PART VII
INSURANCE SECTION
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THE OMAHA SUNDAY BEE

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VOL. XXXVII—NO. 43. OMAHA, SUNDAY MORNING, APRIL 12, 1908. SINGLE COPY FIVE CENTS.

CERTIFICATE OF PUBLICATION, STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS,
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the American Bonding Insurance Company of Baltimore, in the State of Maryland, has complied with the insurance law of this state, applicable to such companies, and is therefore authorized to continue the business of Fidelity Surety Burglary Insurance in this state for the current year ending January 31st, 1909.

Summary of Report Filed for the Year Ending December 31st, 1907:

INCOME

Premiums	$756,624.58	
All other sources	55,236.18	
Total		$ 811,860.76

DISBURSEMENTS

Paid policy holders	$406,035.47	
All other payments	610,321.79	
Total		$1,016,257.26

ADMITTED ASSETS $1,426,761.17

LIABILITIES

Unpaid Claims and Expenses	$188,712.22	
Unearned Premiums	445,194.27	
All other liabilities	90,184.21	$ 724,090.70
Capital stock paid up	500,000.00	
Surplus beyond Capital Stock and other liabilities	202,670.47	702,670.47
Total		$1,426,761.17

Witness my hand and the seal of the Auditor of Public Accounts the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the Calumet Insurance Company of Chicago, in the state of Illinois, has complied with the insurance law of this state applicable to such companies and is therefore authorized to continue the business of Fire, Lightning and Tornado Insurance in this state for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts, the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION. STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the Spring Garden Insurance Company of Philadelphia, in the state of Pennsylvania, has complied with the insurance law of this state, applicable to such companies and is therefore authorized to continue the business of Fire and Lightning Insurance in this state for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts, the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION, STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the Sun Insurance Office of London, England, has complied with the insurance law of this state, applicable to such companies and is therefore authorized to continue the business of Fire and Lightning Insurance in this state for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts, the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION, STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the Phenix Insurance Company of Brooklyn, in the state of New York, has complied with the insurance law of this state, applicable to such companies and is therefore authorized to continue the business of Fire, Lightning and Tornado Insurance in this state for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION, STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the Shawnee Fire Insurance Company of Topeka, in the state of Kansas, has complied with the insurance law of this state, applicable to such companies and is therefore authorized to continue the business of Fire, Lightning and Tornado Insurance in this state for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts, the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION, STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the North British and Mercantile Insurance Company of London and Edinburg, England, has complied with the insurance law of this state, applicable to such companies and is therefore authorized to continue the business of Fire and Lightning Insurance in this state for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts, the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

CERTIFICATE OF PUBLICATION, STATE OF NEBRASKA, OFFICE OF AUDITOR OF PUBLIC ACCOUNTS.
LINCOLN, Feb. 1, 1908.

IT IS HEREBY CERTIFIED, That the Caledonian Insurance Company of Edinburgh, Scotland, has complied with the Insurance law of this state, applicable to such Companies and is therefore authorized to continue the business of Fire and Lightning Insurance in this State for the current year ending January 31st, 1909.

Witness my hand and the seal of the Auditor of Public Accounts the day and year first above written.

E. M. SEARLE, JR.
(Seal.) Auditor of Public Accounts.
JOHN L. PIERCE, Deputy.

FIRE PREVENTION PROBLEMS

Fully as Important as Means of Fighting it After it Starts.

IMPROVED CONSTRUCTION ONE

Mechanical Devices for Extinguishing Them in Incipiency—All Tend to Decrease Insurance Rates.

In the March number of the Business World it was stated that fire prevention must be regarded not only from the standpoint of preventing a fire from originating, but also preventing the spread of a fire after it has once made headway. To prevent the spread of a fire numerous devices are in use today, such as fire pails, private fire departments, standpipes, thermostats, automatic sprinklers and chemical extinguishers. The adoption of these devices in mercantile risks, it was shown, result in a reduction in the building rate varying from 60 to 75 per cent—a reduction so large that the saving in the annual premium will in many cases pay for the fire extinguishing facilities in a few years, in addition to netting a good return on the capital expended for such facilities. Their introduction also gives to the property owner added security against the large loss in time, convenience and business which follows in the wake of every large fire.

The prevention of the spread of a fire, after it has once obtained a good start, depends primarily upon the construction and planning of the building. From the standpoint of fire prevention, buildings may be grouped into four main classes, viz.: fireproof, semi-fireproof, slow burning and ordinary buildings. As regards each the greatest care should be exercised in planning the building. Available fire protection, such as fire service tanks, pumps, boilers, etc., should be considered when determining the height and depth of a building. Elevators and stairways should not be located in inaccessible places, and all communications between floors should be so protected that fire may not seek these avenues in spreading throughout the building. Special hazards, such as the heating plant, should be properly isolated, and light and air should be secured without creating exposure and draft conditions. If the nature of the business permits, the risk should also be subdivided into several fire areas, and the most dangerous processes in the business should be located where they will do the least harm to the rest of the plant. Thus in knitting mills, the card rooms, where fire most frequently occurs, are in too many cases situated above the finishing room, with its large stocks of finished goods, although such a position for the card room is entirely unnecessary for the economical operation of the mill. A fire occurring in the card room will naturally result in an unnecessary water damage to the stock below, the loss frequently exceeding several times the damage done by the fire itself.

Fireproof Buildings.

A fireproof building may be characterized as possessing four chief features. It should be of steel cage construction, and should have all of its structural members safely insulated against heat from within or without the building, or it may be of reinforced concrete construction with the reinforcing members similarly insulated. All communications between floors for freight or passengers, such as stairways and elevators, should be encased in fireproof cut-off shafts, and all horizontal tiers of windows should be fitted with wire glass in fireproof frames. A fireproof building should be designed so as to constitute a stove, and if used for the storing of combustible materials should be so constructed that the contents on any floor may burn with the least danger to the building and with the least possibility of the fire spreading to other floors. If the horizontal tiers of windows are not fitted with wire glass the chances are that a fire on a given floor, since it cannot go up or down, owing to the fireproof construction and the protected floor communications, will be forced out through the windows, and will thus communicate to upper stories through the tier of windows immediately above.

It is needless to say that a great many buildings called "fireproof" are not fireproof at all, and it is interesting to note how many well informed people are wedded to the belief that noninflammable things are fireproof, and that a fireproof building gives this quality to its contents. On the contrary, it appears that goods in fireproof buildings will burn fiercely—in fact, will, in many instances, burn more fiercely than when situated in other buildings. Because of this fact it is highly important that the floors of a fireproof building should be carefully separated. This fact cannot be too strongly emphasized. Mr. F. C. Moore, in his "Fire Insurance and How to Build," remarks: "It is probable that few subjects connected with construction are more generally misunderstood than the fireproof building. The average individual regards iron and stone as fireproof. He, at the same time, overlooks the fact, strangely enough, that glass windows are not fire resisting. Even underwriters in estimating rates on fireproof buildings and their contents often overlook the fact that a building intended to be fireproof, but offering nothing more substantial as a fire shield against an outside fire than ordinary plate glass in a wooden sash and frame is even more likely to have its contents thoroughly destroyed by an exposure to fire than an ordinary building of wooden joisted construction; for the fireproof structure, as already stated, holds its merchandise and the other contents suspended where they will be more effectually destroyed. The wooden joisted building, on the other hand, would probably collapse, and no small salvage might be realized out of heaps of merchandise in the cellar so covered up that combustion would be retarded for want of air, on the same principle that a pile of wood shavings is seldom invaded by fire to a greater depth than ten or twelve inches.

"A further reason why the contents of fireproof buildings are so thoroughly destroyed when once ignited is that the fireproof construction, like a reverberating furnace or oven, confines the heat until extremely high temperatures are reached. Indeed, firemen who have had experience in fighting fires in fireproof buildings claim that it is almost impossible to remain on a floor where merchandise is on fire, so intense is the combustion. Everything ignitable is shriveled up. The principal advantage, therefore, after all, of a fireproof building is the separation of the various stories from each other, and this may be largely, if not entirely, lost if the building has well holes, or if staircases and elevators are not cut off by fireproof hallways."

It should also be noted that the public is altogether too apt to minimize the importance of exposure to fireproof buildings. The danger of fire to contents within a fireproof building is much greater because of the presence of a poor risk in the near neighborhood. On the other hand, a fireproof building radiates very little of its exposure to surrounding risks. "Probably no class," writes Mr. F. C. Moore, "of risks is more inadequately treated in the matter of computing danger from exposure than fireproof buildings, because rating bureaus so frequently overlook the obvious fact that plateglass and wooden window frames and sash are not fireproof, and that a so-called fireproof building offering nothing more substantial to an outside fire than plateglass has no greater fire resisting properties than an ordinary showcase would present. More than 75 per cent of the fireproof structures of the country have window openings to the extent of from 40 per cent to 75 per cent of the superficial area of each enclosing wall which are not protected by fireproof shutters. Heat from a burning building across a wide street finds ready entrance through such openings, and the various fireproof floors serve only to hold, like a great gridiron, ignitable merchandise in the most favorable form of distribution for ignition and combustion, to the full force of an outside fire. If fire once secures entrance to a fireproof building through the windows of any store, the contents of such a store, especially if at a great height from the floor, are almost certain to be destroyed, and the danger of ignition is greater where the fireproof structure is higher than the one which is burning."

Fireproof Buildings in Recent Fires.

In the recent Baltimore and San Francisco conflagrations the fact was brought out very strikingly that so-called "fireproof" buildings after all are not fireproof, as generally supposed, and that there were present many deficiencies in the construction of such buildings which might easily have been averted. The statistics for the Baltimore conflagration, so far as "fireproof" structures are concerned, have been carefully compiled, and show that the insurance loss on such buildings was in almost the same ratio as on the ordinary buildings and combustible stock. This striking fact is to be attributed mainly to the large damage done to such buildings and the comparatively small amount of insurance held as compared with the value of the structures. Of the seven so-called fireproof "skyscrapers," of steel cage construction, it appears that 64 per cent, or nearly two-thirds, of the value of these buildings, was destroyed. This large proportion becomes still more striking when it is remembered that these seven buildings were all used exclusively for offices, and contained but small amounts of combustibles which could have caused a serious and prolonged fire. As a matter of fact, fire swept in and out of some of these big office buildings in the course of an hour, and the opinion prevails among experts that had these buildings been filled with large quantities of combustibles the loss would certainly have been much greater, and in all probability might have been a total loss. These skyscrapers were practically without any form of fire protection, partly because there was no such apparent need for fire protection and partly because of the impossibility of the fire department approaching them during the conflagration.

In San Francisco likewise, the conflagration tested thoroughly the various types of fireproof steel structures and gave to the world a most valuable lesson as to the future construction of such buildings. Tercotta, so generally used in San Francisco, was shown to be wholly inadequate. Wherever steel work was protected by terra cotta the covering was in nearly every case torn off and destroyed. As stated in one of the reports of the performance of different fireproofings in the San Francisco fire: "When terra cotta was used the partitions fell down, the fireproofing around the columns came off, and a very large proportion of the floor arches either fell out of the bottom plates or the arches broke off and left the arches in a very bad shape." In most cases the fireproofing of columns was of terra cotta. With the destruction of the column covering by the excessive heat, little protection was left, and the result was that very few buildings in San Francisco did not present the sight of badly bent or buckled columns.

As contrasted with terra cotta, concrete stood the test of the conflagration well in nearly every instance, little or no damage resulting to steel work which was fireproofed with this substance. Another form of column covering which withstood the fire well consisted of two thicknesses of wire lath and plaster, with an air space between them. While in many cases the outside covering was torn off, it seems to have resisted the fire during the most intense stage, thus enabling the inner covering to protect the column.

Stone vs. Brick in Wall Construction.

The best material for the construction of walls is hard burned brick. Stone, contrary to common opinion, is a very undesirable building material, and if used extensively, especially for supporting heavy weight, may serve as a means of wrecking the entire building. One of the most prominent fire preventing experts in the country, in speaking of this, declares that: "The best fire resisting material for walls, it may be safely asserted, is hard burned brick. It is also the best material for the floor arches between the iron beams of fireproof buildings. It is incomparably better than stone, because stone is utterly unreliable for resisting fire, especially the limestone, granites, marble, etc. In fact, stone is a dangerous material wherever it is subjected to fire and water, and carries a heavy super-imposed weight. After the great Boston fire granite piers and columns were shoveled up like so much sand. Notwithstanding these facts, stone enters into most ordinary structures to the extent of being incorporated as important members of piers and walls. In some cases piers or columns are built entirely of stone. Such architecture is almost certain to result in disaster, especially where stone is a weight carrier, and is located in the interior of a building and subjected to the combustion of surrounding merchandise. In the outer walls of a building it is not so dangerous, although almost certain to be defaced to the extent of requiring replacement. In interior construction, even where bond stone and cap stones are used in brick piers, it may wreck the building. . . The apathy of building departments, architects, masons and legislators, and of some underwriters, in this matter of the danger of stone as a building material, is utterly incomprehensible to me. If columns of a building were constructed of glass or of porcelain there would be an immediate outcry, and yet well annealed glass, terra cotta or porcelain would actually stand the effects of fire and water for a longer time probably than granite or marble columns." (H. C. Moore, in "Fire Insurance and How to Build," page 78.)

Of all the materials used in the fronts of the buildings in San Francisco, stone showed by far the worst effects in the recent conflagration. In the Postal Telegraph building the granite columns in the first story almost entirely disappeared through the splitting and crumbling of the stone. According to one report: "This is true of every place where the flames or heat touched the stone; it spalled off and left the fronts in such a bad condition that they will probably have to be taken down." Terra cotta did not resist the effects of heat and fire much better than stone.

From the above facts its is evident that the iron work of a fireproof building should be carefully insulated from heat, and that stone should not be used in vital portions of the building. An ideal fireproof building has been defined as "one consisting of substantial walls of brick, well burned brick being a better fire resistant than any other material; with all iron work protected by fireproof material; with all floors properly cut off from each other; the staircases and elevators in hallways; and all passages from one floor to another, whether in the shape of channels for plumbing, gas or other pipes, electric wiring, or shafts for dumbwaiters, in fireproof shafts; the floors themselves being fireproof, without floor boards, the surface being of concrete or asphalt, and inclined, with scuppers through the side of the walls so arranged as to drain off any water which might be thrown by a fire department, and protect the floors or merchandise beneath the one on fire."

Semi-Fireproof Buildings.

Semi-fireproof buildings differ from fireproof buildings in so far that, while constructed of non-inflammable material, they are equipped with structural or tension metal members which have not been properly insulated against heat or have been left entirely exposed. These buildings are constructed because of their greater cheapness as compared with fireproof buildings, and because the prevailing building code in many cities does not prevent their construction. They are erected very often to serve for office purposes or as dwelling houses, or for other uses of a similar character, in which it is presumed that the limited amount of combustible stock which they contain will make it extremely unlikely that sufficient heat will be generated to impair the ironwork in the building.

Slow Burning Buildings.

Slow burning or "mill construction" buildings are to be distinguished from semi-fireproof buildings. The floors in slow burning buildings are without openings, and consist of heavy plank laid on heavy timbers spaced from five to twelve feet apart, such timbers resting on stout wooden posts. It is also prescribed that there must be a tight top flooring, with waterproof paper between it and the plank flooring below, which must never be less than three inches in thickness. The aim of such requirements is to separate the different stories by a floor of considerable thickness. The idea is to construct the building in such a manner that, even though large stocks of combustible material may be contained in the building, it would require several hours under normal conditions for a fire to burn through the flooring. Before this is accomplished it is presumed that the fire department will be able to get the fire under control and prevent its spread.

Fire Doors and Shutters.

A number of special features must be noted in the construction of buildings, designed to retard the rapid spread of fire. The first of these are the floors and shutters. The door now commonly used is made of wood covered with metal and provided with special lock jointed tin plates. The idea is to allow the wood to carbonize in case of great heat and to permit the gas resulting from the carbonizing of the wood to escape through the lock joints instead of permitting it to accumulate and throw off the metal sheets. As the wood carbonizes the charcoal will drop to the bottom of the metal covering, but the metal will hold together, thus preventing the passage of the fire.

Wire glass is also of considerable importance. It gives splendid protection when the sash is fireproof and when the glass is double, with an air space between. Wire glass in most cases serves a better purpose than shutters, because the latter must not only be closed to become effective, but will deteriorate if not properly cared for. Moreover, where there is not an exposing risk to be guarded against, shutters are regarded by many underwriters as a nuisance. It should be remembered, however, that wire glass radiates heat, so that in case of a severe exposing fire it may happen that combustibles within the building and near the glass may ignite. In this respect wire glass is inferior to well designed shutters.

Rating of Fireproof Buildings.

In applying the rating schedule to fireproof buildings the most important point to bear in mind is that in no class of buildings is it more necessary to know the amount of insurance carried in order to determine the rate than in the case of fireproof buildings. According to the universal mercantile schedule, a certain percentage of the value of fireproof buildings (15 per cent) covers the wooden trimmings, window and door frames, fresco work, plate glass, and other features which are considered as destructible. It follows, then, that if a fireproof building is insured for only 15 per cent of its value, the rate should approximate that on the ordinary brick building, because 15 per cent of the value of a fireproof building is considered as destructible by fire. This percentage of 15 per cent is, therefore, regarded in the universal mercantile schedule as one extreme of insurance, and the full value of the building (100 per cent) is regarded as the other extreme. The rule adopted by the universal mercantile schedule is that, if the owner of a fireproof building insures it only to the extent of 15 per cent of its value, he must pay the flat rate, as found in the schedule used. If, however, the building is insured for more than 15 per cent of its value, a reduction is granted in the rate because of the existence of the extra insurance.

The reasoning which underlies the reduction in the rate in case the amount of insurance on a fireproof building exceeds 15 per cent of its value is as follows. Assume a fireproof building to be worth $1,000,000 and the rate of premium for the minimum amount of insurance (15 per cent of the value of the building, or $150,000) to be 100 cents per $100 of insurance, or 1 per cent. The premium for $150,000 of insurance (or 15 per cent of the value) would, therefore, be $1,500. Now, if the owner of the property should agree to carry $200,000 of insurance, or 20 per cent of the value of the building instead of only 15 per cent, the extra $50,000 of insurance could be assumed by an underwriter at a much smaller rate than the rate charged for the first $150,000 of insurance. As the universal schedule committee says: "An underwriter, having already $200,000 on a fireproof building offering an additional $100,000, would have presented to him, in fixing the rate, practically the same consideration which determines the rate in the case of what is known as 'excess insurance.' He would be already liable for all partial losses (since 15 per cent of the value of the building is only considered destructible by fire) and his extra $100,000 could not be called upon until his $200,000 had been exhausted. In this view he could afford to write the extra $100,000 at a materially lower rate than his $200,000."

The schedule table used in rating fireproof buildings fixes the rate for the first $100,000 of insurance above the first $200,000 of insurance at 40 per cent of the rate charged for $200,000. "In like manner each subsequent $100,000 of additional insurance must be regarded in the nature of excess insurance, and would be written at a 5 per cent less percentage of the rate than that of the preceding $100,000."

The reduction given for each $100,000 of extra insurance is exemplified by the following table, which was computed upon the hypothetical example of a million-dollar building with a rate equal to 100 cents per $100 of insurance in case only 15 per cent insurance was taken out:

Percentage Insured	Percent Premium Charged Next $100,000	Amount Insured	Rate	Premium
15	100	$ 150,000	$1.00	$1,500
20	45	200,000	.863	1,726
30	40	300,000	.69	2,070
40	35	400,000	.578	2,312
50	30	500,000	.497	2,485
60	25	600,000	.435	2,610
70	20	700,000	.385	2,695
75	17.5	750,000	.364	2,730
80	15	800,000	.33	2,640
90	10	900,000	.300	2,700
100	5	1,000,000	.28	2,800

A brief explanation of this table may be necessary. Thus, taking the first line of the table, it appears that, if the owner of a fireproof building worth $1,000,000 insures only 15 per cent of its value, the amount of insurance will equal $150,000; the rate is assumed, as found by the schedule, is 100 cents per $100 of insurance, or 1 per cent, and the total premium paid by the owner would be $1,500. Suppose now that a property owner agrees to insure 20 per cent of the value of the building. According to the table the universal mercantile schedule will permit the extra $50,000 to be taken at a rate equal to only 45 per cent of the rate on the preceding $150,000 of insurance.

The problem now is to compute the rate on $200,000 of insurance. This may be found in the following way: The $150,000 of insurance we saw required a premium paym

(Continued on Page Two.)