THIRD ANNUAL REPORT

OF

THE FIRE MARSHAL

FOR THE

PROVINCE OF BRITISH COLUMBIA

1925

STATISTICS, 1924

PRINTED BY
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1925.

To His Honour WALTER CAMERON NICHOL,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present the Third Annual Report of the Fire Marshal for the year ended December 31st, 1924.

A. M. MANSON,

Attorney-General.

Victoria, B.C., March 31st, 1925.

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REPORT OF FIRE MARSHAL.

OFFICE OF FIRE MARSHAL,
VANCOUVER, B.C., March 31st, 1925.

The Honourable A. M. Manson, K.C.,
Attorney-General, Victoria, B.C.

SIR,—I have the honour to submit my third annual report as Fire Marshal, covering the work of the year ended December 31st, 1924.

The work of this office in the field of advice, inspection, investigation, and inquiry has been actively carried on with the co-operation and assistance of Mr. A. A. MacDonald, Deputy Fire Marshal, and the 120 local assistants reporting.

The fire records which are a part of this report have been compiled and tabulated by Miss Williamson, assisted by Miss McKeating, of the office staff.

One thousand six hundred and eighty-two fires occurred during the year, involving a property loss of $4,050,448, a decrease of $179,469, as compared with 1923.

In comparing our losses for 1924 with those of other years, it is only fair to note that there has been a large increase in values over previous years, both in stocks carried and in buildings. So that a casual reading of these figures will not show the whole story of the benefit derived from the organized fire-prevention work that has been carried on throughout the Province. In addition to this fact, we should consider the improved system of collecting fire reports. In other years many fires occurring in outlying districts were never reported, whereas to-day, with 120 local assistants in our cities, towns, and villages reporting every month, and the Provincial Police Force covering the unorganized districts, we feel that our records are complete.

A study of Table IV. gives some idea of the effect of fire losses on the industrial and home life of our people. In this Province we find that fires in industrial plants, which under ordinary conditions employ a large number of wage-earners, caused a loss amounting to $2,031,365, or about 50 per cent. of our entire loss for the year. This, of course, carries with it a serious economic loss in wages, profits, and business that can only be estimated.

During the year 973 homes were destroyed, valued with their contents at $926,908, or nearly 25 per cent. of our entire loss. In the case of the homes our records show that not more than 60 per cent. of this loss is covered by insurance. Five of the six deaths reported, four children and one adult, occurred in dwellings.

Eighteen schools were burned, with a total loss of $56,262. Five of these fires were found to be of incendiary origin and occurred in the Doukhobor districts, with a loss of $11,350.

In view of these facts I think we must agree that the burden of our excessive fire loss rests most heavily on those who can least afford it; i.e., the wage-earners and small-home owners.

In attempting to cope with this situation, the work of inspection has been thoroughly organized and a system of monthly inspections is enforced. Each month reports are required showing the number of inspections made and orders issued. During 1924 49,677 inspections were made and 5,304 hazards to life and property were found and orders issued to remove them. From these orders seventy-seven appeals were made to the Fire Marshal under section 20 of the Act. All were investigated and in all but one case satisfactory adjustments were made. The exception was an appeal from the finding of the Fire Marshal to the County Court and was decided in favour of the appellant.

The result of this work has been a marked improvement in conditions and a decreased number of fires in the inspected districts. It has, however, been found to be both a physical and financial impossibility to extend this work to the homes and, to a large extent, to the outlying industrial districts.

In the industrial field trained men are not available for the work. Considerable advance has been made, however, in this particular branch. Co-operating with the insurance engineers, surveys have been made and advice given. In many cases the results have been excellent. As noted in my report of last year, we feel that the serious problem of how to reduce the hazard of

the refuse-burner has been solved by the installation of the "down-draught" type. Four of these have been installed during the year and are giving excellent service, both from the standpoint of efficiency and cost of upkeep.

In many cases old and disused buildings are being replaced by new and up-to-date plants constructed on fire-resistive and fire-prevention lines. Better fire-protection is being provided by the installation of sprinkler systems and other modern appliances. A notable case is the action of the mill-owners located on False Creek, Vancouver, who have agreed to pay for a much-needed fire-boat to be maintained by the city. As a result of this action a reduction of 10 per cent. in insurance rates has been granted by the British Columbia Underwriters' Board. This sort of co-operation will get results.

Realizing the great need of reaching the homes of our Province with a fire-prevention message, a committee of insurance-men representing all the insurance interests of the Province, including the agents, was formed. It was decided to conduct a campaign of education throughout the schools. With the co-operation and assistance of the Department of Education, fire-prevention literature was placed in the hands of the teachers for the use of the children, who were asked to write essays on the subject of fire-prevention or to submit drawings for fire-prevention posters. The response was excellent. Thousands of children were reached and hundreds of papers were handed in. Of these, the best were selected by the various principals and submitted to the committee. From these, thirty-one were selected as being of outstanding merit and gold and silver medals with diplomas were awarded to the successful contestants. With your kind approval, I had the privilege and pleasure of contributing to the fund and assisting in this work. Its value cannot be estimated in terms of money, but should it result in the saving of one life and one home it is worth while.

The work of providing fire-protection for cities and towns has not been neglected. There has been a very considerable advance along this line. The capacity of storage-reservoirs has been increased and larger mains installed. New fire-halls have been built and new and up-to-date equipment purchased. The personnel and morale of the men of the departments has been greatly improved in some cities. One result of this is seen in a reduction of from 10 to 20 per cent. in insurance rates in the cities and towns making improvements. The requests for advice and assistance along these lines have been many and such has been gladly given.

The relation of building construction to our fire losses is brought to our attention in Table II. It will be noted that our loss in fire-resistive buildings was $557; in brick- and concrete-joisted buildings, $438,692; and in frame buildings, $3,611,199. It must be conceded, of course, that the percentage of frame buildings over the other types is very great, but the fact remains that fires originating in a brick or concrete building are as a rule confined to the place of origin without serious damage to the building, whereas in frame buildings they usually result in a total loss of building and contents. On this point I have a report from Mr. A. J. Bird, Building Inspector and Assistant Fire Marshal for Vancouver City, which is of interest. He states that since 1922 there has not been a serious fire in a building constructed under the present building by-law. In all cases where a fire occurred it was confined to the point of origin, with but little damage to the building. These facts should receive serious consideration from some of our City Councils who are prone to let down the restrictions and permit the repair or rebuilding of wooden buildings within the first fire limits.

Requests for advice as to proper methods of handling and shipping explosives have been received during the year, with particular reference to the Port of Vancouver. In this connection I called to my assistance Lieutenant-Colonel F. E. Leach, of the Dominion Bureau of Explosives, and Inspector D. W. McNabb, of the Bureau of Explosives for the United States and Canada. Together we made a thorough survey of the methods used in handling, packing, and shipping explosives in this Province. Every assistance was given by local officials of the Canadian Pacific and Canadian National Railways and by the manufacturers. We found that great care is used in the handling and shipping of dynamite and powder; only experienced men are employed in the work. The most modern methods of packing and shipping are in use. All rules and regulations of the Railway Board governing the matter of loading, packing, and transportation are fully carried out. While the location of the transfer-wharf on the Vancouver water-front is not ideal, yet, in view of the careful methods used, we feel that the situation is reasonably safe and the cost of providing an explosives-wharf in another location would not at the present time be justified. The local by-law in force in the City of Vancouver governing the handling and transportation of explosives within the city is an excellent one and is being rigidly enforced.

The situation with reference to the handling and storage of fire-crackers and other explosives of this nature was not found so satisfactory. No regulations other than those of the Dominion Bureau of Explosives were in force and they did not quite cover the local situation. In view of this fact I ventured to recommend that the "Fire Marshal Act" be amended, giving the power to make regulations to control the situation. This was done at the last session and regulations will be submitted for your approval in due course.

The matter of the proper regulating of the storage of gasolene and other hazardous liquids has received careful consideration during the year. A meeting of all interested parties was called in my office and as a result regulations will be submitted for your consideration and approval at a later date.

The danger to life and property in the home, due to the use of the dangerous nitro-cellulose films by children, has received attention and regulations are being prepared under authority of the amendment passed at the last session.

In concluding, I wish to express my warm appreciation of the work done by the Local Assistant Fire Marshals during the year. Many of these men are volunteers and do not receive any remuneration from their respective Councils. Others are municipal officers who have taken on the work with no increase in salary. Yet in spite of this fact, with the possible exception of two or three, they are doing faithful and efficient work in protecting the lives and property of our citizens.

Thanks are also due to Colonel J. H. McMullin, Superintendent of Provincial Police, and the officers and men of his force for valuable assistance rendered in investigating fires and acting as Assistant Fire Marshals in unorganized districts.

I have the honour to be,

Sir,

Your obedient servant,

J. ALFRED THOMAS,

Fire Marshal.

TABLE I.—INSPECTIONS MADE AND ORDERS ISSUED BY ASSISTANT FIRE MARSHALS.

Name.	Inspections.	Orders.
City Municipalities (34).		
Alberni	.....	.....
Armstrong	58	4
Chilliwack	24	17
Courtenay	2	4
Cranbrook	344	109
Cumberland	60	35
Duncan	1,110	5
Enderby	47	.....
Fernie	29	18
Grand Forks	6	3
Greenwood	8	.....
Kamloops	561	11
Kaslo	.....	.....
Kelowna	30	8
Ladysmith	.....	.....
Merritt	57	78
Nanaimo	735	15
Nelson	908	135
New Westminster	554	58
North Vancouver	175	55
Phoenix	.....	.....
Port Alberni	.....	.....
Port Coquitlam	11	1
Port Moody	62	16
Prince George	306	109
Prince Rupert	328	129
Revelstoke	307	29
Rossland	425	290
Salmon Arm	.....	.....
Slocan	.....	.....
Trail	130	5
Vancouver	28,301	3,243
Vernon	113	36
Victoria	8,382	384
Totals	43,073	4,797
District Municipalities (29).		
Burnaby	148	51
Chilliwack	77	.....
Coldstream	.....	.....
Coquitlam	5	2
Delta	35	6
Esquimalt	43	31
Fraser Mills	90	.....
Kent	2	.....
Langley	16	6
Maple Ridge	4	.....
Matsqui	18	.....
Mission	47	.....
North Cowichan	155	62
North Vancouver	.....	.....
Oak Bay	155	6
Peachland	1	.....
Penticton	97	22
Pitt Meadows	26	1
Point Grey	170	83
Richmond	19	.....
Saanich	41	15
Salmon Arm	2	.....
South Vancouver	4,602	95
Spallumcheen	.....	.....
Sumas	.....	.....
Summerland	22	11

TABLE I.—INSPECTIONS MADE AND ORDERS ISSUED BY ASSISTANT FIRE MARSHALS—*Continued.*

Name.	Inspections.	Orders.
District Municipalities—Continued.		
Surrey	.....	.....
Tadanac	.....	.....
West Vancouver	30	4
Totals	5,805	395
Village Municipalities (4).		
Abbotsford	1	1
Burns Lake	30	12
Mission	218	24
Smithers	8	.....
Totals	257	37
Fire Districts (19).		
Anyox	7	.....
Burns Lake	25	10
Hazelton	.....	.....
Hedley	.....	.....
Ioco	1	.....
Kimberley	16	6
Lucerne	2	2
Oliver	.....	.....
Pacific Mills, Limited	.....	.....
Port Essington	.....	.....
Powell River	365	.....
Princeton	1	8
Quesnel	8	3
Sandon	.....	.....
Stewart	21	1
Telkwa	39	13
Terrace	33	21
Union Bay	15	11
Vanderhoof	9	.....
Totals	542	75
Grand totals	49,677	5,304
Grand totals, 1923	40,573	5,468

TABLE II.—FIRES REPORTED.

Districts reporting.	Number.	Amount of Loss.
City Municipalities (34).		
Alberni	.....	.....
Armstrong	2	$ 395
Chilliwack	4	5,072
Courtenay	1	1,400
Cranbrook	13	77,116
Cumberland	6	1,925
Duncan	4	225
Enderby	.....	.....
Fernie	14	19,818
Grand Forks	1	154
Greenwood	.....	.....
Kamloops	2	1,733
Kaslo	.....	.....
Kelowna	12	18,117
Ladysmith	11	22,551
Merritt	6	11,029
Nanaimo	31	8,659
Nelson	22	7,519
New Westminster	41	32,799
North Vancouver	23	3,397
Phoenix	.....	.....
Port Alberni	7	9,436
Port Coquitlam	10	69,761
Port Moody	5	4,975
Prince George	4	8,700
Prince Rupert	12	4,345
Revelstoke	19	25,740
Rossland	19	25,085
Salmon Arm	1	4,956
Slocan	.....	.....
Trail	9	2,757
Vancouver	427	1,162,267
Vernon	27	98,150
Victoria	165	61,872
Totals	898	$1,689,953
District Municipalities (29).		
Burnaby	39	$ 65,042
Chilliwack	11	35,468
Coldstream	1	500
Coquitlam	9	56,837
Delta	10	23,337
Esquimalt	17	69,123
Fraser Mills	1	794
Kent	2	4,300
Langley	21	47,186
Maple Ridge	11	20,208
Matsqui	11	36,906
Mission	6	32,861
North Cowichan	3	4,824
North Vancouver	16	30,132
Oak Bay	18	587
Peachland	1	325
Penticton	10	10,808
Pitt Meadows	.....	.....
Point Grey	49	37,796
Richmond	20	118,310
Saanich	38	59,764
Salmon Arm	1	7,500
South Vancouver	67	37,420
Spallumcheen	2	3,283
Sumas	1	35
Summerland	3	576

TABLE II.—FIRES REPORTED—*Continued.*

Districts reporting.	Number.	Amount of Loss.
District Municipalities—Continued.		
Surrey	26	$ 52,869
Tadanac	2	13,200
West Vancouver	15	11,799
Totals	411	$ 781,790
Village Municipalities (4).		
Abbotsford	1	$ 352
Burns Lake	1	25
Mission	4	20,020
Smithers	4	9,523
Totals	10	$ 29,920
Fire Districts (19).		
Anyox	.....	.....
Burns Lake	2	$ 2,064
Hazelton	1	3,000
Hedley	.....	.....
Ioco	4	2,807
Kimberley	.....	.....
Lucerne	1	2,000
Oliver	.....	.....
Pacific Mills, Limited	2	708
Port Essington	.....	.....
Powell River	4	3,295
Princeton	1	1,631
Quesnel	4	4,585
Sandon	.....	.....
Stewart	3	14,710
Telkwa	.....	.....
Terrace	2	1,850
Union Bay	4	14,473
Vanderhoof	2	7,756
Totals	30	$ 58,879
Unorganized Districts (15).		
Boundary	13	$ 23,055
Fort George	11	90,988
Fort St. John	5	8,100
Hazelton	9	6,349
Kamloops	22	97,413
Kootenay, North-east	17	27,957
Kootenay, South-east	38	269,618
Kootenay, West	25	176,431
Lillooet	9	25,054
Nanaimo	68	209,991
Prince Rupert	8	22,804
Vancouver-New Westminster	40	315,854
Vernon	20	62,388
Victoria	35	36,055
Yale	13	117,849
Totals	333	$1,489,906
Grand totals	1,682	$4,050,448

NOTE.—Construction of buildings—

Fire-resisting	1,	loss	$ 557
Brick or concrete	144,	,,	438,692
Frame	1,537,	,,	3,611,199
	1,682,	,,	$4,050,448

TABLE III.—CAUSES OF FIRES.

Causes of Fires.	Number.	Amount of Loss.
Ashes against wood	26	$ 8,682
Boiler or boiler-pipes insufficiently protected	2	5,230
Burning paint off wall	1	30
Candle carelessness	7	4,117
Canned heat exploded	1	55
Canned heat upset	1	89
Carburettor back-firing	4	1,755
Clothes too near lamp	1	30
Clothes too near open fire	4	85
Clothes too near smoke-stack	1	10
Clothes too near stove or stove-pipe	19	8,572
Coal-gas explosion	3	17,630
Coal-oil carelessness	4	1,851
Coal-oil explosion	2	811
Coat falling on exhaust-pipe of gasolene-engine	1	25
Curtains from candle	1	8
Curtains from lamp	1	561
Curtains from stove	3	580
Cushion falling against stove	1	5
Defective boiler	1	103
Defective Buntzen burner	1	202
Defective burner on vulcanizing-mould	1	20
Defective chimney	100	213,980
Defective exhaust-pipe	1	60
Defective film	1	145
Defective fireplace	28	1,820
Defective furnace or furnace-pipe	6	19,560
Defective gas connection	1	148
Defective hot-air pipe	2	20
Defective machine	1	352
Defective oven	2	785
Defective radiator	2	98
Defective rubbish-burner	1	130
Defective stove or stove-pipe	48	95,949
Defective wiring	24	106,793
Dust explosion	2	67
Electrical appliances	36	2,248
Exposure	155	444,958
Fire-crackers	3	34
Fumigation	3	871
Furnace insufficiently protected	4	22,253
Gas-heater upset	1	72
Gasolene carelessness	16	39,422
Gasolene explosion	3	5,890
Gasolene leaking on exhaust-pipe	1	300
Grease on stove	8	480
Hot-air register igniting woodwork	1	35
Hot box	3	30,237
Hot poker on floor	2	12
Incendiary	24	41,804
Incubator-trays too near furnace	1	514
Lamp explosion	6	2,926
Lamp upset	9	13,762
Lantern upset	4	10,978
Lightning	4	10,678
Live coals	18	1,088
Lubricating-oil falling on exhaust-pipe	1	14,000
Match carelessness	49	45,759
Matches, children with	26	13,280
Matches, mice with	14	11,375
Oil leaking over locomotive furnace	1	200
Oil-stove explosion	3	11,433
Oil-stove upset	5	2,954

TABLE III.—CAUSES OF FIRES—*Continued.*

Causes of Fires.	Number.	Amount of Loss.
Overheated steam-pipe	1	$ 227
Paper from electric globe	1	12
Paper from fireplace	1	47
Paper from stove	2	33
Pressure-tank exploded	1	270
Short circuit	43	105,536
Smokers' carelessness	137	553,325
Sparks from boiler	2	28,000
Sparks from burning rubbish	12	16,359
Sparks from bush fire	30	93,063
Sparks from chimney	261	223,027
Sparks from Dutch oven	4	16,469
Sparks from engine	13	42,152
Sparks from fire-box	2	5,958
Sparks from fireplace	53	31,560
Sparks from forge	3	1,714
Sparks from furnace	8	61,289
Sparks from generator	1	7,715
Sparks from locomotive	7	114,712
Sparks from mill burner	34	151,631
Sparks from motor	1	50
Sparks from oven	1	35
Sparks from smoke-stack	1	2,672
Sparks from stove or stove-pipe	38	68,685
Spontaneous combustion	46	535,035
Steam-pipes too near ceiling	1	104
Stove explosion	1	18
Stove or stove-pipe insufficiently protected	83	120,264
Sun's rays on glass	1	44,948
Tar boiling over on stove	5	710
Thawing pipes	9	1,314
Unknown	160	590,259
Varnish boiling over on stove	1	96
Wax melting on stove caught fire	1	46
Wood too near stove	11	15,192
Totals	1,682	$4,050,448

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES.

Property.		Causes.		Amount of Loss.	
Apartments	34	Defective chimney	2	$ 300	
		Defective fireplace	3	354	
		Defective stove	1	5	
		Electrical appliances	1	10	
		Exposure	12	8,116	
		Furnace-pipe insufficiently protected	1	22,000	
		Incendiary	1	18	
		Match carelessness	1	1,593	
		Matches, children with	1	225	
		Paper from electric globe	1	12	
		Smokers' carelessness	6	1,855	
		Sparks from chimney	2	982	
		Sparks from fireplace	1	2,192	
		Spontaneous combustion	1	973	
					$ 38,635
Automobiles	87	Carburettor back-firing	4	$ 1,755	
		Exposure	25	15,828	
		Gasolene carelessness	4	700	
		Gasolene explosion	2	240	
		Gasolene leaking on exhaust-pipe	1	300	
		Incendiary	2	1,175	
		Match carelessness	4	1,501	
		Oil-stove explosion	1	250	
		Short circuit	21	5,986	
		Smokers' carelessness	8	1,078	
		Sparks from bush fire	3	220	
		Unknown	12	6,008	
					35,041
Bakeries	5	Defective oven	1	$ 85	
		Exposure	1	130	
		Stove insufficiently protected	1	213	
		Unknown	1	650	
		Wood too near stove	1	2,098	
					3,176
Banks and offices	1	Defective chimney	1	.....	973
Barns	52	Ashes against wood	1	$ 10	
		Coal-oil explosion	1	600	
		Exposure	4	4,528	
		Lantern upset	4	10,978	
		Match carelessness	2	1,947	
		Short circuit	2	17,667	
		Smokers' carelessness	4	4,892	
		Sparks from burning rubbish	2	1,343	
		Sparks from bush fire	2	1,963	
		Sparks from chimney	2	2,309	
		Sparks from locomotive	1	675	
		Sparks from stove	1	1,488	
		Spontaneous combustion	10	32,275	
		Stove insufficiently protected	1	14	
		Unknown	15	44,836	
					125,525
Barns and stables	3	Sparks from bush fire	1	$ 600	
		Sparks from locomotive	1	700	
		Spontaneous combustion	1	3,500	
					4,800
Blacksmith-shops	5	Exposure	1	$ 3,039	
		Match carelessness	1	700	
		Smokers' carelessness	1	600	
		Sparks from forge	1	25	
		Unknown	1	2,750	
					7,114
Boarding-houses	7	Boiler-pipes insufficiently protected	1	$ 5,200	
		Canned heat exploded	1	55	
		Defective fireplace	1	75	

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
		Defective furnace	1	$ 9,000	
		Defective wiring	1	34	
		Electrical appliances	1	10	
		Sparks from burning rubbish	1	2,227	
					$ 16,601
Boat-houses	2	Unknown	2		1,016
Boats	2	Sparks from stove	1	$ 300	
		Tar boiled over on stove	1	165	
					465
Bottling-works	2	Ashes against wood	1	$ 10	
		Short circuit	1	353	
					363
Bowling-alleys	1	Exposure	1		1,750
Bunkers	1	Spontaneous combustion	1		700
Bunk-houses	5	Match carelessness	1	$ 75	
		Smokers' carelessness	1	2,150	
		Sparks from bush fire	1	1,283	
		Sparks from stove	1	1,500	
		Stove insufficiently protected	1	4,059	
					9,067
Canneries	3	Exposure	1	$ 28,500	
		Sparks from chimney	1	45,905	
		Unknown	1	2,000	
					76,405
Chicken-houses	14	Ashes against wood	3	$ 390	
		Coal-oil explosion	1	211	
		Incubator-trays too near furnace	1	514	
		Lamp explosion	1	9	
		Live coals	1	175	
		Matches, children with	1	5	
		Smokers' carelessness	2	100	
		Sparks from chimney	1	585	
		Spontaneous combustion	1	125	
		Unknown	2	250	
					2,364
Churches	3	Defective chimney	1	$ 25	
		Exposure	1	145	
		Match carelessness	1	20	
					190
Cleaning establishments	2	Spontaneous combustion	2		431
Clubs	6	Defective chimney	2	$ 7,472	
		Exposure	1	75	
		Smokers' carelessness	1	4	
		Sparks from chimney	1	39	
		Unknown	1	2,000	
					9,590
Cold-storage plants	1	Steam-pipes too near ceiling	1		104
Convents	1	Electrical appliances	1		50
Cooperages	3	Defective wiring	1	$ 62,601	
		Incendiary	1	6,600	
		Sparks from Dutch oven	1	20	
					69,221
Coppersmith-shops	1	Live coals	1		278
Dairies	3	Sparks from chimney	2	$ 1,457	
		Unknown	1	200	
					1,657
Dredges	1	Exposure	1		14,000
Dry-cleaning establisments	1	Short circuit	1		123
Dry-kilns	3	Overheated steam-pipe	1	$ 227	
		Sparks from locomotive	1	51,989	
		Unknown	1	2,959	
					55,175
Dwellings	973	Ashes against wood	12	$ 2,769	
		Burning paint off wall	1	30	

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
		Candle carelessness	5	$ 1,602	
		Canned heat upset	1	89	
		Clothes too near lamp	1	30	
		Clothes too near open fire	4	85	
		Clothes too near stove	19	8,572	
		Coal-gas explosion	1	180	
		Coal-oil carelessness	3	1,836	
		Curtains from candle	1	8	
		Curtains from lamp	1	561	
		Curtains from stove	2	174	
		Cushion falling against stove	1	5	
		Defective chimney	82	121,678	
		Defective fireplace	25	9,906	
		Defective furnace or furnace-pipe	4	3,760	
		Defective hot-air pipe	1	15	
		Defective radiator	1	58	
		Defective stove or stove-pipe	39	81,195	
		Defective wiring	14	23,120	
		Electrical appliances	29	2,041	
		Exposure	52	40,877	
		Fire-crackers	3	34	
		Fumigation	3	871	
		Furnace insufficiently protected	2	50	
		Gasolene carelessness	2	422	
		Gasolene explosion	1	2,000	
		Grease on stove	4	136	
		Hot-air register igniting woodwork	1	35	
		Hot poker on floor	2	12	
		Incendiary	11	15,906	
		Lamp explosion	3	1,875	
		Lamp upset	9	13,762	
		Lightning	3	9,700	
		Live coals	15	615	
		Match carelessness	21	25,515	
		Matches, children with	21	12,770	
		Matches, mice with	13	10,293	
		Oil-stove explosion	1	4,500	
		Oil-stove upset	4	2,951	
		Paper from fireplace	1	47	
		Paper from stove	2	33	
		Short circuit	5	4,923	
		Smokers' carelessness	37	12,985	
		Sparks from burning rubbish	3	22	
		Sparks from bush fire	15	12,631	
		Sparks from chimney	227	143,671	
		Sparks from fireplace	48	12,353	
		Sparks from furnace	2	210	
		Sparks from locomotive	1	190	
		Sparks from mill burner	14	3,451	
		Sparks from stove or stove-pipe	32	61,792	
		Spontaneous combustion	8	3,031	
		Stove explosion	1	18	
		Stove or stove-pipe insufficiently protected	65	70,632	
		Tar boiling over on stove	1	175	
		Thawing pipes	7	428	
		Unknown	74	187,042	
		Varnish boiling over on stove	1	96	
		Wax melting on stove caught fire	1	46	
		Wood too near stove	10	13,094	
					$ 926,908
Electrical plants	1	Sparks from burning rubbish	1		1,205
Electrical workshops	1	Pressure-tank exploded	1		270
Engines	2	Defective exhaust-pipe	1	$ 60	
		Unknown	1	875	
					935

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
Factory (biscuit)	1	Match carelessness	1		$ 3,375
Factory (clothing)	1	Exposure	1		18,925
Factory (match)	1	Dust explosion	1		10
Factory (overall)	1	Exposure	1		29,045
Factory (roofing material)	1	Sparks from smoke-stack	1		2,672
Fences	1	Ashes against wood	1		10
Fire-halls	1	Exposure	1		72
Fish-curing plants	1	Sparks from burning rubbish	1		1,708
Fishing-boats	1	Exposure	1		240
Foundries	2	Defective oven	1	$ 700	
		Short circuit	1	15	
					715
Garages	29	Ashes against wood	1	$ 10	
		Defective burner on vulcanizing-mould	1	20	
		Exposure	3	360	
		Gasolene carelessness	2	208	
		Gasolene explosion	1	3,800	
		Match carelessness	1	10	
		Matches, children with	1	250	
		Short circuit	3	2,264	
		Smokers' carelessness	2	1,276	
		Sparks from bush fire	2	247	
		Sparks from chimney	2	1,526	
		Sparks from forge	1	575	
		Sparks from locomotive	1	600	
		Sparks from motor	1	50	
		Spontaneous combustion	2	825	
		Stove-pipe insufficiently protected	1	13,000	
		Unknown	4	690	
					25,711
Garages and dwellings	1	Unknown	1		10,500
Gasolene stations	1	Gasolene carelessness	1		191
Grandstands	1	Exposure	1		175
Greenhouses	2	Boiler-pipes insufficiently protected	1	$ 30	
		Clothes too near smoke-stack	1	10	
					40
Halls	8	Ashes against wood	1	$ 150	
		Defective radiator	1	40	
		Defective stove	1	1,500	
		Defective wiring	1	60	
		Exposure	1	266	
		Smokers' carelessness	3	2,661	
					4,677
Hospitals	2	Defective chimney	1	$ 100	
		Sparks from chimney	1	15	
					115
Hotels	40	Defective chimney	3	$ 49,993	
		Exposure	2	8,820	
		Gasolene carelessness	1	100	
		Grease on stove	1	95	
		Incendiary	1	350	
		Match carelessness	1	60	
		Smokers' carelessness	18	936	
		Sparks from chimney	4	155	
		Sparks from locomotive	1	43,000	
		Sparks from stove	1	3,000	
		Stove or stove-pipe insufficiently protected	4	24,241	
		Tar boiling over on stove	1	195	
		Thawing pipes	1	286	
		Unknown	1	6,000	
					137,231
Incinerators	1	Sparks from furnace	1		700
Launches	6	Candle carelessness	1	$ 2,500	
		Coal-oil carelessness	1	15	

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
		Gasolene carelessness	1	$ 3,100	
		Match carelessness	1	1,200	
		Smokers' carelessness	1	10	
		Unknown	1	800	
					$ 7,625
Laundries	1	Unknown	1	.....	1,500
Logging camps	24	Ashes against wood	1	$ 3,600	
		Exposure	1	52,903	
		Gasolene carelessness	1	12,972	
		Oil leaking over locomotive furnace	1	200	
		Smokers' carelessness	1	10,679	
		Sparks from burning rubbish	1	4,579	
		Sparks from bush fire	2	70,962	
		Sparks from engine	12	33,530	
		Sparks from fire-box	1	2,458	
		Sparks from forge	1	1,114	
		Sparks from locomotive	1	17,558	
		Sun's rays on glass	1	44,948	
					255,503
Lumber-mills	2	Exposure	1	$ 35	
		Spontaneous combustion	1	326,000	
					326,035
Lumber-piles	8	Exposure	1	$ 3,033	
		Smokers' carelessness	1	60,000	
		Sparks from bush fire	2	4,007	
		Sparks from mill burner	2	7,037	
		Unknown	2	13,086	
					87,163
Meat-curing plants	1	Defective boiler	1	.....	103
Mining property	2	Smokers' carelessness	1	$ 3,860	
		Sparks from furnace	1	13,000	
					16,860
Offices	10	Exposure	2	$ 2,500	
		Smokers' carelessness	4	1,309	
		Sparks from chimney	1	5	
		Sparks from mill burner	1	10	
		Unknown	2	3,700	
					7,524
Oil-houses	1	Sparks from mill burner	1	.....	286
Planing-mills	7	Hot box	1	$ 147	
		Match carelessness	1	794	
		Sparks from furnace	1	40,000	
		Sparks from mill burner	2	32,000	
		Unknown	2	26,093	
					99,034
Pool-rooms	1	Defective chimney	1	.....	6,864
Post-offices	1	Exposure	1	.....	11,000
Power-houses	2	Lightning	1	$ 978	
		Lubricating-oil falling on exhaust-pipe	1	14,000	
					14,978
Printing-offices	3	Curtains from stove	1	$ 406	
		Gasolene carelessness	1	812	
		Short circuit	1	114	
					1,332
Railway stations	2	Defective stove-pipe	1	$ 4,756	
		Exposure	1	1,000	
					5,756
Repair-shops	1	Coat falling on exhaust-pipe of gasolene-engine	1	.....	25
Restaurants	12	Defective stove	2	$ 683	
		Exposure	3	7,697	
		Grease on stove	1	111	
		Live coals	1	20	
		Smokers' carelessness	2	53	

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
		Sparks from chimney	1	$ 120	
		Sparks from stove	1	5	
		Stove insufficiently protected	1	500	
					$ 9,189
Rooming-houses	13	Defective chimney	1	$ 75	
		Exposure	2	3,904	
		Smokers' carelessness	9	3,533	
		Spontaneous combustion	1	1,139	
					8,651
Sawmills	36	Dust explosion	1	$ 57	
		Exposure	1	3,033	
		Furnace insufficiently protected	1	203	
		Hot box	2	30,090	
		Short circuit	1	10,500	
		Smokers' carelessness	2	61,085	
		Sparks from boiler	2	28,000	
		Sparks from burning rubbish	1	5,000	
		Sparks from Dutch oven	1	10,000	
		Sparks from furnace	1	5,755	
		Sparks from mill burner	10	101,133	
		Spontaneous combustion	3	104,271	
		Unknown	10	140,567	
					499,694
Schools	18	Coal-gas explosion	1	$ 17,300	
		Defective furnace	1	6,800	
		Defective stove	1	12	
		Grease on stove	1	39	
		Incendiary	5	11,350	
		Match carelessness	3	2,884	
		Sparks from chimney	3	15,106	
		Sparks from furnace	1	1,403	
		Sparks from stove	1	600	
		Spontaneous combustion	1	768	
					56,262
Sheds	13	Ashes against wood	2	$ 50	
		Match carelessness	1	50	
		Matches, children with	1	20	
		Smokers' carelessness	1	30	
		Sparks from burning rubbish	1	150	
		Sparks from chimney	1	350	
		Sparks from oven	1	35	
		Stove insufficiently protected	3	578	
		Unknown	2	174	
					1,437
Shingle-mills	10	Exposure	1	$ 15,303	
		Smokers' carelessness	1	2,799	
		Sparks from bush fire	1	650	
		Sparks from chimney	1	50	
		Sparks from Dutch oven	2	6,449	
		Sparks from generator	1	7,715	
		Sparks from mill burner	1	7,700	
		Unknown	2	33,427	
					74,093
Ships	1	Spontaneous combustion	1	.....	42
Shipyards	2	Smokers' carelessness	2	.....	355,210
Slaughter-houses	1	Sparks from fire-box	1	.....	3,500
Stables	13	Defective wiring	1	$ 435	
		Incendiary	1	300	
		Match carelessness	1	2,000	
		Smokers' carelessness	2	8,510	
		Sparks from burning rubbish	1	125	
		Sparks from bush fire	1	500	
		Sparks from chimney	2	1,746	
		Sparks from engine	1	8,622	

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
		Spontaneous combustion	1	$ 406	
		Unknown	2	1,700	
					$ 24,344
Stores	81	Defective gas connection	1	$ 148	
		Defective rubbish-burner	1	130	
		Defective wiring	4	12,502	
		Electrical appliances	3	105	
		Exposure	12	46,908	
		Gas-heater upset	1	72	
		Incendiary	1	4,705	
		Lamp explosion	2	1,042	
		Match carelessness	3	886	
		Matches, mice with	1	1,082	
		Oil-stove upset	1	3	
		Short circuit	3	4,397	
		Smokers' carelessness	16	15,674	
		Sparks from chimney	5	2,834	
		Sparks from fireplace	1	8	
		Spontaneous combustion	8	44,285	
		Stove or stove-pipe insufficiently protected	5	6,999	
		Tar boiling over on stove	1	115	
		Unknown	12	17,486	
					159,381
Stores and apartments	6	Ashes against wood	2	$ 1,583	
		Defective fireplace	1	25	
		Exposure	1	402	
		Smokers' carelessness	2	185	
					2,195
Stores and dwellings	20	Candle carelessness	1	$ 15	
		Defective chimney	4	13,125	
		Defective stove or stove-pipe	2	5,969	
		Defective wiring	1	5,423	
		Exposure	4	15,470	
		Grease on stove	1	99	
		Match carelessness	1	1,825	
		Smokers' carelessness	1	50	
		Sparks from chimney	1	1,122	
		Sparks from fireplace	1	7	
		Spontaneous combustion	1	13,200	
		Tar boiling over on stove	1	60	
		Unknown	1	55	
					56,420
Stores and hotels	3	Defective chimney	1	$ 14,800	
		Smokers' carelessness	2	565	
					15,365
Stores and offices	5	Defective Buntzen burner	1	$ 202	
		Defective stove	1	1,829	
		Electrical appliances	1	32	
		Exposure	1	2,856	
		Smokers' carelessness	1	528	
					5,447
Stores, offices and dwellings	1	Defective chimney	1	.....	50
Stores, offices, and rooms	1	Coal-gas explosion	1	.....	150
Stores and photographic studios	1	Oil-stove explosion	1	.....	6,683
Stores and restaurants	1	Defective hot-air pipe	1	.....	5
Stores and rooms	15	Ashes against wood	1	$ 100	
		Defective chimney	1	275	
		Exposure	1	2,200	
		Incendiary	1	1,400	
		Match carelessness	1	60	
		Matches, children with	1	10	
		Short circuit	1	82	
		Smokers' carelessness	2	42	

TABLE IV.—CLASSIFICATION OF PROPERTY BURNED AND CAUSES—*Continued.*

Property.		Causes.		Amount of Loss.	
		Sparks from chimney	2	$ 3,300	
		Sparks from fireplace	1	8,500	
		Spontaneous combustion	1	64	
		Stove-pipe insufficiently protected	1	28	
		Unknown	1	3,378	
					$ 19,439
Street-cars	1	Short circuit	1		25
Studios (music)	1	Exposure	1		33
Tanneries	3	Sparks from mill burner	3		14
Telephone exchanges	1	Short circuit	1		50,000
Theatres	5	Defective film	1	$ 145	
		Defective machine	1	352	
		Exposure	1	240	
		Smokers' carelessness	1	489	
		Unknown	1	125	
					1,351
Tug-boats	2	Gasolene carelessness	1	$ 5,000	
		Spontaneous combustion	1	2,500	
					7,500
Warehouses	19	Defective wiring	1	$ 2,618	
		Exposure	7	99,380	
		Gasolene carelessness	1	15,767	
		Match carelessness	2	1,224	
		Short circuit	1	9,087	
		Smokers' carelessness	1	77	
		Sparks from furnace	1	221	
		Spontaneous combustion	1	500	
		Thawing pipes	1	600	
		Unknown	3	80,392	
					209,866
Wharves	3	Exposure	2	$ 2,170	
		Smokers' carelessness	1	100	
					2,270
Totals	1,682		1,682		$4,050,448

TABLE V.—SUMMARY.

	Fires reported.						Amount of Loss.					
	Cities (34).	Municipalities (29).	Villages (4).	Fire Districts (19).	Unorganized Districts (15).	Total.	Cities.	Municipalities.	Villages.	Fire Districts.	Unorganized Districts.	Total.
1924.												
January	74	41	....	1	15	131	$ 129,683	$ 53,194	.....	$ 87	$ 49,505	$ 232,469
February	36	13	1	....	10	60	33,884	23,224	$ 1,950	.....	12,477	71,535
March	83	45	1	5	40	174	162,251	57,817	40	17,973	167,345	405,426
April	91	43	....	4	34	172	85,534	58,593	.....	9,820	149,127	303,074
May	90	41	....	....	37	168	47,577	130,196	.....	.....	283,272	461,045
June	82	28	1	3	22	136	448,161	79,824	4,500	781	164,916	698,182
July	72	30	....	4	36	142	67,570	28,081	.....	1,475	286,028	383,154
August	73	41	1	2	34	151	415,373	138,106	150	2,100	62,397	618,126
September	60	36	2	4	29	131	24,735	50,521	3,525	17,217	84,424	180,422
October	52	21	1	1	18	93	127,961	31,598	4,033	1,631	89,823	255,046
November	60	31	2	2	22	117	21,236	66,558	15,370	2,245	46,942	152,351
December	125	41	1	4	36	207	125,988	64,078	352	5,550	93,650	289,618
Totals, 1924	898	411	10	30	333	1,682	$1,689,953	$ 781,790	$29,920	$ 58,879	$1,489,906	$4,050,448
Totals, 1923	859	372	....	18	300	1,549	1,617,505	1,120,047	.....	38,054	1,454,311	4,229,917
Totals, 1922	934	388	....	19	348	1,689	1,297,245	750,346	.....	27,213	1,177,564	3,252,368
Totals, 1921	844	304	....	....	210	1,358	861,251	595,367	.....	.....	886,350	2,342,968
Totals, 1920	787	219	....	....	176	1,182	1,083,532	644,551	.....	.....	907,449	2,635,532
	4,322	1,694	10	67	1,367	7,460	$6,549,486	$3,892,101	$29,920	$124,146	$5,915,580	$6,511,233

TABLE VI.—LOSS OF LIFE, 1920–24.

Occupancy.	Cause of Fire.	Loss of Life.	
		Adults.	Children.
Barn	Unknown	....	1
Dwelling	Matches, children with	....	2
Dwelling	Match carelessness	....	2
Stores and dwelling	Defective stovepipe	1	....
Totals		1	5
Totals, 1923		5	9
Totals, 1922		8	2
Totals, 1921		10	1
Totals, 1920		12	1

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