure buildings [or] water mains, and cause numerous fires, mine cave-ins affecting extensive areas, and floods which cover part of the district considered or cause wide detours of fire apparatus.[2]

[1] National Board of Fire Underwriters, "Standard Schedule for Grading Cities and Towns," 1930, p. 1.

[2] *Ibid*, p. 70.

Ten classes are used in grading, first-class denoting the highest grade; tenth-class, the lowest.

The conditions considered by the National Board affect the fire loss. Other local conditions affect the insurance loss. Among these are local ordinances regulating the use of drugs or foodstuffs which have been exposed to the effects of fire, ordinances generally enforced by boards of health or public-health officers, also ordinances regulating the conduct of fire sales. Building departments in some cities act impartially when dealing with fire damage; others seize opportunities to condemn and require demolition when insurance can be made to bear the burden.

The stock fire insurance companies rely on the reports of the National Board of Fire Underwriters for general information as to construction, protection, local ordinances, and special local conditions and base their systems of lines on the gradings assigned by the Board to the respective cities and towns. Treatment of business in a city or town will take into consideration the fire record. Two towns may be in the same class, but the fire record in one will be better than in the other. Congested areas often have bad records and probabilities because values in them are concentrated and susceptible to heavy loss. Good and bad blocks have their individual records and probabilities. Risks in these blocks also have their individual probabilities caused by the relation of the risk to the block. One risk may be completely cut off from others. Another may be vulnerable from all sides. Some may be exposed through the roof if overtopped by risks whose walls, in case of fire, may fall with crushing force. Conflagration probabilities should affect net amounts carried, in order to prevent the building up of too great an amount at risk in a conflagration area.

In some cities and towns there are areas subject to overflow in time of flood, other areas where streets may cave in because mining operations have been carried on under them, also areas subject to erosion by streams. Risks in such areas may take fire at a time when flood, cave-in, or erosion will prevent the approach of fire-fighting apparatus. Risks so located are often subjects of troublesome adjustment if fire occurs after they have been damaged by any of the perils enumerated, as damage due to fire and damage due to other perils may be inextricably mixed.

Some such risks are intentionally set on fire when danger from another peril becomes acute. Should a loss occur while danger threatens, a difficult question of valuation will be presented, because property which is threatened with destruction has little or no real value unless it can be saved.

To some degree the desirability of business from a city or town will be affected by the attitude which the producers, the public, and their advisers hold toward insurance companies. This attitude may be one of fairness and cooperation. If so, it will insure fair dealing in the adjustment of losses. On the other hand, the attitude may be one of hostility and obstruction, making adjustments difficult, uncertain, and, in many cases, expensive.

CHAPTER XI

CLASS AND RISK

Subject to differences in state and locality[1] the expense of acquiring and handling business is affected by the class of the risk on which the insurance is being written. Class determines (1) the rate of commission that must be paid the producer and (2) the eligibility of the risk for long term as contrasted with annual policies and, in some cases, (3) the channel through which the business can best be written. Class is a guide in underwriting, as the risks in a class are similar in their physical hazards.

Subject to the same differences, the probability of loss on the piece of business will be affected by the (1) character of the risk, (2) value, (3) location, (4) size and suitability, (5) age and condition, (6) record, (7) construction, (8) occupancy, (9) exposure, (10) protection, and (11) interest of the owner or any other person in it.[2]

Commissions.—Commissions payable to producers range from 10 per cent on some classes in the conflagration area of New York City to 35 per cent on preferred classes in some of the *excepted* cities. Graded commissions of 15, 20, and 25 per cent for different classes are common in a large section of the United States. In some cases a contingent of 5 or 10 per cent is payable on the yearly profit made for a company by an agency.

Eligibility for Term Policies.—Underwriting rules prescribe that on certain classes, generally mercantile and manufacturing, no policy shall be issued for a longer term than one year but that on other classes, notably dwellings, churches and schools, mercantile buildings, and sprinklered risks, policies may be issued for 3 or for 5 years.

[1] See Chap. X.

[2] A discussion of how these circumstances affect risks necessitates some repetition.

Channels through Which Classes Are Written.—The various classes of risks as listed by the National Board of Fire Underwriters are grouped as follows:

NON-HAZARDOUS

Buildings and Contents

Class No.

4. Churches and Chapels
8. Public Buildings, Educational Institutions, Hospitals, Asylums and Jails
10. Dwellings (excluding Seasonal and Farm Risks) and Apartment Houses, Private Barns and Private Garages
14. Dwellings and Outbuildings, Summer or Winter only
16. Farm Risks (Buildings and Contents) including Live Stock, Growing Crops, and Hay and Grain in Stacks in Field

MERCANTILE

Class No.

101. Mercantile Buildings, Retail and Wholesale, Warehouse Buildings (excluding Cotton and Tobacco), Office, Bank and Telephone Exchange Buildings
160. Mercantile Stocks, Retail and Wholesale, Household Furniture in Mercantile Buildings, Warehouse Contents (excluding Cotton and Tobacco), Office, Bank and Telephone Exchange Contents

WAREHOUSES

Class No.

256. Cotton Warehouses (no compressing)
276. Tobacco Warehouses, Stemmeries, Prizeries and Rehandling Houses

MANUFACTURING SPECIALS

Buildings and Contents

Class No.

316. Woodworkers, including Saw Mills
324. Metal Workers
386. Textile and Cloth Workers, including Laundries and Cleaning Establishments
390. Mining Risks, all classes (including Mining Dredges)
402. Cotton Gins

420. Cereal and Flour Mills and Stock Food Factories.....
432. Grain Elevators and Warehouses, Terminal and Country.....
460. Miscellaneous Manufacturing Specials not otherwise classified....
464. Oil Risks, Vegetable and Fish, including Oil Tanks.....
470. Oil Risks, Mineral, including Refineries, Derricks, Pipe Lines, Oil Tanks and Sumps.....
474. Food and Food Products Factories, including Breweries, Distilleries, Ice Factories and Wineries.....
504. Sugar Houses, Sugar Cane and Beet Refineries.....

NON-MANUFACTURING SPECIALS

Buildings and Contents

Class No.
626. Cotton Compresses, with Warehouses and Platforms communicating therewith.....
628. Cotton Yards and Platforms not communicating with compress...
650. Lumber Yards, Wholesale, Mill and Retail.....
656. Miscellaneous Non-Manufacturing Specials not otherwise classified, including Builders' Risks and Cotton Floaters.....
670. Railway and Traction Properties, Lighting and Power Plants, and Waterworks.....
682. Tobacco Barns with or without artificial heat.....

AUTOMATIC SPRINKLERED RISKS

Class No.
886. Automatic Sprinklered Risks, All Classes, Buildings and Contents.....

RENT, LEASE, USE AND OCCUPANCY, COMMISSIONS AND PROFIT RISKS TO BE GIVEN THE SAME NUMBERS AS THE CLASSES TO WHICH THEY APPLY.

Whereas all classes are written through agency channels, special classes, such as cotton, oil, and grain, particularly when there are large concentrations of value, are often written through organizations such as the Cotton Insurance Association, the Cotton Fire and Marine Underwriters, the Oil Association and several privately managed oil writing agencies, and the Grain Association. Many sprinklered manufacturing risks are handled for the stock fire insurance companies by the Factory Insurance Association and for the mutuals by the Associated Factory Mutuals Fire Insurance Companies.

Class as a Guide in Underwriting.—The class of a risk indicates to the underwriter what its general character is and what special features should be considered to determine whether its grade is above or below the class average. The following examples from an authoritative publication are reproduced:

DWELLINGS.

Hazards and Processes: Matches-smoking—carelessness, children with matches. **Heating and cooking**—defective chimneys and flues, burning soot, defective oil burning equipment, proximity of combustible material, overheating, starting fires with flammable liquids, hot ashes, range oil burners, oil and gasoline cook stoves and portable heaters. **Housekeeping**—unnecessary accumulations of material in basements, attics, and closets easily ignited; spontaneous ignition of oily rags, mops, dust cloths. **Lighting**—swinging gas brackets; gasoline vapor, acetylene, care of kerosene lamps, candles. **Electrical**—defective wiring, frayed extension cords, improper fuses, overloading of circuits, overheating of appliances. **Other**—boiling over of fats on kitchen stove, home dry cleaning, garage hazards. **Construction**—frame; brick or stone walls add little to fire safety; unprotected vertical openings; lack of adequate fire stops; sparks on wooden shingle roofs; inadequate exits. **Principal hazards**—careless smoking and use of matches, defective chimneys and flues, heating equipment, wooden shingle roofs, poor housekeeping.

Fire Record: Smoking-matches 31%; chimneys and flues 15%; sparks from chimneys on roofs 10%; defective or overheated heating appliances 9%; rubbish and litter 7%; electrical causes 4%; spontaneous ignition 3%; hot ashes and coals 3%, boiling over of fat, grease, tar, wax, etc., 2%; kerosene lamps or stoves 2%; miscellaneous known causes 14%. Approximately 50% of the total number of lives lost in fires are lost in dwelling fires.

OFFICE BUILDINGS.

Hazards and Processes: Common hazards—smoking-matches, spontaneous ignition, defective wiring, heating, power. **Combustible material**—interior trim, furniture, books and papers, awnings, waste paper. **Construction**—type; stairs, elevators, and other vertical openings; unbroken areas, horizontal fire stops; unprotected windows, exposure. **Occupancies**—retail stores on lower floors, large stocks of combustible goods. **Life safety**—alarm system, adequate exits and panic prevention facilities. **Principal hazards**—matches-smoking, housekeeping.

Fire Record: Matches-smoking 47%; spontaneous ignition of oily rags 14%; heating 10%; defective wiring 7%; miscellaneous 22%. Sixty per cent occurred at night. Forty per cent originated in office rooms.

HOTELS.

Hazards and Processes: Electrical—defective wiring and equipment, overheated appliances and equipment, carelessness. **Heating and cooking**—chimneys, flues, oil burners, overheating, ignition of grease on stove or in flue. **Other**—sparks on wooden shingle roofs, especially hotels in small towns and resort hotels—frequently inadequate fire protection at such locations; large amount of combustible construction and furnishings; careless smoking and use of matches by employees and guests; incendiarism; poor housekeeping. **Life safety**—enclosure of vertical openings, alarm system, automatic sprinklers, adequate exits and panic prevention facilities, thoroughly instructed and drilled employees.

Fire Record: Year-Round Hotels—smoking-matches 27%; electrical causes 14%; ignition of grease on stove or in ventilator 11%; stoves, furnaces, boilers, pipes 11%; defective chimneys or flues 5%; miscellaneous 32%. **Seasonal Hotels**—defective chimney or flue 23%; incendiary 17%; smoking-matches 11%; electrical causes 10%; stoves, furnaces, boilers, pipes 9%; sparks on roofs 8%; miscellaneous 22%.

COTTON GINS.

Hazards and Processes: Foreign material in stock—metal or stones produce sparks when striking machinery, matches carried by workers get into cotton. **Static electricity**—charges built up by friction in unloading and distributing systems, cleaners, saws and brushes, belts. Low humidity, dry cotton, and dirty cotton favor formation of electrostatic charges. Eliminate by grounding machinery. **Overheated bearings**—eliminate by use of automatic oilers, machinery alignment and inspection. **Cleanliness**—frequent cleaning necessary, lint and cotton strewn about spread fire rapidly. **Friction**—hot bearings.

Fire Record: Foreign material in stock 42% (many of these, and those reported as unknown, are possibly due to static electricity); lint flue, lint in contact with hot bearings 8%; friction 7%; miscellaneous causes 31%. Incendiary 12%.

CLOTHING FACTORIES.

Hazards and Processes: Pressing irons—not set on ventilated metal stands, source of heat not turned off when not in use; no pilot lights at every electric plug; no master switch to shut off current or master valve

to shut off gas from entire room at end of day. **Cutting and stitching**—highly flammable nature of material, flexible electric cords, lack of lubrication and cleanliness of bearings. **Waste**—clippings accumulate over floor and ignite readily from match, cigarette, or spark; infrequency of cleaning up and baling, storage, waste chute. **Cleaning**—laundry, flammable liquids. **Common causes. Principal hazards**—common causes; overheated pressing irons igniting combustible material; accumulation and ignition of waste material on floors, under benches, around shafting.

Fire Record: Smoking-matches 37%; rubbish or sweepings 17%; miscellaneous common causes 17%. Electric iron 15%; gas iron 4%; miscellaneous special hazards 3%. Incendiary 7%.

FORGE SHOPS.

Hazards and Processes: Forge—sparks from forge and hammer. **Heating furnaces**—sparks, ignition of surrounding combustibles, construction, arrangement. **Fuel oil**—injury to supply pipes, leaking, flooding, overheating of furnace, clogged system. **Annealing**—furnace igniting surrounding combustible material, sparks, hot metal. **Hardening**—furnace overheating, quenching oil overheating. **Tempering**—oil overheating or boiling over, inadequate regulation of oil temperature, ignition of oil by hot metal, heat or sparks from furnace. **Cutting and welding**—sparks.

Fire Record: Torches 13%; forge 12%; heating furnace 12%; fuel oil 12%; overheated quenching oil 10%; miscellaneous special hazards 20%. Common causes 21%.

FOUNDRIES.

Hazards and Processes: Cupola—molten metal, sparks from stacks falling on roof and other combustible material, long continued high temperatures, construction, proximity of woodwork, dumping slag, sparks on hot metal from dumping process. **Pouring**—hot metal splashing over, sparks from molten metal, ignition of woodwork by hot castings; ignition of flasks by hot metal or sparks, overturning of ladle, explosion of hot metal. **Core ovens**—sparks, heat igniting surrounding combustibles, clearance for stack, care of fuel, accumulations of soot in flues. **Fuel oil systems**—injury to supply pipes, failure, flooding. **Torches**—cutting and welding, sparks, injury to equipment. **Other**—sparks from melting furnace, ignition of tar or asphaltum dip, spontaneous ignition of coal or charcoal, explosion of annealing furnace, wooden pattern-making processes.

Fire Record: Sparks from cupola 22%; pouring and casting 9%; core ovens 7%; fuel oil 5%; torches 5%; melting furnaces 3%; defective or overheated stacks 3%; miscellaneous special hazards 16%. Electrical 8%; miscellaneous common causes 22%.

METAL WORKERS.

Includes all other metal working industries not treated separately in this chapter, for example; cutlery, toys, hardware, typewriters, automobile accessories, bolts, engines and other heavy machinery, pumps, guns, sales, printing presses, boiler plate, wire, pipe, etc.

Hazards and Processes: Heat processes—core ovens, foundries, furnaces and forges, fuel oil systems, fuel gas, annealing ovens, hardening ovens, quenching oil, oil tempering; overheating, methods of heating. **Finishing processes**—painting, spraying, varnishing, lacquer storage and handling, waste disposition, spontaneous ignition of residue in spray booths and vents. **Dip tanks**—arrangement, flammable vapors, protection. **Drying ovens**—overheating, ignition of drippings, flammable vapors, vent ducts, construction and maintenance, method of heating. **Welding and cutting**—sparks from. **Oily material**—spontaneous ignition. **Sparks**—furnaces and forges, grinding, machinery, static, electrical (other than static), on combustible roofs. **Other**—friction and hot bearings; dust collectors; lack of cut-off sections for hazardous processes; flammable liquids; boiling over tallow, asphalt, wax.

Fire Record: Spontaneous ignition of oily waste and materials 10%; heat or sparks from furnace or cupola 9%; japanning and lacquering ovens or dryers 6%; fuel oil systems 5%; welding and cutting 4%; tempering or quenching oil 4%; spray booths 4%; sparks from machinery 4%; flammable liquids 3%; miscellaneous special hazards 22%. Electrical 10%; smoking-matches 7%; miscellaneous common causes 12%.

WOODWORKERS.

Hazards and Processes: Boiler and fuel—wood waste, conveyed by blower system, endless chain conveyors, carted in barrels or baskets, fuel deposited in boiler room, fine sawdust, back-fire from boiler unless screw conveyors, steam jets, etc., are used. **Boiler house**—construction, protection. **Stacks and chimneys**—sparks, roof covering, spark arrestors, baffle plates. **Power**—friction, overheated bearings, lubrication and inspection, layer of wood dust on machinery. **Dry kilns**—sparks entering, steam pipes touching combustible material, fans and blowers, oily material, overheating. **Shavings vault**—construction, cut-off, location, dust explosion, automatic vent. **Dust and refuse**—collects on walls and projections, soaked with oil, rapid spread of fire.

Other—caul boxes (small ovens), painting and varnishing, flammable liquids, glue pots, embossing and sanding machines, cleaning and rubbing rags, dip tanks.

Fire Record: Dry kiln 9%; shavings vault 8%; miscellaneous special hazards 11%. Boiler or fuel 24%; power 11%; rubbish or oily material 8%; smoking-matches 6%; chimney or flue 4%; miscellaneous common causes 12%. Exposure 4%; incendiary 3%.

WAREHOUSES.

Hazards and Processes: Common hazards—smoking-matches, accumulation of rubbish and combustible material, heating, electrical. **Stored materials**—the fire hazard depends upon the kind of goods stored, stipulated warehouses will not accept certain hazardous materials, spontaneous ignition, combustible fibres.

Fire Record: Smoking-matches 32%; miscellaneous common causes 41%; spontaneous ignition 8%; miscellaneous special hazards 5%. Exposure 8%; incendiary 6%.[1]

The following material is reproduced from an excellent underwriting guide prepared to assist underwriters in their consideration of risks in the various classes:

ABATTOIRS, SLAUGHTER HOUSES AND MEAT PACKING HOUSES:

Refer Also: Fertilizer Plants, Glue Factories.

Objections: (a) Multiplicity of hazards, such as coopering, carpentering, refrigerating, rendering, meat smoking, gasoline singeing and fertilizer manufacturing.

(b) Proximity of large frame stock pens to main buildings, such pens being littered with hay and straw.

(c) Spontaneous ignition hazard due to presence of animal oils and greases.

(d) Incendiary hazard introduced if plant situated where liable to be considered a nuisance.

(e) Possibility of personal hazard due to adverse municipal legislation.

Qualifications: Requires services of trained inspectors.

CANDY AND/OR CHOCOLATE FACTORIES:

Objections: (a) Numerous special hazards including batch warmers, candy furnaces, cocoa and nut roasting, husking,

[1] CROSBY-FISKE-FORSTER, "Handbook of Fire Protection," 8th ed., National Fire Protection Association.

grinding, sugar pulverizing, starch bolting, cooking, drying and refrigerating.

(b) Flash fire and explosion hazard present in husking, sugar pulverizing and starch bolting operations.

(c) Satisfactory housekeeping difficult due to quantities of loose paper, broken boxes, cotton batting, excelsior and paraffin paper.

(d) Susceptibility of raw materials and finished stock to heavy smoke, fire, heat and water damage.

Qualifications:

1. Adequate public and private protection and/or automatic extinguishing equipment.
2. Hazardous operations to be properly safeguarded.
3. Storage of raw and finished stocks arranged to minimize susceptibility hazard.
4. Requires services of trained inspectors.

CAP FACTORIES:

Refer Also: Clothing and Garment Factories.

Objections: (a) Satisfactory housekeeping difficult due to large amount of cuttings, celluloid scraps, padding and other waste requiring frequent disposal.

(b) Hazards of cutting, steaming, pressing and drying, generally concentrated in a single fire area.

(c) Stocks susceptible to heavy smoke and water damage.

Qualifications:

1. Operations arranged to minimize both special and common hazards.
2. Satisfactory disposal of cuttings, scrap and waste.
3. Either automatic sprinkler protection or adequate private protection and good city fire department.
4. Responsible and experienced ownership.
5. Requires services of trained inspectors.

DOCKS, PIERS AND WHARVES:

Objections: (a) Class characterized by the following:

1. Large open, frame construction without fire breaks.
2. Buildings located over water on piling, with attendant under-draft hazard, which renders them susceptible to rapid spreading of fires.

3. Variable character of contents, frequently including hazardous merchandise.
4. Probability of hazard resulting from floating oil and debris.

(b) As to contents—concentration of high values in stored merchandise.

(c) Such occupancies as restaurants, ship chandlery shops, grain elevators, hay baling, canning, packing and relabeling create serious hazard due to type of construction.

(d) Difficulty of properly safeguarding hazard of sparks from locomotives, steamships, tractors and automobiles.

(e) Except where fire boats are in service, prevailing type of construction makes fire fighting difficult.

Qualifications:

1. Fire resistive construction or automatic sprinkler or fire detection equipment with draft curtains plus good public protection, otherwise acceptable only subject to Home Office approval.
2. Contents acceptable when structure qualifies under No. 1 and merchandise insured is relatively non-susceptible and not subject to undue concentration of high values.
3. Requires services of trained inspectors.

EXPERIMENTAL RISKS:

Note: For Example: New and untried devices, articles or compounds, and/or buildings utilized for the manufacture or storage thereof.

Objections: (a) Personal hazard often prominent due to undetermined merit of product, inexperienced management, and inadequate financial support.

(b) Difficulty of determining values.

Qualifications: Company not to be bound until complete information is submitted and Home Office approval secured.

FERTILIZER PLANTS:

Refer Also: Abattoirs, Slaughter Houses and Meat Packing Houses; Garbage Works; Glue Factories.

Objections: (a) Manufacturing operations introduce special hazards. For Example: boiling, steaming, drying, grinding, pulverizing, mixing, rendering and pressing.

(b) Grease and oil hazards prominent in animal fertilizer plants.
(c) Segregation of hazardous operations often inadequate or entirely lacking.
(d) Buildings often of a structural type not suited to nature of operations.
(e) Spontaneous ignition and explosion hazards severe in certain types of plants due to materials and processes employed.
(f) Possibility of nuisance hazard due to obnoxious odors.

Qualifications:

1. Hazardous operations to be adequately safeguarded and/or segregated.
2. Superior public fire protection and/or adequate private fire extinguishing equipment.
3. Requires services of inspectors familiar with hazards involved and Home Office approval before binding.

HAY BARNS (Concentration*) AND HAY WAREHOUSES:

Objections: (a) Difficulty of controlling or extinguishing fires.
(b) Smoking hazard severe, especially where number of employees are required to handle the hay.
(c) Spontaneous ignition hazard severe.
(d) Where property is situated on a railroad or waterfront, likelihood of trespass hazard.
(e) Hazards due to operation of trucks and tractors.

Qualifications: None.
Bona fide farm barns storing only hay to be fed on premises may be accepted with individual consideration.

MINING AND QUARRYING PROPERTIES:

Objections: (a) Class characterized by:
1. Danger of conflagration due to light frame construction, grouping of buildings and forest and brush exposures.
2. Numerous common hazards in various subsidiary buildings including bunk houses, stables, boarding and lodging houses.
3. Lack of adequate public or private protection.

* Note: A "Concentration" hay barn is hereby defined as one where more than 250 tons of hay is stored and where hay is stored principally for sale or shipment.

(b) Possibility of personal hazard due to:
1. Uncertainty of demand and price for product.
2. Exhaustion of raw material.
3. Promotional nature of many new projects.

(c) Storage and handling of explosives.

Qualifications:

1. Buildings to be of substantial construction.
2. Free from conflagration hazard.
3. Hazards to be safeguarded and segregated, with adequate protection.
4. Requires services of trained inspectors.

PUBLIC HALLS (Dance, Fraternal, Community and Grange):

Objections: (a) Occupancy requires large open rooms which permit of rapid spreading of fires.
(b) Use of highly flammable decorations on lighting fixtures, walls and ceilings.
(c) Installation of temporary and substandard wiring for special occasions.
(d) Hardwood floors subject to severe water damage.
(e) Smoking hazard increased by flimsy decorations and use of paper towels, and soft wood floors (sometimes oiled) in rest rooms.
(f) Buildings unoccupied most of the time and seldom given good supervision.
(g) Rural halls often subject to dry grass hazard during summer months.
(h) Trespass hazard.
(i) Hazard of heating plants unattended and not properly safeguarded.
(j) Prevalence of infrequently used and improperly installed cooking equipment.

Qualifications:

1. Buildings used principally for public dances should be declined unless subject to good public and private protection.
2. Adequate supervision and careful maintenance.

SCHOOLS:

Objections: (a) Class (except in the case of modern, fire resistive construction) characterized by construction of a type which facilitates rapid spreading of fire.

(b) Lack of adequate supervision when buildings are not in use conducive to fires started by trespassers or incendiaries.
(c) Operation of manual training and domestic science departments and chemical laboratories without adequate safeguards.
(d) Operation of motion picture machines with unapproved booths or inadequate safeguarding of equipment.
(e) Personal hazard encountered due to dissatisfaction over consolidation, replacement, location or abandonment of buildings or on account of disgruntled students or parents.
(f) Acquisition and inspection cost and expense of retaining business (especially city schools) usually out of proportion to premium obtained, due to inadequate rates and political influences.

Qualifications:

1. Good maintenance and safeguarding of operations in manual training, domestic science and laboratory departments.
2. Motion picture machines operated in approved booths and adequate safeguarding of equipment.
3. School well attended and suited to present needs of community.

TAXIDERMISTS' SHOPS:

Refer Also: Fur Stores, Retail.

Objections: (a) Nature of business makes common hazards unusually severe—due to use of excelsior, tow, and other combustibles, scrap accumulations of which are difficult to avoid.
(b) Certain special hazards introduced in tanning, glue and wax heating, hand carpentering, shellacking and acid storage.
(c) Stocks highly susceptible to damage and difficult to appraise in event of loss.

Qualifications: Stocks not acceptable—building and equipment, however, may be written where conditions are favorable.

TOBACCO BARNS:

Objections: (a) Hazards of open fires or unsafe flue arrangement.
(b) Poor housekeeping conditions when stripping and

Qualifications: Company not to be bound on following types of risks:

1. Those in which open fires are used or with unsafe arrangement of flues.
2. Where stripping and/or stemming is done.
3. Barns for storage only, with satisfactory heating arrangements, ordinarily acceptable.

TURPENTINE AND RESIN FACTORIES:

Objections: (a) Special hazards, including distilling of crude turpentine or resin, condensing, extracting and screening, usually employing direct fire heat.
(b) Storage of highly flammable oils and gums.
(c) Spontaneous ignition and dust explosion hazard in powdered resin.
(d) Fires spread rapidly and are difficult to extinguish due to accumulation of resin and gummy substances.
(e) Depletion of crude turpentine supply likely to cause unprofitable operation or abandonment of plant.

Qualifications: Company not to be bound without Home Office approval.

VARIETY AND 5-10-15¢ STORES:

Objections: (a) Usual type of merchandise and decorations highly flammable and subject to heavy smoke and water damage.
(b) Good housekeeping difficult particularly in Receiving and Shipping departments.
(c) Difficulty of effecting satisfactory loss adjustments due to uncertain values of stock.

Qualifications:

1. Unquestionable financial responsibility.
2. Superior public and/or first aid protection.

WOOLEN AND KNITTING MILLS:

Objections: (a) Numerous special hazards including picking, garnetting, drying, carbonizing, carding, dusting and singeing.
(b) Spontaneous ignition hazard present due to materials used.
(c) Operations frequently congested and in single area.

Qualifications:

1. Segregation and/or safeguarding of hazardous operations.
2. Requires services of trained inspectors.[1]

[1] Northwestern Mutual Fire Association, "Underwriting Guide," 1932.

Character of Risk.—In the combination of building and contents constituting a risk, the occurrence of accidental fire and the resulting damage will be dependent upon the susceptibilities of the building and the contents to combustion and damage. These susceptibilities are increased by construction and arrangements which are faulty and decreased by those which are in keeping with fire-prevention standards. Susceptibilities are also decreased by efficient fire protection. The lowest average loss occurs in risks which seldom take fire, which burn slowly, and which are hard to damage. The fire-resistive office building of many floors and rooms, each properly cut off, is the criterion. The highest average loss occurs in risks which frequently take fire, which are subject to explosive fires or flash fires, which burn quickly and are easy to damage. A fireworks factory which conducts all operations from unpacking raw materials to shipping finished product in a single congested open room in a frame building is an example.

Composition and Form of Materials and Articles.—Chemical composition primarily determines the character of building material or articles of contents, as combustible or noncombustible; also as susceptible or not susceptible to damage by fire, heat, smoke, water, or falling debris. At one end of the combustible scale are the gases, explosives, and volatiles, among these hydrogen, acetylene, trinitrotoluol, gasoline, and alcohol; at the other end the metals and minerals, iron, stone, and the burnt-clay products, brick, tile, and terra cotta. But the form of the material or article and in some cases its size must also be taken into consideration, as in many instances both these affect its susceptibility to combustion or to damage. Hydrogen gas, gasoline, paper, and wood are combustible; the first two are so easily ignited and explode or burn so fiercely that they are listed among the materials and substances of highest combustibility. Whether in large or small quantities, they ignite and burn with characteristic suddenness. But paper and wood, though combustible, are less easily ignited and do not burn so rapidly. Furthermore, they can be made into a variety of forms and sizes which greatly affect the ease of their ignition and the speed of their combustion. A strip or sheet of tissue paper or a thin wood shaving will take fire from the touch of a very small

flame and burn quickly. A tight roll of wrapping paper, however, cannot easily be ignited and will at times go through a serious fire without being consumed. A heavy dressed pine timber is not easy to burn unless it is surrounded by lighter material which will act as kindling; if it is round rather than square, it will be very hard to ignite. On a smooth wood floor, fire may originate in a small quantity of paper or packing boxes and burn itself out with no greater injury to the floor than scorching or charring. A heavy brick wall will withstand the attack of fire, whereas a light one will fail. Water will do no damage to heavy rough timber, which is usually piled in the open and therefore wet every time it rains; but it will play havoc with the higher grades of dressed boards, with wood furniture, or with almost any form of finished woodwork not specially designed or treated to resist its action. Light machinery will be hopelessly bent or broken by falling debris, but heavy machinery will survive a similar ordeal with moderate loss.

Arrangement.—Some arrangements increase susceptibility to combustion or damage, whereas others decrease it. Brick walls and a slate or metal roof make it hard for fire to take hold of the outside of a building. Frame walls and a shingle roof make it easy. A brick chimney passing through a frame roof provides a safe outlet for heat, smoke, and sparks. The warehouse with fire walls separating the compartments from one another does not often have more than one compartment involved by fire. Housing, packing, and use in many instances increase or decrease susceptibilities. In congested premises, excessive losses on contents are of common occurrence. If the contents are combustible, fire will have convenient fuel to feed upon, and firemen will have very little opportunity to do effective work. After a fire in congested premises, it is often difficult to prevent further damage, because contents cannot be spread out for drying, examination, or reconditioning. Stock that is well packed is less likely to be damaged than stock poorly packed. As an instance, dry goods in bolts packed in bales for export will suffer less from smoke and water than dry goods in bolts in paper-wrapped packages. Stock on skids will not be wet by water running over the floor, but stock standing on the floor itself may be damaged badly.

Value.—When property which is insured would be rebuilt or replaced if destroyed and therefore has an actual cash value equal to reconstruction or replacement cost, subject to moderate depreciation, it will generally be cared for properly and will not be set on fire for the purpose of collecting insurance, because it is worth as much as the amount collectible. If it is adequately insured, say for 80 per cent of its value, the insurance loss in case of fire will ordinarily be in proportion to the extent of the fire damage, because in connection with property worth replacement cost a regular relationship between value and 80-per-cent insurance and a parallel relationship between percentage of damage to property and percentage of loss payment to insurance can exist. Any loss on such property can ordinarily be adjusted satisfactorily, because when property is worth replacement cost the amount of loss is determined by the cost of reconditioning, repairing, or replacing. But in connection with property worth materially less than replacement cost, there is a very different situation. There may be a relaxing of care if it is insured, particularly if the insurance is enough to make the owner interested in trying to collect it. If it is equal to replacement cost, it becomes an incentive to arson. If it is limited to the actual value of the property, it may be that the insurance will be only, say, 40 per cent of the replacement cost. In that case the relationship between percentage of damage to property and percentage of loss payment to insurance may be anything but parallel. Such is very frequently the case when a building which is badly depreciated as the result of obsolescence is insured. Because of low actual value the building will properly be insured for much less than replacement cost. In case of damage requiring repairs at the current prices of new material and labor, the insurance loss will be disproportionately high. The material replaced might have lost not more than 10 per cent of its value because of wear and tear, whereas the risk as a whole might have depreciated 50 per cent because of obsolescence. If it is insured for 80 per cent of its actual cash value, the insurance carried will be only 40 per cent of replacement cost. The percentage of any insurance loss on such a risk following a damage necessitating repairs will therefore be twice as great as it would be following the same damage and same repairs on a similar

risk which has an actual cash value equal to replacement cost and is insured for 80 per cent of that value. Even the use of average or coinsurance clauses will not protect the underwriter from disproportionately large partial-loss payments on depreciated property, particularly obsolescent property, which must be repaired after a damage. The provisions of the clauses apply to the actual value of the property and not to its replacement cost. The inadequacy of these clauses in connection with idle or obsolescent property led to the adoption in New England of the following special depreciation clause designed to remedy the situation:

> In consideration of the rate of premium and the amount of insurance for which this policy is written it is understood and agreed in the settlement of a partial or total loss on buildings and (or) machinery, the assured hereby agrees to accept the same scale of percentage of depreciation on the damaged or destroyed portions as are used in fixing the total value of the damaged and undamaged portions and the assured further agrees that all losses shall be settled accordingly.

It is therefore evident that risks worth materially less than replacement cost are not to be accepted too freely or for large amounts. A protected business in which there are an excessive number of such risks must eventually show a high loss ratio, as the premium volume received will be insufficient to care for partial losses, which are more than 90 per cent in number of all losses. On unprotected business subject to total loss, underinsurance is not so damaging. On both protected and unprotected business, probabilities of incendiarism may arise when insurance is in excess of actual value.

The value of property in relation to replacement cost is usually indicated by its state of repair and usefulness. A valuable building is generally in a high state of repair and of a design that makes its use profitable, convenient, and comfortable. Valuable machinery is generally properly housed, free from defective or broken parts, and kept lubricated and adjusted to operate at its greatest efficiency. Its design is suitable to the work expected of it, having for its aim economy of power consumption and effective performance. Valuable merchandise is generally sound; properly packed, stored, or displayed and of style, quality,

and quantity in keeping with trade demands. Valuable furniture and other personal possessions are generally sound, well cared for, and in quantity and variety suited to the needs or pleasures of the owner. The ordinary indications of lack of value are deterioration, obsolescence, and in some cases poor assortment. Dilapidated and weather-worn buildings and buildings of obsolete type are seldom worth the cost of holding. Worn, patched, or out-of-date machinery cannot be operated in successful competition with new and can seldom be sold for more than scrap value. Accumulations of discarded machines and parts are often nothing but junk. Merchandise deteriorated from age, shop wear, or faulty storage will not sell. Much merchandise depends upon style to attract buyers and, even if kept in good condition, will become unsalable if the style is outmoded. At times a glut in the market destroys the value of merchandise. To produce a steady volume of sale, the articles in a store must be properly assorted; otherwise part of them will be sold off, leaving the rest on hand to deteriorate and become worn and possibly obsolete. Furniture and personal possessions, if worn, broken, or mismatched, may lose their usefulness. Used articles of this kind are difficult to sell even when in good condition and sometimes cannot even be given away. The wardrobe of a dead person can seldom be sold for more than old-clothes' prices.

The owner of property worth replacing rarely sets fire to it intentionally, but there are some kinds of valuable personal property which attract thieves who may try to hide traces of their theft by setting fire to the premises.[1]

If a piece of property is threatened with loss of value in the near future, the owner has an incentive to turn it into insurance money. Any risk made up of rapidly deteriorating property or property that tends to become obsolete quickly as a result of rapid changes because of new methods or inventions, new avenues of transportation, or even the changing habits of the population is to be scrutinized closely. Manufacturing risks whose supplies of raw materials are threatened with exhaustion or whose product must compete with newer and more efficient plants, or plants which have better labor conditions, have an uncertain future

[1] See pp. 258–261.

value. Risks dependent upon agricultural products lose value when the croplands that supply them wear out or are blighted by climatic conditions or ineradicable pests. Mercantile risks whose trade is gradually won away by newer methods of selling head toward bankruptcy. Occasionally a risk is menaced by some destructive agent such as flood, erosion, or landslide, which in time will destroy it. Such a risk has a negligible future value. Some risks depend on political favor for the funds necessary to sustain them. If they are hobbies of politicians or groups and are of no real service to the community, they are apt to be abandoned when the tide of politics turns. Experimental ventures have a doubtful future value.

The value of property in relation to its volume or to the space occupied by it sometimes affects the loss in case of fire, as great value in small size makes property highly susceptible to damage.

Property that is unusual may be of such uncertain value that, in case of damage, much trouble and expense and little satisfaction will attend the adjustment of loss. A newly invented mechanism, a painting, or a manuscript just being finished may be valuable, but it will generally be difficult to determine its cash value.

Location.—Location determines whether a risk will be accessible, what neighborhood influences will affect it, and what reactions it will cause in the neighborhood. In many cases, because of unfavorable location, a risk is an undesirable piece of property and a poor subject for insurance. Accessible risks are subject to inspection at minimum cost and also enjoy a better degree of protection than inaccessible ones. In risks under constant observation by the passing public and the police, the chance that a fire will gain great headway before it is discovered and an alarm is given is less than in those which are not so situated. The isolated risk invites intruders. The inaccessible risk is seldom a good one, as it does not enjoy the same degree of fire protection as the accessible one which the fire department can reach quickly and easily. It is not so frequently under the scrutiny of neighbors, passers-by, and the police. If fire originates in it, discovery will generally be late, the giving of an alarm delayed, and heavy loss may be expected.

Location may expose a risk to damage by flood, erosion, cave-in, or landslide or may be such that one or more of these forces will make it temporarily impossible for fire apparatus to reach it. Flood damage sometimes follows the breaking of a dam or the rupture of an aqueduct or water main, and cave-in occasionally occurs from mining and excavating operations and at times from erosion. Bluffs and embankments along many streams and rivers are slowly eaten away by the water and crumble, carrying down any property located on top of them. Landslides are infrequent, but property located at the base of hanging cliffs or steep mountain sides is occasionally injured when rain, frost, or gradual disintegration causes a surface slip or rockfall.

Location may affect the economic conditions attending the use of a risk and the class of persons who pass it or visit it. Certain areas are given over to wholesale trade; others, to retail. In wholesale areas a retail mercantile venture will rarely be able to succeed. The flow of potential retail customers through the areas will be too small. In the retail areas themselves there will be locations, blocks, and even sides of streets where business has a hard struggle to survive.

Risks subject to neighborhood influences which severely depreciate their value present the same features of undesirability as other risks which are worth materially less than replacement cost. Fumes from a near-by chemical plant may make property undesirable because of offensive odor or may actually deteriorate materials because of corrosive qualities. Risks which are nuisances because of smoke, noise, or the assembly of disorderly or unwanted groups of persons are apt to be set on fire.

The well-located dwelling, assuming that it is owned by an intelligent person possessed of adequate means, will be cared for because it is a thing of value. The chance of its taking fire by accident will be kept down to the minimum, and there will be no incentive for the owner to set it on fire. Depreciation will be slight—wear and tear only. So far as location is concerned, the dwelling, its contents, or its rental value will be good subjects of insurance. But consider the dwelling that stands by itself in the center of a real-estate development that failed to work out as planned. The owner feels the burden of it and sees no reason-

able chance of selling it except at a sacrifice figure. He gives it minimum care: and if it is insured, the chance of realizing more out of his insurance than he can hope to realize out of the property itself may induce him to set it on fire. In some cities zoning ordinances prohibit certain occupancies in certain areas. Such an ordinance may reduce or destroy the value of a risk by prohibiting its use for the purpose for which it was erected. Risks to which access has been cut off or from which transportation facilities have been withdrawn suffer great reductions in value.

Size and Suitability.—The size of a risk or lot of property, together with its suitability for the use to be made of it, will in many cases affect its value and, in some cases, the extent of damage it will suffer in case of fire.

Size.—Certain sizes are normal for risks of a given class and for lots of property of a given kind. Risks and lots may be oversized or undersized. A comparison of a risk or lot with others of the same kind will show at once any great variance from normal size. The risk of abnormally large size is apt to be burdensome and ordinarily would not be replaced if destroyed. It falls into the category of property worth materially less than replacement cost.

Throughout the country the normal-sized dwelling is looked on as one of the best risks. In almost all cities and towns there are many instances of large-size dwellings that are no longer suitable for occupancy by single families. Unless these dwellings can be rented as boarding houses, small sanitariums, clubhouses, or meeting houses for groups of people, they stand untenanted. Oversized dwellings have proved to be poor risks. In some of them there have been accidental fires which originated in unoccupied and infrequently visited sections, whereas others have been set on fire because of the owner's inability to support the property.

The very large risk which is highly combustible may, on taking fire, produce so much heat that firemen cannot get near enough to it to use their hose streams effectively. This was notably the case when the Schenley whisky fire occurred at Lexington, Ky., where four large warehouses burned. No fireman could stand at a hose nozzle within fighting distance of the structures.

A very large quantity of a single commodity housed in an undivided risk may suffer heavy loss in case of damage, because the quantity will overtax the available salvage facilities. So much damaged material may have to be moved and reconditioned that sufficient space and labor will not be available to complete the work before further damage accrues. In the early days of cottonseed-oil-mill expansion, many millowners built very large seed-storage warehouses to provide for their needs throughout the crushing season. One of these large seed houses burned without doing any damage to the adjacent mill. The adjuster handling the loss found that if an attempt were made to work up the salvage seed, much of which was only wet and otherwise undamaged, the capacity of the mill would not permit completion of the work in time to prevent fermentation and spoilage from reducing a large part of the seed to a valueless mass of vile-smelling debris. It was therefore necessary to sell the salvage to a buyer who was able to charter two mills at a crushing point some 300 miles away and ship the seed to them by rail. The necessarily great expense of such handling resulted in a comparatively low ton price for the salvage and a much higher percentage of loss under the insurance than was ordinarily sustained under policies covering the contents of seed houses. In some instances the quantity of salvage may be great enough to glut the market. A loss occurred in a New York warehouse in which a large quantity of straw braid, imported for the manufacture of hats, was on storage. The poorer lots of salvage, which were sold first, brought good prices; but when the better lots were put up, the salvors found that they had oversold the market, and the better lots actually brought less than the poorer ones.

A very small risk is likely to sustain severe damage before the fire department can get to it. If it is of light, quick-burning construction, it may be completed destroyed. The very small risk is often occupied by an inferior type of occupant. The undersized dwelling, for example, is frequently inhabited by tenants whose economic condition does not make for care of property and orderly living. Furthermore, the small risk may not produce a premium large enough to warrant the cost of handling.

Suitability.—Risks and property are at their best when they are suitable for the uses being made of them. When they are not, they suffer the inevitable troubles and loss of value that accompany makeshift arrangements. In some cases, unsuitable use will increase the probability of fire; in others it greatly depreciates value. The suitable risk is generally worth replacing; the unsuitable is not. In many cases, buildings that are sound and even modern become unsuitable for their original occupancies because of neighborhood transformation or other changes and are "white elephants" on the hands of their owners. During prohibition times, breweries were notable examples. The war period brought into existence many plants which used buildings erected for other purposes, with the result that there were a number of losses due to carrying on in one type of building operations that should have been confined to another and some which were undoubtedly caused by the desire to convert the plants into insurance money and get a fresh start in more suitable structures.

The improperly designed and equipped manufacturing plant which has never been profitable, the resort hotel built for a patronage that never developed, the store that stocked up on articles the public did not buy are all examples of unsuitable risks. Suitable or unsuitable contents in home, store, or factory will be suitable or unsuitable subjects of insurance. When suitable, there will be proper use and normal value; when unsuitable, there may be neither. Overburdened attics and basements in homes are often filled with useless articles which are valueless but which after a loss may be very troublesome subjects of adjustment. Obsolete, shopworn, end-of-season, and deteriorated stocks fall into the unsuitable class with slow sales or a high percentage of rejections and returns evidencing loss of value. Accumulations of discarded machine parts in factories and dead patterns in foundries are other examples of unsuitable property.

Age and Condition.—The age and condition of property in many cases indicate what may be expected if it is insured. The age of property almost always affects its value as compared with replacement cost and sometimes also affects its susceptibility to loss. The condition of property may likewise affect its value and susceptibility. A piece of property generally has an expected

time period of value and usefulness. Some pieces have states of immaturity during which they are beset by troubles which may destroy them. The manufacturing plant built as an experimental venture is an example. It may turn out to be a profit maker, or it may fail completely. The record of experimental ventures has been bad. Some have succumbed to unexpected fires due to improper combinations of hazards and contents; others, to the burdens of financial failure. The experimental venture may be a matter of contents only. New styles in wearing apparel may prove unpopular and by not selling cause the manufacturer or merchant a heavy loss. With some kinds of property a particular hazard of loss exists while the property is new. As an instance, new hay frequently heats because of insufficient curing in the fields and at times spontaneously ignites. New machinery develops hot bearings.

Except for experimental property, new property is almost always more valuable than old. Certain wines and liquors and products that require seasoning or curing increase in value for a time. Valuable antiques may also increase in value. But with ordinary property, increase in age brings loss of value. Depreciation progresses with the passage of time, dependent for its degree upon what forces are operating to deteriorate the property and how those forces are opposed by others that tend to preserve it. As property ages, defects start to appear, some of them being of a nature that increases the chance of fire or the extent of loss. Cracks are likely to develop in old chimneys or in masonry that is supposed to protect woodwork from fire, such as brick or concrete beds resting on timbers under boiler rooms. Roofs deteriorate, old shingle roofs in particular offering easily ignited kindling to any flying spark. Old brick walls are less fire resistive than new ones, as the mortar tends to lose its strength with passing time. Fresh food stocks are easy to sell; old ones are often unfit for consumption; many stocks that have not been pushed when there was a market for them become outmoded and valueless.

Old businesses often lose their ability to compete with others, in some cases because of obsolete equipment or out-of-date ideas on the part of the management; in others, because competitors arise who are nearer the sources of raw materials or

who have better labor conditions, transportation costs, or other advantages. Often depreciation is accelerated by obsolescence, as new materials, processes, or styles supersede old ones. The progress of depreciation due to wear and tear is normally retarded by care and maintenance, as is the case when buildings are kept weather tight and well painted. A building may have been erected at a time when construction standards were good or at a time when they were bad. In the past, real-estate booms have been responsible for much hurried and inferior construction. For the past 30 years, however, there has been a trend toward better fire-resistive design in almost all structures.

Property, regardless of age, may be in sound condition or may be damaged. Damage always reduces value, and in some instances it also increases the chance of fire, as is the case when a chimney is cracked by the settling of a building or the force of the wind. Fires almost always follow earthquakes, tornadoes, and hurricanes. In other cases, unrepaired damages unfavorably affect adjustment results. Decorations, finish, or plaster is sometimes damaged by leaks in roofs or plumbing; and after a fire it will be difficult to separate the old damage from the fire damage. Property may have been in good condition at one time but through neglect or mistreatment may have come to be in poor or even dangerous condition. A building, good at one time from an underwriting standpoint, may have been allowed to get out of repair because of age or may have been injured by severe usage. In one large concrete storage risk, floor cracks developed, and excessive water damage on lower floors followed fires on floors above. Additions or alterations that increase the hazard may have been made, emergency flues installed, wiring run in an unsafe fashion, unguarded hazards introduced, safety devices allowed to get out of order, general care and administration allowed to become lax, contents improperly stored, or perhaps other unfavorable circumstances allowed to come into existence. Increased probability of fire and of unsatisfactory adjustment attend property which is to be demolished or which has been or is to be condemned, also any property which may be threatened with severe loss in value or with damage or destruction from causes other than fire. On the other hand, a risk once in bad condition may have been reno-

vated or improved, reversing one or more of the circumstances enumerated.

Clean property is normally more valuable than dirty property and also less likely to cause trouble in adjustment if damaged. On clean property the evidence of damage by fire, smoke, or water will be distinctly marked, whereas on dirty property it is often impossible to determine with any real certainty where fire damage ends and discoloration or other change in condition, due to dirt, begins.

In risks which are free from congestion, damage by fire will be less than in those which are not. Congestion often causes fire through crowding combustible contents against hot surfaces and very often delays the discovery of fire until it has made considerable headway. Congestion always handicaps fire-fighting and subsequent salvage operations. Prolonged storage of masses of bituminous coal or charcoal, a kind of congestion, is conducive to spontaneous combustion.

Risks which are occupied or operating, if they are industrial risks, are better subjects of insurance than those which are unoccupied, vacant, or idle. In the one case, they are receiving their normal supervision by the persons who come and go in them, and they are also valuable because they are useful. In the other case, they may suffer from the carelessness or willfulness of trespassers and will be less valuable, perhaps to the degree of making the owners wish that they could convert them into insurance money.

Risk Record.—The past record or history of a risk will in some cases indicate what may be expected of it in the future. All insurable property was originally erected, manufactured, produced, or assembled by some person or persons. Since that time it has been owned, occupied, or used and generally insured. It may have suffered fire damage. Buildings erected by some builders have been noted for superiority; those erected by others, for inferiority. The original cost of any piece or collection of property, the outlay on it, the income derived from it, or the use or sales made of it or from it may be guides to its present value or lack of value. The record may show that the property has been useful or salable or that it has not been. Manufacturing plants and mercantile ventures will often show a consistently

good or bad record for success. Some are always making money; others, always running behind and being closed and reorganized. Past owners and past occupants of tenant property may or may not indicate the type of the present owners or occupants. But by contrasting past and present types, some forecast can be made of what the present type will do or experience. The record of past insurance of the property; amounts carried and forms; and the names of the agents, brokers, or companies interested may reveal desirable or undesirable features. Finally, the record of any fires, burglaries, earthquakes, storms, or floods that may have involved the risk will throw light on its probabilities of future damage.

Construction.—Buildings are classed as fireproof or fire resistive, brick, stone, veneer, ironclad, and frame. The fire-resistive building ordinarily experiences the lowest loss; the frame, the highest. The design of a protected building, the kind and quality of the materials, and the grade of the workmanship affect the extent of loss in case of fire and therefore the amount of loss under any items of insurance that may cover the building, betterments and improvements, contents, rents or rental value, use and occupancy, or leasehold.

The design, materials, and workmanship of a building will be such that, together with the contents, they will tend to (1) prevent or cause the start or spread of fire in the risk, (2) make building or contents burn slowly or quickly, (3) make fire fighting effective or ineffective, (4) make building or contents slightly or highly susceptible to damage, (5) permit prompt repair at normal cost or only at excessive cost or after great delay.

In the ordinary building, the materials and workmanship will be replaceable, and therefore the value of the building can be estimated with considerable accuracy. Occasionally, however, they will not be replaceable, and in that case the problem of valuation or of fixing the amount of loss, if the building should be damaged, may be difficult. At times the presence of defective or inferior materials or the existence of old damage which had not been repaired before the fire will make adjustment difficult. Taken in conjunction with the occupancy, exposure, and protection, construction determines the amount that the underwriter should carry on a risk. Line sheets generally provide lines for

three standard risks of the same class in the same town: (1) fireproof, (2) brick, and (3) frame, and a multiple of these lines for risks equipped with automatic sprinklers. In connection with some risks there is no construction to consider. Lumber, for example, is frequently piled in the open; in the past, congestion at cotton-handling points has occasionally made it necessary to stand cotton bales in the streets or even tier them up on open lots and cover them with tarpaulins. But most policies cover risks that are either buildings or contents or the rents, use and occupancy, or profits on the one or the other and therefore require that before insuring them the underwriter consider the construction as one factor in estimating the probability of accidental loss.

Desirable and Undesirable Features.—Construction standards have been set up for practically all classes of risks, notably for office buildings, schools, powerhouses, warehouses, department stores, cotton mills, mercantile and manufacturing buildings, garages, dwellings, and barns. Standards have been established by the cooperation of architects, builders, engineers, and underwriters. The National Board of Fire Underwriters has fostered cooperative efforts and also the passage of state legislation and municipal ordinances making many standards mandatory. Many of the standards for sprinklered manufacturing plants have been worked out by the Factory Insurance Association and by the Factory Mutuals. The important standards are those prescribing the materials for walls, the thickness of walls according to their heights and functions, the materials and arrangements of roofs and floors, their supports, and floor and wall openings. It is assumed that the reader is familiar with building standards. They are important factors in schedule rating. Standard construction is desirable; substandard, undesirable. But at times desirable or undesirable features in the construction of a risk are not disclosed by the rate or the standards on which the rate is based, as the construction may embody unusual, irreplaceable, defective, or inferior materials.

Start or Spread of Fire.—The ordinary inferiorities and defects in construction which cause fires are (1) defective and inadequate chimneys, cupolas, and flues; (2) flammable roof covers; and

(3) concealed spaces. The inferiorities and defects which increase loss if fire occurs are (1) open spaces; (2) inaccessible and concealed spaces; (3) flimsy materials; (4) joists and supports; (5) openings in floors, walls, and roofs.

Defective or Inadequate Chimneys, Cupolas, and Flues.—Unsafe chimneys, cupolas, and flues are dangerous in any structure that is combustible or that contains combustible contents. They may be unsafe because of insufficient size to carry off the heat and gases or because their walls are too thin to effect proper insulation of the heat or flame inside from the woodwork or other combustible material immediately outside. Or in building them the workmen may have been careless and left openings through which flame or sparks can escape. Sometimes beams or other wood members are improperly set into chimney walls. Unsafe conditions also arise at times from lack of repairs or maintenance, as when mortar joints in chimneys or brick flues break down or when metal cupolas and flues, particularly those made of inferior material, corrode and develop openings.

Flammable Roof Covers.—Roof covers are classed as flammable or nonflammable, with the wooden-shingle covered roof at one end of the insurable scale, and slate, tile, metal, and composition-covered roofs at the other. Thatch-covered roofs are rarely found and are practically uninsurable. Roofs provide a landing place for flying sparks from near-by chimneys or smokestacks, from passing locomotives, from rubbish, from brush or forest fires, and from exposing property. Nonflammable roof covers prevent such sparks from igniting the buildings. The flammable roof cover often takes fire from sparks. A combination of dry weather and high wind subjects the shingle-covered roof to a severe test whenever a spark falls upon it. There are many shingle-roof fires in America, most of them in the South where the combination of the pine shingle and the use of wood for fuel is, particularly in dry weather, a menace.

Concealed Spaces.—Concealed spaces, such as those behind cornice facings or between studs or joists, may attract nesting birds or rodents which will bring in sufficient inflammable litter to act as kindling for the adjacent woodwork if a spark is blown in. Blind attics are also often used for nesting places by birds which can get through ventilator openings. Rats and mice are

suspected of occasionally starting fires by bringing nonsafety matches into accumulations of inflammable litter. Fires originating in concealed spaces are relatively few. When open electric wiring passes through such spaces, there is an added possible cause of fire.

Open Spaces.—In all classes of construction the extent of open spaces is important. Large open floor areas favor rapid spread of fire and extensive loss. In well-designed risks, large areas and spaces are reduced when possible by fire walls which cut the risk into divisions. Even in fireproof or mill-constructed buildings, there may be enough combustible contents to cause serious loss to the structure itself if fire can spread throughout it without hindrance, as was disastrously shown by the severe fire damage to the Riverside Church in New York, a structure planned to be the last word in fireproof construction but necessarily open from end to end of its spacious nave. Building operations had reached the stage of attaching the finished tiles to the vaulted ceiling; and in order to provide scaffolding for the workmen, frame supports and treads had been erected on steel crossbeams carried on steel girders some 50 feet above the floor. The scaffolding caught fire on a cold, windy winter night, and the flames swept throughout the structure with nothing to check their progress, completely wrecking the interior and doing damage to much of the steelwork in the tower section. So extensive was the damage that the cost of repairing it exceeded $1,800,000. Since this disastrous loss the use of combustible wood scaffolding has been superseded in fireproof building operations by scaffolding with metal uprights and wood treads, the latter chemically treated to reduce their susceptibility to ignition. This severe single-risk loss in New York City served as a most impressive illustration of the fire danger connected with large open spaces, a danger of which every experienced underwriter is well aware.

Inaccessible and Concealed Spaces.—If the design of a building is such that there is easy access to all parts of it and they are under constant inspection, there is less chance of fire's originating and gaining headway than if the design has produced inconvenient or inaccessible spaces which are seldom visited and difficult for firemen to enter. Inconvenient and cut-up basements are examples. The spaces between studs in frame con-

struction will cause the spread of fire from basement to roof if there are no fire stops. Inaccessible shafts carrying piping or wiring often accumulate dust and trash which may be responsible for fire's starting in them and burning from basement to roof. Costs of repairs in such shafts are very high. Any concealed space makes fire fighting difficult, as chemicals and water from hose or sprinkler can be effective only when they can reach the material that is actually burning. Many serious losses have occurred in piers where the pile and timber substructures were covered by concrete decks. The difficulty of getting at a fire burning underneath the deck of a pier has been well recognized in the new construction requirement for manholes in the decks. The destruction in 1932 of Pier 54, North River, New York City, occupied by the Cunard Steam Ship Company, was due to this difficulty, which was aggravated by the lack of fire stops under the pier. A large frame department store in Sheffield, Pa., fully equipped with automatic sprinklers, burned to the ground because the fire got into the spaces between the studs in the walls and between the joists in the floors, spaces where neither sprinklers nor hose could reach it.

Flimsy Materials.—Heavy construction[1] resists the attack of fire. Even a frame building, if the timbers are heavy and the boards are thick, will burn slowly. Light construction, on the other hand, is easily destroyed or damaged. A flimsily built frame structure will burn so rapidly that it may be destroyed before the fire department can reach it. A steel building with light structural members and thin corrugated sides and roof can be reduced to scrap value by the burning of inflammable contents.

Joists and Supports.—Joists which are not self-releasing will, in case of fire, endanger the masonry walls into which they are set. Floors or masonry carried on combustible supports will fall or collapse if the supports burn.

Openings in Walls, Floors, and Roofs.—Openings in walls of risks or divisions of a single risk, if not protected by fire doors, shutters, or wire glass in metal frame, often contribute to the spread of fire. Openings in walls surrounding furnace or

[1] In foreign countries the construction of heavily built brick and stone structures is described in underwriting language as "massive."

boiler rooms are dangerous unless protected by appropriate fire doors. Picker rooms in cotton mills and all rooms housing special hazards fall into the same general category. Innumerable small fires start in fuel on boiler-room floors; and in pickers, shaving vaults, and other hazardous spots. Openings in roofs for skylights, if not protected by metal mesh, bars, or wire glass, may admit fire to a risk if burning debris from an exposing risk falls upon them.

Unusual and Irreplaceable Materials.—In all risks where the building is the subject of insurance and is ornamented or decorated, the underwriter must bear in mind that a concentration of expensive paneling, carving, painting, or glazing will suffer serious loss if there is fire enough to affect it. Decorations may create in a single room a concentration of great value highly susceptible to damage. Expensive murals, if damaged by fire, will cause an insurance loss far out of proportion to the extent or intensity of the fire. If they were painted by an artist of reputation whose services are no longer available, the adjustment of the loss may be most unsatisfactory. Some materials and workmanship, because of changes in styles and methods of building, can be duplicated or repaired only at great expense. Some old designs are almost irreplaceable. The old elaborate stairways are no longer being built, and when damaged it is hard to find mechanics who are skilled in repairing them. Carved woodwork is in many cases hard to match; and if a section is burned out, the cost of restoring the former appearance of the room or hallway may be great. Generally these designs are incorporated in outmoded structures which are not worth reproduction cost. When they are, they bring about, in case of loss, an abnormal relation of value and loss, as a relatively small physical damage to them causes a loss that is a large percentage of the structure's value. Unusual materials and workmanship are often hard to value. Certain kinds of bricks are no longer made; much old-style ironwork, once popular in building construction, is no longer used, and in many cases the patterns from which it was cast have been destroyed.

Defective and Inferior Materials.—Poorly built masonry suffers severely in case of fire, as entire walls must often be torn down and replaced, walls which, if they had been properly built,

would have sustained only surface damage. Mismatched materials make for low actual value as compared with replacement cost and for troublesome adjustment in case of loss. If damaged by fire, buildings built of defective or inferior materials are sometimes adjudged by the building department as unfit for repair and are condemned with resulting increase of loss.

Mixed Construction.—Much construction embodies mixed characteristics that require consideration. Thus an otherwise fireproof type of building may have wood timbers in its roof structure; a building with brick side and front walls may have a frame rear wall; and a frame building may be cut in two by a brick wall or by a brick section. A single risk may embody sections of different construction. The fireproof building with wood timbers in its roof structure is susceptible to greater loss than a similar building with all-steel members. In lesser degree the susceptibility of damage to a fireproof building is increased by frame locker rooms and other such combustible installations.

Occupancy.—Occupancies are classed as nonhazardous, hazardous, or extra-hazardous. In most of them, losses occur because of characteristic or common hazards, contents, activities, or occupants. Occasionally, the character of an occupancy causes an outsider to set the risk on fire. Nonhazardous occupancies are often termed *light occupancies;* and hazardous and extra-hazardous occupancies, *heavy occupancies.* In the nonhazardous occupancies there are few conditions that tend to start fires—ordinarily only the common hazards due to arrangements or appliances used for heating, cooking, and lighting. Only when there is disorder or congestion in the contents or defects in the arrangements or appliances is fire to be expected. In these nonhazardous occupancies the degree of combustibility and damageability of the contents is low, and there is nothing on the premises which will make it difficult to fight fire effectively.

The private dwelling is a nonhazardous occupancy. In it are ordinarily to be found only the common hazards of heating, cooking, and lighting; and these are guarded so as to reduce their danger to a minimum. There is no constant production of ignitable fumes or gases, flying lint, or inflammable dust. The character and arrangement of the furniture and other contents make for a low degree of combustibility and damageability.

The occupants are normally interested in caring for and preserving the property. Firemen can fight a dwelling fire without fear of explosion or of encountering noxious fumes or gases. There is ordinarily no incentive for outsiders to destroy a dwelling.

Banks, offices, schools, and churches are also nonhazardous occupancies. In these nonhazardous occupancies, probabilities of fire are at times increased by substandard installation of heating, lighting, and occasionally cooking arrangements and devices or by poor maintenance of all devices. Flues, furnaces, stoves, pipes, radiators, and the like may be unsafely installed or may become unsafe because of poor maintenance. Lamps may be too close to draperies, and, at Christmas, candles in the windows may be set too close to woodwork or curtains. Wiring may be unsafe because of improper installation or lack of maintenance. The temptation to substitute temporary connections for fuses or to continue using worn cords for electric irons, toasters, or other devices has resulted in many fires. Fires are frequent in littered basements, in which paper or kindling is in dangerous proximity to furnaces, and in congested attics and closets where flimsy material may be ignited by the match or candle of a person searching for an article.

In the hazardous or extra-hazardous occupancies there may be one condition that is very dangerous or a multiplicity of conditions moderately dangerous. In some occupancies there will be a series of small fires. In time, one of these will get out of control and do serious damage. In other occupancies, there will be a constant generation of combustible gas, due to some manufacturing process, or an accumulation of inflammable dust or lint in the air or of combustible litter on the floors and around machines, benches, or tables. Ignition of any of these may result in an explosion, a flash, or rapid burning according to its nature and the attending conditions of temperature, air movement, and humidity.

In one occupancy the contents will be almost noncombustible; in another they will be highly combustible, possibly explosive. In one occupancy the contents will be only slightly susceptible to damage; in another, highly susceptible. A stock of heavy hardware or plumbing fixtures will be noncombustible. On the other hand, a stock of summer dresses will be highly combustible.

A stock of blasting powder is explosive. A stock of flour in barrels is slightly susceptible to water damage; but a stock of corn meal in bags is highly susceptible.

The processes of an occupancy may make it offensive to the neighborhood, and the neighbors may try to destroy it. The occupancy that gives off offensive odors, heavy smoke, or clouds of dust is an example.

The occupants of the better class of dwellings, offices, stores, factories, and restaurants are law-abiding citizens who not only try to preserve from fire damage the premises where they live or work but also conduct themselves so that they do not incite others to attack them or attempt to damage the properties which they use or occupy. But careless, incompetent, or malicious occupants are apt to damage or destroy the premises, and occupants who cause envy or who give offense may incite outsiders to set fire to premises.

Hazards.—The hazards of an occupancy may be such that only small and inconsequential fires are to be expected. In dwellings there are many of these which do not result in claims under insurance policies. In banks and offices there are wastebasket and locker fires from time to time, some of which, even if left alone, would burn themselves out without doing more than trifling damage. In other occupancies a single hazard may be so severe that it may cause the destruction of the risk. A small planing mill or other woodworker housed in a frame, shingle-roof building and operated by a steam boiler in an adjoining frame, shingle-roof boiler house will be at the mercy of the boiler hazard. Accumulation of wood on the floor in front of the fire box, overheating of the smokestack where it passes through the roof, or heavy sparks falling on the shingles may cause total destruction of building and contents. An occupancy may house a multiplicity of hazards, some of which may ignite the building; others, the contents. Multiple hazards produce a high probability of loss unless they are all cut off by fire walls and fire doors or are well guarded by private protection ranging from casks and pails to automatic sprinklers.

In the small mattress factory there are a number of hazards. Low-priced mattresses are usually stuffed with easily ignitable vegetable fibers, cotton, or even excelsior. The mattress mate-

rials go through a number of processes, all of which are potential fire producers, from the preliminary picking of the stuffing to the final packing and shipping of the finished mattresses. Some of the materials are subject to spontaneous combustion, and all of them produce inflammable dust or lint which settles throughout the premises and offers itself for quick ignition to any accidental spark or carelessly discarded match or cigarette. One such risk which was well known to Southern underwriters some 25 years ago had a record of five fires in two years.

The old-fashioned retail paint store houses a number of hazards. The basement usually contains turpentine, varnish, oil, and wood or denatured alcohol. The rear section of the first floor may be littered with broken packing materials; the panes of window glass, waiting to be sold, are ordinarily packed in straw. In the closets, painters' overalls are occasionally hung up without removal from the pockets of pipes in which tobacco is still burning. In one of these paint stores an employee went into the basement to draw some denatured alcohol from a barrel. The metal spigot was hard to open, so he struck the handle with a hammer. The blow broke the handle and spigot; the steel of the hammer head scraped the broken cast-iron spigot at such an angle as to produce a spark; the alcohol flashed; and the two lower floors of the building were burned out.

Many hazards exist in sawmills. Frequently sawmill fires start in the boiler room where the fuel used is generally the refuse produced when logs are squared. This refuse may be used in the slab form, as it falls from the saw carriage, or it may be reduced to chips or splinters in a "hog." In either form it offers a medium through which fire can readily travel. Other sawmill fires start from overturned lanterns or defective lighting or power wiring. Hot bearings in the machinery account for still others. Some are chargeable to the operation of saw sharpening. A great many are caused by sparks from the slab pit where the refuse not available for fuel is burned. Some are caused by the locomotives that haul the logs. There was a memorable sawmill fire in south Georgia due to one of these hazards which had apparently been well guarded. The slab pit was located at the prescribed distance from the mill and was surrounded by an earth parapet of proper height. A summer

whirlwind spiraled over the pit, picked up a great quantity of burning embers, then whirled its way to the mill and scattered the embers from end to end of it. Fire started in so many places that the private protection could not cope with it, and there was a total loss.

Excepted Hazards.—When a risk is subject to damage by a hazard that is excepted from the insurance contract, *e.g.*, explosion, there may be a mixture of damages resulting from the concurrent action of fire and the excepted hazard. Often it will be impossible to separate the damage due to fire from the damage due to the excepted hazard. In case of mixed damage, a troublesome and expensive adjustment is to be expected. Explosion was formerly a more troublesome hazard than today, as now it is included in the extended coverage of many fire policies.

Contents.—The character and arrangement of contents affect susceptibility to ignition, combustion, and damage not only of the contents themselves but also of the structure. Except in connection with commodities in bulk, such as oil in tanks, grain in elevators, or cotton seed in seed houses, a single substance rarely makes up the entire contents of a risk. There are several basic substances, and many different articles in the ordinary dwelling, bank, or office. In a large department store there are many substances, ranging from noncombustible, such as glass and china, to flash-burning, such as celluloid. Package stocks may be combustible merchandise in noncombustible containers, such as paints and oils in metal cans or, reversing the order, may be noncombustible merchandise in highly combustible containers, such as crockery packed in straw-filled barrels. In many risks the fixtures, machinery, and equipment will form an important part of the contents. Explosive or fierce-burning contents spread fire and make fire fighting dangerous. Contents that produce heavy, sticky smoke increase the extent of damage surrounding the fire area. Contents that give off poisonous or irritating fumes increase the extent of damage by reducing the effectiveness of fire fighting.

Much has been learned about the keeping and handling of hazardous contents. The great increase in the use of gasoline as a fuel and as a solvent has necessitated the designing of under-

ground tanks and leakproof containers. It has also led to the custom of keeping as little as possible and guarding its use by arrangements that reduce the dangers of spilling, static electricity, and accumulation of explosive gas. A large quantity of gasoline is consumed every day by plants that make airplane motors, as motor parts are washed in gasoline to free them from grease, and assembled motors are tested by being run at varying speeds for given periods of time. In spite of the liberal use of gasoline these plants are not only insurable but enjoy low rates because in their design and operation the danger due to gasoline has been reduced by all means at the command of the engineer.

Occupancies containing large quantities of explosive, flash, or quick-burning substances at times suffer severe losses. A dye plant at Nyack, N. Y., which was destroyed in January, 1919, caught fire in a kettle room and then suffered a series of explosions which demolished it. Explosions may throw down or shatter walls, scatter burning debris, or render fire-fighting efforts ineffective. No fire chief is justified in sending his men into highly explosive risks, once they are well afire. In a large warehouse in Jersey City the storage of a quantity of chlorate of potash was responsible for spreading fire so rapidly that the firemen could not check it. A celluloid novelty works is an example of a quick-burning risk, as is also a hay or excelsior stock. Any risk producing large quantities of wood shavings which are not immediately carried out by a blower system or accumulating quantities of loose straw, broken packing boxes, or paper wrappings from unpacked merchandise belongs to the quick-burning class. The chains of low-price department stores have suffered severely from fires, most of which originated in rooms where merchandise is unpacked.

Noxious Fumes.—Some substances when burning produce fumes that irritate the sense organs or other parts of the human body too violently to be endured. Others produce toxic gases which if inhaled may produce death. The presence of these substances in an occupancy may paralyze fire-fighting efforts in the early stages of a fire and give the flames full headway. Fumes from burning cork, rubber, and spices are bad. Those from sulphur are highly irritating. The smoke from naphthalene is dangerous. Fumes from celluloid ether are not only toxic,

dense, and suffocating, but they carry heat and often burst into flame upon reaching fresh air. Fumes from broken ammonia pipes are dangerous.

An ice-cream factory had in storage a small number of pasteboard containers made of sulphur-impregnated pasteboard, as the factory chemist was experimenting with the pasteboard's moisture-resisting quality. A fire started which involved the containers. There was a prompt response by the fire department, but a prompt retreat by every fireman who inhaled the sulphur fumes. Not until smoke helmets and gas masks were brought into action could the firemen approach within fighting distance of the fire.

Susceptibility to Damage.—Some kinds of contents suffer relatively moderate loss in the ordinary fire, other kinds, relatively severe. Heavy machinery, particularly in light buildings and on ground floors, is apt to be damaged very little. Sewing machines and work tables in a sprinklered garment-working loft are generally only slightly damaged. But machinery and other contents on the upper floors of a building may be dropped into the basement if the floors burn out, and the walls may then fall in on top of them.

Heavy hardware, green hides, acid phosphate in bulk, and flour in barrels or sacks generally suffer moderate damage in case of fire, whereas retail millinery, flowers and florists' stocks, high-grade art stocks, and cigar stocks generally suffer severe damage.

Conditions of housing, packing, and arrangement greatly influence the damageability of a stock. Bulk acid-phosphate stock in large, unbroken mass often survives the total destruction of the frame building housing it with less than 50-per-cent loss. Barreled or sacked flour in quantity is hard to burn and, if wet, forms a self-protecting paste along the seams between the barrel staves or under the cloth of the sacks. This paste dries hard and protects the flour, which can be recovered and repacked at a cost which makes the operation worth undertaking. But if the acid-phosphate stock is in small quantity and broken into several piles or thinly spread over the floor of the building, it will suffer heavily. Likewise a flour stock so spread that fire can completely and separately envelop each barrel or sack is likely to be a total

loss. The open stock of dresses and the small articles that are found in low-price department stores are highly damageable. Little can be done to reduce the damageability of millinery, florist, art, and cigar stocks except to keep them in cases rather than on open display. Heavy losses occur in basement stocks, as water used on fire anywhere in the building is apt to drain into the basement. When drains become clogged, or when the relation of the basement-floor level to the sewer level is such as to make drainage slow or impossible, salvage operations will be difficult.

Distribution of Contents.—The distribution of contents by floors, rooms, and other divisions affects fire damage. The damage to contents in separate fire divisions of the same risk is generally limited to the value of the contents in one division. The actual and the expected distribution of the contents of any risk are often surprisingly different. In compartment warehouses two policies may insure two owners for the same amounts. After a fire in one compartment there may be a total loss under one policy and no claim under the other. All of one owner's goods may be in the burned compartment, and none of the other's. Congestion tends to expose all the contents to the effects of fire, whereas distribution tends to limit damage. The exception is the slightly susceptible stock in the frame building. A congested mass of this stock may be very little damaged by the burning of the building, whereas a thin layer of the same stock spread over the floor may be a total loss if the building burns.

Salvage Possibilities.—In some cases loss on contents depends upon the facilities available for protecting the property from further damage, should fire occur. These cases generally involve large quantities of susceptible contents which will suffer severely unless promptly handled. Overlarge concentration of a susceptible commodity may make the work of moving it after a fire such a prolonged operation that it will suffer excessive deterioration. Lack of space in which to handle the work of separating wet from dry articles often produces excessive loss. Concentration of irremovable contents under large areas of combustible roofs often results in serious damage by rain and weather after the roofs have burned.

Single or Diverse Ownership of Contents.—The contents of a risk may belong to a single owner. Such is generally the case with the dwelling, the mercantile risk, and the manufacturing plant. But in risks where a bailee stores or processes the goods of others, the contents may belong to several owners, and there is likely to be an increasing demand for insurance, as goods are moved into the building. If more than one agent has power to bind a company group on the contents, the group may accumulate an excessive amount at risk before it is able to reduce it by reinsurance or cancellation.

In some storage occupancies the goods are of such a character that once they are deposited with the bailee they merge with the goods of others and cannot be separated from them. In the language of the law, such goods are *fungible goods*. In a grain elevator the identical bushels of No. 1 wheat stored by a farmer are not delivered to the person to whom he sells his wheat, but rather the same number of bushels of the same grade. In case the wheat in the elevator is damaged by fire, there is necessarily the same percentage of damage to the wheat of each owner, because of the merging of all wheat.

In other storage occupancies there are goods which are not fungible but are all of the same kind and very much alike. Cotton in bales is a good example. Bales are always tagged or marked for identification, and the same bales that the bailor placed in storage are delivered to him when called for. In a cotton warehouse, fire may destroy the tags or markings on the bales; and if the respective ownerships of the damaged bales cannot be determined by location or otherwise, *a confusion of goods* occurs. Each owner then has an undivided interest in the entire lot of confused goods, his interest being such proportion as the value of his sound cotton bore to the value of all the sound cotton. If before the fire he owned 100 bales that were worth 25 per cent of the value of all the cotton in the warehouse, after the fire he will own 25 per cent of the salvage.

Losses in grain elevators and cotton warehouses are almost always adjusted by having the bailee deliver the salvage to a salvor approved by the insurance companies, who sells it and distributes the net proceeds to the owners proportionately. The owners then make claim on the companies for the difference

between the salvage payment received and the sound value of their grain or cotton. In many cases the companies pay the owners the sound value of their respective lots and take assignments from them of their interests in the salvage.

Specifically Insured Contents.—In some risks, notably printing establishments, woodworkers, and laundries, single machines purchased on the deferred-payment plan will be offered for insurance in order to give the seller a policy securing the indebtedness. The machine may be more susceptible to damage than others in the same risk or may be located where probability of damage is greater. On the other hand it may be less susceptible and better located.

Customers' goods in the hands of processors are often specifically insured and different lots will suffer differently in case of fire.

Stable or Fluctuating Value of Contents.—If contents values are stable, the probability of loss under insurance covering contents will remain the same from beginning to expiration. With fluctuating values, probabilities under the insurance may change decidedly with the fluctuations. With highly susceptible contents there may be a total loss in case of fire, regardless of the quantity in the risk. But with moderately susceptible contents the quantity in the risk frequently affects the extent of damage. For example, cottonseed or bulk fertilizer in sufficient quantity to fill a frame warehouse will under normal conditions suffer a smaller percentage of loss if the building burns than if the warehouse is only one-third or one-half full. The surface layer of the seed or fertilizer suffers the actual damage in case of fire, and the surface layer of a quantity filling a building is a relatively small percentage of the total quantity, whereas the surface layer of a quantity that fills only a third of the building is a much greater proportion. Assume that a frame warehouse has a floor area of 50 by 100 feet and is 20 feet high. If the warehouse is full, the 1-foot surface layer at the top is one-twentieth of the quantity; but if it is half full, the layer is one-tenth of the quantity.

Fixed or Movable Values.—When contents values are fixed in relation to space, the probable amount of loss on the contents can be estimated with greater accuracy than when they are

movable. If in a risk of two fire divisions the contents value in each division is always 50 per cent of the total contents value, the possibility of loss due to any one fire will in case of full insurance be 50 per cent of the blanket item covering the contents in both divisions. But if the contents are movable, all may conceivably be moved into one division, making the possibility of loss 100 per cent of the item.

Value in Relation to Space.—Great value in little space may give rise to a heavy loss. A valuable painting or art object, a moving-picture negative, or an expensive scientific instrument may have its value destroyed by a very small fire.

Bottlenecks.—In some occupancies all production must pass through a single division of the risk or a single process. If the division is damaged or the process interrupted, operations will be suspended pending repair or restoration. Such divisions or processes are commonly known as *bottlenecks*. They very greatly affect the amount of loss under use-and-occupancy policies.

Records.—Contents held for sale or consumption in mercantile, storage, or manufacturing risks are usually recorded on books of account, warehouse receipts, or other records. Adequate and reliable records are necessary for proper adjustment of loss, particularly when the property has been burned to an extent that makes an accurate physical inventory impossible.

Tenancy.—The tenant occupying a risk may be one who will care for it, neglect it, or even set it on fire in the hope of collecting insurance on contents of his own. Certain itinerant tenants have been responsible for suspicious fires involving household furniture, substandard stocks of merchandise, or fake pictures or other objects of art and also the buildings containing them. The question of tenancy is particularly important in *omnibus risks.*[1]

Occupants.—The persons who occupy a risk have much to do with preventing or causing fire and damage. They will assume certain attitudes toward the property and will affect the attitudes that neighbors and outsiders assume toward it. Risks which are occupied by intelligent, competent, and orderly

[1] A term loosely used to describe a building or group of buildings subject to one fire and housing a variety of occupancies.

persons will be cared for and kept in good condition. The occupants will not excite in others unfavorable feelings toward themselves. The dwelling occupied by the respectable family, the high-grade factory, or the store employing persons who are long-time residents of the community are examples. But risks which are occupied by stupid, incompetent, disorderly, or vicious persons will not be cared for or kept in good condition; and the occupants will, in some cases, excite in others unfavorable feelings toward themselves. In some risks the occupants will, because of their carelessness, untidiness, drunkenness, or tendency to fight, at times set them on fire. Factories subject to labor troubles are raided by strikers or strikebreakers and occasionally fired. Negro churches in white neighborhoods, saloons in residential districts, or gambling houses in respectable neighborhoods often excite antipathies because of the race or character of the occupants. In asylums and hospitals attempts to extinguish fire must sometimes be subordinated to rescue work.

Multiple Occupancies.—When a risk is one of multiple occupancy, any item of insurance covering in it may be subject to all the hazards of all the occupancies.

Converted Risks.—Converted risks are often bad combinations of buildings and occupancies, as the buildings cannot always be altered to fit the needs of the new occupancy. Lack of space may prevent the installation of proper safeguards against the origin of fire. Lack of funds may force the owner to use makeshift arrangements which will be hazardous. In some cases old and deteriorated structures are converted because they can be acquired at a low cost.

Exposure.—Exposure is of two kinds, external and internal. When a building and contents are exposed by another building or by adjacent lots of property from the burning of which they may suffer fire damage, the exposure is *external.* When one lot of property in the same risk is exposed by another, also in the same risk, the exposure is *internal.* Common external exposures are buildings; lumber piles; spark-emitting stacks; steam railroads; rubbish dumps; forests; and brushy, weedy, or grassy tracts. Common internal exposures are the separate occupancies of floors or divisions of floors in a building occupied by two or more tenants. Exposures are often referred to as being

heavy or light—heavy when they are likely to cause severe damage; light when likely to cause only slight damage. Exposure ordinarily produces loss by communicating fire to exposed premises, by radiating heat or emitting smoke, by causing hurried removal of contents, or by bringing the exposed property into the range of fire-fighting activities and causing it to be damaged by hose streams or the acts of firemen. Occasionally, exposed property is crushed by the falling wall or debris of an exposing building. External exposures are at times dangerous because they house inflammable liquids which will flow along the ground and spread fire. A large chemical plant that used a light petroleum oil in its quinine-producing process suffered an extensive loss due to the oil's flowing over a sloping areaway and igniting the buildings on the other side. The degree of external exposure is primarily dependent upon the distance between the property under consideration and the property exposing it. The height of the exposing property is also important, as exposures which overtop the property they expose are, in general, more dangerous than those which do not. The overtopping exposure endangers both wall and roof in case of a structure or both side and top in case of a pile of lumber.

Certain construction details are effective in reducing the hazard of external exposure. Among these are blank masonry walls of standard thickness with parapets of standard height, protected window and external-door openings, nonflammable roof coverings, and protected skylights. The degree of internal exposure is dependent upon the character of the exposing occupancy or substance, also upon its position relative to the exposed property. Fire, heat, and smoke tend to travel upward through a structure; whereas water used to extinguish fire travels downward; and debris falls downward. Basement stocks, susceptible to water damage, often suffer severely in buildings housing hazardous occupancies. The waterproofing of floors and their cutting off by the enclosure of elevator and other shafts, stairways, and chutes and the banking of openings reduce the hazard of internal exposure.

Wind and weather increase or decrease the hazard of an external exposure. Conflagrations generally occur when there is a combination of wind velocity and moisture deficiency. Pro-

tection reduces the exposure hazard. Effective salvage-corps or fire-patrol service greatly minimizes the hazard of internal exposure. Sometimes exposure will be the hazard most dangerous to a risk. Explosive, towering, or enveloping external exposures cause serious damages, as do also explosive, quick-burning, debris-precipitating, or heavy smoke-producing internal exposures.

Protection.—Protection is of two kinds, public and private. Public protection is maintained by municipality or town and is designed to suppress outbreaks of fire in any risk within definite geographical boundaries. Private protection is maintained by the owners of the risks protected by it and is designed to suppress outbreaks of fire in those risks only. In connection with many risks of importance and large value, protection will be furnished by a combination of public and private facilities. Public protection includes water supply, reservoirs, pumping stations, mains, hydrants, and fire-alarm systems and vehicles such as pumpers, hose carts, hook-and-ladder trucks, chemical engines, and water towers.[1] Public protection is manned by paid, part-paid, or volunteer firemen. Private protection includes standpipes, inside hydrants and hose, barrels and buckets, fire extinguishers, automatic alarms, and sprinkler systems. It is usually intended to be operated by the employees of the property maintaining it, in some cases by special men.

Adequacy and efficiency are the criteria for judging any protection. Adequacy assumes the requisite facilities such as mains, hydrants, water, chemicals, equipment, and man power sufficient to fight effectively the worst fire to be expected; efficiency, such organization, discipline, and *esprit* as to promise the best use of the facilities. Public protection and private protection in risks where there are many outbreaks of fires develop in time a record for efficiency or inefficiency. A good record will show prompt alarms; quick response; effective use of water, chemicals, and apparatus; and a low annual fire loss. A bad record will include such occurrences as delayed alarms,

[1] In the congested area of New York City there is a special system of mains taking salt water direct from the Hudson and East Rivers and delivering it at the hydrants under 200 pounds pressure. Other cities also maintain high-pressure systems. See Crosby-Fiske-Forster, "Handbook of Fire Protection," 8th ed., p. 496.

tardy response, apparatus out of repair, bursting hose, and untrained or demoralized personnel, with a resulting high annual loss.

Sometimes, owing to blocked streets or other conditions, a risk will be inaccessible to fire-fighting equipment. Some buildings are so tall that fires may occur in them above the reach of water from hose streams. Some risks are dangerous to fire fighters because of possible explosions or the emanation of noxious gases when burning. Some areas in a city or town may be high enough to suffer from insufficient water pressure; and some locations may be protected by a single dead-end hydrant at which pressure will be abnormally low. Public police and private watchmen give early alarms in connection with many night fires which in their absence would gain great headway before being discovered.

Public protection is at its best when facilities and record are such as to promise early discovery of fire; quick transmission of alarms; and prompt response with sufficient suitable apparatus and well-trained, well-disciplined men who will find accessible hydrants and an abundant water supply on arrival. Private protection is intended to constitute a first line of defense and to be adequate to extinguish all ordinary fires, also to hold in check, until the arrival of the public fire apparatus, one that may be serious.

Some risks are so large that when they burn they generate a volume of heat that makes it impossible for the firemen to approach near enough to use hose streams effectively.

Interests.—Interest in a risk may be present or prospective, vested or contingent. In many risks there will be only the interest of the owner; but in some there will also be interests of trustees, assignees, life tenants, remaindermen, mortgagees, pledgees, lien holders, bailees, and lessees.

The attitude of a person toward an insured risk in which he holds an interest depends largely upon the security of his interest, upon its value, and upon circumstances which promise to preserve the interest or threaten to destroy it. When several interests exist in a risk, the relations between the persons holding them may be harmonious or may be discordant. If the interests tend to maintain the same relative status, they tend to keep the rela-

tions between their holders harmonious; but if one interest tends to depreciate or destroy the value of another, it will tend to make the relations discordant. In the heavily mortgaged risk, for example, the interest of the mortgagee tends to encroach upon and destroy the interest of the owner. In the risk under lease, the terms of the lease may impose on the lessee a burden which he is finally unable to carry, with the result that his interest is destroyed whereas that of the owner continues unchanged.

Ownership.—Ownership is the most extensive interest in property, and the owner of a risk is the person who is ordinarily most vitally interested in its preservation, as damage to it affects him directly. His character, ability, and resources affect his relation to the risk, how he feels toward it, how competent he is to manage and care for it, and how promptly and to what extent he can meet financial demands arising because of it. His personality, occupation, status, and conduct in many instances determine what other persons will come in contact with the risk and what attitude they will assume toward it.

Under normal ownership, securely held by a law-abiding owner liked by his fellows, intelligent and able, and possessed of sufficient income to hold and enjoy his property and discharge the obligations that it imposes, a risk is at its best. Such an ownership is not burdensome and does not clash with custom. Such an owner will not intentionally set fire to the risk or arouse in others a desire to do so. He will hold undisputed possession of it, will know how to use and care for it properly, and will be able to do so. As ownerships and owners grade below those described, risks become subject to neglect, to deterioration, and in extreme cases to incendiarism.

The owner is almost always the person in whose name the insurance covering property is written and therefore the person with whom the insurer must deal in case of loss. His character, status, and condition will determine the attitude that he holds toward insurance, his capacity for understanding his rights and obligations, and his actions in preparing and presenting a claim. Consequently, they greatly affect the conduct and result of an adjustment.

Normal and Abnormal Ownership.—Normal ownership is an interest in lawful property which has been acquired legally and

is in keeping with the character, status, and condition of the owner. Abnormal ownership, on the other hand, may involve contraband property or property acquired by knavery or corruption, but such ownership is more frequently evidenced by property which the owner would not ordinarily be expected to possess. In most of the United States it is decidedly abnormal for a Negro to own a home in a white neighborhood, for a woman to own a retail hardware business, or for a bachelor to be a farmer. Owners burdened with risks not fitted to their abilities or needs and who cannot dispose of them advantageously are under constant temptation to let them catch fire and burn up. Owners of contraband property may have it confiscated at any time. Ownerships which arouse racial antipathy, envy, or other feelings of hostility occasionally invite attacks from the outside incendiary. Dummy ownerships are sometimes created in order to conceal real ownerships, and temporary ownerships are arranged to care for difficult situations.

Participations in Ownership.—Two or more persons may own undivided interests in a piece of property. Undivided half interests frequently exist in dwellings and mercantile buildings. A life estate in property may be held by one person; the estate in remainder, by another. Undivided interests do not tend to be in conflict with each other, but remainder interests occasionally come in conflict with life interests.

Interests Other than Ownership.—The interests that commonly exist in property other than the interest of ownership are those created by (1) contract of sale, (2) mortgage or pledge, (3) lease, and (4) bail. Vendor and vendee, mortgagee or pledgee, lessee, and bailee interests are encountered in a great number of risks, articles, and lots of property. Vendor interests generally have the effect of mortgagee or pledgee interests. Vendee interests are in many cases of the same character as ownership. Mortgagee and pledgee interests, however, often burden the interest of ownership. When they do, they create financial difficulties for the owner with resulting frequent neglect of the property, sometimes the willful burning of it. Some lessee interests burden the lessee to the extent of making him desire a fire of sufficient severity to cancel the lease. Bailee interests give the bailee possession and temporary control of the property

with opportunity for conversion, which, when accomplished, is occasionally followed by fire planned to destroy all evidence of the conversion.

Warehousemen, Other Bailees, and Custodians.—A definite moral hazard attaches to risks where the property of one person is in the custody of another. A few personal observations of the author, some of which were made in the South prior to 1918 and others in New York after that year, are presented as examples.

A flour-and-feed merchant in Alabama did a modest business on his own account but made most of his income by selling an extensively advertised brand of flour on a commission basis. The mill delivered this flour in carload lots to his store. He sold it to retailers throughout his territory, reported the sales to the mill, and the mill billed the retailers and collected direct, paying the merchant a commission on his sales. His premises were seriously burned by a midnight fire. An inventory of what was found after the fire supported fairly well the merchant's books—except the stock of flour. In this there was such a difference between the merchandise in sight and the book account that the adjuster exhausted his own resources trying to check the books for fictitious loading and also had them analyzed by an accountant but without uncovering clear evidence of fraud. Eventually, the companies were compelled to make a compromise settlement which allowed for much more flour than the adjuster believed had been destroyed. Some six years later the insured's bookkeeper confided to the adjuster that in all probability the merchant had sold for cash a large quantity of the mill's flour and had pocketed the proceeds without making any entry on the books. When the mill's representative was expected to make a visit, the merchant faced the alternative of having to account for the flour or of destroying the evidence by which his peculation would have been revealed. The fire supported the surmise that he chose the latter.

A serious loss occurred in a cottonseed warehouse. The warehouse was operated by a manager who bought seed from the farmers of the county and who was supposed to ship from the warehouse to the company's mill as often as ordered. He was paid a commission on his purchases and naturally bought as

freely as possible. In the height of the season the warehouse burned. The adjuster measured the wreck of the building and the mass of seed in it and also checked the work of weighing and moving the salvage seed to other locations. Cottonseed does not burn easily when piled in a large mass, so the adjuster was reasonably sure that by adding a small percentage to the actual weight of the seed moved he would closely approximate the weight of seed on hand at the time of the fire. The quantity of seed was indicated by the measurements of the building but not conclusively proved, as the manager claimed that much seed had been washed out of the building by hose streams and that the seed pile was much higher when the fire started than when the adjuster measured it. The accounts kept by the manager showed far more seed than the physical evidence would account for. A quiet investigation of his personal affairs developed that he had spent in cash several times the amount of his commission as shown by his books, although he had stated that he had no other income. The loss was eventually settled on the basis of what the adjuster found plus about 25 per cent for out-of-sight seed, and the mill suffered a substantial loss. Because the mill feared its evidence might not be sufficient to convict, the manager escaped prosecution, and thus accomplished his purpose of making the fire conceal his embezzlement.

A small blaze in a sprinklered cotton warehouse brought to light a remarkable series of thefts, all of which would have been unloaded on the insurance companies except for the efficiency of the sprinklers and the prompt arrival of the fire department. Only 10 bales of cotton took fire, but these were burned enough to destroy the identifying markings. The adjuster checked up all outstanding warehouse receipts and developed a shortage of some 65 bales more. The state Fire Marshal also looked into the case and finally got a confession from the son of the warehouseman that he had surreptitiously sold the missing cotton, hoping to replace it later when in financially better shape.

Throughout Georgia and Alabama there were a number of unexplained cotton fires in 1915 and 1916 which were undoubtedly brought about to conceal large thefts of cotton from public warehouses. The careless ways of the small Southern towns made such thefts easy, and the companies paid for cotton that

had long since been shipped away under fictitious markings and could not be traced with certainty.

In the middle of the depression of 1920 and 1921 a prominent insurance broker reported a loss for an export concern in a five-story warehouse in New York, where a small fire had been discovered on the top floor. Only one case of merchandise had been destroyed, and the adjuster, therefore, turned in a trifling estimate of loss. In due course, a schedule of merchandise on hand was submitted by the claimant, prepared from warehouse receipts, which showed among other items a lot of baled dry goods valued at some $30,000. The adjuster checked the contents of the warehouse and found that every bale of these goods had disappeared. The insured spent several thousand dollars trying to trace the disappearance but without success. Undoubtedly the dry goods had been stolen and the thief had tried to conceal his theft by destroying the floor on which the goods were stored. Had it not been for the prompt control of the fire, he would have been successful, and the companies would have paid a large sum for goods that were not involved.

The system of contracting for manufacturing operations, so largely followed in the garment industry, developed in the early 1920's an alarming moral hazard which caused many companies to abandon writing garment-working risks, and others to restrict their lines to concerns of highest commercial ratings. The dishonest contractor, knowing that the manufacturer was insured, would often sell valuable goods sent him for making up and then conceal his act by setting fire to the loft. The system was identical with that employed by the dishonest cotton warehousemen who produced so many cotton fires in the South. The greater the number of persons for whom the contractor worked the greater would be his opportunity to pillage goods left with him and to confuse attempts to check up on him after a fire. In 1924 one of New York's ablest adjusters uncovered a case of this sort where 10 different manufacturers had goods in the hands of one contractor at the time of loss. Three butter tubs filled with kerosene had been placed in the loft, two of which ignited according to schedule, but the other failed to catch from the fuse. The fire department fortunately got the alarm promptly and extinguished the blaze before any merchandise

had been destroyed. The 10 manufacturers presented their statements in due course, according to which there should have been some $40,000 worth of goods in the loft. A piece-by-piece check of the property showed less than $21,000, a clear demonstration that the fire was started for the purpose of concealing a theft of about $19,000 worth of assorted merchandise.

There have been some fires in chain stores which have been due to employees' pocketing the proceeds of their sales and trying to evade detection by firing the premises. The same occurrences have taken place among the grain elevators of the Northwest. In pre-Volstead days the custodian hazard was present in distilleries and whisky warehouses, where fires were started after surreptitious removals of whisky for the double purpose of evading the revenue tax and unloading on the companies the burden of the theft.

To some degree this kind of moral hazard is present wherever valuable personal property is held by a custodian for account of the real owner. If the custodian buys and sells the same kind of property on his own account, the hazard is greater than if he does not. It is difficult to estimate the degree of this moral hazard before the occurrence of loss. Good housekeeping and accurate accounting tend to keep it low. Much improvement has come in the South through the periodic checking of cotton by inspectors. In chain stores frequent audits will reduce the hazard to a minimum but will not entirely suppress it.

CHAPTER XII

CONTRACT

Subject to the laws and usages of the state and locality the terms of the insurance contract fix the premium the insurer will receive, the action necessary to cancel the contract, and the sum for which the insurer will be liable in case of loss. The terms of the contract are stated in the body of the policy and the form attached to it.

Form.—The form, or written portion of the policy, describes the property, states how it is contained and where it is located, and also describes the interest of the insured if it is not that of unconditional and sole ownership. The form may also modify the printed portion of the policy, *e.g.*, lines 20 to 67, 72 to 77, and 124 to 125 of the New York standard policy. A form may also add to the policy an agreement fixing the extent of the application of insurance under the policy and of the contribution to be made by the company in case of loss or damage and any other agreement not inconsistent with nor a waiver of any of the conditions or provisions of the policy. The warranties, clauses, and permits necessary to fit the policy to the risk at the rate to be charged are incorporated in the form.

In its legal aspect the form, whether written, typed, or printed, is the written portion of the contract, and its terms override those of the printed portion in case of conflict.

In some cases a form will include provisions that increase the liability of the insurer as stated in the printed portion of the policy; in others, provisions that decrease it.

From the standpoint of the underwriter, a form is good if it clearly describes the property, location, and interest which are subject to the insurance; creates, when taken in conjunction with the printed portion of the policy, a contract of indemnity; and does not obligate the insurer in case of loss to make a payment out of keeping with the rate of premium. A court will construe a form as having been written by the insurer and will

resolve any ambiguity in it in favor of the insured, even though it may have actually been drafted by the insured or his broker. The form is a factor in determining the extent of the insurer's liability in case of loss and how adjustment and payment must be made. The form may also affect the amount of the premium or limit or destroy the power of the underwriter to change the terms of the policy, or cancel it at his discretion.

Forms that contain conflicting statements cause trouble in case of loss. Some forms will at one and the same time fix a limit of liability on a unit of value yet embody a coinsurance or average clause based on actual cash value. Such forms are improperly drafted.

A form not in keeping with other forms used in the same territory may be responsible for nonconcurrent policies on the same risk and troublesome adjustment in case of loss.

A form may expose the insurer to the possibility of an excessive payment because of peculiar construction given it in the territory where it covers. For example, throughout the Western states, where for many years the Gradual Reduction Rule of apportionment was used, a blanket form was a most uncertain quantity for the underwriter, who frequently found that under it he was called upon to pay the greater part of a loss, although the property was covered at the same time by a substantial amount of specific insurance.[1]

Coinsurance and average clauses cannot be used in connection with many legal-liability covers, because before a loss nothing is known which would indicate the maximum liability of the insured and, therefore, the maximum amount of insurance that he should carry.

Forms which substitute an agreed amount of insurance for coinsurance or average requirements are safe to use only when there has been an examination of the property by the underwriter and a real determination of the proper amount of insurance to be carried on it.

The insurance contract may be made liberal or conservative by the form. It may be made to insure one person or a number of persons, one interest or many interests. One form will describe only property that is ordinarily covered, whereas

[1] See Appendix H.

another will include property usually excepted. A form may exclude or include desirable or undesirable parts of a risk, include hazards generally excepted, or exclude the operation of restrictive policy conditions. It may be free from or subject to limitation clauses or clauses affecting the insurer's liability. It may be liberal to the degree of creating a motive for destroying the property or for presenting a claim of greater amount than the loss sustained.[1]

Amount of Insurance.—The amount of insurance may be a fixed sum of money, as it is in most policies, intended to remain unchanged from commencement of the policy until its termination by cancellation, loss payment, or expiration. It may, however, be a fluctuating amount, as in a general cover contract under which the amount changes as the value of the property changes. Under such a contract, if the insured fails to furnish the reports of value required periodically, the amount may be affected by his failure. In some forms of excess insurance, the policy will be written for an amount which is really a limit, as the actual amount of insurance will be the difference between the value of the property and the amount of specific insurance effective at time of loss. The amount of insurance represents the maximum sum the insurer may be called upon to pay. A policy may cover property subject to total loss in one fire or separate pieces or divisions of property not likely to burn simultaneously. When the amount of insurance is a fixed sum, the probable maximum loss is easier to estimate than when the amount is a fluctuating sum.

Rate.—Rates may be roughly divided into class rates and specific rates. The former apply to classes of risks in which conditions are assumed to be uniform and which, therefore, do not justify the cost of individual surveys and the application of special charges and credits, whereas the latter apply to classes in which rates are made after surveys of individual risks. Prior to the development of schedule rating and creation of the rating machinery that now covers the country, rates were fixed according to the judgment of the underwriter. Now, however, the field of individual judgment is narrowed to such rates as are open for competition or subject to competition carried on surreptitiously.

[1] The succeeding sections will deal with variations in the contract in the order that conditions appear in the New York standard policy.

Schedule rating is in many respects similar to cost accounting but differs from it in that raters have almost no positive data to work with. Schedules set up basis rates and provide for charges and credits to cover favorable or unfavorable conditions, but the propriety of the basis rate, or of any charge or credit cannot be established for lack of actuarial data. By recording the amounts of insurance written, the premiums received, and the losses paid on a schedule rated class, the adequacy or inadequacy of the rates produced by the schedule can be demonstrated. Beyond this, it is impossible to go.

Rates take into consideration the percentage of commission to be paid the producer. The preferred classes of property usually pay low rates but high commissions. Adequate rates are developed only by experience.

In certain states the prevailing rates are adequate; in others, scant; and in still others, inadequate to pay the losses and expenses ordinarily incurred. A similar condition exists in connection with the various classes; some are adequately rated, others inadequately. In underwriting, rates are always considered as they are related to forms. Published rates are intended to be used with standard forms. A rate adequate for use with a standard form becomes inadequate when the form used is extended to cover a greater range of loss. For example, a rate adequate for a form containing a 100-per-cent coinsurance clause will be inadequate if the form omits the clause and only a small amount of insurance is carried. Schedule rate making is supposed to produce rates that will pay for all items of physical hazard. Such, however, is not the case, particularly in connection with the average run of unprotected property, also property in states where sentiment is hostile to fire insurance companies, and property producing large premiums is handled by powerful producers who in one way or another gradually force the rates down below the profit-making level.

If rates could be made which in all cases would accurately reflect the loss resulting from physical hazard, the underwriter could insure indiscriminately all risks free from moral hazard.

Short Rates.—What amounts to a reduction in the rate is granted on policies written for more than one year. In some sections of the country a 3-year policy may be written for two

annual premiums and a 5-year policy for three annual premiums. But in most sections the rules require that a 3-year policy be written for two-and-one-half annual premiums and a 5-year policy for four annual premiums. On the other hand, policies written for less than a year carry premiums which are greater than the pro rata of a 1-year premium. As examples, a 3-month policy carries a premium that is 40 per cent of a year's premium; and a 6-month policy, a premium that is 70 per cent. The percentage of a year's premium to be charged for any term less than a year is called the *short rate.* The same term is applied to the percentage of a premium to be charged for policies written for more than 2 but less than 3 years, or the percentage of one written for more than 3 or 4 but less than 4 or 5 years. Tables of these percentages follow:

TABLE XIX.—SHORT-RATE TABLE FOR 1-YEAR POLICIES

For any term not appearing in the table the charge for the next longer term shall be taken.

Time, days	Percentage to be charged or retained	Time, days	Percentage to be charged or retained	Time, days	Percentage to be charged or retained
1	2	19	16	135	56
2	4	20	17	150 (5 mo.)	60
3	5	25	19	165	66
4	6	30 (1 mo.)	20	180 (6 mo.)	70
5	7	35	23	195	73
6	8	40	25	210 (7 mo.)	75
7	9	45	27	225	78
8	9	50	28	240 (8 mo.)	80
9	10	55	29	255	83
10	10	60 (2 mo.)	30	270 (9 mo.)	85
11	11	65	33	285	88
12	11	70	36	300 (10 mo.)	90
13	12	75	37	315	93
14	13	80	38	330 (11 mo.)	95
15	13	85	39	345	98
16	14	90 (3 mo.)	40	360 (12 mo.)	100
17	15	105	46		
18	16	120 (4 mo.)	50		

TABLE XX.—SHORT-RATE TABLE FOR TERM POLICIES IN FORCE MORE THAN ONE YEAR

For Term Policies in force one year or more, fractions of a month not exceeding 15 days may be disregarded; fractions exceeding 15 days are to be counted as a full month.

Time, months	Percentage to be charged or retained							
	2-year policy written at		3-year policy written at		4-year policy written at		5-year policy written at	
	1¾ annuals	1½ annuals	2½ annuals	2 annuals	3¼ annuals	2½ annuals	4 annuals	3 annuals
12	57	67	40	50	31	40	25	34
13	61	70	43	52	33	42	27	35
14	64	72	45	54	35	43	28	36
15	68	75	48	56	37	45	30	38
16	71	78	50	58	38	47	31	39
17	75	81	53	60	40	48	33	40
18	79	83	55	63	42	50	34	42
19	82	86	58	65	44	52	36	43
20	86	89	60	67	46	53	38	44
21	89	92	63	69	48	55	39	46
22	93	94	65	71	50	57	41	47
23	96	97	68	73	52	58	42	49
24	100	100	70	75	54	60	44	50
25			73	77	56	62	45	51
26			75	79	58	63	47	53
27			78	81	60	65	48	54
28			80	83	62	67	50	56
29			83	85	63	68	52	57
30			85	88	65	70	53	58
31			88	90	67	72	55	60
32			90	92	69	73	56	61
33			93	94	71	75	58	63
34			95	96	73	77	59	64
35			98	98	75	78	61	65
36			100	100	77	80	63	67
37					79	82	64	68
38					81	83	66	69
39					83	85	67	71
40					85	87	69	72
41					87	88	70	74
42					88	90	72	75
43					90	92	73	76
44					92	93	75	78
45					94	95	77	79
46					96	97	78	81
47					98	98	80	82
48					100	100	81	83
49							83	85
50							84	86
51							86	88
52							88	89
53							89	90
54							91	92
55							92	93
56							94	94
57							95	96
58							97	97
59							98	99
60							100	100

Term and Unearned-premium Reserve.—The unearned premium reserve maintained by an insurance company is intended to equal or exceed the aggregate sum required to return to all policyholders at any given time the pro-rata unearned premiums, should the company be thrown into receivership or liquidated. A company that does business through brokers and agents does not receive the full premium paid by the policyholder. Part of it, the commission, is retained by the producer. Therefore, to meet the reserve requirement against a policy the company may be called upon to set aside when the policy is written a larger sum than it will actually receive. If, for example, a policy is written for a 5-year term at a premium of $200, the commission being 25 per cent, the company will receive in cash $150. The reserve requirement against a 5-year policy is 90 per cent. The company, therefore, would set up in its unearned premium reserve $180, or $30 more than it received, and for the time being, show an underwriting loss on the transaction. From month to month the company would earn a part of the premium, and the reserve would decrease. When the policy expired, the reserve would be written off. If no loss occurred under the policy, the company would, in the end, show an underwriting profit. Under short-term policies, the premiums are quickly earned. Under long-term policies, the premiums are slowly earned, and reserves outstanding against them have to be carried as liabilities through two or more annual statements. Excessive unearned premium reserves reduce underwriting profit and tie up an undue amount of assets.

Premium.—The premium is the sum of money produced by multiplying the amount of insurance by the rate. Under fixed-amount policies the premium is fixed when the policy is written. But under reporting policies the actual premium, which is dependent upon the amounts reported, will not be known until the last report has been filed. In some underwriting jurisdictions there are minimum-premium requirements. In New York City, for example, no policy may be issued for a premium less than $5.

Name of Insured.—The name of the insured may be that of one person or several persons; or it may be a trade name, a partnership, an association, or a corporation. At times two or

more names appear on the same policy. In some instances the name of the insured will be accompanied by words that describe his status or his interest in the property and possibly provide that certain changes may take place in either without avoiding the insurance. Thus there may accompany the name of John Doe such qualifying words or phrases as lessee, vendee, remainderman, life tenant, as interest may appear, or for account of whom it may concern. These obviously indicate interests other than unconditional and sole ownership. Each word or phrase is proper under certain circumstances. Names joined as insured by the words "and/or" indicate the existence of possible joint and separate interests. In the case of a partnership, group, or corporation, the words "as now or may be hereafter constituted" will allow for the bringing in of new persons or a change in the corporation without voidance of the policy.

Extent of Insurance.—The terms of the various standard policies, together with the provisions generally found in prescribed forms, have been drafted with the intent of making the fire insurance contract one of indemnity. Consequently, the extent of insurance, unless it is amplified or modified by some statement in the form, will be limited by the policy to the *actual cash value* of the property at the time of loss or damage. In the New York standard policy it is provided that such cash value is to be ascertained with proper deduction for depreciation but is not to exceed what it would cost to repair or replace the property with material of like kind and quality within a reasonable time after loss or damage and without allowance for any increased cost of repair or reconstruction by reason of any ordinance or law regulating construction or repair and without compensation for loss resulting from interruption of business or manufacture.

Forms that define, amplify, or modify the extent of insurance may be classed as

1. Forms that define or modify actual cash value but do not fix an arbitrary value. These may be roughly subclassed as:
   a. Selling-price forms and market-value forms.
   b. Cost-and-charges forms.
   c. Replacement-cost forms.
   d. Book- or reporting-value forms.

2. Forms that fix an arbitrary value, by valuing the property as a whole or by valuing the units.

Forms belonging to class 1 are in some cases more suitable than the conventional forms restricting insurance to actual cash value. The great weight of judicial authority, as expressed in the court decisions dealing with the value of merchandise in the hands of producers or primary handlers, is on the side of selling price less delivery charges when circumstances are such as to prevent an immediate replacement of the merchandise at a lower figure. The underwriting fraternity has been reluctant to accept the situation, and has tried to dodge the issue by creating the awkward and indefinite scheme of profits insurance. *Selling-price* forms and *market-value* forms may properly be written on such stocks as

1. Agricultural commodities.
2. Raw furs, fish caught seasonally, commodities that because of trade conditions can be had only seasonally.
3. Goods that require long periods of time to make or import.[1]

In considering selling-price forms, the underwriter must keep in mind the salvage market. If he issues selling-price insurance, he must be prepared to pay a higher percentage of loss in cases where salvaging operations are necessary. The salvage buyer bids according to his opportunity for disposing of the salvage at a profit and does not take into consideration the form under which the property is insured.

Forms prescribing *cost and carrying charges* as the basis of adjustment do not contravene the principles of good underwriting and in many cases are desirable because they set up a definite formula for computing value and loss.

Replacement-cost forms eliminate depreciation and are not generally acceptable. They are least objectionable in connection with property which the insured is required to restore, as they then generate the least moral hazard. When subject to coinsurance or average requirements, they do not materially increase the percentage of insurance loss.

Many public utilities have refused to permit deduction for depreciation in adjustments of their claims, because they have

[1] There are other kinds of stocks that are entitled to selling-price insurance; this list is not comprehensive.

a vital interest in maintaining a high value for their property. Their rates are based on its value; consequently in their accounting they avoid depreciation wherever possible. Insurance of properties of utilities under standard forms is an urgent invitation for acrimonious adjustments. As there is almost no moral hazard in connection with the insurance of these properties, they may well be written under forms that cover repair or replacement cost and definitely waive depreciation.

Book-value and *reporting-value* forms are good or bad according to the practice followed by the insured in setting up values. When values are fairly set up, these forms greatly reduce the possibility of friction in adjustments. It has become customary when making adjustments under general-cover contracts to accept reported values, unless they are radically at variance with actual values.

Valued forms are prohibited by law in some states and are taboo with some underwriters. Nevertheless they have their proper place in the insurance scheme. Their use should be limited to property which is valuable but difficult of valuation. The rare painting is the conventional example. The competent underwriter can avoid many loss troubles by a wise use of valued forms. Forms valuing unusual commodities according to units solve the problem of proper premium payment as well as proper loss adjustment. If the replacement option in the policy is not destroyed by the language of the valued form, very little can be said against its use in connection with unusual property.

In some states there are statutes that make policies on buildings valued policies. As time passes, the one-time adverse effect of these statutes becomes less serious. Marine insurance has successfully handled valued policies on hulls, as well as cargoes, over a long period of time.

Direct Loss or Damage by Fire.—The provision of the policy limiting insurance to *direct loss or damage* by fire is modified when insurance covering *consequential* loss or damage is written. The common form of such insurance is that covering men's clothing which is often made up in different factories, the coats in one, the vests in another, and the pants in still another. This form of insurance does not increase the probability of loss beyond what would be sustained under a blanket policy covering in

the three factories. Under such a policy the burning of the pants in one factory would cause the blanket policy to be liable for the same amount of loss as the policy written with the consequential loss-and-damage clause. The situation would be the same as that existing in a factory of three floors containing parts of the clothing on each floor. Under a specific policy covering the clothing in the factory the burning of the parts on one floor would produce a similar loss.

Some years ago one of the underwriters' associations asked the late W. N. Bament for his opinion as to the liability of a blanket policy covering clothing for such consequential loss. His reply follows:

. . . the question you propound has come to the attention of fire insurance adjusters for many years, and I believe that it is the consensus of opinion that when a policy covers on a stock of men's clothing in a particularly described building, the coats, pants and vests are regarded as an entirety, and if one of the three garments is destroyed and cannot be restored with material of like kind and quality (and it seldom if ever can), the loss to the insured is greater than the cost of the garment destroyed; in fact, his loss is the cost of the suit, less what salvage there may be in the other garments constituting the suit, and this is true whether the coats, pants and vests are located on the same floor or on separate floors in the described building.

If, however, the coats and vests are contained in the insured's place of business and the pants are in process of manufacture in the hands of a pants maker in some building other than that described in the policy, and the coats and vests should be destroyed in the insured's place of business, the insurer would be liable only for the cost of the coats and vests; or, if the pants should be destroyed in such circumstances, the insurer will be liable only for the cost of the pants. There would, of course, be a loss to the insured under these conditions, but it is purely consequential, and many policies are issued in this city and elsewhere specially designed in their phraseology to cover this generally recognized consequential loss.

You will observe from the foregoing that I am distinguishing between a case where the policy covers the entire suit in one building and a case where parts are contained and insured specifically in different buildings.

. . . if the insured has coats, pants and vests in the hands of tailors wherever they may happen to be, say in New York City, and he has floating insurance covering the said property while located in New York City, outside of his place of business, the said blanket policy should be

construed the same as a policy covering in the specifically described building occupied by the insured. In short, when a blanket policy is issued covering either a large or small geographical area, the parties to the contract have thereby agreed that such area, be it large or small, is all one risk, just as if the policy were limited in its geographical description to a specific building. Some of my associates might possibly wince at this doctrine, but I haven't yet come across any one who has been able to successfully puncture it.

If, however, at the time of the fire, the insured should only happen to have coats in the described area and no pants and vests, or if the insured should have specific insurance in those different localities on coats, specific insurance on pants and specific insurance on vests, I do not believe that he would be able in event of the coats only being destroyed to collect anything in the way of consequential loss, but that the liability of the insurer would be limited to the value of the coats themselves.

You will perceive that I am inclined to distinguish between a case where, in taking out the insurance, the insured has regarded each part of the suit as a separate and distinct item and also where, at the time of the fire, only one kind of garment is located within the geographical limits of the blanket insurance.

Increased Cost of Repair or Reconstruction.—Only a few forms attempt to cover the *increased cost* of repairing or reconstructing according to superior standards imposed by ordinance or law. In New England, particularly in Boston, policies are written that cover the cost of demolishing parts of a building which after a fire would be serviceable in rebuilding but because of building regulations, cannot be used; and also cover the cost of rebuilding according to present-day requirements. Although these forms do not, as a rule, produce trouble in New England, underwriters who have tried them elsewhere have not had a happy experience. Their use changes the insurance contract from one of indemnity to one of speculation. They should be accepted only in connection with property that is well protected and located in areas where fire departments act efficiently to control every incipient blaze.

Interruption of Business or Manufacture.—Insurance against loss due to *interruption* of business or manufacture is effected through the various use-and-occupancy forms and those profits-and-commissions forms limiting recovery to the profits or commissions that would have been earned on the sales lost.

Description and Location.—Descriptions of the property, interest, right, or liability that is the subject matter of the contract may be inclusive or exclusive and may be supplemented by provisions that materially affect the possibility of loss or the amount to be paid under the policy. A form covering all personal property is inclusive and consequently brings in the value of all such property at the described location, both for coinsurance and for loss payment. But a form covering such property by marks and numbers is exclusive and eliminates from the application of coinsurance and from loss payment the value of articles not marked or numbered. Present-day forms have been standardized to such an extent that, like rates, they leave little to judgment. But there are still enough competitive forms on the market to require careful examination.

If a form is offered on a building, and the rate offered is the building rate, the underwriter assumes that the insurer will not be liable for loss on the higher rated contents. In New York City, where rates on manufacturers' stock in many occupancies are materially higher than rates on machinery and fixtures, there were, a few years ago, several "trick" forms worded to mislead the eye so that the prominence of the words "machinery and fixtures" and the stereotyped phrases accompanying them caused the vital words "and other personal property" to be overlooked. Under such forms an unexpected stock loss would occasionally occur, to the great embarrassment of the underwriter.

If a form includes in its description the entire risk, liability will be spread over the whole property and not concentrated on the more combustible or susceptible parts. An exclusion provision, particularly the innocent-looking words "excluding property specifically insured," may make it possible to insure the better part of the risk at a low rate and leave the underwriter who has collected the published rate on the blanket insurance facing a liability entirely out of proportion to his premium. Blanket policies embodying this exclusion have been written on plants made up of many buildings, some concrete and fire resistive; others, frame and highly combustible. Specific policies at a much lower rate were written at the same time on the concrete structures. When loss occurred, the blanket insurers found that they were insuring nothing but the combustible structures.

Vaguely described locations may make one policy do the work of two or more, when two or more risks belonging to the same owner are near together, and insurance is not carried on all.

Uninsurable Property.—Occasionally forms insure property ordinarily excluded from coverage by the standard policy as being uninsurable. Forms covering accounts receivable are an example. There is little underwriting experience on such forms. The several standard policies are not uniform in their exclusions but, with the exception of the Massachusetts policy and those like it, quite generally follow the New York standard which excludes accounts, bills, currency, deeds, evidences of debt, money, notes, and securities. So far as the author has been able to learn, there has been no loss under any of these forms.

Money, notes, and securities are often insured in transit under a broad inland marine all-risks cover. The ability to have notes and securities reissued upon proof of their destruction has made possible their insurance under special, short-term, all-risks policies.

Excepted Property.—The policy excepts from its coverage, unless liability is specifically assumed by endorsement, certain articles of personal property which may be of small size but great value, difficult to value or highly susceptible to injury. These excepted by the New York standard policy are

Bullion, manuscripts, mechanical drawings, dies or patterns.

Those excepted by the New Jersey standard policy are

Awnings, bullion, casts, curiosities, drawings, dies, implements, jewels, manuscripts, medals, models, patterns, pictures, scientific apparatus, signs, store or office furniture or fixtures, sculpture, tools, or property held on storage or for repairs.

Frequently it is impossible for the insured to give satisfactory proof of the existence or value of such articles after they have been destroyed by fire. It should be borne in mind that, although the underwriter does not expect to be liable for loss of such articles unless he sees them named in the form, the courts of some states have held that a broad general description, such

as "all personal property," will bring the articles under the cover of the policy. Other courts, however, hold that they must be actually named to be insured.

Many risks in which there are large quantities of excepted articles should be written under forms that limit liability on such articles to some definite percentage of the total insurance. For example, insurance on patterns is sometimes limited to 10 per cent of the amount of the policy. Blanket insurance carrying 90-per-cent coinsurance or average requirements usually cares for the problem of insuring excepted property when it is in ordinary quantity in a risk.

Insurable Interest.—The New York standard policy stipulates that, unless provided by added agreement in writing, it shall be void if the interest of the insured is other than unconditional and sole ownership. In American courts the fire insurance contract is treated as one of indemnity. Its existence presupposes that the insured has an insurable interest in the property, and he cannot collect more in case of loss than the value of his interest. The test of insurable interest in property lies in the following question. If it should be damaged or destroyed, would the person suffer a present or a future monetary loss? If he would, he has an insurable interest in it; if not, he has none.

Some forms create contracts that depart from the strict principle of indemnity by obligating the insurer in case of damage to the property to make a greater payment than the loss sustained by the insured. These forms usually provide that the holder of a limited interest in the property shall receive the same payment in case of loss as if he were owner; or they may shift to the insurer the obligation of making a payment that the insured might have the legal right to exact from another, although he might find it impossible, difficult, or inexpedient to do so. Some of these forms have proved over long periods of time to be acceptable. Others have been productive of moral hazard, excessive loss, or troublesome adjustment. The following are examples of those which come before the underwriter:

1. Forms covering betterments and improvements and stipulating that the insured—the tenant—shall, in case of loss, collect on the same basis as if he were owner. Similar forms

excluding contribution from insurance held by the owner belong to the same category.

2. Rent and rental-value forms which provide that the insurer "shall become liable for" the rents or rental value, regardless of the owner's right in many cases to require payment from the tenant under the terms of the lease or the law of the state, or regardless of whether there is at the time of loss any probability of renting the vacant sections of the premises.

3. Profits-and-commissions forms:

a. Those which do not limit the loss to the amount that may be sustained on lost sales.

b. Those which arbitrarily follow the stock adjustment.

4. Forms under which the insured may elect to include or exclude certain property when making claim.

5. Forms covering a bailee's accrued charges.

It has been the general experience of underwriters that insurance of betterments and improvements is a difficult problem. If they are to be insured so that the policies will be contracts of indemnity and cover the actual interest of the tenant, much detailed information as to lease conditions, date of installation, cost, and replacement value has to be considered in fixing the amount. In the past many losses on betterments and improvements have resulted in unsatisfactory adjustments. The stipulations presented in Example 1 were devised in the hope of eliminating the need for information often difficult to get, and of ending disputes over losses. The latter purpose, however, has not been fully achieved, because, after a serious loss, underwriter and adjuster hesitate to go through with adjustment and payment when they learn that the owner is also collecting in full for the same property under the insurance covering the building. There has, however, been less trouble with minor losses than formerly. Most leases, particularly those in New York City, provide that in case of fire the owner shall repair the fire damage. In many buildings, betterments and improvements are installed after the commencement of the lease, and in such cases the obligation of the owner to make repairs in case of fire damage does not apply to the installation. In connection with installations that the building owner is not obligated to repair, moral hazard arises under the forms only when the tenant

desires to get rid of his lease or when he wishes to keep it but cannot do so because it is expiring.

Formerly, forms giving the tenant the right to collect for betterments and improvements to the same extent as if he were owner were not authorized by the governing bodies of the companies. At present they are quite generally approved.

The conventional rent and rental-value forms now current in the East do not seem to produce moral hazard. Although under present-day leases and state statutes, such as those of New York and New Jersey, the landlord can usually require the payment of rent after a fire unless the tenant actually vacates the premises, it is the general practice of landlords to rebate rent in proportion to their collections under rent policies; and because of this practice, underwriters have experienced a steady demand for rent insurance under conventional forms. The loss experience under these forms has been satisfactory. Rental-value insurance of continuously vacant property is not written with sufficient frequency to create any great moral hazard.

The owner of property under lease is not entitled to lease-hold insurance for the reason that should his lease be canceled because of fire, he will regain possession of the property and will be free to seek a new tenant upon its restoration.

Profits-and-commission forms have been prone to produce troublesome adjustments. They should be eliminated from the insurance scheme and replaced by selling-price forms on stock in the hands of producers or others who handle merchandise which cannot be replaced in time to continue business and fill all orders. The latest profits-and-commission forms approved by the New York Fire Insurance Exchange are designed to limit loss to the amount sustained on lost sales. This limitation injects a use-and-occupancy feature into the contract. Until the situation is changed, it will be possible to avoid troublesome adjustments only by writing profits insurance under forms that provide for an adjustment following the loss on the stock itself. Such forms solve the adjustment problem so far as the insurer is concerned but may underpay or overpay any loss the insured sustains. Under any profit form, the maximum the insured can collect is the profit on one turnover. If, therefore, the time required, in case of serious or total loss, to restore the premises and replace the stock

is longer than the time in which the stock is ordinarily turned over, the insured will be underpaid. If, on the other hand, it is shorter, he will be overpaid.[1]

Forms containing trust-and-commission clauses and giving the insured the option of electing what articles shall be covered are wholly bad. Such forms allow a complete evasion of coinsurance or average requirements and should be treated as "trick forms."

Accrued Charges.—Sometimes bailors abandon their property, and charges accrue which the bailee cannot collect. Insurance of charges should therefore, be limited to those accruing during a reasonable time period.

Ownership of Ground; Foreclosure Proceedings; Notice of Sale, Changes in Interest, Title, or Possession.—Many building forms give blanket permission for the building to stand on ground not owned by the insured in fee simple; for foreclosure proceedings to be begun or notice of sale to be given; and for contracts of sale to be executed, all without voiding the insurance. As the great majority of policies carrying such forms also carry the standard mortgagee clause, the insurer can find little reason for refusing to use them.

Assignment.—Under some forms of certificates issued in connection with open policies, provision is made for assigning the insurance granted under the certificate without securing the assent of the insurer. Ordinarily the policy condition that prohibits assignment except by agreement should be insisted upon by the underwriter, because the policy is a personal contract which is safe to make with some persons but not with others. The certificates, however, which are issued under open policies generally cover commodities while in possession of a warehouseman or other bailee; and because the bailor or owner does not have the unrestricted access to the property that he would have if it were in his own store, his moral hazard is not so important as it otherwise would be. Furthermore, very little moral hazard attaches to insurance of the staple commodities usually covered under the certificate plan.

Other Insurance.—The provision of the policy stipulating that it shall be void if there be other insurance without notice

[1] REED, PRENTISS B., "Adjustment of Fire Losses," Chap. VII.

and permission is not considered to be so sacred today as it was formerly. In the South it is required by underwriting practice to state in all policies except those subject to coinsurance provisions the total amount of concurrent insurance that may be carried. In the East, forms ordinarily give blanket permission for other insurance, whether coinsurance or average clauses are present or absent. The trend, everywhere, is away from any limitation of other insurance.

Increase of Hazard.—Hazard is a fundamental factor in rate making and an influential factor in underwriting, affecting both the acceptance and rejection of risks and the amounts to be written on those which are accepted. An increase of hazard will justify an increase in rate and may cause the underwriter to cancel his policy or change his retention. It follows that any modification of the policy condition voiding or suspending the insurance for increase of hazard within the control or knowledge of the insured should be limited to such reasonable modification effected by the *no-control* clause. That clause, however worded, provides that the insurance shall not be suspended or invalidated by any increase of hazard in parts of the premises over which the insured has no control.

Alterations and Repairs.—The policy condition relating to mechanics' being employed in building, altering, or repairing the premises is subject to modification. Such standard forms and permits as the builders-risk form, mechanics permit, or permit for ordinary or extraordinary alterations or repairs effect the necessary modification. Appropriate charges are to be found in the rate manuals for these forms or permits when alteration or repair work on a risk is to be permitted for more than the time permitted by the policy. Occasionally a form will be offered in which privilege is given for a building to be demolished. Unless the form sets forth the basis on which any loss is to be adjusted, it will be in contravention of good underwriting practice. It may create grave moral hazard. It will almost certainly make for troublesome adjustment in case of loss. Ordinarily a building that is to be razed is worth only what a wrecker will pay for it. Many structures will not even pay the cost of wrecking.

Generation of Illuminating Gas, Prohibited Articles.—The policy condition prohibiting the generation of illuminating gas and the keeping, using, or allowing on the premises of certain

explosive or highly combustible substances or articles[1] may properly be modified by one or more of the several standard permits, which name the articles permitted, gasoline, gunpowder, fireworks, and kerosene oil being those most frequently encountered. In connection with well-managed risks and risks operating under proper municipal ordinances and subject to efficient inspection, the all-permissive *work-and-materials* clause can be safely used on the assumption that all necessary safeguards are thrown around the storage and handling of dangerous materials.

Night Work and Cessation of Operations.—A manufacturing plant equipped and manned for daylight operation is subject to an increase of hazard if operated at night. In connection with such a plant a permit for night work will expose the underwriter to an increased probability of loss. But there are many plants which operate continuously, using several shifts of operatives. In such plants the hazard is about the same during night and day. With the coming of electric light one of the serious objections to night work was overcome, as lighting of the factories became better, and the lighting hazard became less. Unexpected demands for night operation of plants which usually operate only by day are likely to develop such menaces as drowsy workers and unsafe temporary lights.

A *cease-operations* permit is in order when a factory experiences a normal period of quiet or is shut down temporarily. But continued idleness may mean that the factory's usefulness has been ended because of obsolescence, changed demands in trade, or inability to compete. If so, a cease-operations permit may generate considerable moral hazard. Insurance of a plant which is permanently shut down may involve the underwriter in the unpleasantness or expense of a troublesome adjustment following a clearly accidental fire. The problem of setting a proper value on a plant that cannot be operated at a profit, leased, or sold is indeed difficult.

Vacancy and Unoccupancy.—*Vacancy* and *unoccupancy permits* are not the danger signals that they once were. Now many approved forms grant permission for long periods of vacancy or unoccupancy, and the underwriter cannot tell from the form whether he is dealing with vacant or occupied property.

[1] Prohibited articles are enumerated in lines 48 to 51 of the New York standard policy. See pp. 91–92.

Prolonged vacancy may indicate abandonment of the property and the loss of all value.

Explosion and Lightning.—In many risks the fire and explosion hazards are closely related. It is therefore to be expected that the practice of assuming the explosion hazard under the fire policy will tend to increase, as it should. In all risks it is well that both hazards be covered by the same insurer in order to prevent troublesome adjustments. As the lightning clause has come to be universally used, it need be only mentioned here. The supplemental contracts or extended coverages which are being added to fire policies in all jurisdictions are long steps in the right direction.

Chattel Mortgage.—Today many forms give blanket permission for *chattel* mortgages, and underwriters seldom know whether the personal property that they have under consideration is encumbered. Perhaps the great drift of our people toward installment buying under both conditional-sales contracts and chattel mortgages has reduced the moral hazard which at one time went with the encumbrance of personal property. In any event, the existence of a chattel mortgage is not looked upon today with the disfavor it formerly aroused.

Fall of Building.—Under the standard policies of New York and New Jersey, the provision that the insurance shall cease if the building or any material part of it fall except as the result of fire is not subject to change by endorsement. Although the word "material" does not appear in the New Jersey policy, it is read into it by the courts. Recently, however, waivers of the provision have been incorporated in policies covering superior risks. Although such waivers are in contradiction of the provision of the policy prohibiting waivers of terms not subject to change by endorsement, the practical aspect of the situation is that the buildings of superior risks almost never fall, and the waiver is little more than a gesture. When the fall-of-building clause was devised and incorporated in fire policies, it was probably intended to apply to buildings which collapsed because of structural weakness, deterioration, or overloading. Except in regions subject to earthquake hazard, there is little probability that voiding the clause when insuring a well-constructed building will impose any unexpected liability or trouble on the insurer.

The Massachusetts policy does not contain a fall-of-building clause. The California standard policy specifically permits the amendment or voidance of the clause. It is, therefore, the common practice in California to void the clause when adding the earthquake hazard to the fire policy.

Added Clauses.—The extent of the application of insurance under a policy and of the contribution to be made by the insurer in case of loss or damage is frequently provided for by one or more added clauses or conditions. These are generally

1. Deductible clauses.
2. Exclusion clauses.
3. Excess provision, or excess, clauses.
4. Three-fourths-value clauses, three-fourths-loss clauses, the latter being now almost obsolete.
5. Coinsurance clauses.
6. Average, or reduced-rate-contribution clauses.
7. Pro-rata distribution clauses.
8. Loss-payable, or mortgagee, clauses.

Deductible Clauses.—A deductible clause provides that in case of loss a specified amount, sometimes expressed as a fixed sum of money, sometimes as a percentage of the loss, shall be deducted, and the insurer shall be liable only for the balance. The purpose of the deductible clause is to reduce claims by eliminating the smaller ones. At present the approved forms for electric light and power plants contain deductible clauses applying to losses on electrical apparatus, where many small injuries occur. Some large insurers carry very large deductibles in their policies, as they desire to be self-insurers on all ordinary losses. There is no underwriting objection to a deductible clause. Large risks get concessions in the rates for their use. The only question in connection with them is whether the amount of the deductible is in keeping with the reduction of the rate.

Exclusion Clauses.—Exclusion clauses are intended to exclude specified property from the cover of the policy. The New York standard policy itself excludes accounts, bills, currency, deeds, evidences of debt, money, notes, or securities. Property commonly excluded with the approval of the various rating bodies may be listed as

1. Brick, stone, or concrete foundations, piers, or other supports which are below the under surface of the lowest floor of

basement or basements or, where there is no basement, below the surface of the ground.

2. Brick, stone, or concrete chimneys or stacks detached from building.

3. Contents of safes and vaults, if specifically rated.

4. Cost of excavations.

5. Personal property in which the interest of the insured is not that of entire ownership.

6. Piling for buildings or piling for piers below low-water mark.

7. Underground flues, pipes, or drains.

8. Water wheels.

There is no underwriting objection to forms containing any of the listed exclusions. The rating scheme is designed to take care of them. The exclusion that is not authorized by the rating scheme is generally objectionable.

In some forms an exclusion will appear stated as simply as:

This insurance does not cover property specifically insured.

The proper use of the exclusion referred to is in connection with personal property in which other persons are interested as well as the insured. Underwriting practice permits the specific exclusion from general insurance of such property, and in many cases it is excluded because someone other than the insured has insured it specifically. Assume that a wholesaler is handling various lines of merchandise, some of which are consigned to him with the understanding that he shall keep them covered under his own policies, as he can easily do by use of the trust-and-commission clause. Assume that a new consignor sends him a lot of merchandise which for one reason or another the consignor himself wishes to insure and does. If the wholesaler's policies contain the exclusion, they will not cover the lot insured by its consignor. In case of loss there will be no conflict between the two sets of insurance, and there will be no unexpected liability to be shouldered by any underwriter.

Excess Provision, or Excess, Clauses.—There are a number of policies written to cover only the excess of loss above a certain figure. Excess insurance is, therefore, similar to insurance subject to a deductible clause. When written so that it covers

loss in excess of a definite amount, excess insurance operates in the same manner as insurance written subject to a deductible clause. The underwriter then knows that his liability lies only within a certain range. When, however, a policy is written with the provision that it shall be excess over specific insurance in force at the time of loss, a possibility of unexpected liability arises.

During the World War period an importer accumulated in New York City a large stock of merchandise that could be stored, because of city ordinances, only in certain warehouses where it was impossible for his broker to procure adequate specific insurance. The broker, therefore, took out an excess floater and, in the confusion then existing in the local market, succeeded in piling up on the companies under the floater cover the very liability that they had sought to evade by refusing him specific insurance. Fortunately for the underwriters who took the floater line, all insurance expired without loss.

A clothing maker who sent his cut garments to several contractors for completion carried an excess floater. He suffered a loss when the premises of one of them burned out and he found himself short of insurance under the terms of the excess-coinsurance clause in his floater which required him to carry insurance equal to the value of all merchandise in the hands of all contractors, except that which was covered by specific insurance. A corrupt broker managed to wangle out of an unsuspecting company a number of predated specific policies at locations where there were no losses and, by using these to satisfy the requirements of the excess coinsurance clause, succeeded in imposing on the underwriter who issued the excess floater a very heavy loss.

Three-fourths-value and Three-fourths-loss Clauses.—There is little that need be said about the underwriting of forms containing these clauses. The three-fourths-value clause is used in Southern territory where it is thought to reduce moral hazard by requiring the owner to be an excess insurer of one-fourth the risk. Georgia, however, has made the use of the clause illegal.

The three-fourths-loss clause is practically obsolete.

Coinsurance Clause.—The coinsurance clause, whatever may be the percentage of coinsurance stated, will operate to spread

liability over the property and prevent a total loss to the insurance, unless the loss to the property is of a percentage equal to or in excess of that stated in the clause. Wherever possible, the underwriter should see that his contract is subject to coinsurance or the even better safeguard of average.[1] The use of coinsurance has been prohibited in certain states, and in others it is required by law that optional rates be offered, one for insurance free from coinsurance, the other for insurance subject to it. As every rating scheme must necessarily presuppose an adequate ratio of insurance to value, the student of underwriting cannot look upon anti-coinsurance laws as being anything but an indication of inexcusable ignorance on the part of lawmakers. The only flaw in the coinsurance clause is the technical defect of the language used. Fortunately, the defect rarely embarrasses the underwriter, its chance of doing so being limited to losses in which the same property is covered by blanket and specific insurance.[2]

Average Clause.—The end sought in using the coinsurance clause is really achieved by the average clause which is better worded than the coinsurance clause. The conventional reduced-rate contribution clause is a true average clause.

Coinsurance and Average Clause Contrasted.—When all policies covering the property are concurrent, the payment will be the same under each in case of loss whether a coinsurance clause or average clause be used, provided the percentage of value stipulated in all clauses is the same. But when the policies are nonconcurrent, the payments to be made, if coinsurance clauses are used, may be quite different from those to be made if average clauses are used. The best illustration of the radically different operation of the two clauses is shown when all the property is insured under blanket insurance, part of it also insured under specific insurance, and there is a loss which is confined to the part of the property insured only by the blanket insurance. Assume that two buildings *A* and *B* are insured under a blanket policy for $20,000, containing a 100 per cent coinsurance clause; that building *A* is also insured under a specific policy for $10,000; and that there is a loss on building *B* in the amount of $5,000.

[1] See p. 295.

[2] See p. 295.

In such a case the blanket policy pays the full amount of the loss, as shown in the following example:

100 PER CENT COINSURANCE CLAUSE

	Sound value	Loss	Insurance
Building *A*	$15,000	Nil	$10,000 } $20,000
Building *B*	15,000	$5,000	

Apportionment

Insurance required, 100 per cent of sound value..... $30,000
Insurance carried, specific and blanket..... $30,000
Blanket insurance pays..... $ 5,000

Assume, however, that the clause in the policies is a 100 per cent average clause. In such a case, the blanket insurance pays only a proportionate part of the loss, as shown in the following example:

100 PER CENT AVERAGE CLAUSE

	Sound value	Loss	Insurance
Building *A*	$15,000	Nil	$10,000 } $20,000
Building *B*	15,000	$5,000	

Apportionment

Blanket insurance pays 20,000/30,000 of $5,000.. $3,333.33

The essential difference between the two clauses is that the coinsurance clause provides for contribution by the insured in case of insufficient insurance but fails to specify that the insurance to be sufficient must be concurrent insurance, whereas the average clause fixes a limit of liability for the policy based on the value of the property itself.[1]

Pro-rata Distribution Clause.—The pro-rata distribution clause, known in some territories as the distribution average clause, spreads liability according to the location of property. It does not, however, limit loss in case of underinsurance if the loss is less than the amount of insurance prorated to the location of loss under the operation of the clause. The following examples show how the clause operates:

[1] REED, PRENTISS B., "Adjustment of Fire Losses," p. 251

Example 1

$10,000 insurance.		
Agreed sound value, all locations	$12,000	
Sound value at location of loss	$5,000	
Loss and damage		$5,000.00
Insurance attaching, 5,000/12,000 of $10,000		4,166.66
Payment to be made		4,166.66

Operation of pro-rata distribution clauses reduces amount to be paid.

Example 2

$10,000 insurance.		
Agreed sound value, all locations	$12,000	
Sound value at location of loss	$5,000	
Loss and damage		$2,500.00
Insurance attaching, 5,000/12,000 of $10,000		4,166.66
Payment to be made		2,500.00

Operation of pro-rata distribution clause does not reduce amount to be paid.

100 *Per Cent Average Clause and Pro-rata Distribution Contrasted.*—The 100 per cent average clause requires 100 per cent insurance to value for collection in full of partial losses, whereas the pro-rata distribution clause does not require 100 per cent insurance to collect in full partial losses which may occur at locations covered. As the examples already given under the latter indicate, if the loss at one or more locations is less than the pro rata of the insurance attaching at those locations, it may be collected in full. Under the 100 per cent average clause, no loss may be collected in full unless there is 100 per cent insurance.

Noncancellation Clause.—In highly competitive forms the right of cancellation by either insured or insurer is occasionally abrogated by a noncancellation clause, though this clause is gradually falling into disuse. Where the underwriter accepts such a clause, he loses one of his principal controls on liability and may find it impossible to buy reinsurance with a similar provision.

Pro-rata Liability.—Modifications of the condition of the policy providing for pro-rata liability with other insurance are sometimes effected directly by stipulation. Sometimes, however, the condition is modified indirectly through a modifica-

tion of some other condition of the policy, *e.g.*, the one requiring unconditional and sole ownership. In forms covering betterments and improvements for the benefit of a tenant, there may be a statement that the tenant shall be treated as if he were sole owner and that his insurance shall pay in full and not pro rata with building insurance held by the landlord. Although it is probably unnecessary to do so, it is a frequent practice on the part of producers to have primary policies endorsed to the effect that contribution shall not be required from any excess insurance carried.

Loss-payable and Mortgagee Clauses.—A loss-payable clause in a form seldom has any serious effect upon its desirability. Ordinarily, in case of personal property, the clause merely designates a person, firm, or corporation as payee of any loss due the insured. The ordinary loss-payable clause designating a payee who can be readily identified is an unimportant detail in underwriting. Some loss-payable clauses stipulate that loss is payable only in accordance with the terms and conditions of the policy. Such clauses are the most desirable.

Mortgagee clauses, whether of standard or contribution form, are also loss-payable clauses; but by their terms they create separate contracts between the insurer and the mortgagee under which the chance of having to make payment is increased, because the contract with the mortgagee is not rendered void by any act or neglect on the part of the insured. Furthermore, mortgagee clauses provide for subrogation of the insurer to the rights of the mortgagee whenever payment is made to him for loss occurring under circumstances which relieve the insurer from liability to the insured. The subrogation feature is valuable when some part of the property covered by the mortgage, such as land, is not subject to loss and therefore offers remaining security after the other property, such as the building, has been destroyed. The use of mortgagee clauses should therefore be limited to policies covering buildings and structures standing on ground owned by the insured. If such clauses are used in connection with personal property, it is possible for the property to be entirely destroyed. There will then be no remaining property left which the company can acquire by foreclosure after paying the mortgagee and taking subrogation.

The use of the standard mortgagee clause should be limited to the protection of first-mortgagee interests in real estate, whereas the full-contribution clause should be used for protecting the interests of subordinate mortgagees. There has, however, been such confusion in the decisions of the courts relative to the contribution form of the clause that there is a growing tendency to use the standard-mortgagee clause in connection with practically all mortgagee interests in real estate.

Requirements in Case of Loss.—Some forms will modify requirements in case of loss by granting permission for immediate repairs; others will give the insured the right to withhold making claim until a stated date. Permission for immediate repairs is justifiable in connection with electric light and power plants, telephone exchanges, traction properties, railroads, and other utilities where continuous operation is essential. Permission to withhold claim generally appears on forms covering large schedules, particularly municipal properties, the end sought being the reduction of clerical work in connection with claims to the preparation of one set of proofs to cover all losses, large or small, which may have occurred during, say, a 6-month period. In connection with the properties described, neither clause tends to increase loss, and their use facilitates adjustments.

The requirement for an inventory of personal property in case of loss is frequently modified to the extent of waiving the part of the requirements that calls for an inventory of the undamaged articles if the loss is less than 5 per cent of the insurance. Experience has developed no serious objection to the conventional clause used for this purpose.

In some territories, forms covering stocks of merchandise embody the iron-safe clause, or, as it is otherwise called, the record-warranty clause. The use of this clause reduces opportunities for fraudulent claims.

Appraisal.—The provision for appraisal is frequently modified to the extent of waiving appraisal of sound value in connection with losses which are less than 5 per cent of the insurance. Experience has developed no serious objection to the conventional clause used for this purpose.

Options to Pay and Take Salvage and to Repair or Replace.—The company's option to pay the adjusted or appraised value of

personal property and take the salvage is occasionally modified by a clause permitting the insured to remove identifying marks from salvage or to mark the goods taken so that they cannot be handled in trade channels except as damaged articles. The use of such a clause tends to increase the extent of loss because, in the event of salvage operations, its presence will usually result in the salvage being sold at a lower figure than would be obtained if the original marks had not been removed or if the articles had not been marked or branded to show that they were involved in loss.

Subrogation.—The right of subrogation is frequently waived or modified by clauses that permit the insured to release third persons from liability.[1] Although such clauses tend to increase the amount of loss by depriving the insurers of the right of subrogation, their use is common in connection with property adjacent to railroad tracks where the owners have been compelled to execute releases of liability to the railroads in order to get side tracks or other privileges. Such clauses are also used in connection with insurance on freight shipments which are concentrated at certain points by a railroad and which during the concentration are held in grain elevators, cotton compresses, warehouses, or other occupancies under the protection of a tariff which specifies that during the period of storage the liability of the carrier shall be that of warehouseman only.

[1] See p. 186.

CHAPTER XIII

INSURED AND PAYEE

The percentage of persons throughout the United States who, because they do not misuse the insurance they buy, are looked upon by the insurance companies as desirable policyholders is now, in June, 1939, very high. Probably it is as high as the percentage of charge-account customers who keep in good standing with the stores where they trade. During the last 50 years the percentage of desirable, as contrasted with undesirable, policyholders has gradually increased, with occasional periodic decreases accompanying social and economic changes. A desirable insured cares for his risk and does much to prevent loss. If fire occurs, he makes a reasonable claim and supports it by adequate and credible data. The business done with the large number of desirable insured produces the profit made by the companies.

An undesirable insured may mistreat or neglect his risk or even set it on fire in order to collect the insurance or, in case of accidental fire, may present a claim inflated to the degree of fraud. The business done with the small number of these undesirable insured who manage to get insurance produces loss and trouble for the companies far out of proportion to their number. The profit or loss due to the writing of a policy by an insurance company is affected by the amount of premium collected from the insured and, in case of loss, by the amount paid him or a payee in satisfaction of claim. When insurance is properly used, risk and contract fix both these amounts. In each risk there are hazards which may cause accidental fire and materials and arrangements which will ordinarily determine the extent of damage if fire occurs. In each contract are terms limiting the amount for which the insured should make claim in case of loss. But because insurance can be misused, because a

risk can be mistreated or even intentionally set on fire, and damage in it can be aggravated by the insured, and because any claim that he presents can be inflated, perhaps in a way making detection difficult or even impossible, the behavior of the insured is one of the prime factors that determine the company's experience in connection with a policy it has issued.

Risk and contract exist for the underwriter when a person, ordinarily the owner, insures a piece of property. Risk, contract, and insured form a combination in which the three affect one another. A risk worth replacing, insured for the customary percentage of its value at the published rate under a form prescribed by underwriting standards, and a desirable insured make the best combination. In many respects the underwriting hazard is like the credit hazard, which is often stated as character plus capacity, plus capital, and plus or minus economic conditions.

In dealing with the desirable insured, who now constitute more than 95 per cent of all, the underwriter relies upon normal conduct on their part and compensates for superiorities and inferiorities of properties and contracts by increasing or decreasing the amounts he would otherwise carry on the various risks he covers, as the effect of such superiorities and inferiorities can be estimated with sufficient accuracy to insure regular results in long-time underwriting operations. But in dealing with the undesirable insured, who are now no more than 5 per cent of all but who are responsible for the doubtful and suspicious fires and fraudulent claims which plague the business, the underwriter assumes from past experience that their probable future behavior will be such that he should avoid them altogether.

Only in rare instances will a payee exert sufficient influence on the insured or the property to affect the experience of the underwriter. A payee under a standard mortgagee clause has certain rights that entitle him to preferential treatment. Occasionally, a mortgagee-payee is found to be undesirable.

Desirable and Undesirable Insured.—The insured is ordinarily the owner of the property. He benefits from its use or is enriched by the profit it produces if it is useful or profitable; but, on the other hand, he is hampered by its burdens or impoverished by the loss it causes if it is useless or unprofitable. His way of life, method of operation, or manner of doing busi-

ness may tend to prevent fire damage to the property or may tend to cause it. His character may make him easy or difficult to deal with as a claimant. Should the property be destroyed by fire, he will, if he has no insurance, be a loser if it is valuable or a gainer if it is burdensome. But if he has insurance, he will escape loss in the one case and may actually be enriched in the second. If he is intelligent and fair-minded, he will be easy to deal with as a claimant; if stupid, hard, avaricious, or downright crooked, he will be difficult. If the insurance will do no more than prevent him from suffering loss should the property be destroyed, he will have no incentive to neglect it, in the secret hope that it will take fire, or to set it on fire deliberately. If it should be destroyed, he will have to undergo the labor and trouble of replacing it at an expenditure perhaps exceeding his collection from the insurance. But if the combination of property and insurance offers the insured an opportunity to profit by the destruction of the property, an incentive arises to neglect it or, in extreme cases, to burn it. The character of the insured and his attitude toward the crime of arson will affect his actions, but the combination of property and insurance will also affect them. A good moral character and an abhorrence of the particular crime will, except in cases of desperation, deter an insured who is in a position to profit by a fire from willful neglect leading to fire or from the act of incendiarism. But a character not so good or an attitude indifferent to crime or fraud will impel an insured toward incendiarism if the amount of insurance he may have a chance to collect is materially greater than the actual cash value of the property.

Underwriters proceed on the assumption that if the character and capacity of the insured are average or better, if he is not overburdened by debt or severely handicapped by ill health or trouble, his relation with an insurance company will be free from suspicious fires, difficult dealings, or fraudulent claims. Contrariwise, there may be arson, avarice, and fraud to deal with.

Investigation of Desirability.—Of the risks offered for insurance, probably 90 per cent require little or no investigation of the insured, ordinarily the owner. Of the remaining 10 per cent, a substantial proportion are approved after limited investigation. The skill of an underwriter is shown by his ability to reject the

small proportion of offerings that, because of ownership, are likely to produce losses. In connection with dwellings and their contents and other preferred risks, a routine check of the insured is made in an index of names against which past fires have been recorded; and if no fires are found for the name being checked, no further investigation will be made. In rare cases the mortgagee or other payee of a policy will be checked up. In connection with mercantile and special-hazard risks the commercial rating is looked up; and if satisfactory, there is no further inquiry. If, however, the preliminary check indicates previous fires or restricted credit, the underwriter has recourse to the various agencies that collect credit and character information and make reports.

The very small percentage of property owners who are undesirable as policyholders have, as a rule, histories of unexplained fires, criticized claims, or business embarrassments. Sometimes, however, they are undesirable because of present financial stress or personal handicaps with no prospect of better things in the future.

In connection with some offerings there may be features warranting special investigation, even though the insured has suffered no previous fire. The ordinary ones are (1) foreign names; (2) poor location of property; (3) oversized, undersized, and unsuitable property; and (4) old property and property in bad condition.

The agencies which make investigations ordinarily report on the insured's race and nationality, occupation and status, reputation, history, finances, health, and personal relations and prospects. Some investigation is always made as the result of a risk's being offered for insurance and should, in particular, develop the history, present situation, and prospects of the person or business in connection with the risk. Investigation of the insured in connection with one piece of property often brings to light information as to other property and may reveal physical, as well as moral, hazards.

Race and Nationality.—The race and nationality of a person in some cases indicate his character, fix his status, and affect his attitudes toward the crime of arson or the attempt to defraud an insurance company. Members of the races from eastern

and southern Europe and southwestern Asia have furnished the insurance adjusters with a number of suspected and troublesome claimants out of proportion to the percentage of the population that immigrants of those races constitute. Race and nationality are often indicated by names.

Occupation and Status.—The occupation and status of a person determine in large degree how well he is known, how much income he will receive, what will be his mode of life, and who will be his associates. The high-salaried corporation officer, the successful professional man, the merchant, the manufacturer, and the capitalist are at the top of the scale. They generally own or control the most valuable property. They have a wide circle of friends and acquaintances, large incomes, and associates who are financially and socially important. They are generally men of good character, great capacity, and in good financial condition. The man who stands high in his occupation will normally be better off than the one who stands low. The floating employee, the common laborer, the share cropper, and the bootblack generally have small circles of acquaintances, small incomes, and associates who are themselves at the bottom of the income and social scale. They rarely accumulate an appreciable quantity of insurable property. Whatever their characters, their capacities are generally below average, and their conditions precarious. Occupation and status influence the ideas of a person. The engineer, for example, tends to think according to the exactness of engineering standards, whereas the banker thinks according to how he may make his lendings safe.

Reputation.—Reputation is probably the most frequently accepted index of character. A bank will accept the account of a person who is introduced by a depositor in good standing. The bank acts on the reputation that the person introduced has established with the person introducing him. The trust men put in reputation arises from the observations of human experience—persons tend to act as they have acted in the past.

The great majority of insurance policies are written by local agents for the citizens of their respective communities. In many instances the only positive information as to the character, capacity, and condition of the insured is what the agent has acquired through asking friends or acquaintances for their

opinions of the prospect. The checks the companies make of names will show, in all but a few cases, no information.

History.—In the history of a person the events which ordinarily give an indication of his desirability or undesirability as a policyholder are (1) former places of residence; (2) business or occupations followed; (3) trade, corporate, or other names used; (4) record of meeting obligations; (5) fire, burglary, or other losses sustained; (6) bankruptcies or business troubles; and (7) court record.

Places of Residence.—Continued residence at the same place indicates that the person has a stable status and a fixed relation to the community. It also indicates that he has been constantly under observation by the same persons and has developed a reputation among them that accurately reflects his character. Frequent changes of residence may indicate (1) a lack of stability, (2) an occupation necessitating changes, (3) effort to escape trouble. The restless person changes his place of residence frequently, expecting to find in the new location what he has failed to find in the old. The employee of the large organization with a nation-wide spread of business is frequently shifted from place to place according to the needs or the politics of the organization. The person who engages in fraudulent or other illegal transactions must often change his place of residence to escape prosecution. Any record of frequent change of residence must be considered in connection with other details of a person's history.

Business or Occupation Followed.—The business or occupation followed by a person in the past will ordinarily be responsible for his present status and financial condition and may indicate character and capacity. Continuous pursuit of the same business or occupation generally indicates stability of character, aptitude for the business or occupation, and reasonable success in it. Frequent changes indicate instability, inferiority, or misfortune. In any former business or occupation a person's associates will have affected him and will have been affected by him. The records of these associates will at times indicate what they found out about him and how they regarded him.

Trade, Corporate, or Other Names Used.—A person may have engaged in a past business venture under a trade, partnership, or

corporate name. The history of the venture itself may be an important part of the history of the person, connecting him with past successes or misfortunes and past records of reliability or unreliability in business engagements. The better class of persons have nothing in their business past to conceal. The incompetent and dishonest, however, have much, and they do what they can by the use of trade names or the names of other persons to divert attention from themselves. A change of a person's name, either by court action or informally, may indicate a desire to conceal identity. In the population of the United States there are many persons whose names are the same. In tracing the history of one of these persons, something more than name will be necessary to connect him with past events.

Record of Meeting Obligations.—Every individual establishes among the persons who are in contact with him in his community a record for promptness or delay in meeting his financial obligations. This record is one evidence of character and is generally reliable. Regular payment of bills over a period of years indicates a sense of responsibility and a capacity to plan expenditure so that it will not exceed income. Irregular payment indicates a lack of these desirable qualities or some misfortune.

Fire, Burglary, or Other Losses Sustained.—Fire, burglary, or other losses sustained are important events in the history of an insured person or business. The reports made by the adjusters who handled the losses will contain facts and opinions which will indicate the character of the insured and his behavior as a claimant. The reports may show that the losses did not occur through any lack of care and attention to the property or any misconduct on the part of the insured and may also show that he was found to be able and honorable in his dealings as a claimant. On the other hand, the reports may show that there was lack of care producing serious hazard, bad management, probable complicity on the part of the insured in the cause of the loss, or the presentation of fraudulently exaggerated claims. The reports may not only indicate the character of the insured but may accurately show his financial condition at the time when a specific claim was made.

A manufacturer of paper and paper products suffered seven fire losses over a period of 29 years. Various company adjusters

dealt with him, and all reported that in their opinion the fires were accidental. The manufacturer maintained his volume through depression periods and was a strong competitor on any large orders he went after. The adjusters always characterized him as a hard trader but never as a fraudulent claimant. In the opinion of the author, who adjusted two of his losses, his severe fire record was due to his use of secondhand equipment and his excessive operating speeds. He kept his costs low by having a smaller capital investment and by producing more units per hour than competing manufacturers, but his plants could not always stand up to their loads. All fires originated on his own premises. His record[1] follows:

Year	Month	City or village	Cause	Amount
1901	January	A	Not recorded	$ 8,972.22
1912	?	B	Not recorded	?
1915	August	A	Not recorded	152,723.56
1923	June	C	Not recorded	3,899.00
1924	November	C	Not recorded	65,292.98
1927	May	D	Not recorded	467,500.00
1929	July	C	Not recorded	59,006.65
				$757,394.41

An owner of a chain of moving-picture theaters suffered 15 fire losses in 13 years. In 13 of these losses the origin of the fire was clearly accidental; in six of the 13, due to exposure, external or internal. One adjuster had a very sad experience with one of the six. Several factors apparently contributed to the severe loss record: (1) careless occupants, (2) unfortunate locations, (3) excessive claims. His record follows:

[1] All dates given are fictitious but in same relation as the real dates.

Year	Month	City or village	Cause	Amount
1901	March	A	Careless smoker	$ 75.00
1901	June	A	Electric iron	8,931.36
1902	November	A	External exposure	157.00
1902	November	A	Internal exposure	4,615.25
1903	May	A	Ignition of film	239.00
1907	December	B	Unknown	45,788.54
1908	January	A	Unknown	2,308.00
1908	January	A	External exposure	30.00
1910	March	A	Cigarette	69.00
1910	August	C	Ignition of film	193.67
1911	April	D	Fire in rubbish box	68.64
1913	January	E	External exposure	3,743.99
1913	July	D	External exposure	3,500.00
1913	September	F	Internal exposure	13,040.00
1913	November	B	Rubbish in basement	439.00
				$83,198.45

Several other records are submitted as examples, and following each is the inference to be drawn from it in the absence of detailed reports. To prevent identification, amounts have been changed to round figures.

Insured A.B.
Class of property: Residence.

Year	Cause of fire	Coverage	Loss paid
1901	Ash pile	Household furniture	$ 400
1904	Sparks in wood box	Dwelling	850
		Household furniture	500
1906	Unascertainable	Dwelling and rents	6,250
1908	Overheated stove	Dwelling	1,650
		Household furniture	250
			$8,900

Probably a careless way of life which produces a genuine physical hazard.

Insured C.D.
Class of property: Dwelling and household furniture.

Year	Cause of fire	Coverage	Loss paid
1901	Smoker's carelessness	Dwelling	$ 120
		Household furniture	400
1903	Fumigating lamp	Dwelling	12
		Household furniture	100
1905	Sparks rubbish pile	Dwelling	90
		Household furniture	20
1908	Defective wiring	Household furniture	700
			$1,442

Probably a careless way of life and poorly built property.

Insured E.F.
Class of property: Dwelling, contents, and garage.

Year	Cause of fire	Coverage	Loss paid
1901	Unknown	Building (garage)	$ 500
		Contents	3,000
1905	Overheated stove	Furniture	2,000
1906	Chimney or wiring	Contents (garage)	1,250
1907	Chimney or wiring	Dwelling	1,000
		Household furniture	900
1911	Overheated stove	Dwelling	1,750
		Household furniture	900
			$11,300

A rather bad record. Carelessness, poor construction, and possibly outside incendiarism, as there were two garage fires.

Insured G.H.
Class of property: Farm.

Year	Cause of fire	Loss paid
1901	Unknown	$ 125
1901	Unknown	950
1902	Sparks on roof	700
1903	Smoking	1,500
1904	Spontaneous combustion	200
1904	Fireplace	1,750
1905	Defective flue	750
1905	Unknown	500
1905	Trespassers	250
1906	Spark from locomotive	600
1909	Kitchen flue	6,500
1911	Smoking	125
1912	Unknown	1,300
1913	Thieves	5,000
1913	Unknown	750
		$21,000

The record indicates the hazards of isolated property.

Insured I.J.
Class of property: Chicken farm.

Year	Cause of fire	Loss paid
1901	Smoking by tramps	$ 2,500
1903	Unknown	500
1903	Unknown	7,000
1908	Electric wiring	4,900
		$14,900

A very unsatisfactory record.

Insured K.L.
Class of property: Hardware, house furnishings, and residence.

Year	Cause of fire	Loss paid
1901	Unknown	$ 4,000
1908	Back draft from heater	15,000
1912	Smoking material	3,000
1916	Defective wiring	10,000
		$32,000

Probably carelessness, congestion, and poor construction.

Insured M.N.
Class of property: Dealers in rags and paper (junk).

Year	Cause of fire	Loss paid
1901	Unknown	$1,450
1902	Unknown	1,000
1903	Vandals	150
1903	Malicious mischief by boys	2,000
1905	Boy intruders	2,100
		$6,700

Probably outside incendiarism.

Insured O.P.
Class of property: Waste-paper stock.

Year	Cause of fire	Loss paid
1901	Unknown	$ 5,000
1902	Unknown	1,500
1902	Unknown	2,000
1902	Unknown	20,000
1903	Unknown	2,000
1905	Outside incendiarism	500
1905	Stove explosion	250
1906	Unknown	3,750
1909	Combustion or smoking	15,000
1909	Unknown	2,000
		$52,000

Exceedingly unsatisfactory.

Insured Q.R.
Class of property: Hat factory.

Year	Cause of fire	Loss paid
1901	Exposure	$ 2,000
1904	Exposure	10,000
1906	Unknown	32,000
1912	Unknown	5,500
1912	Unknown	2,500
1914	Unknown	400
1915	Spark from motor	1,750
1918	Unknown	2,000
1920	Unknown	5,000
		$61,150

Very unsatisfactory, perhaps incendiarism incident to labor troubles.

Insured S.T.
Class of property: Furniture manufacturing.

Year	Cause of fire	Loss paid
1901	Oil rags	$ 6,250
1902	Spontaneous combustion	7,500
1905	Spontaneous combustion	10,000
1906	Gas radiator	13,000
1906	Undetermined	30,000
1911	Unknown	6,500
		$73,250

Probably carelessness or poor design and construction.

Two payee cases are submitted.

Case A.—An incendiary fire was investigated shortly after it occurred, but no evidence identifying the incendiary was unearthed. Several years later, information received from undercover sources definitely implicated a man believed to be the torch and also implicated the mortgagee of the property. The suspected torch was arrested and, upon being examined, confessed that he set the fire at the instigation of the mortgagee, who was later prosecuted, convicted, and sentenced. At the trial, the mortgagee testified in his own behalf that he owned mortgages covering various properties totaling more than $70,000. The insurance companies paid him $9,000 after the fire.

The property had apparently been purchased by the insured for $2,000 cash payment, and a mortgage given for $11,000. At the time of the fire the mortgage had been reduced by $1,000, but principal and interest payments were in default by 3 months.

As far as could be learned, the insured was not involved.

Case B.—Investigation of several claims revealed that a mortgagee was in the habit of selling property for a very small cash payment and taking a large mortgage which enabled him to get control of insurance policies for the full value of the buildings. He had large holdings and because of the depression could buy property for almost any price. Many of his sales were purely fictitious, made only to support insurance in other names. When he encountered difficulties as an individual mortgagee, he incorporated and tried to continue the same practices.

Bankruptcies and Business Troubles.—Bankruptcies, assignments for the benefit of creditors, and other business troubles evidence misfortune or lack of resources, capacity, or character. A bankruptcy may have been voluntary or involuntary, free from fraud or suspicion, or attended by suspicious or fraudulent circumstances. Every bankruptcy has its cause—general business depression, poor management, speculation, fraud, poor location, competition, drop in market with large stock on hand, or some other overpowering force. The history of a bankruptcy will include the amount of indebtedness, the assets, any settlement made, and whether the bankrupt was discharged. Business troubles which do not result in bankruptcy generally have behind them the causes discussed in connection with bankruptcy. In some cases a person outlives bankruptcy or business troubles; in others, he continues under their handicap.

Court Record.—The person who is frequently in court is generally of a contentious disposition or unscrupulous or, for one reason or another, a target. A record of convictions for crime or serious misdemeanor may indicate that the person has a character that will make him prone to attempt arson or to present a deliberately inflated claim in case of loss or that he is apt to make enemies who would try to injure him or any property he owns. The thief is an example of the first type; the gangster, of the second. Frequent appearance in police and traffic courts is evidence of irresponsibility, rashness, or carelessness.

Finances, Health, and Personal Relations.—When from the standpoint of finances, health, and personal relations the condition of a person is good, it justifies the expectation that he will give proper care to his property and that his behavior will be cooperative and honorable, should he become a claimant. But when his condition is not good, his property may be neglected, mistreated, or even intentionally destroyed; and his behavior, should he become a claimant, may be obstructive and dishonest. Resources, income, and indebtedness determine the state of a person's finances. When resources and income are ample to care for the needs of a person or a business and any property owned by either, the probabilities are that the property will be cared for properly and that there will be no incentive to burn it for the purpose of collecting insurance.

Normal health justifies the expectation that, other circumstances permitting, a person will carry the burden of life without failure or breakdown. The chronically ill person generally loses all control over his affairs.

Sanity is essential to normal behavior. Mental disorders lead to misconduct ranging from the stagnation of efforts attending severe melancholia to the rage of acute mania. The insane person is not held responsible for his actions; and if he burns his own property, the insurer cannot escape liability to his guardian.

Family life and community relations are indications of character and social status. When these are satisfactory, they make for good conduct.

The habits and associates of a person are indications of his character, finances, health, and personal relations. Good habits and reputable associates are the standards. Changes in habits and associates follow changes in financial condition. A forecast of business troubles can often be made when there is a sudden change from conservative to rash behavior on the part of a man who has been successful and prosperous.

Prospects.—The prospects, particularly the immediate prospects, of a person very greatly affect the probabilities of how he will care for any property that is insured and how he will regard the insurance. When prospects are good, care for the property is to be expected; when they are bad, there is likely to be lack of

care and possibly intentional destruction if the cash to be realized from the insurance promises to be more useful than the property. The prospects attending a person who holds insurance are generally indicated by his history and present condition. The person who has an assured source of livelihood will have a greater incentive to care for what he has and less incentive to burn property for the purpose of collecting insurance than the person whose opportunity for earning a living has been reduced or destroyed by economic change, adverse physical conditions, or other disaster and who has in prospect an uncertain or hopeless future.

CHAPTER XIV

REINSURANCE

When the liability which one insurer has undertaken in a policy or contract of insurance is wholly or partly insured by another, the transaction between the insurers and the contract arising out of it are known as *reinsurance.* Under present underwriting conditions, transactions effecting reinsurance or altering or canceling reinsurance already in force are numerous. A large number of these transactions take place among companies which do a general fire insurance business. In the early days of fire insurance, reinsurance was possible only between such companies. But later, as the business increased in importance and was called upon to protect greatly increased values, a need developed for reinsurance facilities more extensive and more flexible than the companies doing a general business could extend to one another. As a consequence several reinsurance companies were organized. Those which have survived now do a large business. With the growth of reinsurance, men appeared who specialized in handling it, and offices were organized where large or unusual lines of reinsurance could be placed or bound.

The reinsurance contract has come to have a well-established form and purpose. In the majority of instances, it is brought into existence by specific action, such as the signing of a binder or the imprinting of a clock stamp. But in others there will be a prearranged routine under which reinsurance begins concurrently with the insurance whenever there is need for it.

Aids to effecting reinsurance among companies doing a general fire insurance business include special binders and certificates, the latter being used in lieu of policies. The reinsurance companies have reduced to a minimum the details necessary to effect, alter, or cancel reinsurance.

Certain usages are generally followed in connection with the reinsurance contract. In some cases these usages will be pre-

scribed by the contract itself, whereas in others no reference will be made to them, as the parties will rely upon customs of the business. As examples of accepted usages in reinsurance, between companies doing a general insurance business, the matter of retention be cited, *i.e.*, the amount that the reinsured, or *ceding*, company retains at its own risk after allowing for all reinsurance; also, in connection with all kinds of reinsurance, the provision that the obligation of the reinsurer shall be coextensive with that of the reinsured. In the vernacular of the business the reinsurer is expected to "to follow the fortune" of the reinsured.

In underwriting language a company that engages in a reinsurance transaction in which its own liability is insured by another is known as the *reinsured*, the *reinsured company*, or the *ceding company*. Conversely, the other is known as the *reinsurer*, or the *reinsuring company*. The reinsured, in making the contract, is said to *cede*, or to make a *cession*.

From the viewpoint of the reinsuring company, a reinsurance transaction is one that produces a premium and calls for the exercise of underwriting judgment in connection with the risk assumed. From the viewpoint of the reinsured company, it is a transaction that reduces its liability. A presentation of the subject of reinsurance as a factor in underwriting must be chiefly from the latter viewpoint.

There are many reasons that lead companies to buy reinsurance, *i.e.*, to cede it. A company may wish to terminate or reduce its liability on a specific risk without disturbing the producer or policyholder by a request for the cancellation or reduction of its policy. It may even, prior to the writing of its own policy or policies upon a risk, arrange for needed reinsurance so that it may carry a larger line than would otherwise be possible for the benefit of a valued producer or policyholder.

With many companies that do a general insurance business a better spread of amount at risk is frequently effected through exchanging reinsurance with other companies. Reinsurance will be sold by a company which has no insurance upon the property and will be bought by one which has too much.

It is customary for the reinsuring company to allow the reinsured a commission in excess of the commission paid by the reinsuring company to its producer; consequently reinsurance

transactions tend to reduce the commission cost of *direct-writing*[1] companies. The several states tax insurance companies according to the premiums received on business written within the states. It is therefore customary for direct-writing companies to credit reinsurance premiums received to the states where the direct insurance covers and conversely to debit reinsurance premiums paid. The tax burden is thus properly apportioned.

The simultaneous reinsuring of liability under many policies is sometimes effected in the hopes of improving the financial condition of the direct-writing company by reducing its reserve for unearned premiums. The reinsuring company in such a case will allow the direct-writing company a substantial commission on the unearned premiums of the policies reinsured, the commission then becoming an asset in the hands of the direct-writing company.

Reinsurance enables a direct-writing company to retire from an agency, town, or state without having to undertake the labor and trouble of canceling its outstanding policies, as arrangements can be made by a contract of reinsurance for the reinsuring company to take over the handling of losses and other matters connected with the policies reinsured and thus leave the reinsured company free from further responsibility in connection with them. On a more extensive scale the same action can be taken if the company wishes to liquidate and cease doing business. Its entire outstanding liability can be reinsured; and if done in a manner that meets the approval of the respective state departments, its assets can then be distributed to its stockholders.

Reinsurance can be (1) *pro rata*, in which case the reinsurer's payments in case of loss will be the same proportion of its amount at risk as will be the reinsured company's; or (2) *excess*, in which case the reinsurer will pay nothing unless the loss of the reinsured company exceeds a stipulated figure.

Kinds of Reinsurance.—Reinsurance as effected by the fire insurance companies is known as (1) *specific*, (2) *treaty*, (3) *portfolio*, (4) *excess of loss*, and (5) *retrocession*.

Specific reinsurance, also known as *facultative* reinsurance, is a special transaction in which a company reinsures its liability

[1] In connection with reinsurance transactions the term *direct writing* is applied to the company that insures the property.

under a policy or simultaneously under several policies. The transaction is independent of any other which may have taken place between the companies in the past or may take place in the future. It is the common form of reinsurance between direct-writing insurance companies.

Treaty reinsurance originates in a contract between two companies which agree, the one to cede and the other to accept reinsurance according to some general plan which will embrace an undetermined number of future transactions. It continues according to the contract for a definite period of time. It is the common form of reinsurance between direct-writing and reinsurance companies.

Portfolio reinsurance is specific reinsurance on a large scale. In such reinsurance a company reinsures all or a certain portion of its outstanding liability.

Excess-of-loss reinsurance is reinsurance which is not called upon to make payment unless the reinsured company sustains a loss in excess of a stipulated amount. Such reinsurance can be either specific or treaty.

Retrocession is the reinsurance of reinsurance.

Specific Reinsurance.—When an underwriter seeks specific reinsurance of a policy or group of policies written or to be written, he submits particulars to the prospective reinsurer and tenders a binder to be initialed if the reinsurance is accepted. The submission may be made by telephone, mail, or personal call. In New York, much specific reinsurance is handled by placers.

The prospective reinsurer judges the submission as if it were a direct offering but also gives special attention to the net amount the submitting underwriter proposes to retain. If the reinsurance is accepted, the binder is dated, initialed, and delivered to the underwriter, the reinsurer keeping a copy of it or the application, pending receipt of forms from the underwriter[1] which supply the information necessary to complete the reinsurer's records, including the number of the reinsured policy. The reinsurer then issues a reinsurance certificate, in reality a policy, and delivers it to the underwriter.

[1] In case of standard forms the reinsurer generally does not require submission of forms.

The reinsurance clause approved by the National Board of Fire Underwriters is as follows:

This policy is issued as reinsurance to apply to Policy No. . . . of the . . . Insurance Company, and is subject to the same risks, privileges, conditions and endorsements (except changes of location), assignments, changes of interest or of rate, valuations and modes of settlement, as are or may be assumed or adopted by the said company.

The amount payable under this policy shall bear the same ratio to the amount payable by the reinsured company under any and all policies upon the property specified and contained within the limits described herein, that the amount of this reinsurance in force at the time of loss shall bear to the total amount insured by the reinsured company upon such property in force at the time of such loss, and shall be paid at the same time and in the same manner as payment shall be made by said reinsured company.

Other reinsurance is permitted without notice until required.

The premium is then billed by the reinsurer to the reinsured company, less commission.

Net Retention.—Formerly specific reinsurers generally insisted that the reinsured company maintain a minimum net retention on the reinsured risk during the entire term that the reinsurance was effective. The existence of a net retention is a valuable guide to a reinsurer, as it evidences the reinsured's opinion of the risk, a large retention evidencing the opinion that it is good; a small one, that it is not. A net retention is also a guarantee to the reinsurer that any unfavorable development in the risk during the term of the insurance, *e.g.*, a loss, will be of vital interest to the reinsured.

The retainer clause adopted by the National Board of Fire Underwriters in 1906 reads:

The reinsured company shall retain at its own risk, on the identical property covered at the time of any loss, by this policy, over and above all its reinsurance thereon, an amount equal to the amount of this policy upon such property, and, failing so to do, the amount which would otherwise be payable under this policy by reason of said loss shall be proportionately reduced.

Today many companies refuse to accept policies or certificates of specific reinsurance that contain a retainer clause,

and reinsurers do not insist upon the clause owing to the stress of competition.

Use and Limitations.—Although some specific reinsurance is written in the United States by reinsurance companies, the great volume of it arises out of its exchange among direct-writing companies. Specific reinsurance performs three valuable functions in the operations of the insurance business in addition to that of reducing the amount at risk of the reinsured. (1) By placing specific reinsurance with offices or companies that will reciprocate, the underwriter will very often succeed in getting them to place an equal volume with him and will thus maintain a net underwriting income which will be practically as large as his gross income on direct business. (2) By means of specific reinsurance a property owner who wishes to hold only one policy covering a large value can be given the policy of the company he prefers; and the other companies in the same agency or dealing with the same broker can, by reinsuring the issuing company, participate in the business. (3) By reinsuring all outstanding policies written through a given agency or covering in a given territory, a company can retire from the agency or the territory and end any further loss or expense in connection with it. In an extreme case a company can, with the consent of the insurance department of the state where it is domiciled, reinsure all outstanding policies and contracts and either make a fresh start or liquidate. It is customary to include in the reinsurance contract in each of the situations described in this section a provision that the reinsurer shall handle all cancellations and losses. It is the large-scale transaction under this same section that is called portfolio reinsurance.

There are limitations to the usefulness of specific reinsurance in the ordinary routine of reducing excessive amounts at risk, as these come before the underwriter. Specific reinsurance can be transacted extensively only between companies located near each other, owing to the necessity of submitting particulars with each offering and getting an acceptance or rejection. Unless and until the underwriter is informed that an offering is accepted, he is uncertain of the protection he needs. This uncertainty is a handicap to him in dealing with his own producers or policyholders. Furthermore, specific reinsurance

is limited to the terms and conditions of the policy or policies reinsured and lacks flexibility. Finally, this kind of reinsurance calls for much clerical labor, as for each transaction there will be a separate reinsurance certificate, with the incidental details of endorsements, premium bills, and, in case of loss, proof of loss and the banking of a loss draft.

Treaty Reinsurance.—Treaty reinsurance is reinsurance which exists because of a general contract between the reinsurer and the reinsured under which an undetermined number of future transactions were provided for when the contract was entered into. Although many treaties have been made between direct-writing companies, treaty reinsurance is the particular field of the reinsurance companies which have developed it to a high state of usefulness. Under a treaty the reinsurer agrees to accept cessions according to prearranged conditions, and the ceding company agrees to make these cessions to the reinsurer before looking elsewhere for reinsurance. The treaty thus provides the reinsurer with a promising source of income and the ceding company with reinsurance that becomes effective immediately upon the commencement of its own liability. A clause which appears in many treaties states the respective obligations of the parties:

> The ceding company obligates itself to cede to the reinsurer and the reinsurer obligates itself to accept as reinsurance from the ceding company . . .

The clause continues with a statement of what reinsurances are covered by the treaty, their size, hazard, territory, and other descriptive details, also what share will be acceptable to the reinsurer under each cession and what shall be the net retention on each cession. The two companies obligate themselves in a manner that reduces to a minimum the element of choice. From the standpoint of a direct-writing company which is receiving a steady inflow of commitments from its agents the immediate coverage of excessive amounts at risk is highly useful. The reinsurance is effected on the conditions of the direct policy, the reinsurer having no right under the treaty to object to them but being bound by all stipulations, including premium rates,

and in case of loss by all settlements made by the ceding company, including compromises and *ex gratia* payments.

The two forms of obligatory treaties in common use are (1) the *quota-share* treaty and (2) the *surplus-line*, or excess, treaty.

Under a quota-share treaty there is automatic immediate reinsurance of a predetermined percentage of every policy issued by the ceding company. The quota-share treaty is not frequently used except between direct-writing companies that are members of the same group or fleet. Here it is useful in pooling amounts at risk, which are then reduced by retrocessions to reinsurers.

Under a surplus-line treaty the ceding company is not obligated to make a cession until the amount it has written on a "single risk" exceeds its net retention. When it has done so, a reinsurable surplus or excess arises, which, within certain limits, must be ceded.

Usefulness of Treaty Reinsurance.—Treaty reinsurance is highly useful in the underwriting scheme because of its immediate protection and its flexibility. The ceding company does not have to submit particulars and await a decision, as is the case with specific reinsurance. It registers the need for the treaty's protection when it fixes its own retention, and the reinsurer is bound. *Bordereaux* and accounts reduce clerical work to a minimum, eliminating the greater part of the detail that attaches to specific reinsurance. Troublesome risks, like storage warehouses, grain elevators, and others in which diverse ownership causes a frequent change in amount at risk, are easily handled under the provision now generally appearing in treaties that the ceding company may make its cession under the last issued policy or under several lately issued policies and, in case of loss, apportion the reinsurance over all policies involved.

Excess-of-loss Reinsurance.—Excess-of-loss reinsurance does not undertake to protect the reinsured company until it shall have sustained a loss in excess of a stated amount. There are two general types of excess-of-loss reinsurance: (1) reinsurance of a specific policy or item and (2) reinsurance of a specific location, or area, in which many policies may be involved, or of all the business written by the company.

As illustrations: (1) A company or office may write a large line on a risk and be willing to take its chances on paying in full all losses not exceeding a given figure but may feel that the small chance of greater loss in the risk does not warrant the cost of pro-rata reinsurance. Excess-of-loss reinsurance of this type is written at judgment rates which are less than the rates on the risks covered. There is a tendency to use this type of reinsurance to reduce to a reasonable figure the amount at risk at peak-value locations.

A company or office may have reason to expect excessive demands upon its carrying capacity on a risk in which diverse ownerships may unexpectedly concentrate large values and, doubting its ability to effect specific reinsurance after exhausting its direct and treaty capacity, may take excess reinsurance which will apply to the aggregate loss suffered under all policies in or on the risk.

2. A company or office may wish to reduce clerical detail to the minimum and with an established experience behind it decide to do away with the ordinary forms of treaty reinsurance, trusting to excess reinsurance to absorb all losses that exceed a predetermined amount. Similar to such an arrangement is the catastrophe cover frequently taken out to cover in conflagration areas.

Excess-of-loss reinsurance is occasionally written in a series of covers, each of which names a higher excess, taking on where the one below it leaves off. The rate falls as the amount to be exceeded rises.

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APPENDICES

A. A Proposed Revision of the New York Standard Fire Policy.
B. Agency Agreement.
C. Contingent Commission.
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E. Special Subjects for Consideration before Binding a Company.
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APPENDIX A

A PROPOSED REVISION OF THE NEW YORK STANDARD FIRE POLICY

Amount $_____ Rate_____ Premium $_____

In Consideration of the Stipulations herein named

and of_____Dollars Premium

does insure _____

and legal representatives, to the extent of the actual cash value (ascertained with proper deductions for depreciation) of the property at the time of loss or damage, but not exceeding the amount which it would cost to repair or replace the same with material of like kind and quality within a reasonable time after such loss or damage, without allowance for any increased cost of repair or reconstruction by reason of any ordinance or law regulating construction or repair and without compensation for loss resulting from interruption of business or manufacture,

for the term of _____

from the _____day of_____19____, at noon,

to the _____day of_____19____, at noon,

against all DIRECT LOSS AND DAMAGE BY FIRE, LIGHTNING AND EXPLOSION (excluding explosion originating within steam boilers, pipes, flywheels, engines and rotating machinery connected therewith and operated thereby, caused by internal pressure or centrifugal force, unless fire ensue, and in that event, for loss or damage by fire only), and by SMUDGE and SMOKE due to a sudden, unusual and faulty operation of any stationary heating furnace, pertaining to the service of the building, but not from stoves, fireplaces or industrial apparatus; and by removal from premises endangered by the PERILS insured, except as herein provided, to an amount not exceeding_____ Dollars to the following described property while located and contained as described herein, or pro rata for five days at each proper place, to which any of the property shall necessarily be removed for preservation, but not elsewhere, to wit:

This policy is made and accepted subject to the foregoing stipulations and conditions, and to the stipulations and conditions printed on the back hereof, which are hereby made a part of this policy, together with such other provisions, stipulations and conditions as may be endorsed hereon or added hereto as herein provided.

IN WITNESS WHEREOF, this Company has executed and attested these presents; but this policy shall not be valid unless countersigned by the duly authorized Agent of the Company at_____

Secretary *President*

Countersigned
this_____day of_____19__ _____Agent.

Fraud, misrepresentation, etc. This entire policy shall be void if the insured has concealed or misrepresented any material fact or circumstance concerning this insurance or the subject thereof; or in case of any fraud or false swearing by the insured touching any matter relating to this insurance or the subject thereof, whether before or after a loss.

Uninsurable and Excepted property. This policy shall not cover accounts, bills, currency, deeds, evidences of debt, money, notes or securities; nor, unless specifically named hereon in writing, bullion, manuscripts, mechanical drawings, dies or patterns.

Hazards not covered. This Company shall not be liable for loss or damage, (a) by theft; or (b) caused directly or indirectly by invasion, insurrection, civil war, or military or usurped power, *or by order of any civil authority except destruction to prevent the spread of fire;* or (c) caused by neglect of the insured to use all reasonable means to save and preserve the property at and after a loss or when the property is endangered by fire or other insured peril in neighboring premises.

This entire policy shall be void, unless otherwise provided by agreement in writing added hereto,

Ownership, etc. (a) If any change, other than by the death of an insured, take place in the interest, title or possession of the subject of insurance (except change of occupants without increase of hazard); or (b) if this policy be assigned before a loss.

If the following contribute to the loss or damage or the amount thereof (unless otherwise provided by agreement in writing added hereto), this Company shall not be liable for loss or damage occurring

Increase of hazard. (a) while the hazard is increased by any means within the control and knowledge of the insured; or

Explosives, etc. (b) while there is kept, used or allowed on the described premises explosives, benzine, gasoline, naphtha or any other petroleum product of greater inflammability than kerosene oil, *in quantities in excess of one quart,* gunpowder exceeding twenty-five pounds, or kerosene oil exceeding five barrels.

Unless otherwise provided by agreement in writing added hereto this Company shall not be liable for loss or damage occurring

Repairs, etc. (a) while mechanics are employed in extensive alterations or repairs to the described

premises beyond a period of sixty days; or

Factories. (b) if the subject of insurance be a manufacturing establishment while it ceases to be operated beyond a period of thirty days; or

Vacancy. (c) while a described building, whether intended for occupancy by owner or tenant, is vacant beyond a period of thirty days.

Other Insurance. *Other insurance permitted on property insured in whole or in part by this policy, except that the total amount of insurance may be limited by agreement in writing added hereto.*

Added Clauses. The extent of the application of insurance under this policy and of the contribution to be made by this Company in case of loss or damage, and any other agreement not inconsistent with or a waiver of any of the conditions or provisions of this policy, may be provided for by agreement in writing added hereto, (except, however, any other peril permitted by statute may be added hereto by agreement in writing).

Waiver. No one shall have power to waive any provision or condition of this policy except such as by the terms of this policy may be the subject of agreement added hereto, nor shall any such provision or condition be held to be waived unless such waiver shall be in writing added hereto, nor shall any provision or condition of this policy or any forfeiture be held to be waived by any requirement, act or proceeding on the part of this Company relating to appraisal or to any examination herein provided for; nor shall any privilege or permission affecting the insurance hereunder exist or be claimed by the insured unless granted herein or by rider added hereto.

Cancellation of policy. This policy shall be cancelled at any time at the request of the insured, in which case the Company shall, upon demand and surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be cancelled at any time by the Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand.

Pro rata liability. This Company shall not be liable for a greater proportion of any loss or damage than the amount hereby insured shall bear to the whole insurance covering the loss.

Noon. The word "noon" herein means noon of standard time at the place of loss or damage.

Mortgage interests. If loss or damage is made payable, in whole or in part, to a mortgagee not named herein as the insured, this policy may be cancelled as to such interest by giving to such mortgagee a ten days' written notice of cancellation. Upon failure of the insured to render proof of loss such mortgagee shall, as if named as insured hereunder, but within sixty days after notice of such failure, render proof of loss and shall be subject to the provisions hereof as to appraisal and times of payment and of bringing suit. On payment to such mortgagee of any sum for loss or

damage hereunder, if this Company shall claim that as to the mortgagor or owner, no liability existed, it shall, to the extent of such payment be subrogated to the mortgagee's right of recovery and claim upon the collateral to the mortgage debt, but without impairing the mortgagee's right to sue; or it may pay the mortgage debt and require an assignment thereof and of the mortgage. Other provisions relating to the interests and obligations of such mortgagee may be added hereto by agreement in writing.

Requirements in case of loss. The insured shall give immediate notice, in writing, to this Company, of any loss or damage, protect the property from further damage, forthwith separate the damaged and undamaged personal property, put it in the best possible order, furnish a complete inventory of the destroyed, damaged and undamaged property, stating the quantity and cost of each article and the amount claimed thereon; and, **the insured shall, within sixty days after the loss or damage, unless such time is extended in writing by this Company, render to this Company a proof of loss,** signed and sworn to by the insured, stating the knowledge and belief of the insured as to the following: the time and origin of the loss or damage, the interest of the insured and of all others in the property, the cash value of each item thereof and the amount of loss or damage thereto, all incumbrances thereon, all other contracts of insurance, whether valid or not, covering any of said property, any changes in the title, use, occupation, location, possession, or exposures of said property since the issuing of this policy, by whom and for what purpose any building herein described and the several parts thereof were occupied at the time of loss or damage; and shall furnish a copy of all the descriptions and schedules in all policies and if required, verified plans and specifications of any building, fixtures or machinery destroyed or damaged. The insured, as often as may be reasonably required, shall exhibit to any person designated by this Company all that remains of any property herein described, and submit to examination under oath by any person named by this Company, and subscribe the same; and, as often as may be reasonably required, shall produce for examination all books of account, bills, invoices, and other vouchers, or certified copies thereof, if originals be lost, at such reasonable time and place as may be designated by this Company or its representative, and shall permit extracts and copies thereof to be made.

Appraisal. In case the insured and this Company shall fail to agree as to the amount of loss or damage, each shall, on the written demand of either, select a competent and disinterested appraiser; ***provided that if within ten days this Company fails to comply with such demand and select an appraiser, such right to an appraisal shall be waived.*** The appraisers shall first select a competent and disinterested umpire; and failing for fifteen days to agree upon such umpire then, on request of the insured or this Company, such umpire shall be selected by a judge of a court of record in the state in which the property insured is located. The appraisers shall then appraise the loss and damage stating separately sound value and loss or damage to each item; and, failing to agree, shall submit their differences only, to the umpire. An award in writing, so itemized, of any two when filed with this Company shall determine the amount of sound value and loss or damage.

Each appraiser shall be paid by the party selecting him and the expenses of appraisal and umpire shall be paid by the parties equally.

Company's options. It shall be optional with this Company to take all, or any part, of the articles at the agreed or appraised value, and also to repair, rebuild, or replace the property lost or damaged with other of like kind and quality within a reasonable time, on giving notice of its intention so to do within thirty days after the receipt of the proof of loss herein required; but there can be no abandonment to this Company of any property.

Abandonment.

When loss payable. The amount of loss or damage for which this Company may be liable shall be payable sixty days after proof of loss, as herein provided, is received by this Company and ascertainment of the loss or damage is made either by agreement between the insured and this Company expressed in writing or by the filing with this Company of an award as herein provided.

Suit. No suit or action on this policy, for the recovery of any claim, shall be sustainable in any court of law or equity unless all the requirements of this policy shall have been complied with, nor unless commenced within twelve months next after the loss or damage.

Subrogation. *Unless otherwise provided by agreement in writing added hereto,* this Company may require from the insured an assignment of all right of recovery against any party for loss or damage to the extent that payment therefor is made by this Company.

THE COMMITTEE ON THE STANDARD FIRE POLICY OF THE NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, AS A RESULT OF A NUMBER OF MEETINGS AND CONFERENCES, HAVE UNDERTAKEN TO REFINE THE PROPOSED SIMPLIFIED AND MODERNIZED FIRE POLICY, WHICH WAS SUBMITTED IN JUNE 1938, TO MEET SOME OF THE OBJECTIONS AND SUGGESTIONS WHICH WERE RECEIVED FROM THE VARIOUS INTERESTS, AND RESPECTFULLY SUBMIT THE ATTACHED POLICY.

All references to changes in or substitution of language or removal of restrictive clauses, relate to the present New York Standard Fire Policy, and in varying degrees to the old New York Standard Form as well as to the Standard forms of other states.

INSURING CLAUSE

Changed to read as follows: "against all DIRECT LOSS AND DAMAGE BY FIRE, LIGHTNING AND EXPLOSION (excluding explosion originating within steam boilers, pipes, flywheels, engines and rotating machinery connected therewith and operated thereby, caused by internal pressure or centrifugal force, unless fire ensue, and in that event, for loss or damage by fire only), and by SMUDGE and SMOKE due to a sudden, unusual and faulty operation of any stationary heating furnace, pertaining to the service of the building, but not from stoves, fireplaces or industrial apparatus;"

NOTE:—The perils of explosion, smudge and smoke are customarily insured under a *fire* policy through the so-called "Extended Coverage Endorsement."

HAZARDS NOT COVERED—LINES 12-20

The revision removes the exclusion against the perils insured caused by riot or civil commotion, and changes the exclusion "by order of any civil authority" to read as follows: "or by order of any civil authority except destruction to prevent the spread of fire."

OWNERSHIP, ETC.—LINES 21-27

The following restrictions and conditions of the policy are removed: "unconditional and sole ownership; building on leased ground; foreclosure." NOTE:—The removal of the unconditional and sole ownership clause makes this an "interest policy." Under this form of policy, the insured collects his interest whatever it may be, and no more; the Massachusetts form is an interest policy.

INCREASE OF HAZARD AND EXPLOSIVES—LINES 28-40

"The Contribute to the Loss Clause" has been incorporated, and it provides that an increase of hazard or the use of prohibited articles do not suspend the insurance unless they contribute to the loss or the amount thereof. The words "fireworks, greek fire and phosphorus" have been eliminated.
The following language which appears under the heading of "Explosives, gas, etc." in the present New York form has been eliminated: "illuminating gas or vapor generated on the described premises; or while (any usage or custom to the contrary notwithstanding)."
The following language has been inserted after "Kerosene oil" line 38: "IN QUANTITIES IN EXCESS OF ONE QUART."

REPAIRS—LINES 41-45

Changed to read: "while mechanics are employed in *extensive* alterations or repairs to the described premises beyond a period of *sixty days;*"

FACTORIES—LINES 46-48

The prohibition against factories operating between the hours of 10 P.M. and 5 A.M. has been eliminated; while the period for a manufacturing plant to cease operation is extended to *thirty days.*

VACANCY—LINES 49-51

The word "unoccupancy" has been eliminated, and the clause gives permission for the premises to be *vacant* for a period of *thirty days.*

OTHER INSURANCE—LINES 52-55

The prohibition against other insurance has been removed, and the following substituted: "other insurance permitted on property insured in whole or

in part by this policy, except that the total amount of insurance may be limited by agreement in writing added hereto."

ADDED CLAUSES—LINES 56-63

The language of the present New York Standard Fire Policy has been retained with the addition of the following: "(except, however, any other peril permitted by statute may be added hereto by agreement in writing)."

PRO RATA LIABILITY—LINES 87-90

Changed to read as follows: "This Company shall not be liable for a greater proportion of any loss or damage than the amount hereby insured shall bear to the whole insurance covering the loss."

APPRAISAL—LINES 145-163

The present New York Standard Fire Policy appraisal clause has been retained with the exception of the following language which was added after the word "appraiser" line 148: "PROVIDED THAT IF WITHIN TEN DAYS THIS COMPANY FAILS TO COMPLY WITH SUCH DEMAND AND SELECT AN APPRAISER, SUCH RIGHT TO AN APPRAISAL SHALL BE WAIVED."

SUBROGATION—LINES 185-189

Changed to read: "Unless otherwise provided by agreement in writing added hereto, this Company may require from the insured an assignment of all right of recovery against any party for loss or damage to the extent that payment therefor is made by this Company."

NOTE:—The following clauses appearing in both the old and new New York standard form have been removed from the policy: unconditional and sole ownership; building on leased ground; foreclosure clause; chattel mortgage and fall-of-building clauses. None of these restrictions appear in the so-called Massachusetts standard form. The exclusion against direct loss by explosion and lightning has been removed from the policy, and these perils incorporated in the insuring clause.

(The numbered lines refer to the foregoing policy.)

APPENDIX B

AGENCY AGREEMENT

THIS AGREEMENT, made this 21st day of February A.D. 1940,

by and between John Doe

of Plymouth in the County of Douglas

and State of Alabama hereinafter designated "Agent", and **The John Street Fire Insurance Company,** a corporation duly organized and existing under and by virtue of the laws of the State of New York, and having its principal office in the City of New York, and State of New York, hereinafter designated as "Company":

WITNESSETH THAT:

Pursuant to request that the underwriting facilities of the Company be made available to the undersigned, as Agent, the Company hereby grants authority to Agent to receive and accept proposals for such contracts of insurance covering risks on properties located in the Counties of Douglas and Warren in the State of Alabama

as the Company has authority lawfully to make; subject, however, to restrictions placed upon such Agent by the laws of the state or states in which such Agent is authorized to write insurance business and to the terms and conditions hereinafter set out.

IT IS HEREBY AGREED between the Company and the Agent as follows:

(1) Agent has full power and authority to receive and accept proposals for insurance covering such classes of risks as the Company may, from time to time, authorize to be insured; to collect, receive and receipt for premiums on insurance tendered by the Agent to and accepted by the Company and to retain out of premiums so collected, as full compensation on business so placed with the Company, commissions at rates which may from time to time be mutually agreed upon.

(2) In the event of termination of this Agreement, the Agent having promptly accounted for and paid over premiums for which he may be liable, the Agent's records, use and control of expirations shall remain the property of the Agent and be left in his undisputed possession; otherwise the records, use and control of expirations shall be vested in the Company.

It is a condition of this Agreement that the Agent shall refund ratably to the Company, on business heretofore or hereafter written, commissions on cancelled liability and on reductions in premiums at the same rate at which such commissions were originally retained.

(3) Accounts of money due the Company on the business placed by the Agent with the Company are to be rendered monthly so as to reach the Company's office not later than the_____ day of the following month; the balance therein shown to be due the Company shall be paid not later than_____ days after the end of the month for which the account is rendered.

(4) Company shall not be responsible for Agency expenses such as rentals, transportation facilities, clerk hire, solicitors' fees, postage, advertising, exchange, personal local license fees, adjustment by the Agent of losses under policies issued by the Agent, or any other Agency expenses whatsoever.

(5) Any policy forms, maps, map corrections and other like Company supplies furnished to the Agent by the Company shall always remain the property of the Company and shall be returned to the Company or its representatives promptly upon demand.

(6) This Agreement supersedes all previous agreements, whether oral or written, between the Company and Agent and may be terminated by either party at any time upon written notice to the other.

IN WITNESS WHEREOF the Company has caused its corporate name to be subscribed hereto and the Agent has set his hand and seal on the day and year first above written.

THE JOHN STREET FIRE INSURANCE COMPANY

ATTEST: John Smith

By Richard Roe
Vice-President

ATTEST: James Brown

John Doe (SEAL)
(Agent)

APPENDIX C

CONTINGENT COMMISSION

THE JOHN STREET FIRE INSURANCE CO.

CONTINGENT COMMISSION

John Doe AGENT. Plymouth, Alabama

THE OPERATION OF YOUR AGENCY FOR THIS COMPANY, DURING THE FISCAL YEAR ENDED December 31, 1937 RESULTED AS FOLLOWS:

CREDITS		
FIFTY PER CENT OF NET PREMIUMS OF PRECEDING YEAR		$ 3,837.65
LOSSES OUTSTANDING PRECEDING YEAR		32.00
NET PREMIUMS CURRENT YEAR		7,814.19
		$11,683.84
DEBITS		
FIFTY PER CENT OF NET PREMIUMS OF CURRENT YEAR	$3,907.09	
LOSSES AND LOSS EXPENSES PAID " "	2,874.83	
LOSSES OUTSTANDING " "	17.00	
COMMISSIONS	2,371.14	
AGENCY EXPENSES	X	
ALL OTHER EXPENSES 10 % OF NET PREMIUMS	$ 781.42	$ 9,951.48
NET PROFIT		1,732.36
CONTINGENT COMMISSION 7½ %		129.93

NEW YORK, N. Y., January 20 1938

APPENDIX D

SOUND AND UNSOUND UNDERWRITING THEORIES[1]

The basic principles of fire insurance underwriting are so simple that, offhand, it seems remarkable that they are so little understood outside of insurance circles. Men who have been successful in business and financial activities frequently bring forward theories and proposals relating to fire insurance which are utterly unsound. Doubtless this is due to the fact that while the underlying principles are simple, the economic structure of the country, so well serviced by insurance, is highly complex; hence, the corresponding ramifications of insurance are equally so.

All underwriting is based upon the law of averages. To accept a small sum and in return guarantee to pay thousands of dollars in the event that a particular building is destroyed by fire would be gambling at preposterously long odds; but for an insurance company to assume such a risk upon each of thousands of properties is entirely safe, provided that sound underwriting practices are followed. This article will discuss briefly what is considered sound underwriting practice, and, in contrast, recite some very unsound underwriting proposals which have come to our notice.

Spread of Liability

Every underwriter knows that the first requirement is a wide spread of liability, represented by a moderate exposure to loss upon each of a large number of risks, so located as to avoid the possibility of an excessive loss in a single conflagration. It must be remembered that it is not the amount of insurance written on each risk which is important, but the maximum probability of loss in relation to total value. For example, one risk may be a fireproof and sprinklered property, with values running to millions of dollars, but on which, under *normal* conditions, a fire could not result in a loss exceeding a very small fraction of the total value of the property. Another risk may be so constructed and have such occupancy that fire might totally destroy it. Thus, it is sound underwriting practice to write many times as large a line on the first risk as would be safe on the second. Yet, neither the property owner nor the insurance companies can safely ignore the fact that under *abnormal* conditions a loss might occur on the fireproof and sprinklered risk which would run far beyond the normal expectancy, and that is why insurance is necessary and why many of the ideas such as those which will be presented later herein are hopelessly unsound.

[1] ALFRED M. BEST, *Bests Insurance News*, February, 1939.

Average Probable Loss

Theoretically the rate accurately measures the hazard assumed, taking into account both the probability of any loss occurring and also the probable maximum loss. This means that, in relation to the fund of premiums from which losses must be paid the best risk is as likely to burn as the worst one, and brings up another very important underwriting rule, viz., that it is unsound underwriting to assume liability for a possible loss of, say, $5,000 on one risk and $100,000 on a *similar* risk. In other words, the maximum probable loss on one risk should not greatly exceed the average probable loss on all risks carried. So far as the premium fund is concerned, just as the good risks are as likely to burn as the poor ones, so the losses are as likely to occur on the large risks as on the small ones, and if all the losses happen to be incurred on the large risks the premiums would be insufficient to meet them. This is another vitally important underwriting rule which is not understood by most people outside of the insurance business.

An ideal underwriting situation would be one where a company insured a very large number of risks in which the fire hazard would be substantially identical and the same amount of insurance would be written on each risk. It is, of course, impossible to attain this ideal situation, and therefore it is necessary to approximate it as nearly as possible by obtaining a wide spread of liability, and so fixing the rates for the various risks insured, and the amount of insurance written on each, that, as regards the fund created by the premiums collected, out of which losses are to be met each risk will be equally desirable. For trained underwriters this is not as impossible as it may sound, for the average annual fire loss, on, say, one billion dollars' worth of property of the same general character is an almost stable amount. In this connection, it should be borne in mind that there are two factors affecting the operation of the law of average: one is spread of liability, already discussed, the other is time. The wider the spread, the shorter the period necessary for the operation of the law; but, if only a relatively limited number of risks is insured, a longer period of time must be allowed to obtain an average underwriting result.

Amount of Risk

In theory it would be safe for a fire insurance company to assume a maximum probable loss on every risk written of, say, $500,000, but in practice this could not be done, because there are not a sufficient number of such risks. Moreover, the average amount of risk assumed must be in conservative proportion to the total premium volume. A very small company must be content to retain equally small net lines, while another company, with ten or twenty times as much annual premium volume can assume much larger risks, because it is in position to obtain enough of them to give it an average experience.

Roughly, the higher the rate the greater the risk of severe loss, and the smaller becomes the amount of insurance which may safely be written.

In contrast to the rules of sound underwriting above set forth, the following ideas and suggestions which have been laid before us from time to time well illustrate the lack of clear understanding of the principles inherent in good underwriting: A distilling concern carefully tabulated the amount which it had paid out for fire insurance premiums, for a period of twenty years, and the relatively trifling amount which it had collected for fire losses, and asked our opinion of a plan to carry its own insurance thereafter. That concern had been very lucky so far as fire loss went, but it dropped the self-insurance idea when we pointed out that in the very first year of the self-insurance plan it might easily lose in one fire an amount equal to its premium cost for very much longer than twenty years.

A financial house brought to our attention the fact that because of its relations with many very large business concerns it believed that it could control fire insurance premiums of $2,000,000 a year, and, therefore, considered setting up a small fire insurance company to carry all of these risks. It was pointed out that under the law of this State and most other States an insurance company cannot write on one risk and carry net of reinsurance an amount exceeding 10% of its capital and surplus, and that no soundly managed company would think of conducting its underwriting operations on such a basis that any single loss could be so excessive; that, therefore, such a company, if formed, could carry only a very moderate line on each risk and would have to reinsure the remainder with other companies; and that it was extremely doubtful that existing arrangements for handling the business could be changed at all.

Excess Cover

The impracticability of such schemes is well illustrated by another occurrence. Some years ago a large corporation owning many separate properties actually set up a self-insurance fund. For many years it had sustained no serious fire loss. Its insurance broker, unable to persuade it to abandon the self-insurance idea, purchased for it an excess cover of large amount, attaching after a first loss of very moderate amount. The very first year of the operation of this particular fund a loss was sustained of nearly $300,000, the great bulk of which fell upon the large insurance company which had written the excess cover, and which was perfectly able to pay the loss without embarrassment, its premium income being well up in the millions.

Of another character was a matter which was once submitted to us by a very large concern. On investigation it appeared that the treasurer of the company, in charge of its insurance matters, was asked by his directors the basis upon which its properties were insured. He replied that they carried 80% of the value, with 80% co-insurance clause. The directors insisted that he must carry 100% of the value. He then asked and received permission to continue purchasing insurance on the same basis as before, but to set up a fund to cover the final 20% of the risk, out of which losses would be paid only in the event that a fire caused damage exceeding 80% of the value! Thereupon he paid into the fund the same amount of pre-

mium as though this final 20% were contributing insurance; in other words, about one-quarter of the total amount paid to the regular companies. There were no losses, and, of course, the fund quickly grew to large proportions. We have never been able to figure out whether this was a very naïve or very canny idea.

Disastrous Experience

Occasionally fire insurance concerns defy all the accepted rules of underwriting and escape the penalty for a considerable period. One such institution, which insured largely fireproof and sprinklered risks, also wrote a considerable volume of insurance on sprinklered properties of inferior construction. It wrote the same maximum line on these inferior risks as it accepted on the best risks, and for many years, by good luck, escaped serious loss. Then one of the inferior risks burned and the loss was twice as great as the total losses sustained during the previous thirty years. This was due to the fact that very unusual conditions put the sprinkler equipment out of commission at the very time that the fire started.

Illustrations of strange misconceptions of the nature of fire underwriting could be multiplied, but these are sufficient evidence to most laymen that underwriting should be left to underwriters.

APPENDIX E

SPECIAL SUBJECTS FOR CONSIDERATION BEFORE BINDING A COMPANY[1]

A very large proportion of the losses of fire insurance companies are directly or indirectly the result of fraud.

There is, perhaps, no species of crime so difficult to follow up and detect as that of incendiarism; and there is none in which the records of our courts show fewer convictions. Yet the fact is undeniable that very large amounts of property are annually sacrificed in this manner, and there are many cases in which the parties have sought to enrich themselves at the expense of insurance companies.

The reasons why incendiarism is so much more difficult to detect than other crimes, are obvious. All men must be actuated by motives of some kind, to the commission of crime. These motives are either directly *gain* or *revenge*, or spring immediately or indirectly from one or the other of these sources. Whatever they may be, they almost invariably remain a secret in the breast of the criminal; and so long as this is the case, he feels that he is safe. Should the crime of incendiarism once be determined upon, the first step of the party is to make preparation for covering up his tracks in such a way as may insure his remaining undiscovered. This, with an ordinary degree of shrewdness, he can almost always succeed in doing; for, as other criminals love darkness for the commission of crime, so, in an especial degree, is night favorable to the incendiary. He is also, in most cases, not liable to suspicion, should he be observed at any hour of the night in the vicinity of his own premises or place of business. He runs but little risk of being watched by any one who may chance to see him; and should suspicion be in any way excited that he has been the incendiary of his own property, he knows that all that is necessary for him is to keep quiet, laugh in his sleeve at the ordinary efforts of the officers of the law, and fall back, if need be, upon his *good character*, to relieve him from any idle suspicion. Moreover, the cry of injustice, and the charge of an attempt on the part of insurance companies to cheat him out of his "insurance money," can always be brought to his aid by his sympathizing friends. This crime has been committed, in more cases than one, by firing buildings or property adjacent

[1] Quoted from Chap. 1 "The Practice of Fire Underwriting," written and compiled by Arthur C. Ducat, late secretary and chief surveyor of the Chicago Board of Underwriters and inspector general of the Army of the Cumberland. Fifth Edition, 1869, published by C. C. Hines, Insurance Monitor Office, 14 Wall Street, New York City.

to or adjoining the property of the interested person—thus rendering its destruction certain. The object of this is to allay suspicion.

If, upon the other hand, the incendiary be actuated by revenge, it is safe to assume that he is a cowardly, sneaking villain, who only lacks the courage to be a murderer, and seeks revenge by a dastardly scheme, to lay waste the property and destroy the life of his enemy, secretly and cautiously concocted. When he thinks that he has carefully concealed all trace of his agency in the matter, he applies the match and betakes himself to a place of safety (which he can reach before the fire is discovered) and is thus enabled to prove an alibi, should his previous good reputation not be sufficient to clear him.

There are occasional instances of incendiarism, either to conceal some other crime, or for the purpose of theft during the confusion and excitement attending the fire; and sometimes by tradesmen, to destroy a manufactured article, such as cooperage, etc., in order to make sale for their work. These, however, are of rare occurrence.

The burglar, the pickpocket, the shoplifter, and the hall thief, may be detected with comparative ease, from the circumstances of their being obliged, in some way, to dispose of their booty. The counterfeiter runs the same risk in getting rid of his manufactures. The murderer is frequently detected, either by the knowledge of the existence in his breast of some feeling which would prompt him to the deed, or by the possession of property belonging to his victim; or by the means by which he perpetrated his crime.

But in regard to the incendiary, in most cases, the efforts of the officers of justice are unavailing. His associations are not necessarily evil. Whatever of evil there may be in him he carefully conceals, and presents himself to society as a *respectable* and *reputable* member. He has no *tools*, which might betray him; no booty to dispose of; *for his object is, not to secure, but to destroy.* All he requires is a few combustibles, such as may be found in any household, a lucifer match—and the modern Guy Fawkes is fully prepared. The murderer at once excites suspicion by the purchase of a poison, a dagger, or a pistol; but the incendiary excites none by the laying in of his stock.

Thus far we have endeavored to show how easy it is to commit the crime of incendiarism, and how extremely difficult it is to detect it. The great diminution of such fires in New York, since the appointment of a Fire Marshal in that city, is a striking illustration of the fact that many fires are caused from fraud; and also goes to prove that, in the hands of men of intelligence, preseverance, and ample resources of mind and knowledge of human nature, such as are possessed by that excellent officer, Fire Marshal Baker of New York, there is but little doubt that some of the many cases of incendiarism can be clearly sifted, and the guilty parties brought to justice.

The remarks upon the subject of incendiarism, and the moral hazard, may seem, perhaps, of greater length than the subject would seem to warrant; *but it is a subject of the greatest importance. There is no one hazard that insurance companies have to guard and contend against as great as this. No premium is adequate, in such cases; and when the anxiety of a company to*

do business, or the thirst of an agent for his commission is so great as to shut their eyes against the fact, inevitable ruin must sooner or later be the result.

It is not the object of these remarks to awaken any idle suspicion, or to reflect upon any class of men in particular, or to urge vexatious or tedious investigation into the affairs of business men of known probity and established good reputation and responsibility; but to direct attention to a combination of character and circumstances that should be made a study by every underwriter, and must be made such before he can be a good underwriter, and fit to be trusted with the affairs of a corporation; to show how to avoid offering a direct incentive to crime, by insurance; to urge upon the underwriter the importance of a careful investigation into all doubtful risks, and the exercise of his best judgment and good sense in deciding whether or not the company should take the risk; whether it is a paying or losing transaction; whether there is any just cause or reason why the policy should not be issued.

Note 1. Bad or Dishonest Persons

Decline to insure any one of bad or dishonest character or any one whose property is adjoining or adjacent to the property of a party you believe to be a bad character. Policies are often procured with the intention of destroying the property, and thus making a cash sale to the Insurance Companies, at a larger profit.

Note 2. Strangers

Decline to insure a stranger, unless he is recommended by parties whose judgment and means of information can be implicitly relied on, and who are not creditors, or in any way whatever interested.

Note 3. Over-valuation

Refuse to insure any one who is desirous of procuring a Policy for an amount that is an over-valuation. It is an indication of fraud, unless you are well satisfied he makes the application through real ignorance or want of consideration. No honest Merchant or Property Holder wishes to pay premium on any larger sum than will indemnify him in case of loss.

Note 4. Embarrassed Persons, Unprofitable Business

Decline to insure a party whose circumstances are in an embarrassed condition, and whose business you suspect to be unprofitable. With a good, full insurance, the vigilance and care of such people relax wonderfully; and a fire may ensue without any definite act of fraud, or incurring the charge of positive dishonesty, or that gives the company any ground upon which to resist the claim, even though they are satisfied that good faith has not been observed.

Note 5. Leasehold Interests

Decline to insure leasehold interests, unless the party, to your knowledge, has a good bargain, or is in every respect worthy of your confidence. Leases

are often taken at a time when certain localities are popular and remunerative as places of business, or the lease may have been taken when the rent was exorbitantly high. By one of those remarkable changes, peculiar to Western cities, towns, and villages, the location may become suddenly bad, and the premises unrentable. Refuse to insure leasehold interests altogether, unless you are satisfied the lessee has the best of it, or is an honest or honorable party; and then only two-thirds of a true-valuation of his interest.

Note 6. Branch Stores

Decline to insure branch stores, or remnants of stocks that are moved to another location to close out; they are often the offspring of concerns wholly or in part "used up." Cash is needed at some hazard, and the chances of detection in such cases, are very slight. The removal of stock from one store to another excites no remark, for it is their custom; and in case of fire, it has often been ascertained that such buildings were *entirely empty*. The loss on such stocks, in any case, will be difficult and vexatious to adjust, and may lead to expensive litigation; which can all be saved by promptly refusing all such risks.

Note 7. Temporary Business

Decline to insure temporary or itinerant trading, such as auction and jewelry men, who travel with cheap stocks; liquors, etc. Statistics prove clearly that such business has been very unprofitable.

Note 8. Country Stores

Decline to insure country stores, situated in remote settlements. The facilities for concealment of facts, amount of stock on hand, and the unprofitableness of the business are great, from the fact of their isolated location. They are bad risks, unless, after thorough investigation, you find them in every way worthy of your confidence, and that their invoicing of stock is done regularly, and in a systematic manner, their books shown, account of sales, etc.

Note 9. Threatened Persons

Decline to insure any parties who you have reason to believe have been threatened, or who, to your knowledge, has given offence to a bad or revengeful person, or who is unpopular among men of a certain trade, from some transaction that affects their interest, or who is largely the purchaser of a manufactured article when it is cheap, with the intention of supplying the demand when it is scarce—such as cooperage, etc.; it interferes with the wages and employment of a class of men that are too often desperate.

Note 10. Persons Who Have Previously Gone Uninsured

Decline to insure any party who has previously gone uninsured but suddenly has formed the idea that it is not safe to be uninsured any longer; he has some reason for it. He may have been threatened; he may be

conscious of having made an enemy of one that he has reason to fear, from his bad and revengeful character; he may have good reason to believe that his neighbor's insurance and affairs are in such a condition that to burn up would be a good financial operation. Interrogate such an applicant closely; he may drop some remark that will put the whole matter as clearly before you, for your purpose, as if he had given you a detailed statement of the facts, and that he feared his premises would be fired. Fear is a great awakener. Such cases as sections 10 and 11 are termed Special Incendiary Hazards, and call for the exercise of close investigation, good sense, judgment, and long experience.

Note 11. Careless Persons and Filthy Establishments

Decline to insure a party who is loose and careless in management of his establishment. A proper, careful oversight by the insured is an assumed part of the contract of insurance. No rate is adequate to the hazard of gross carelessness and dirt. If anything is dangerous about such risks, an additional premium is certainly no remuneration. It should be made right, or the risk promptly declined. But the best plan is, to let such parties alone altogether. Leave them to insure themselves, and avoid the risks adjoining them. Such persons are sure always to make many promises to remedy defects; they are invariably going to do a great many things in the way of improvement. If you are in any way influenced by such promises, make it (if you write at all) a warranty in the Policy. Notoriously careless people may often get insured from the very comfortable feeling that it is much easier to collect from the Insurance Company, in the event of a fire, than make the constant effort to be careful, and to exercise even common prudence. There is a certain something—hard to describe, unless in leading features, but seen in every detail of a risk—by which an experienced Surveyor can determine at once how an establishment is kept and managed. The risk from spontaneous combustion, in dirty, badly-kept establishments, is also great. *Avoid them.*

Note 12. Property upon Which Insurance Has Been Dropped by Other Companies

Decline to insure any property upon which the insurance has been dropped by other companies. *They have some reason for it.* If it is no other than that the rate was low, you surely do not want it. It is to be regretted that, in the present condition of the business, a state of feeling exists among some companies and their agents which leads them to do all they can to get bad and unprofitable risks on each other's books. Also, decline risks sent to you from a city, town, or village where there are good underwriters—*there is some reason why the risk is not taken by them*—unless you know the party gives you the business from acquaintance with you, or a particular confidence in your company. Risks remote from the office of a company, or its agents, had better be avoided, unless the parties are personally known, and of unquestionable honesty.

Note 13. Uninventoried Stocks

Decline to insure stocks of merchandise that are not inventoried, at their actual cash value, at least once a year, or when the books are not kept in such a way as to show the invoices received, sales made, and exact condition of the business and stock on hand at any time.

Note 14. Unproductive and Unprofitable Property

Decline to insure property of any kind that is unproductive and unprofitable. Old machinery in manufactories has a great moral hazard attaching to it. New machinery depreciates from 10 to 15 per cent, per annum, when in use, and with ordinary repairs; but depreciates still faster if not in use. This should be well considered in the valuation of such establishments. Unoccupied buildings, buildings out of repair, buildings shortly to be removed, buildings on leased ground, when *the lease has nearly expired*, unfashionable and unsaleable goods, etc., etc.

Note 15. Stocks in Hands of Assignees

Decline to insure stocks of merchandise in the hands of assignees, unless you have the greatest confidence in all parties concerned.

Note 16. Property in Dispute

Decline to insure property if the title is in dispute; if there are a number of owners, who do not harmonize; if the property is heavily mortgaged, or in any way subject to ligation.

Note 17. Short Risks at Short Rates, (see Table of Short Rates,) are desirable, when the reasons for the applicant requiring them are proper. Grain, produce, and staple produce, in transit or held on commission, etc., form a large part of the business of insurance at short rates; but it is a notorious fact that very many of the fires attended by suspicious circumstances have been covered by short Policies; therefore, the motives of the applicant, if not well known to you, should be investigated.

AUTHOR'S NOTE. The entire Appendix E, published 70 years ago, is still sound, although the passage of time has been accompanied by a great reduction of the burning rate and moral hazard. The emphasis in underwriting has changed from a concentration on reasons for rejecting offerings to reasons for accepting them.

APPENDIX F

PROHIBITED RISKS, 1893

Artificial-flower makers
Auction stores, pawnbrokers stocks, and dollar stores
Bagging and rope factories
Batting and wadding mills
Brimstone works
Brush and broom factories
Candle factories
Candy factories
Coffee and spice mills
Coal breakers
Cracker bakeries
Cotton mills, frame
Cotton-gin houses
Dollar-store stocks
Drug mills
Drying kilns
Electric-light plants
Fairgrounds
Frame halls with scenery
Frame country stores (unless occupied in part as dwelling)
Flax mills
Flour mills
Fireworks
Glue factories
Glucose factories
Hat factories (frame)
Hay presses and hay and straw in stacks in field
Hominy mills
Hotels (summer)
Icehouses
Jute mills
Junk or rag stores
Kerosene- or coal-oil works
Match factories
Museums
Oakum factories
Oatmeal mills
Oil-boiling factories
Oilcloth factories
Oil refineries of every class
Paint mills
Paper mills
Panoramas
Pawnbrokers' stocks
Phosphate works
Rag stores
Rice mills
Rope factories
Rubber factories
Shoddy mills
Shoe factories (frame)
Skating rinks
Slaughterhouses
Starch factories
Stave works
Steam laundries
Steamers or vessels
Spice mills
Theaters
Trunk factories
Unoccupied buildings
Varnish works
Wadding mills
Woolen mills, frame

SAME COMPANY, PROHIBITED RISKS, 1914

Alfalfa, bales or loose
Alfalfa-meal mills
Barns without dwelling
Batting mills
Broom corn
Brush and broom factories
Cereal mills
Cement mills
Coal breakers and washeries
Coffee mills and roasters
Cotton gins
Cooperage works
Country clubs
Creameries and cheese factories (country)
Dry kilns
Electric-light plants, frame
Farm property
Fireworks factories and stocks
Glue factories
Glucose factories
Groceries, wholesale, with coffee roasting
Hat and cap factories (wool and fur)
Hay presses, hay or straw in stacks
Hominy mills
Icehouses
Junk shops
Jute mills
Laundries (frame)
Linoleum factories
Mattress factories
Match factories
Millinery stocks
Oakum factories
Oilcloth factories
Oil-boiling factories
Oil refineries
Paint factories
Paper-box and paper-hanging factories
Paper mills
Rag stocks
Raincoat factories
Rice mills
Risks remote from agency, unless specially authorized
Rubber-reclaiming works
Saw- and planing mills where boilerhouse not effectually cut off
Shoe factories (frame, unsprinklered)
Shoddy mills
Skating rinks
Starch factories
Steamers or vessels
Stave mills
Spice mills
Strawboard factories
Tanneries, unsprinklered
Turpentine works
Varnish works
Veneer mills
Wadding mills
Wool-scouring plants
Waterproofing fabric works

APPENDIX G

LINES[1]

The amount which should be written on any risk should vary, of course, according to the hazard and according to the probabilities of totality or salvage in losses. If the rates were properly made, there could be no better gauge of what the line should be than the computed amount of insurance which the average premium taken by the company, say, $100, would pay for at the rate on the risk.

When I say "average premium" I do not, of course, mean the total premiums taken by a large insurance company in a year divided by the number of risks. This would be a very small figure. But I mean the average premium which it would get on a 1% risk, say $100. If the rate on all classes should be computed by the Universal Schedule and the company's line on a 1% risk should be $10,000, it is clear that on a risk of twice the hazard, paying 2%, it should take not more than $2,500. Therefore, the rate is the best evidence of what the line should be, always assuming that the rate has been properly made. The rate, if correctly made, would measure every consideration which should enter into the consideration of line—construction, environment or exposure, occupancy, and susceptibility to damage, indicating the probabilities of salvage.

The argument has been made that some underwriters, under a system of rating warehouses, for example, would be tempted to take high rated risks, because they would yield the largest premiums; but this overlooks the fact that if the line be regulated by the rate, the latter being based upon accurate methods of measure, the liability to total or excessive losses of particular risks, and the frequency of fires, which enter into the question of line, are measured in the rate, and the rate ought, therefore, to afford the best evidence of what a line should be.

An underwriter's line in a particular warehouse, for example, would be said to be full, not when he has secured $5,000 or $10,000 of insurance, but when he has secured his premium, graded according to the classes covered, no matter what the amount of the insurance may be. If the rates are properly graded, his line would not be full if he had $5,000 on a 50-cent class, and would be more than full if he had $12,000 on a 1% class. His loss on a $20,000 policy on crude rubber would not be greater than on a $5,000 stock of toys. It is, therefore, the probable amount of loss, and not the actual amount of insurance, which determines what a line should be.

Pursuing his reasoning that rates correctly made are the best evidence of what lines should be, I claim that an underwriter in determining the

[1] MOORE, F. C., "Fire Insurance and How to Build," pp. 210–217.

question of line on any subject of insurance, should take into consideration three features—ignitibility, combustibility and susceptibility. He should write less on risks which are peculiarly liable to take fire, peculiarly liable to be consumed before extinction and peculiarly susceptible to water or smoke damage than on subjects of insurance which are not liable to take fire, are easily extinguished and are not subject to water or smoke damage. In other words, he would write more on crude rubber and wool than on hemp or flax, German toys or leaf tobacco. If his rates are correctly made, he would write only one-fourth as much on a 1% risk as on a 25-cent risk.

In view of the fact, for example, that most of the losses (over 90% in fire department city warehouses other than fibre) are partial, it follows that the relative susceptibility to damage of the various kinds of contents would indicate their relative salvages in case of fire, and that whatever differences exist in the goods before a fire would, unless they were totally destroyed, be found reflected in the differences in damage and salvage after a fire. If we could conceive of a warehouse filled with all kinds of merchandise, subjected to exactly the same amount of heat on every square foot of floor surface, to the same amount of water thrown for extinction and the same amount of smoke, it would be found that the relative damage and salvage of each kind of merchandise would be in that proportion which its rate, if correctly made, bears to the other rates.

Average Line.—Lines also depend upon the average number of risks which can be obtained of a class. The law of average approaches certainty in proportion as the number of subjects or risks liable to the contingency of fire increase. Nothing is more certain than that no more than the average number of ten thousand risks will burn through a series of years, and nothing is more uncertain than the number of a smaller quantity which will escape fire. An average might be secured by taking a small number of risks for a single year, were it not for the fact that the statements of companies to the various State insurance departments are required to be made up annually, and a company basing its average on a series of years might show badly in the reports for single years. The average line is usually, therefore, adjusted to a twelve months' experience, because the premiums and losses of a single class might otherwise result in an exceptional or abnormal loss ratio which would affect seriously the experience of the company for the year. This difficulty, however, can be met in the case of those classes of which enough cannot be obtained to make an average, by confining the lines assumed on such classes to that sum for which the average premium on all classes taken by the company would pay.

If, for example, the company's average premium should be $50 (throwing out of the account the small, so-called "chicken-feed" business of small dwellings, etc., which are annually assumed) it would be safe to write $10,000 on a 50-cent risk (the rate being accurately computed) or $5,000 on a 1% risk. Let us suppose that there are ten classes of hazards of which there are only 100 specimens of each in the country, and that they range in proper rate from 25 cents up. Insurance on them would be theoretically adjusted as per the following table:

Number of risks	Rate	Line	Total premium
100	.25	$20,000	$ 5,000
100	.50	10,000	5,000
100	1%	5,000	5,000
100	2%	2,500	5,000
100	4%	1,250	5,000
100	5%	1,000	5,000
100	6%	833	5,000
100	7%	714	5,000
100	8%	625	5,000
100	10%	500	5,000
1,000			$50,000

We here have 1,000 risks, each differing from the others in hazard, but with lines graded according to hazard, yielding a premium of $50,000, on which the loss should be 55%, or $27,500. It would make no difference which of the risks should take fire—those of greater or less ignitibility, combustibility or susceptibility—as the lines are graded in proportion to figures which exactly measure relative degrees of damage and salvage. If fires occur in the risks of greater hazard the amount of loss will still be proportional to the total premium obtained, while if they should occur in those of lower rates the fires would be more surely partial. Fifty dollars of premium buys just so much hazard; and as, in adding fractions, it is necessary to reduce those of different denominators to a common denominator, so in the foregoing example, rate may be regarded as the common denominator of the various hazards of the different classes of risks, and this combination of them would be as safe, from a true underwriting standpoint, as would a group of a thousand risks or any one of the classes.

Of course, the example would be more forceful and the tabulation safer if the number of risks were 10,000 instead of 1,000; and, of course, while this proposition is scientifically true from the viewpoint of arithmetical computation and the law of average, it would not be in actual practice necessary to lay such strict limitations upon acceptances; for no great risk would be run, for example, by taking $2,500 lines on the 10% hazards, because the burning of a few of them would not be a serious matter and might meet the conveniences of the business; while, on the other hand, it might not be advisable to accept $20,000 on 25-cent risks.

It is probably unnecessary to add that it would be perfectly safe to take a large number, say 10,000, of 10% hazards for a full line of $10,000, since there would then be enough of the class to make the average line, though large, a safe one. My contention simply being that where there is not enough individuals of any one hazard to make a safe class by itself, it being necessary by reason of the small number of such class to rely on the general average of others, the line on the more dangerous classes must be graded to equalize the proper proportion of losses on all classes.

This whole matter may be made clearer still, perhaps, if we take only two classes, peculiar in the respect that they are exactly equal in "combustibility" and "susceptibility" to the extent that no partial losses are secured, all losses being total, while, on the other hand, one is exactly twice as ignitible as the other, in which case there would be just twice the number of fires on the same number of risks in a year. Let us assume, therefore, two such hypothetical classes, one rated at 5% and the other at 10%, one being just double the other as to the risk of ignitibility. There would be just twice as many fires and, consequently, twice as many total losses in the 10% class as in the 5% class; and this being a fact, not over half as much should be accepted on the 10% class as on the 5% class. While it might be perfectly safe to take a thousand risks of either for the maximum line of the 5% class, let us assume that we can only get 500 of each, the example would then stand as follows. If the rates are graded for a 60% loss ratio of premiums, all losses being total, there would be, say, 15 losses, amounting to $300,000, of the 5% class, and 30 losses, amounting to $300,000, of the 10% class. (I have assumed a 60% loss ratio to premiums instead of 55% simply to make computations easier.)

Number of risks	Line	Rate	Total premium	Number of fires	Total loss	Per cent
500	$20,000	5%	$ 500,000	15	$300,000	60
500	10,000	10%	500,000	30	300,000	60
1,000			$1,000,000		$600,000	60

If now, on the other hand, with the rates still graded as in the foregoing example for a 60% loss ratio to premiums, the number of risks of each class and the amounts should be changed, we could easily have the following problem as a possibility:

Number of risks	Line	Rate	Total premium	Number of losses	Total amount of losses
800	$ 20,000	5%	$ 800,000	20	$ 400,000
100	100,000	5%	500,000	7	700,000
80	10,000	10%	80,000	1	10,000
20	100,000	10%	200,000	5	500,000
1,000			$1,580,000		$1,610,000 or 102%

It will be observed that we still have 1,000 risks, that the rates remain the same (10% and 5% respectively), the number of losses per 100 risks has not changed, being at the rate of 3 losses per 100 risks of the 5% hazards, (27 in all) and at the rate of 6 losses per 100 risks for the 10% hazards.

The lines, however, have been changed. In place of 500 $20,000 lines of the 5% class we now have 800 $20,000 lines and 100 $100,000 lines, and on the 10% class we have 80 $10,000 lines and 20 $100,000 lines. It is not necessary to say that although there might be no more or no less losses per hundred risks than before, they might easily fall on the $100,000 lines instead of on the $10,000 lines, and if they should, as in the table, the result would be a loss of over 102% of the total premiums instead of 60% as before, because the laws of average have been violated. When those laws are observed, the business of insurance, instead of being a wager and an uncertainty, becomes a certainty and results can be counted upon with greater confidence than in any other business.

The moment the number of risks in any class fall below the number necessary to make an average for that class, the number of risks accepted must lean upon those of other classes, and therefore the line must be lowered to meet the average premium received on the other classes, if the proper loss ratio to premium is to be maintained. To depart from this law is simply to gamble. It is not underwriting. It would be as idiotic to conduct the business of insurance on such lines as for a merchant to say to a customer with one hundred dollars "You may go into my store and, for your hundred dollars, take 100 yards of any fabric you please," instead of saying to him "You may take 10 yards of $10 velvet, or 100 yards of $1 silk, or 2,000 yards of 5-cent calico."

The statement is frequently heard that a company having a large premium income of, say, four million dollars can afford to take larger lines than when it had an income of one million. This is approximately true within certain limitations. Theoretically, it is untrue in every respect; for if the premium income of four million dollars is made up of a large number of non-hazardous risks there will be no margin with which to pay an exceptional loss on a risk of high ignitibility. If the rates have been graded properly, all of the four millions will be needed to pay the $2,200,000 (or 55%) of losses inevitably due to the hazard of carrying the four millions of risks, and the excess losses will have to be paid, not out of premiums, but out of what would have been and ought to have been profit.

The underwriting laws deduced from these propositions are certainly the following:

First. At least one thousand risks (better ten thousand) should be secured of a class to make an average on the class. If a sufficient number can be secured the class will take care of itself without regard to the other writings of the company.

Second. If a sufficient number of a class cannot be secured for an average, the class may still be accepted, but only for such lines as would be paid for with the average premium of the company on, say, a safe medium class of risks—1% risks, for example.

Third. Rates if correctly made would always indicate the line which might safely be written, for they would measure accurately the three features of a risk—ignitibility, combustibility and susceptibility—which must always be taken into account in determining line, in addition to features of fire

department protection and exposure charges, which measure the ignitibility, combustibility and susceptibility features of other risks endangering it.

Fourth. An average may be secured either by, say, 1,000 risks of a single class, or by 1,000 risks of different classes but for no greater line than the average premium of the class will pay for at the rate of the class; or by 1,000 risks all of the same rate but of different classes—in which case the line would be the same on all. It would clearly be as safe to write a thousand 3% risks, of 1,000 different classes, as to write a thousand 3% risks of a single class.

Fifth. An adequate rate does not involve—what some underwriters contend it does—that any line may be written, on the supposition that because the rate is adequate, it will pay for the line. The safe line depends not alone on the adequacy of the rate, but upon the number of risks of the class written, which must be sufficiently large to secure an average.

All of these propositions are based theoretically upon correct rates and ideal conditions, rather than on practice and actual conditions. It might not be expedient or possible to get a minimum line on each of the most hazardous risks or to write the maximum on each of the best risks. We would be perfectly safe, of course, to take $2,500 on a risk as a minimum; much more safe (and probably in five years out of six it would result in more profit) than to take exceptionally large lines on good risks, unless an exceptionally large number of such good risks could be secured, in which case any line is safe if the number be large enough to reduce to a certainty the possibilities of a single year.

Companies, however, generally give their agents full instructions as to the lines to be written and these instructions should be followed to the letter. Under no circumstances should the agent deviate from them to act on his own theories as to lines, or on the views I have expressed in this article.

APPENDIX H

EXAMPLE OF APPORTIONMENT MADE ACCORDING TO GRADUAL REDUCTION RULE

Property insured	Value	Loss	Insurance
General machinery	$ 7,556.95	$3,824.61	$15,000 blanket
Folder	500.00	25.00	500 specific
Perforator	600.00	25.00	500 specific
Dexter folder	2,400 00	62.50	1,800 specific
Press C59848	435 00	125.00	500 specific
Press C58265	545 00	145.00	400 specific
Stitcher	454.00	150.00	400 specific
Saw trimmer	462.00	150.00	400 specific
	$12,952.95	$4,507.11	$19,500

No coinsurance or average clauses.
Order of Western Rule followed.

Apportionment

	Insures	Pays	Recapitulation	
			Specific	Blanket
General machinery, Blanket	$15,000.00	$3,824.61		$3,824.61
Folder, blanket	$11,175.39	$ 23.93		23.93
Specific	500.00	1.07	$ 1.07	
	$11,675.39	$ 25.00		
Perforator, Blanket	$11,151.46	$ 23.93		23.93
Specific	500.00	1.07	1.07	
	$11,651.46	$ 25.00		
Dexter folder, Blanket	$11,127.53	$ 53.80		53.80
Specific	1,800.00	8.70	8.70	
	$12,927.53	$ 62.50		
Press, C59848, Blanket	$11,073.73	$ 119.60		119.60
Specific	500.00	5.40	5.40	
	$11,573.73	$ 125.00		
Press, C58265, Blanket	$10,954.13	$ 139.89		139.89
Specific	400.00	5.11	5.11	
	$11,354.13	$ 145.00		
Stitcher, Blanket	$10,814.24	$ 144.65		144.65
Specific	400.00	5.35	5.35	
	$11,214.24	$ 150.00		
Saw trimmer, Blanket	$10,669.59	$ 144.58		144.58
Specific	400.00	5.42	5.42	
	$11,069.59	$ 150.00	$32.12	$4,474.99
				32.12
			Total	$4,507.11

*

APPENDIX I

INSURANCE OF UNDIVIDED INTEREST[1]

Under no circumstances, however, should an undivided interest in property be insured separately if it can possibly be avoided, as difficulties and embarrassments are almost certain to arise in the adjustment of any loss short of total destruction. Where two or more persons own a building jointly, the interest of each applies to every part of the structure and cannot be separated for the purpose of determining a partial loss. If, for example, the roof burns off, the insured half owner can collect enough to replace only one-half of the roof—or half enough to replace the whole roof. If the other half interest is uninsured or if the owner is unable to contribute his share of the cost to make repairs, it may be well found impossible to restore the damage unless the insured half owner is financially able to assume the whole cost. Unless both interests are insured, or unless both joint owners are financially responsible, one of them desiring to protect his interest may find himself in the position of a co-insurer on any partial loss that occurs.

[1] HALL, VERNON, contributing editor, *Insurance Decisions*, Vol. VII, No. 3, September, 1937.

APPENDIX J

COOPERATIVE ACTIVITIES OF INSURERS[1]

In the previous lectures of this course, I believe you have had reviewed the destructive effects of fire and the need for fire insurance, as well as the history of the economic service rendered to society by fire insurance. You have considered also the various types of insurers, their organizations, functions and methods of operation.

The subject assigned to me is the cooperative activities of insurers, but I am assuming that what you are particularly interested in is the cooperative activities of fire insurance companies—stock fire insurance companies.

Some of the non-stock carriers cooperate to the extent of maintaining inspection service of properties on which they are interested and there are some reinsurance pools among companies of the type.

There are cooperative activities of insurance agents through national and state associations and nearly every city of any consequence has its association or local board. These local boards are maintained by the agents for the purpose of establishing local practices and in some instances for the regulation of brokerage commissions. A few of the city boards, namely Chicago, Boston, Providence and Baltimore, make the rates for their particular communities and establish the underwriting rules under which their members operate. The membership in some of these boards is by companies or by both companies and local agents. Where rating service is carried on, the expense is borne by assessment on the companies' premiums.

There are also brokers' associations formed for the advancement of their particular interests. In a number of the states State Insurance Federations are maintained to combat legislation inimical to the business of insurance in any of its branches. Membership in these federations is not limited to any particular class, but embraces interested individuals, firms and corporations.

The cooperative company organizations will be found to come under one or more of the following classifications:

(a) General and supervisory
(b) Rates and rate making
(c) Inspection and fire protection
(d) Underwriting "pools"
(e) Loss adjustments

The functions of a particular association or organization may lap over into more than one of these categories, but that does not mean that there is a duplication of the work.

[1] HATFIELD, F. C., A lecture before the Insurance Society of Hartford.

The outstanding fire insurance company organization of the general type is The National Board of Fire Underwriters. As its name implies, its activities are nation-wide in scope. The National Board has neither jurisdiction over the matter of insurance rates nor over the rates of commissions to agents or brokers. Its membership embraces nearly all of the stock fire insurance companies doing any appreciable volume of business in the United States, including several companies not members of the four great regional bodies.

The National Board came into being in 1866, in the reconstruction period following the Civil War. At the time, the business of fire insurance was in a very unsatisfactory condition, rates and commissions were unregulated, standards of fire prevention and protection were lacking and cutthroat competition was in a fair way to destroy the security on which the policyholders relied for protection.

The National Board attempted to set up rules of practice and to establish rates of premiums. The first five years of the organization were hectic—the rates would be adjusted up to an adequate level and then competition would bring them down to such a point that when the great Chicago fire took its toll in 1871, many companies failed. As a former president of The National Board said: "The public had been clamoring for cheap insurance, had gotten it, and found rate cutting to be a poor preparation for protection in time of conflagration."

The great Chicago fire was followed the next year by the great Boston fire and the year following that was one of financial panic.

Periods of adversity induce companies to cooperate but, unfortunately, eras of prosperity bring about defections from the ranks.

In the five years following the Chicago fire, substantial progress was made by The National Board. Its influence was felt in the field of fire prevention and protection. However, it was not long after its first decade of existence that The National Board, in order to save itself from dissolution, was forced to relinquish its rate making powers, and later to give up its control of commissions. But all of the good work done was not lost as The National Board was then in a position to devote its full facilities to the field of fire prevention, protection and public service, for which it was so admirably equipped.

Undoubtedly the ability of some of the companies to live through the trying times of the seventies was attributable to the brief period of sound practices inaugurated by The National Board in its formative years. The experience thus gained must have directed the attention of underwriters to the benefits which accrue from cooperation—benefits not only to member companies but to the policy-holding public as well.

Noteworthy today among the activities of The National Board is the Underwriters Laboratories, organized for service, not profit. In the laboratories devices for safeguarding life and property are subjected to severe tests and if found suitable for the purposes for which they are designed, and if they meet the standards of established requirements, are listed as approved. This testing and listing service is extended, where desired by

the manufacturers, to electrical devices, oil burners and other types of appliances and equipment which, if below standard, might, when installed, introduce hazards.

Aside from the engineers employed in the laboratory work, The National Board maintains a corps of engineers who travel over the country, studying the fire defenses of the large towns and cities. The surveys of these engineers are quite comprehensive and involve tests of city water supplies and fire department apparatus. The reports are printed and furnished not only to the insurance companies, but to the city officials who use them as authoritative guides for the extension and strengthening of water systems and replacement of old and location of new fire apparatus and fire department stations. The reports also embrace comments on the fire alarm systems and fire department personnel and on conditions found in the congested value districts with reference, from a fire standpoint, to particularly vulnerable blocks. Ordinances having a bearing on building construction and storage of hazardous materials are also reviewed and criticized.

The National Board, through its Committee on Laws keeps in touch with legislation affecting the fire insurance business, and through its Committee on Publicity advises the public in regard to the work stock fire insurance companies are doing for the common good.

Under the direction of a special committee, a corps of investigators is maintained whose work has been of inestimable value in detecting and suppressing the crime of arson. The files of this committee would furnish thrilling reading material for many a long winter's evening.

Another important function of The National Board is the Actuarial Bureau for the compilation of statistical data on premiums and losses by classes. The information is furnished by the companies to The National Board and, where required, is passed on to the State Insurance Departments. Every loss sustained by member companies is reported to this bureau and statistics are compiled therefrom as to the origins of fires. These reports also furnish a valuable record of persons, firms and corporations who have sustained fires and especially the names of those who are reported as involved in fraudulent claims and in fires of incendiary origin.

Through the National Board Committee on Adjustments, equipment is maintained ready for immediate use, in the event of conflagration, for the handling and recording of losses on a large scale. This committee also serves as an arbitration medium in the event of disputes among member companies in regard to loss liability and loss apportionments. The committee also acts as the contact medium with the Fire Companies' Adjustment Bureau, which is under the Supervision of The National Board.

A cooperative activity of fire insurance companies, to which I have not previously referred and which comes under the general supervision of The National Board of Fire Underwriters, is that of fire patrols or salvage corps, sometimes called protective departments. These are maintained in some of the large cities and, where maintained, are supported by assessments on the premiums derived by the insurance companies from the area within which the patrols operate. These salvage corps are equipped with suitable

apparatus and are required to respond to alarms. Their duty is to protect property menaced by fire and, as far as possible, to reduce damage. As the patrols function in the protection of insured and uninsured property alike, the activity of these organizations should, and probably will be taken over in time by the city fire departments.

As you can appreciate, the work of The National Board is important. If companies attempted independently to carry on such work, the cost would be prohibitive, but through cooperation it is better done and is accomplished at a minimum expense when shared in by the large number of companies composing the Board's membership.

The National Fire Protection Association is an organization to promote the science and improve the methods of fire protection and prevention. Its membership is open to any society, corporation, firm or individual interested in the protection of life and property against loss by fire. The Association is a clearing house for authoritative information on the subject. Included in the membership of the National Fire Protection Association are not only many of the fire insurance company organizations, but also many of the national business associations representing nearly every field of commercial activity. The standards initiated by the National Fire Protection Association are frequently adopted by the National Board of Fire Underwriters, of which fact a notable example is the National Electrical Code, sponsored and published by The National Board of Fire Underwriters on recommendations of the National Fire Protection Association.

We now come to a division of the flock—association and non-association stock fire insurance companies—that is those companies which belong and those companies which do not belong to the Associations formed for the orderly conduct of the business and the maintenance of orthodox, ethical practices. In most businesses, the cost of a particular article, sold or produced, can be determined with reasonable accuracy. In the case of a fire insurance company, it sells its product (fire loss indemnity) without knowing in any specific case what the fire loss cost will be. The underwriter is in the position of selling his goods before they are bought and, therefore, he must determine his selling price before he knows the cost of that which he sells. He is dealing with future eventualities, the only guides to which are the experiences of the past plus knowledge or judgment as to variations therefrom which may befall in a given period due to current or anticipated influences. The tendency of unrestrained competition is to force rates down and commissions up, either or both of which, when carried to their logical conclusion, are not in the public interest. The one produces discrimination and inadequate income, thereby jeopardizing the solvency of the insurers, and the other unduly burdens the cost to the policyholders. Cooperation is as essential in the insurance business as it is in most other activities of civilized society. The principle has been recognized by those companies associated in the four great regional bodies and the several other controlling organizations designed to stabilize the business and properly support its service to the public. Without cooperation the business would

quickly degenerate into a form of corporate banditry, knowing no law but that of the survival of the strongest, with attendant loss to the public.

The four great regional bodies to which I have referred are—the Eastern Underwriters Association, the Western Underwriters Association, the South-Eastern Underwriters Association and the Board of Fire Underwriters of the Pacific. Their spheres of influence are, as their names imply, respectively, the eastern section of the United States, the western, the southern and the Pacific Coast. Most of these organizations, or their predecessors under somewhat different names, came into being fifty or more years ago. They are voluntary associations of stock fire insurance companies and are the outstanding stabilizers of the business in their respective territories. Except where contrary to the laws of certain states, these regional organizations establish the rates of commissions to agents and brokers and the rules of underwriting practice under which their member companies operate; they recommend rating schedules and policy forms and clauses and rules for the payment of premiums and agency accounts. In general they exercise that control which is so essential to the orderly conduct of the business.

There is in the western territory, an association known as the Western Insurance Bureau. Its functions are somewhat parallel to those of the Western Underwriters Association. The Western Insurance Bureau is composed of a smaller group of companies not members of the four great regional bodies.

An important organization of comparatively recent birth, having for its object the stabilization of the business and the maintenance of ethical practices, is the Insurance Executives Association. It is somewhat in the nature of a super-organization, national in scope. Its membership is made up of stock company chief executives and their named alternates. The Insurance Executives Association does not function with the same attention to details as do the four regional bodies—it serves rather as a medium for the discussion and determination of procedure in matters of general policy affecting the industry. Support of all regional, national, state and special organizations listed by its Board of Trustees is required of the members of the Insurance Executives Association.

Before discussing the important major activity of fire rating organizations, it would be well to make reference to some other national and territorial supervisory associations:

The Explosion Conference is a voluntary association of stock fire insurance companies for the establishment of rates, rules and practices in connection with the writing of insurance against the perils of explosion; strike, riot and civil commotion; aircraft and motor vehicle property damage; earthquake and war risk. Its territory is nation-wide—except for certain states such as Texas and Mississippi where no jurisdiction is exercised, and for the hazard of earthquake on the Pacific Coast, which comes under the supervision of the Board of Fire Underwriters of the Pacific. A subsidiary organization is the Western Explosion Conference.

Rates and rules for the writing of sprinkler leakage insurance in the East, South and Pacific Coast are provided by The Sprinkler Leakage Conference and in the West by the Western Sprinkler Leakage Conference.

There are associations for the making of windstorm rates and rules, namely, the Eastern Tornado Association and the Southern Tornado Association. In other sections of the country, and in certain states in the East and South, the regulation of windstorm rates comes under the jurisdiction of the fire rating organizations. Rain insurance throughout the United States is supervised for member companies by the Rain Insurance Association, and aviation insurance by the Board of Aviation Underwriters.

The Central Traction and Lighting Bureau is another voluntary organization of stock fire insurance companies. The activities of this bureau are nation-wide in scope, where not prohibited by law. It acts in an advisory capacity with respect to rating treatment and standards of construction and protection for traction properties and electric light and power plants.

The National Automobile Underwriters Association is, as its name implies, a governing body which prescribes rates and rules for the writing of automobile fire, theft, collision and property damage insurance by member fire and marine companies.

The Inland Marine Underwriters Association is a similar organization for the control of its members in the writing of those inland marine classes over which jurisdiction has been assumed by the association. The formation of the Inland Marine Underwriters Association is a rather recent accomplishment, having come into existence in March 1931. For many years this branch of insurance was handled almost exclusively by the comparatively few marine offices, but, with the advent of numerous fire companies into the inland marine field, and the more aggressive development of the business through agency and brokerage channels, the need for a governing body became more pressing.

A few years prior to the formation of the Inland Marine Underwriters Association, marine offices and marine and inland marine departments of fire companies had been accused of encroaching on the fire field of fixed property subjects and fire floater coverages. This brought about the formation, in 1929, of the Interstate Underwriters Board. There was need of setting up a line of demarcation between those classes that rightfully belong in the category of fire writings and those that were eligible to marine, inland marine and transportation covers. This was accomplished by the marine definition embodied in the constitution of the Interstate Underwriters Board. However, the prime object in the formation of the Interstate Underwriters Board was to set up some orderly and legitimate manner by which organization stock companies could handle fire and allied lines policies extending beyond the limits of a single state.

The coming of chain stores, and the amalgamation of commercial interests under non-resident ownership, made it necessary for the insurance companies to provide such assured having fluctuating merchandise values in numerous locations, with some form of single policy coverage of a floating nature, or on a reporting basis. Such policy forms are provided by the Interstate

Underwriters Board. They require periodical statements from the assured as to values at risk in the various named locations, with provision for automatic coverage at new locations acquired between reporting periods.

The Interstate Underwriters Board is not an underwriting body or pool. It does not issue any policies. It is an association formed by the four regional fire organizations to which the companies members of the regional bodies subscribe. The Interstate Underwriters Board establishes rules of practice for and supervises the writing of Reporting Multiple Locations and Floating forms for fire insurance and allied lines on merchandise, including therewith furniture and fixtures, supplies, and improvements and betterments to buildings, where a certain minimum number of locations are involved. Where not contrary to law, it computes average rates for such coverages based on data obtained from the local rating organizations with respect to the estimates applying to the specific properties.

Daily reports of policies coming within the jurisdiction of the Interstate Underwriters Board are submitted by subscribing companies and checked as to rates and forms. The Board audits assured's accounts as to values reported at risk and also acts as an assisting organization to local rating associations for the writing and auditing of single state reporting forms.

Funds for the support of the Interstate Underwriters Board are provided, in part, by the four regional bodies, and the remainder by assessment on the premiums of the companies reporting business through the Board.

The foregoing, I believe, briefly covers the cooperative activities coming within the category of general, advisory and supervisory organizations.

The next two cooperative activities of insurers are—inspection and fire protection, and rates and rate making. While there is a separate company-operated inspection bureau in the East—the Eastern Underwriters Inspection Bureau, and somewhat similar bureaus in some of the other sections of the country—in most other jurisdictions the work of rating and inspecting is carried on by the same organizations. It is therefore logical to treat these two activities under one head. There are, however, some privately owned inspection concerns which sell their services to those companies that care to purchase the reports.

As a rule, the bureaus operated by the companies purely for inspection service, limit their surveys to properties protected by automatic sprinkler equipments and to large value risks on which a number of insurance companies are likely to be interested. By this means, the necessity of interested individual company inspection of such properties is obviated, thereby lessening the cost of the work and making for more uniform recommendations to the property owners. The inspections are made periodically and the reports to the companies cover underwriting information as to construction, occupancy, fire protection and housekeeping conditions.

In the early days of insurance rating, little attempt was made to recognize the difference in risks of the same general type of construction and occupancy. Rating then was either a matter of judgment or of simple flat rates of so much for this and something more for that. The prescribing of policy conditions by statutory law and the multitude of forms and clauses

applicable to the wide variety of present-day risks, were matters for future development. There were not many companies and there were not many agents. Not everyone carried insurance and such insurance as use and occupancy, windstorm, explosion, sprinkler leakage, reporting covers and supplemental contracts were unthought of.

When it is considered that within about three score of years the business of fire insurance in this country grew from thirty odd millions of premiums in the year The National Board was formed, to close to one billion dollars in 1929, some appreciation of the development of fire insurance and its allied lines can be realized.

This tremendous increase in annual premiums, however, has not been due to an advance in the price of insurance, for the tendency of the average rate has been downward; rather it can be attributed to heavy increases in insurable values, new forms of protection and a more general appreciation by the public of the need for insurance.

Fire insurance rates in the early days were occasionally made by local agents, but more often that important duty devolved on the high-hat corps of gentlemen known as special agents. I use the term "high-hat" advisedly, as I am told that special agents frequently appeared in shining silk toppers and formal attire. They were plenipotentiaries extraordinary—they personified the companies which they represented and their visits were events which lingered in the memories of those on whom they called. The rates made by these gentlemen varied, as did their respective judgments or the state of their individual well-being on the particular occasions. Because of the need of cooperation, which soon became apparent, associations of fieldmen were formed.

A number of these associations came into being a little over fifty years ago, following the relinquishment by The National Board of its rate making authority. That there might be some semblance of uniformity to the rates which they made, groups of special agents were charged with the responsibility of making rates in particular counties assigned to them. To their credit, it was seldom that any were accused of taking selfish advantage of this privilege for the benefit of their particular companies.

Out of this work developed measuring instruments in the form of simple schedules. As the schedules became more complicated due to the introduction of refinements in order that more minute differences in the construction, hazards, protection and exposure of risks might be reflected in the rates applicable to them, it became necessary to employ some impartial common agent to apply these measuring instruments. Rating organizations and associations were created and men were employed by them to inspect and rate properties, and their findings were promulgated to subscribing companies and their agents.

Each association operated independently of other associations, with the result that there was not a great deal of similarity between the schedules and the rules in the various jurisdictions.

While no schedule can be said to be an accurate measuring instrument, as after all the charges and credits which go to make it up must be founded

on judgment, which in turn is based on experience and statistical data, schedules do serve the purpose of providing an impartial means of establishing the price of insurance, free of whim and favoritism.

Individual items of a schedule may be too high or too low, for no one can accurately weigh the value as a fire retardant, in a particular risk, of an elevator trap here or a fire shutter there, or the menace of improperly fused wiring, or the absence of a metal mat under a stove. We know that such things, over a large number of risks, are good or bad as the case may be. While some of the charges and credits may be too high and others may be too low, the errors in this regard are likely to be offset or compensated for—the vital concern to the insurance companies is whether the loss experience within the area where a schedule is applied indicates whether or not the instrument as a whole is an adequate or an inadequate one.

Those who are charged with this heavy responsibility of establishing the rates for fire insurance are the secretaries and managers of the various rating organizations. That their work as a whole is in the interest of the insuring public is borne out by the fact that underwriting profit is not excessive, in fact some years it is non-existent.

To the layman who has not investigated the subject carefully, cooperation by insurance companies for rate making purposes may appear in the nature of a monopoly in restraint of trade. But, as a matter of fact, it is a necessity for two reasons: First for economy, for as many companies are frequently interested on the same risk, if each were required to inspect and reinspect for rating purposes, the costs of making the inspections would be multiplied, and the cost would have to be reflected in an added premium charge to the policyholder. Secondly, the business of insurance is one of average—the broader the average the more accurate the result. The experience of an individual company on a particular class is not necessarily a fair criterion on which to predicate price.

That cooperation in rate making is a necessity has been recognized by many State Insurance Departments and by State Investigating Committees. A Joint Legislative Investigating Committee of New York State reported, in part, in 1911 as follows: "On the whole, rates of fire insurance are fairly equitable, probably more so than railroad rates, for instance, and the tendency is strongly toward still greater equity." A similar legislative committee of the State of Pennsylvania reported in 1915: "Your Commission finds from the testimony adduced before it from all sources, both from the insurer and the insured, as well as that of recognized experts in the fire insurance business, that such combinations of insurance companies, or their representatives or agents, are in accordance with a wise public policy, are necessary to the solvency of the insurance companies, and are beneficial to the public."

In the eastern territory there are nine fire rating organizations; the New England Insurance Exchange for Massachusetts (except Boston), Maine, Vermont, Connecticut and Rhode Island (except Providence), the Boston Board of Fire Underwriters for the City of Boston, the Insurance Association of Providence for the City of Providence, the New York Fire Insurance

Rating Organization for the entire State of New York, with four divisional offices, the New Hampshire Board of Fire Underwriters, the Schedule Rating Office of New Jersey, the Middle Department Rating Association for Pennsylvania, Delaware and Maryland (except Baltimore), the Association of Fire Underwriters of Baltimore City and the Underwriters Association of the District of Columbia.

In the West there are rating and inspection bureaus for each of the states and an organization known as the Western Actuarial Bureau, which serves as a central medium for uniform treatment of rating subjects, rules and schedules for the guidance of those particular state rating organizations coming under its jurisdiction.

In the territory of the South-Eastern Underwriters Association, there are rating associations for each of the states, and the same is true in the jurisdiction of the Board of Fire Underwriters of the Pacific. In the States of Colorado, New Mexico and Wyoming, inspection and rating matters are looked after by the Mountain States Inspection Bureau.

There are several states where, because of the laws, independent or privately owned bureaus or state controlled rating offices are operated, such as Texas, Arkansas, Iowa and Nebraska.

In the West, most of the rating bureaus have separate adjuncts known as Audit Bureaus. The particular duties of these bureaus is to check the rates and forms of each daily report issued for subscribing companies. The reports are submitted by the issuing agents and verified or criticized as the facts warrant. The reports are then forwarded by the audit bureaus to the companies. Copies of the criticisms are sent to the agents and the audit bureaus hold the subjects in suspense until corrections are made.

In most of the remainder of the country, including the East, this same activity is carried on by so-called stamping or checking offices under the direct control and management of the rating organizations. This checking work obviates the necessity for each company home office or interested departmental office incurring the expense of maintaining complete up-to-date files of published rate estimates. It also assures uniform treatment and prevents discrimination as respects the policyholders' interests.

The next general division of the subject assigned to me is Underwriting Pools. There are associations of companies formed for the purpose of writing liability on behalf of their members on certain specific subjects, such as, the Grain Association, the Cotton Insurance Association, the Oil Insurance Association and the Railroad Syndicates. These pools are the outcome of a need for unusual facilities where large amounts of concentrated liability are apt to be involved. Such heavy liability, or the insuring of a particular class requiring special treatment, can be better handled and a better spread developed for the companies through the medium of underwriting pools than if individual companies attempted to write the business in the ordinary manner. For each of these pools a common agent or manager is appointed by the member companies and each company obligates itself to take a fixed percentage of the writings.

The Factory Insurance Association, domiciled here in Hartford, is another underwriting pool, the particular function of which is to provide stock company indemnity, in competition with the Associated Factory Mutual Companies, on large value superior factory properties, meeting high standards of fire protection requirements. The facilities of the Factory Insurance Association carry with them a periodical inspection service which is especially valued by property owners as it tends to reduce loss probabilities and the likelihood of factory operations being interrupted by fire.

Similar organizations operating in other sections of the country are the Western Factory Insurance Association and the Pacific Factory Insurance Association. There is an Underwriters Service Association, which functions in the western territory, for the handling of large value risks, sprinklered or unsprinklered, and a group of companies, not members of the Western Underwriters Association, operate an organization known as the Western Sprinklered Risk Association. There are also underwriting pools for the exchange of reinsurance facilities between member companies, such as the Reinsurance Clearing House, and a group known as the Central Bureau, domiciled here in Hartford, for the handling of registered mail insurance.

The last division of cooperative activities is that of loss adjustments. Before proceeding with that subject, I should like to mention an allied activity, namely that of the Underwriters Salvage Company. This organization should not be confused with the Salvage Corps or Patrols. The Underwriters Salvage Company is an insurance company-owned organization. It maintains establishments for the reconditioning of damaged stocks of merchandise and frequently acts in behalf of the companies, or the owners of the damaged merchandise, or for joint account of all persons at interest, in disposing of the goods to the best advantage.

In the early days of loss adjusting, as in the case of rate making, the work, almost wholly, fell to the lot of the special agents, more so than it does today.

It is not so very many years ago when if a loss occurred on which a number of companies were interested, it would be the occasion for the gathering, in some nearby hotel, of the fieldmen representing the companies involved. Two or three of them would go to work checking over the damaged and undamaged goods, or the details of the builder's estimate covering the cost of repairs. The remainder of the fieldmen would seek diversion of one form or another until the active ones had reached an agreement with the assured, when copies of the settlement figures and apportionment would be prepared and passed around. Sometimes these adjustments would take several days or might require a number of return visits before an agreement could be reached. This rather inefficient method, albeit an educational one for those who did the work, was in time somewhat replaced by the companies jointly employing the services of so-called "Independent Adjusters." These independent adjusters were quite generally ex-fieldmen who, for one reason or another, had gone into the adjustment business. Their compensation consisted of a per diem allowance and expenses.

As new lines of coverage developed, special agents found themselves with less time to devote to loss adjustments, with the result that more and more losses were assigned to independent adjusters. Competition developed between adjusters seeking employment; some curried favor with particular agents by making liberal loss settlements with favored assured. While there were, and are, many excellent independent adjusters—outstanding men in their chosen field, whose integrity could not be questioned—the companies believed that the very important work of loss adjusting should come more directly under company control. In consequence, company-owned adjustment companies were formed in important sections of the country. More recently, for greater efficiency, the Fire Companies' Adjustment Bureau was organized under the auspices of The National Board of Fire Underwriters. This Bureau is nation-wide in scope and has already absorbed most of the former territorial adjustment bureaus. There are still a number of independent adjusters in the field, whose services are available to the companies on specific losses, although the majority of adjustments now come under the supervision of the Fire Companies' Adjustment Bureau.

The foregoing will, I believe, give you a brief summary of the cooperative activities of stock fire insurance companies. In closing I should like to quote from some recent remarks by one of the outstanding insurance executives of this country on the general subject of cooperating and non-cooperating companies, with especial reference to the regional governing bodies. He said—"There are certain companies which, for purely selfish reasons, refuse to accept a share in the burden of effort and expense for the promotion and support of those correct and ethical practices so essential to the solvency of companies, the protection of the public, and the orderly conduct of the business. It must be apparent that these non-cooperating companies are actuated by one of two things—either a desire to save the expenditure of time and money that cooperation entails, or a wish to enjoy an unfair advantage over their competitors who have voluntarily obligated themselves to act together for the common good."

May I add that you have justifiable cause for pride in the knowledge that the fire insurance companies of the City of Hartford are among the outstanding organizations of the country in support of good practices.

APPENDIX K

REPORTS ON CITIES AND TOWNS

Reports on cities and towns are made by the National Board of Fire Underwriters. These reports cover the findings of the Board's engineers, who investigate the fire defenses and physical conditions of a city or town and assign it a class number. Cities and towns are of 10 classes, a first-class city having the highest grading according to the schedule established by the Board; a tenth-class town, the lowest. Subjects considered in the schedule according to which the various features of fire defenses and physical conditions are graded are

Water Supply.

(1) Appointment of employees, (2) efficiency of executive, (3) records and plans, (4) emergency repair provisions, (5) receipt of alarms by department, (6) normal adequacy of entire system, (7) reliability of source of supply, (8) sufficiency of reserve pump capacity, (9) sufficiency of reserve boiler capacity, (10) condition and arrangement of equipment, (11) fuel supply or electric power, (12) construction of pumping station, (13) fire protection of pumping station, (14) hazards of pumping station, (15) exposures to pumping station, (16) reliability of supply mains as affecting adequacy, (17) reliability of installation of supply mains, (18) completeness of arterial system, (19) reliability of installation of mains, (20) effect of small mains in the high-value district considered, (21) 4-inch mains in system, (22) dead ends—4- and 6-inch mains—(23) completeness of gridiron of 6-inch mains, (24) quality and condition of pipe, (25) conditions affecting fire protection in other than the section graded, (26) spacing of gate valves, (27) condition of gate valves, (28) distribution of hydrants in the high-value district considered, (29) distribution of hydrants in residential districts, (30) condition of hydrants, (31) size and design of hydrants, (32) valves on hydrant branch.

Fire Department.

(1) Number of officers, (2) number of operators, (3) qualifications of chief officers, (4) tenure of office of chief, (5) appointment and tenure of office of officers, (6) enlistment requirements, (7) retirement requirements, (8) number of hose or engine companies (apparatus), (9) number of ladder companies (apparatus), (10) distribution of companies, (11) total required manual strength of department, (12) manual strength of existing companies in the high-value district considered, (13) engine capacity, (14) reserve engines, (15) condition of engines and hose wagons, (16) fire boats, (17)

powerful stream appliances, (18) small stream appliances, (19) reserve hose wagons, (20) amount of hose, (21) hose larger than 2½-inch, (22) condition of hose, (23) minor equipment, (24) fuel, (25) repair facilities, (26) horses or motive power, (27) suitability of fire stations, (28) discipline, (29) drills and training, (30) response to alarms, (31) fire methods, (32) conditions affecting department operations, (33) building inspections, (34) records of fires, etc.

Fire Alarm.

(1) Qualifications of management, (2) adequacy of maintenance force, (3) operators, (4) headquarters building, (5) apparatus at headquarters, (6) circuit protection, (7) batteries, (8) circuits underground, (9) condition and material of circuits, (10) circuits near high potential, (11) open or grounded circuits, (12) overloaded circuits, (13) alarms to fire stations, (14) condition of inside wiring, (15) type of boxes, (16) conspicuousness and accessibility of boxes, (17) condition of boxes, (18) distribution of boxes, (19) tests and records, (20) speed of alarms, (21) fire-department telephone system, (22) transmission of telephone alarms, (23) provisions for transmitting telephone fire alarms from the telephone exchange, (24) method of handling telephone fire alarms at the telephone exchange.

Police.

(1) Cooperation with fire department, (2) patrol wagons, (3) signaling system, (4) cooperation with building department.

Building Laws.

(1) Fire limits, (2) construction and protection of buildings, (3) wooden shingle roofs, (4) records.

NOTE.—Lack of enforcement is considered equivalent to absence of law.

Hazards.

Electric lighting and heating:
(1) Laws, (2) new inside work, (3) old inside work.
Oil lighting and heating:
(1) Laws, (2) condition.
Gas lighting and heating:
(1) Laws, (2) condition.
Explosives and inflammables:
(1) Laws and enforcement, (2) records.
NOTE.—Lack of enforcement is considered equivalent to absence of law.

Structural Conditions.

(1) Area of district or of largest subdivision made by fire breaks or barriers, (2) street widths, (3) accessibility of block interior, (4) percentage of area in streets and open spaces, (5) percentage of block area built upon, (6) heights of buildings other than fireproof, (7) large and excessive areas other

than frame, (8) deficient party and fire walls, (9) unprotected floor openings, (10) unprotected exposed openings, (11) frame buildings, (12) permanent awnings and nonfire-resistive roof coverings, (13) conflagration breeding blocks, (14) exposures to district.

Credits.

(21) Superior construction and protection, (22) fire-engine capacity where water supply at direct hydrant streams is adequate, (23) high-pressure fire system.

NOTE.—Items apply only to the high-value district considered.

Additional Deficiencies.

Climatic conditions:

(1) High winds, (2) excessive snowfall, (3) severe cold weather, (4) hot dry weather, (5) unusual or exceptional conditions.

Divergence in grading of fire department and water supply.

NOTE.—Reports on many cities and towns are also made by the regional organizations of the stock companies. Condensed town reports appear on Sanborn maps.

APPENDIX L

TOWN REPORT, CINCINNATI, OHIO[1]

Population: 451,160

Prevailing Winds: Southwest.

Paving: About two-thirds of total streets paved.

Grades: Practically level in business section; hilly in other sections as shown. Grade elevations taken from the water works intake which is 2′ above river bed. This point is called low river level. Flood stage is 52′ on Ohio River at Cincinnati, Ohio.

Public Lights: Gas and Electric.

Water Facilities.

Municipal ownership. Water supply from Ohio River through 7′ tunnel. Direct and gravity pressure system.

River Pumping Station.—Elevation 508′. 4 Wood triple-expansion, condensing, crank and flywheel, triplex, single-acting pumps, size 29 × 54 × 82 × 37½, capacity 30,000,000 gallons per day each. 2 settling reservoirs, capacity 157,500,000 and 173,800,000 gallons each. 1 clear water basin, capacity 19,600,000 gallons. Filtration Plant, capacity 112,000,000 gallons per day.

Main Pumping Station.—Elevation 504′. *Central Service.*—Holly vertical, triple-expansion, condensing, crank and flywheel, triplex, single-acting pumps, size 32 × 60 × 90 × 38¼, capacity 25,000,000 gallons per day each. *Eastern Hills Service.*—3 Holly vertical, triple-expansion, condensing, crank and flywheel, triplex, single-acting pumps, size 34 × 64 × 98 × 26½, capacity 12,000,000 gallons per day each. 1 Holly vertical triple-expansion, condensing, crank and flywheel, triplex, single-acting pump, size 38 × 72 × 110 × 29⅜, capacity 17,000,000 gallons per day. 1 Worthington centrifugal pump, capacity 25,000,000 gallons per day.

Western Hills Pumping Station.—Elevation 520′. 1 Holly-Snow vertical, triple-expansion, condensing, crank and flywheel, triplex, single-acting pump, size 26 × 48 × 72 × 20¼, capacity 8,000,000 gallons per day. 1 Holly vertical, triple-expansion, condensing, crank and flywheel, triplex, single-acting pump, size 26 × 48 × 72 × 19½, capacity 7,000,000 gallons per day. 2 Snow horizontal, cross-compound, condensing, crank and flywheel, duplex, double-acting pumps, size 15½ × 34 × 9¼, capacity 2,500,000 gallons per day each.

Central Service.—Eden Park Reservoir, elevated 670′, capacity 95,000,000 gallons.

[1] Taken from Sanborn Maps of Cincinnati.

Eastern Hills Service.—Winton Road Reservoir, elevated 950′, capacity 35,000,000 gallons. Mt. Auburn Tanks, elevated 950′, capacity 1,300,000 gallons. Kennedy Heights Tanks, elevated 950′, capacity 4,700,000 gallons.

Western Hills Service.—Mt. Airy Tanks, elevated 1,040′, capacity 8,500,000 gallons. Western Hills Tanks, elevated 1,029′, capacity 1,300,000 gallons.

914 miles of 3″ to 60″ mains, 6,740 hydrants. Average daily consumption 54,750,000 gallons. Pressure 41 to 66 lbs. in business section.

High-pressure Fire Service.

High pressure fire main system in about 85% of congested value district. Supply from Eastern Hills Service, Mt. Auburn Tanks. 35,069′ of 12″ to 20″ water mains. 199 Baltimore flush type hydrants. 14 portable five-way heads carried by fire department and attached to hydrants for operation. Pressure 150 to 200 lbs.

Fire Department.—Fully paid. 1 chief, 2 assistant chiefs, 8 marshals, 52 captains, 52 lieutenants and 444 men. 37 stations consisting of 36 engine companies, 14 ladder companies, 2 hose companies, 1 water tower and 1 rescue squad. Fully motorized.

3 Mack engines with 750 gallons per minute pumps. 37 Ahrens-Fox engines consisting of 5 with 1,000 gallon per minute pumps, 9 with 800 gallon per minute pumps, 1 with 750 gallon per minute pump, and 22 with 700 gallon per minute pumps. All engines equipped with 60 to 100 gallon water tanks and 250′ to 300′ of 1″ chemical hose. 2 Ahrens-Fox 85′ aerial ladder trucks. 3 Seagrave 85′ aerial ladder trucks. 10 Seagrave ladder trucks. 2 Ahrens-Fox ladder trucks. 5 Ahrens-Fox hose trucks. 2 Hale hydraulic water towers with 65′ masts with Ahrens-Fox tractor. 1 Foamite truck. 1 Ahrens-Fox rescue squad wagon. 26 chiefs' automobiles. 83,350′ 2½″ hose.

Gamewell fire alarm system. 844 boxes. Headquarters located in City Hall, a three and one-half story fire-resistive building.

FIRE-RESISTIVE ROOFING ORDINANCE

Ordinance prohibits use of wooden shingle roofs within Fire Limits only.

APPENDIX M

INLAND MARINE COVERS

Truckmen's and motor carriers' liability policy
Motor-truck merchandise floater (owners' form)
Bailee's customers policy
Bridge insurance
Camera
Contractor's equipment floater
Cotton insurance
  "Full marine" form
  "Buyer's transit" form
  "Compress and/or warehouse liability under insured receipts" form
Outboard motors and outboard motorboats
Deferred payment and installment insurance
Shippers transportation insurance
Fine arts
Furniture warehousemen's policy
Personal fur floaters
Furriers customers
Horse and wagon floater
Hull insurance
Garment contractors floater
Ocean marine insurance
Processor's form policy
Inland or river cargo insurance
Installation risks
Personal jewelry—furs
Jeweler's block
Musical instruments
Parcel post
Pattern floater
Personal effects
The personal-property floater policy (not permitted in all states)
Physicians and surgeons floater
Radium floater
Registered mail
Salesmen's floaters
Silverware floater
Special floater and miscellaneous article floater

Stamp collections
Tourist baggage
Theatrical floater
Trip transit policy
Wedding-presents policy
Private pleasure craft, motorboat, and yacht insurance

NOTE.—The foregoing covers include many hazards not covered by the fire policy, even when the extended coverage endorsement is added to it.

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