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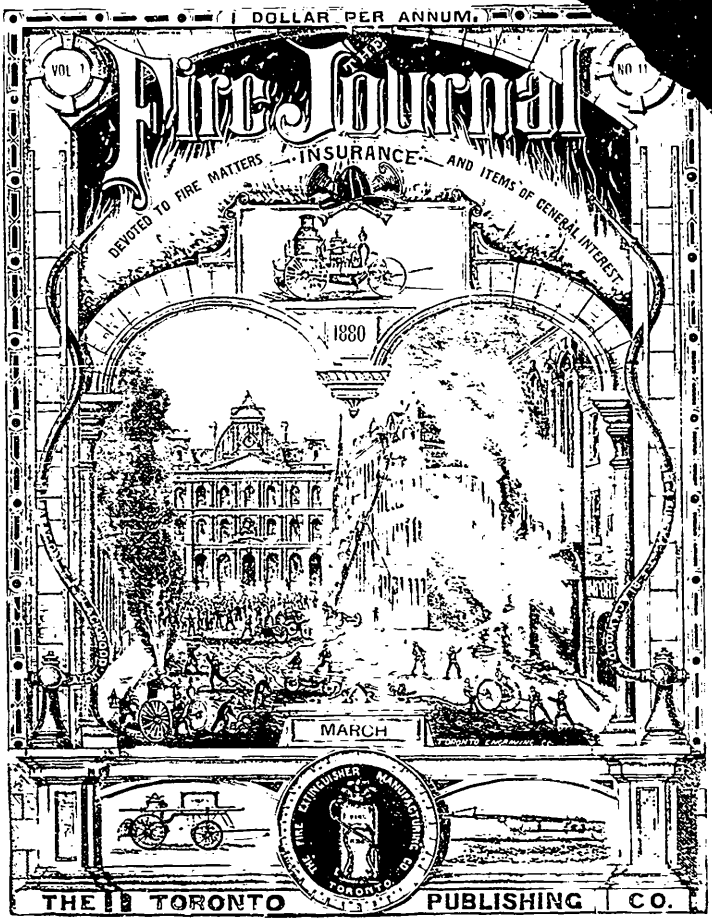
VOL 1

Fire Journal

NO 11

DEVOTED TO FIRE MATTERS — INSURANCE — AND ITEMS OF GENERAL INTEREST



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2937

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(Patented March 23, 1875.) (Re-issued December 19, 1876.)

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TORONTO.

THE FIRE JOURNAL

Vol. I TOPONTO, ONTARIO, MARCH, 1880 No 11.

The Fire Journal

ISSUED MONTHLY.

Subscription Price, Postage Prepaid, One Dollar Per Annum

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Parties wishing to subscribe for THE FIRE JOURNAL may do so by either sending direct to this office or through the following gentlemen, who have kindly consented to act as our agents in their respective localities:—

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Orillia, Ont.—Andrew Black, Phœnix Engine Co.
Whitby, Ont.—Charles King.
Stratford, Ont.—W. C. Bates.

ROBT. G. McLEAN,
17 Adelaide St. E., Toronto.
MANAGER of THE FIRE JOURNAL.

The Losses in Canada for the Last Five Years.

Nearly sixty millions of dollars is the amount stated in the *Chronicle* fire tables as having been lost in Canada through fires during the last five years. Twelve millions a year to feed the flames! A quota equal to the total of our customs revenue A tax on each man woman and child in our country of three dollars per annum A tax that is however, unevenly distributed, and which bears heavily on particular places for the time being, yet one which the community at large eventually shares Not quite twenty-six millions of this loss has been borne by the insurance companies, and it must be borne in mind that these companies stand merely as distributors of the burden, which falls all the same on the industry of the country, except where the loss is borne by foreign insurers. About half of the loss was sustained in 1877, in which year we had the great conflagration at St. John N B The table of totals will shew the sums set down to the others —

	Total Losses.	Total losses to Ins Co's.
1875	$ 8 225 750	$ 4 306 300
1876	9.145.700	3.857.600
1877	29.261.000	10.637 700
1878	5.950.500	3.102 700
1879	7.159 000	3.856 000
Gross Totals....	59.741.450	25.790 300

There is much matter for grave reflection in these figures, and there is probably still more for Canadians in a comparison with those of the United States, which are —

Total losses,	$353,018,285
" " to Ins. Co's.,	192,139,400.

It will be seen that the total losses in Canada bear a *much larger proportion* to those of the United States than is warranted by the difference in the population and wealth of the two countries. And it cannot fail to provoke wonder that the proportion of insurance amongst Canadians is considerably less than on the other side That this should be the fact is not creditable to the good sense of *our business men* And to what can we attribute the relative discrepancy between the totals of the two countries but to the blind carelessness of Canadian communities in the vital matter of fire prevention The figures we have given carry their own tale The gravity of the lesson can be but little enhanced by much writing, and we *trust that such will not be needed* Let those who are interested consider the question from their own stand point The remedy for much of the evil is easily reached.

THE Town of Tilsonburg has just ordered a supply of Eureka Seamless Cotton Hose being determined to have the very best appliances for the extinguishment of fires

IN noticing the report of the *Gore Mutual* in our last number a typographical error made us say *gross* instead of *loss* as being the cost of insurance in favor of that company as compared with ordinary stock *companies*

THE Corporation of Smith's Falls have just closed a contract with Mr T F. Blackwood, to supply *them* with the Seamless Cotton Hose made by the Eureka Fire Hose Co., as their experience of Rubber has proved *most unsatisfactory.*

THE questionable efforts of Bedfield & Hill, a New York law firm, to place the Knickerbocker Life Insurance Company in the hands of a receiver have been defeated This law firm whose connection with *insolent insurance companies* is somewhat notorious, applied a few weeks ago to the New York Supreme Court for Matilda Hahn, a policy holder of the Knickerbocker Life Insurance Company to put the company in the hands of a receiver The motion was opposed by the Attorney-General The court reserved its decision until the other day *when it formally refused* the application.

Special Risks in Canada.

To the *Chronicle* we are indebted for a table of specials that is remarkably comprehensive, and, we have no doubt from the character of the journal, equally correct.

Before proceeding to extract from its figures, matters bearing solely on Canadian interests, we quote the following for the purpose of after comparison

The fires observed and reported during the five years damaged or destroyed in U S. and Canada *26,372* special risks The proportion to this number in which some of the most hazardous r sks were burned may be set forth as follows —

Character of Risks Burned	Number Burned	Ratio to Whole Number
1. Hotels, liquor stores, restaurants and billiard saloons,	1561	14.46
2. Saw planing and shingle mills, sash and blind, stave,	661	17.99
3. Grocery stores,	410	11.12
4. Tobacco manufactories, cigar factories,	181	4.91
5. Flouring, and grist mills, grain elevators and ware-	167	4.53
6. Cotton mills, warehouses and dyes, woolen, shoddy,	37	1.00
7. Churches, school houses, public halls and public	131	3.55
8. Drug stores	85	2.31
9. Newspaper offices, printing and lithographing estab-	110	2.99
	61	1.78

In Canada only the figures for above risks are as follows —

	Number burned	Ratio
1	633	14.46
2.	661	17.99
3.	410	11.12
4.	181	4.91
5.	167	4.53
6	37	1.00
7.	131	3.55
8.	110	2.99
9	61	1.78

The most noticeable feature of difference in the two tables is that of grocery stores. We note the comparison cannot be closely made as the principal items are disproportionately located Nos 7 8 and 9 compare favorably for Canada

For all remark we cannot do better than quote the closing sentence of the *Chronicle*:

This list furnishes, especially to property owners convincing proof that risks classified as hazardous are hazardous and that the man who is his own insurer is like unto the lawyer whose client is himself

...ual issue the annual ... Company as laid before the ...lders in December last we referred ...its suffering severely from losses during the past year in connection with most other companies The information contained in the annual report is rather meagre There is a combining together of several items of expenditure and liability in such a manner as to render it difficult properly to analyze it without further knowledge of the details which we were unable to procure. One thing is evident to the most casual observer of the statement given, and that is that the capital stock of the company is seriously impaired. This is the result of a long continued series of fire losses the Company has sustained. The history of the Company as to losses is a very disastrous one, but its record in regard to the payment of every just claim with promptitude and liberality, is one of which, in the midst of misfortune, they may justly feel proud of.

The great mistake this Company made at its very inception was the rushing wildly into fire risks of every description, and extending its business over too large a territory, rendering it difficult, if not impossible, for the head office, at Hamilton, properly to supervise so large a volume of business. This is specially true of that part of it coming from the maritime provinces. Had the company been satisfied at first with doing a smaller, and consequently a safer business in their own province, where the character of the assured and other circumstances connected with the nature of the risk incurred could be more easily and definitely ascertained, the Canada Fire would to-day be in a much better position than it is. We feel sure that the principal losses of the Company *have been incurred at points so distant from* the head office as to render inspection and supervision almost impracticable. The Canada Fire was the first company that introduced into Canada the American system of allowing the agents of the company to write the policies issued at their respective agencies. There are many advantages to a company a head office in seeing the application by which an insurance is effected before a policy is issued Under this system all the manager has to guide him in judging of the risk, is the wording of the policy in the shape of a *Daily Report* sent by the agent. It is always a matter of annoyance to the assured to have his policy cancelled, and knowing this to be the case, many policies issued in the way referred to on very doubtful risks, are allowed to stand rather than incur this odium Had the application been first submitted for approval to the head office, no such feeling or difficulty in regard to declining the risk would be felt, as an interim receipt only had been issued pending the acceptance or non-acceptance of the application

The present condition of the Canada Fire renders wise and prudent management absolutely necessary. No time should be lost in curtailing business at points where experience proves it to be unremunerative. We very much fear that the present manager of the company, however successful he may have been as a merchant, has not had sufficient training in the business of fire insurance to enable him successfully to manage the Company and extricate it from the unpleasant position in which it is now placed. With an experienced and practical insurance man as manager, unfettered by a board of directors, in regard to matters of detail, who usually are quite innocent of knowing much about the business of successful underwriting, the Canada Fire might very soon be placed in a position to merit and share public confidence

Perhaps the most serious obstacle to the attainment of this end is the reported action taken by the principal shareholders of the company, known as the "*syndicate*," in unloading themselves by transferring *for a consideration*, the greater part of their stock to the managing director, who is now said to hold in his own name about $480 000 of the capital stock of the Company, being nearly one-half of the whole. If this report is true, it cannot help affecting the company very seriously indeed. We will be glad to learn that such is not the case, and until we do know definitely how the matter stands, we refrain from saying anything further in reference to its effect on the Company's future prospects.

The articles in reference to some of the other Companies, crowded out this month, will appear in our next issue.

Report of the Inspector of Insurance for Ontario.

We have received a copy of this report, which is compiled from the returns made by the several companies to the Government for the year 1878. The report embraces, besides the fifty-four Mutuals, such of the Stock Companies as confine their business to the Province of Ontario, comprising the Mercantile, of Waterloo, the Queen City, of Toronto, the Standard, of Hamilton, the Union, of Toronto (formerly of Ottawa) and the London Life and Accident Co., of London, Ont. This report is principally valuable as a means of comparison between the reports of the several companies, as made to the Government for 1878, and those made under the surveillance of a Government Inspector of Insurance for 1879. We have already expressed our approval of the appointment by the Government of such an officer, and we believe the selection made has been a judicious one. Dr. O Reilly has a thorough knowledge of mutual insurance—a qualification absolutely indespensable to an intelligent analysis of mutual insurance accounts. From the report we learn that in 1879 fifty-four companies in all reported to the Government.

Joint Stock Life and Accident Company	1
Joint Stock Fire Companies	5
Mixed Mutual and Cash Fire Companies	8
Purely Mutual Fire Companies	41
Total	54

We will have something to say of the Stock Companies in a future number, confining our remarks at present to the Mutuals. The inspector has separated the cash and premium note assets of each company to show the proportion which the latter bear to the company's liability under that kind of assets. This class of security to policy holders varies from one half per cent. to 103 per cent. This test of a company's solvency is not an infallible one. A company confined exclusively to the insurance of farm and other non-hazardous property requires relatively a much less ratio of premium note assets to the amount at risk than does a company insuring mercantile and manufacturing risks.

Mutual Insurance Companies afford security to the public in the *proportion which the amount of the premium note or undertaking bears to the amount at risk*, reference being had to the class of property insured, whether hazardous or otherwise. Another test of the security of a mutual insurance company is the ratio which its premium note, or any given risk, hazardous or non-hazardous, bears to the cash premium ordinarily charged by a first-class stock company. In every well conducted mutual fire insurance company this ratio is made sufficiently large to afford the assurer ample security under ordinary circumstances. Persons insuring on the mutual system should not object to the *amount* of the undertaking The larger it is the better the security. The losses of a mutual company are met by an assessment on premium notes. An assessment of *ten per cent.* on a note of $100 requires but an assessment of *five per cent.* on a note of $200 to raise the same amount. In each case the assessment amounts to $10, while the security to the assured is in the latter case double that of the former. There is a class of mutuals, as we intimated in a previous number, that have made a new departure from the sound and safe principles of the older mutuals in this respect. The companies to which we refer take a note or undertaking equal to the cash premium usually charged by a stock company, and collect eighty per cent. of said note, the remaining twenty per cent being for purposes of assessment if required One of the companies doing this wild-cat insurance—the Reliance Mutual—has already gone under. Another of the same class, and organized by the same speculative gentleman—the Empire Mutual —has been closed by the Government by order in council, as has been another of the same class in Ottawa, under the high-sounding name of the Imperial Hand-in-Hand. Another of the same batch the Royal Mutual—has ceased to exist, and so they go. The Phœnix Mutual, of this city, we understand, does business on the same principle with those we have just been describing, but fortunately for both the company and its

patrons, it has been conducted with greater care and sustained fewer losses in the early stages of its existence than did the others Would any same man insure in a stock company having no subscribed or paid up capital, that has nothing beyond its cash premiums to rely upon to meet its obligations. A company without any such capital, that collected the *full* premium in cash, would afford the assured much better security than a company which only collected four-fifths of the premium, the remaining fifth being in the shape of a premium note which might or might not be collectable. The Insurance Inspector we have no doubt will rectify such matters as these He has already made a good beginning.

We would draw the attention of the inspector to another class of companies, *some of which* we conceive are not keeping within either the letter or the spirit of the law. A few years ago an act was passed by the Legislature of Ontario, which authorized mutual insurance companies to do a *limited* cash business. The limit fixed by law is, that the cash premium of a mutual fire insurance company *shall not exceed its premium note income* of the same year. It will be seen from the following tabulated statement, taken from the Inspector's report, how this limit is observed by the companies designated as "Mixed Mutual and Cash Fire Companies."

For the Year 1878		Premium Note Income.	Cash Income.
Canada Farmer's Mutual.	Hamilton.	$21,409 36	$17,913 39
Gore District Mutual.	Galt.	27,584 81	23,918 06
Ontario Mutual.	London.	1,547 62	6,530 03
Ontario Farmer's Mutual.	Whitby.	4,510 78	697 01
County of Perth Mutual.	Stratford.	1,876 09	1,833 98
Prince Edward Co. Mutual	Picton.	7,969 40	2,421 39
Victoria Mutual.	Hamilton.	37 168 48	19,213 40
Waterloo County Mutual.	Waterloo.	61,877 29	22,613 49

Fire Insurance Adjusters' Association.

The adjourned annual meeting of the Fire Insurance Adjusters Association was held on Monday last in the building of the British America Assurance Co, when the following gentlemen were elected office bearers for the current year :—President, Mr. Robert McLean, Scottish Commercial, 1st Vice-President, Mr. Jas. Spier, L. London & Globe, and do, Mr James Pringle, Western Assurance Co Executive Committee.—Messrs. Joseph B. Reed, L. L. & Globe, Toronto, Francis Berry, Quebec Insurance Co, Toronto, J. B Hughes, Waterloo Mutual, Waterloo, Wm. Henderson, Hartford Insurance Co, Toronto, and F R Despard, Dominion Insurance Co, Hamilton.

We are pleased to learn that the members of this Association are determined to become better acquainted with each other, and secure if possible more uniformity in dealing with the vexed question of non-concurrent policies. We wish the Association every success, and will be glad to learn that every member of the honorable profession of Insurance Adjusters in Ontario and Quebec are members of it.

Toronto Fire Hose Purchase.

A sub-committee of the Toronto Corporation has lately recommenced the purchase of several thousand feet of fire hose, and the recommendation now only wants the sanction of the executive committee This sanction should not be granted till some explanation is offered of a change of opinion, which is as re narkable as it is at present inexplicable.

Turning to the reports in the city press of the discussion in committee of a former purchase, in 1878, we find a question was propounded to the chairman as to what was the reason that the lowest tender, then under consideration, was not accepted This was a tender from the same firm, and for the same article, which is now accepted. The reply given by the chairman was conclusive, as his present advocacy of the same hose is singular. He said that former dealings with that firm proved quite unsatisfactory, and their tender was rejected. Did this dissatisfaction cover only the quality of the goods, or did it extend to personal relations in the transactions? Will the worthy alderman explain the process by which he has become satisfied, and avoid the cogent considerations which have induced him to so material an alteration of opinion?

The public has a right to some share in the new light which has shone on this impressionable city father, and it is to be hoped that he will give it.

We have seen communications from several Canadian municipalities which completely disparage, not only the hose now chosen, but also the guarantee of the firm which proposes to sell it. The case most in point as to guarantee is that of Cornwall, which amounts only to this, that if the corporation will send the damaged hose to the factory, and pay duties both ways, the company will repair it. A generous offer truly, but one which will leave the municipality much the worse of the bargain. Are we to have a repetition of this matter in Toronto? After a lapse of two years are we to fall back upon a hose which was then so utterly condemned that its mere history was sufficient to have it rejected? What interests do our aldermen suppose they are sent to the council to serve? Let them understand that the public will regard with suspicion such sudden reversal of opinion, and may even enquire curiously into the motives for the change.

American Fire Notes.

IN THE fire of a res-dutam lately passed, which plainly reads that the telegraph poles to which fire alarm boxes are attached shall be painted red all the way up to the first cross arm, the employees of the Department, having the matter in hand have done their work in a poor manner Those poles now being painted, are painted red as usual, only around the box. If the instructions set forth in the resolutions were followed, it would make our fire alarm telegraph boxes so conspicuous, that they would be immortalized in the minds of our citizens, likewise be graven in the images of our noble police officers, who need the location of boxes graven in their mind very safely, because they frequently go a block or so out of their way in order to send in a fire signal, simply because in their excitement they forget the location of the nearest box. Policemen, firemen, citizens and everybody would soon become familiarized with the location of boxes, if this resolution is followed out as it should be.

As to the methods adopted in the construction of factories to prevent fires, Mr. Atkinson said :—The modern factory has no place in it, if we know it, where a rat can build a nest and not be found, or where fire cannot be reached by water. The factory properly consists of a brick wall, with the floor timbers eight feet apart. These are about six inches by twelve, and on them is laid three inch plank, and sometimes two thicknesses of tarred felt, and then the top floor. The whole construction is open, the spaces between the beams are wide, not narrow, water can be sent in great streams crosswise or lengthwise. The roof is built in the same way, nearly flat, so that whatever happens there is a standing place upon it for the firemen. There is not a great mass of gables and cornices and concealed spots which modern architecture so many times requires, and which public opinion imposes upon architects, who know better. In the factory we don't allow any furnings or plaster on the walls. There is another thing which we never permit in the factory, but which, like iron shutters, is, I believe, required by the building law of Boston, that the timbers should be connected with the walls, so that when the beam burns off or is torn off, it brings the wall down. We have the beams laid on an iron plate, with their top corners arched off and the bricks immediately above them laid dry, so that if anything happens to those beams they roll out of their places and do not tear the wall down But the great secret is cleanliness and order and the means of putting out small fires

TABULATED RECORD OF FIRES IN CANADA FOR THE MONTH OF FEBRUARY.

Date. Feb. 1 to 29.	Place.	Build'g	Cause of fire	Insur-ance on propt'y.	Total Losses Incur'd.	Date Feb 1 to 29.	Place.	Build'g	Cause of fire	Insur-ance on propt'y	Total Losses. Incur'd
1	Napanee	37	9	850	$2,000	16	Belleville	23	9	16	$2,000
1	Lucan	14	3	2	$1,500	17	Orono	20	16	2000	$4,000
1	Quebec	14	9	9	$1,200	17	Tilsonburg	14	9	2	500
2	St. John, N.B.	23	9		$3,000	17	Washpert	14	9	2	$3,000
2	Listowel	14	9	16	85	17	Kingston	14	9	21	$2,000
4	Grafton	14	9	2	$2,000	18	Port Hope	51	9	2	$2,000
4	Peterboro	23	9	$15,500	$26,500	18	St. John, N.B.	14	9	16	$3,000
4	Biddulph	214	13	9	8	18	Mitchell	23	9	31	300
5	Ridgetown	14	44	9	8	19	Belleville	14	9	1000	$3,000
6	Warkworth, Ont	20	9	$5,000	$12,000	19	Picton	14	9	16	600
7	Belleville	14	9	16	400	19	Thurlow, Ont	14	9	16	$2,000
8	Montreal	23	9	21	$1,000	19	Woodville	10	9	9	8
9	Port Dalhousie, Ont	14	9	9	8	20	Hamilton	11	9	16	$2,000
9	Colchester	22	13	2	$3,000	20	Brussels	23	9	21	8
9	Port Hope	14	9	2	8	21	Guelph	14	9	2	$2,000
10	Windsor	1	58	16	8	22	Montreal	23	9	16	27
10	Kincardine	14	9	200	400	23	Niagara	36	13	2	8
10	Halifax	14	9	2	500	24	Collingwood	22	26	9	8
10	Brantford	30 32	9	2	$3,000	26	Wellington, Ont	37	9	16	$4,000
11	Ottawa	23	9	16	700	26	Milton	22	13	1500	$2,500
12	Baltimore, Ont	14	31	16	8	27	Rleinburg, Ont	14	58	9	8
16	Nottawasaga	22	13	400	$1,000						

Fire Losses for February.—Number of fires reported, 43, losses on 31 fires, particulars of which are given, $91,385 ; number of fires, partic. particulars of which are supplied but losses not stated, 12; number of fires reported of which no particulars are given, — total amount of insurance reported, $26,350.

FOLLOWING IS THE KEY TO THE ABOVE TABLE.

1—Paper Mills.
2—No Insurance.
3—Cause unknown.
4—Railway Repair Shop.
5—Furniture Warerooms.
6—Church.
7—N. R. Depot
8—Loss not reported.
9—Not stated.
10—Carriage Shop.
11—Bank Premises.
12—Accidentally Fired.
13—Incendiary.
14—Donnelly Massacre 5 persons murd.
15—Steamboat.
16—Partially insured, amount not report'd
17—Planing Mill.
18—Dry House
19—Tannery.
20—Woolen Factory
21—Fully Insured
22—Barns and Stables.
23—Stores.
24—Grocery Stores
25—Grist & Storehouses.
26—Accidentally Fired.
27—Loss over Insurance.
28—Printing Office.
29—Foundry House.
30—Saw Mills.
31—Detective Flue.
32—Shingle Mill.
33—Jewellery Store.
34—Children Playing with Matches.
35—Slipper Factory.
36—Hospital.
37—Hotels.
38—Machine Shop.
39—Hub and Spoke Works.
40—Stave Factory
41—Grist or Flour Mill.
42—Drying House
43—Hot Ashes.
44—Breaking of a Lamp.
45—Planing Mill.
46—Block of Stores
47—Residence and Outbuildings.
48—Shoddy Mill
49—Varnish Buildings
50—Hop House.
51—Furniture Factory
52—Blacksmith Shop
53—Storehouse.
54—Carpenter Shop.
55—Opera House
56—Baggage Car
57—Sparks from Locomotive.
58—Boiler Explosion.
59—Lightning.
60—Conflagration.
61—Cooper Shop.
62—[illegible] burned.
B—Several lives lost.

The Water-works of Guelph, Ont., work upon which was begun a year ago, are completed.

Superintendent B. B. Bullwinkle, of Chicago, who has been quite dangerously sick, is now about again.

A resident of South Bend, Ind., 72 years of age, and reputed to be worth $150,000 is under arrest on the charge of arson.

Engine House No. 2, Omaha, Neb., which recently burned to the ground while the Company was absent at a fire, is thought to have been first robbed and then fired.

Chicago fires, February, 1880, 52 alarms, 44 stills, $715,600 insurance, $30,326 insurance loss, $54,385 total loss ; February, 1879, 47 alarms, 76 stills, $739,108 insurance, $66,767 insurance loss.

They tell a good one upon a certain Hose House, located not a thousand miles from Chicago. In a shipment of less than 800 feet lately, it was discovered that it contained no less than four different kinds of hose.

The members of Empire Hose Company No, 1, of Flushing, L. I., have refurnished their rooms at an expense of $150, and they now have the finest House in town. At an alarm of fire on the morning of March 4, they made the fastest time on record in the Department, laying hose and having a stream on the fire inside of five minutes.

London Salvage Corps.

The report of the Committee for the year 1879 has been issued :—"The number of fires again show an increase upon those during the previous year—those attended by the Metropolitan Fire Brigade having been 1718, as against 1659 in 1878, being an increase of 59. In their last annual report the Committee called attention to the arrangements which had then recently been made for the transmission of calls from the District Stations of the Fire Brigade to the stations of the corps, anticipating therefrom better information of the outbreak of fires than had previously been possible. These anticipations have been fully realised, as is shown by the fact that the corps have attended no less than 1652 fires, an increase of 207 over the number attended in 1878, although the total number of fires has increased only by 59. Although the number of attendances has so largely increased, the number of cases in which salvage services have been rendered has decreased to 429, as against 506 in the previous year. This apparently unsatisfactory result is explained by the fact that the Fire Brigade now use almost entirely indiarubber and canvas hose, which is far less liable to leak than leathern hose, and which, being in long lengths, requires fewer joints This hose is frequently laid through premises near a fire without causing any damage whatever, whereas when leathern hose is similarly used damage by leakage nearly invariably occurs. At these fires the number of hours' service rendered by the corps have amounted to 4645 against 5316 in the previous year.'—*Ex.*

The Report of the Chief Officer of the Metropolitan Fire Brigade on the fires which took place in London last year is of more than usual interest at the present moment. One reason for putting the water supply under public management is that the present arrangements for extinguishing fires are so entirely unworthy of a great city. Captain Shaw reports that on 60 occasions last year the water arrangements were unsatisfactory. In only nine of these cases was there a short supply of water, but in 33 instances the turncocks were late in turning the water on, and in 18 cases no turncock attended at all. It may, however be fairly said that as compared with other great towns the arrangements for the supply of water at fires were unsatisfactory in London in every case. There were 1,718 actual fires, of which only 159, or 9 per cent. of the whole, were really serious. Captain Shaw does not tell us how far this proportion of serious fires is due to defective water supply, but it is clear that the necessity of sending for a turncock to turn on the water must in all cases give the fire a chance it could scarcely have if the water was always on. It cannot be too strongly pointed out that the necessity of sending for a fire engine, of getting it into action, of turning on the water, drawing out a fire plug, and then pumping it by means of the engine over the fire, are methods only worthy of a village. A steam fire engine is an imposing piece of machinery but it is after all only an improved form of the old parish engine. Every step needed to set it going is a needless delay. Under any proper system of water supply the mains are always charged in every street, and when a fire breaks out the firemen have only to run with a hose, fix it to a hydrant, turn the screw tap, and at once a stream of water is pouring over the flames. The adoption of this system in London will at once double or treble the efficiency of the Fire Brigade. It will allow of the rapid multiplication of stations since instead of each station being supplied with engines and horses, it will only need to be furnished with handbarrows to carry the hose. The wheeled caravan which is now standing in Ludgate-circus is an illustration of the simple kind of fire station which will be necessary when this great reform has been carried out. There is no need to fear that the greater facility of turning on water will lead to waste. It is more likely to effect an economy of its use, since a gallon will be more useful in the earlier stages of a fire than a thousand gallons when it has got the half hour's grace which our present system nearly always gives it. Even under that system the consumption of water from the street pipes was only about 9 000 000 gallons, and about 7 000 000 gallons were dumped from the river, or from canals and docks. This is really an infinitesimal part of the yearly consumption of London. There were 96 fires in which lives were endangered, and 27 in which lives were lost. The number of people thus burned was 32, and the number rescued was 132. Two fourth-class firemen have been commended for special merit in saving life during the year—Edward Epps, who saved four lives, and Walter Hogwood, who saved two. There seems to be a steady increase in the number of fires, though the proportion of serious losses becomes happily somewhat smaller. Captain Shaw expresses the opinion that the value of property destroyed by fire in London has been less in the year 1879 than in any other year since the formation of the Brigade. The reduction in the number of serious fires is probably due to the greater promptitude with which a conflagration is now attacked. We may be almost sure that it will undergo another striking diminution as soon as it is possible to turn on the water with a hose, and the delay in getting up engines, finding turncocks, and digging out the plug has been abolished. If the new Water Commission does not speedily accomplish this reform for the people of London, it will be hardly worth the trouble, and cost which will attend its establishment. A Parliamentary inquiry made long since reported that the means for dealing with fires in London were inadequate and its chief reason for advising that the water supply should be put under public management was that its efficiency in this respect should be speedily secured.

Norwich, Conn., is supplied with water from an artificial pond three and a half miles from the city. It is brought to the city in pipes by gravity pressure. The city is provided with two way hydrants located not more than 600 feet apart. A water pressure is obtained at the hydrants equal to 85 lbs. to the square inch, which will throw an effective fire stream over any building in the place. Chief Carrier relies entirely upon the hydrant pressure. He uses four-inched hose carriages, 600 feet of hose on each reel and twenty men to each Company. He has four Steamers, but they only respond to second alarms, and have not been called out in a year and a half. The Department controls all fires by means of the hydrant streams. This is the cheapest and best Fire Service to be obtained—fire streams direct from hydrants. Cities putting in Waterworks should keep this point in view.

Number of fire alarms at Ottawa, Can., for the month of February, 9; seven public and two still alarms. Loss on buildings, $600; loss on contents, $3,210. Total $4 110. Insurance on buildings, $5 750; insurance on contents, $8,000. Total, $13,750.

The National Fire Insurance Company, of Montreal, has ceased to exist. It has disposed of its business to the Sovereign Fire Insurance Co., of this city, (formerly the Isolated Risk), which Company has assumed all the liability for losses on the existing policies of the *National*. We understand that a large proportion of the business remaining is of a good class, and we trust the Sovereign has received an ample equivalent for the risk they have assumed.

The Baltimore *Underwriter* says that the two fires of recent occurrence were occasioned by water. In other words, they resulted from rapid and intense disengagement of heat in slacking lime. One of the two referred to was occasioned by a high tide in the East River, at New York, which flooded a 3per at the foot of East Ninty-sixth street, where stood a shed containing 14,000 barrels of lime. The powerful affinity of the lime for water, and its instantaneous conversion into a hydrate, was attended with such enormous extrication of heat that the shed, contents, and surroundings were set on fire and destroyed, involving a loss of $20,000. The Firemen were promptly on hand but, as might have been expected, the more water they threw upon the flames short of supersaturation—a point they evidently did not reach—the more brightly the fire burned. In such a case the most effective medium of extinguishment is carbonic acid gas, not, of course, by re-carbonating the lime—so to speak—but by exclusion of the oxygen of the atmosphere. We advert to the matter because combustion as a result of rapid hydration is frequently doubted. Such instances leave no room for doubt.

What seaboard cities do not utilize salt water for fire extinguishing and sanitary purposes, is one of those conundrums that, as Dundreary says, "No fella can find out." The *Journal* has advocated its use for New York city, and not till that is done can we be considered safe from great conflagrations. Gen. Megis, Quarter-Master General of the army, agrees with us in that seaboard cities should thus equip themselves. In a recent letter to the Galveston *News*, he writes as follows: "Visiting Galveston again recently, after the lapse of ten years, I was struck with the great improvement and increase of the city. I also noticed the evidences of great damage by fire. When I first saw Galveston in 1869 70 it was struggling to recover from the effects of a great conflagration. Another has since devastated the city, and a severe fire had occurred within a few days of my recent visit. It appears to me that the city would find its advantage in providing special lines of cast-iron pipe, through which sea water could be forced to within a few hundred feet of any point desired. There is no danger from frost bursting such pipes in your climate, and they could therefore be laid at a small depth below the surface of the ground. Stationary steam pumps and boilers, located near the shore, sufficient to deliver very heavy streams of water through hose attached to the iron pipes, in any part of the city, would be less costly in maintenance than portable steam fire engines. The cast-iron pipes would probably not cost so much as a sufficient supply of hose, and if dipped in hot asphalt, before being laid, they would be much more durable than any hose. Such a provision would be effectual, and I think it would be found cheaper than any other fire establishment." What is good for Galveston is equally good for other cities.—*Firemen's Journal.*

Stock Fire Insurance Companies.

An irrepressible conflict goes on all the time between stock and mutual companies It is not our purpose and perhaps it does not come within our province to do more than lay before our readers a few of the pleas entered by both parties to the war. We have been led to do this by seeing some remarks in an American exchange bearing on the subject, and to note especially a suggestion that cities and towns should do their fire insurance by means of a house tax.

Among the objections urged to stock companies is the self-evident fact that the business must be profitable or it would not be carried on, and further that it is immensely so and that therefore premiums are unduly large The full force of this objection may be met by the certainty of competition always mitigating the evil, should it become oppressive, and also that these companies may show economy in the management of their business and moderation in their charges. On the other hand the mutual system, favorably looked upon as applied to life insurance, is deprecated in its extension to fire, and this opinion is predicted on the extensive conflagrations in Portland, Chicago, and Boston, which proved so disastrous to many companies of that character. It is argued that there is no safety for a company that has not a large rest, or stock capital to fall back upon in the event of great losses, and there seems some show of justice in the proposition. The creation of the "rest" naturally equalizes, so far as it goes, the terms on which insurance can be effected in both sorts of companies, and the dispute is thus left to be begun afresh. This argument is based mostly on liability to fires of great magnitude such as we have above referred to, and that element of the case is to be carefully considered. We do not see that the difficulty would be satisfactorily met by municipalities becoming their own insurers, as one great fire in a town would sweep the municipal insurance fund out of existence, and leave the losses completely unsatisfied The whole question will be all the better for a thorough discussion, and we are glad to see indications of that being done.

New Insurance Bill.

Our American neighbors are much exercised at present over the provisions of Senator Sessions's Insurance Bill, which provides that "the amount of insurance written in a policy of insurance on all buildings insured after the passage of this act shall be taken and deemed the true value of the property at the time of the loss, and the amount of the loss sustained, and shall be the measure of damages, unless the insurance was procured by the fraud of the insured or the loss was caused by the criminal act of the assured. It shall be lawful for any insurance company liable to pay losses occasioned by fire to rebuild any structure or building, wholly or partially destroyed, of the same style and materials and of equal value with the one so wholly or partially destroyed but they shall make their election so to do within thirty days after notice of loss. In case there is a partial destruction of the property insured no greater amount shall be collected than the damages sustained."

That this is not satisfactory to the companies may easily be surmised, as it places on them the onus of valuation precious to insuring, instead of haggling over terms after a loss. We have no doubt that, if passed the tendency of this bill will be to prevent in a great measure, the culpable habit of over insurance, and while the companies may not reap the same amount of premiums to start with, as under the present system, yet they will be benefitted in the end by having the percentage of losses materially reduced. And should strict valuation interdict much of the fraudulent attempts to insure property for more than its worth, with a view to incendiarism, the measure will do good. The usual quantum of opposition may be expected, and already the proposed bill is accused of being liable to cause the very results, to prevent which it is being called into existence. It is said to interfere with the right of contract, and to put a premium on fire raising. As regards the first objection it seems to us merely to make the terms of the contract definite and final. As to the last, the companies have the matter in their own hands and are subject to no danger so long as they exercise ordinary care in the conduct of their business.

The Control of Fire Departments.

"The Insurance Companies do not like to see a Fire Department too efficient, and are consequently, in opposition to the best interests of the community, in this regard." Granting the premises there can be no dissent from the deduction. How far the Companies are open to the imputation is a matter of opinion, but those who hold the affirmative view of the question argue with a fair show of reason that, it is only the occurrence of fires which give to the Companies their "raison d'etre" and that they have naturally no inducement to be very anxious for the successful application of fire preventions, but look to occasional fires for the means of extending their business.

It would thus seem that an antagonism of interest is established between the Fire Companies and the general public, so that the latter may expect from the former indifference, if not obstruction to the efforts made for securing a thoroughly efficient Fire Department To what lengths this presumed feeling may develop itself in action might afford a curious field of speculation, but it is evident the Philadelphia underwriters are of opinion that improvements in protection from fire do not come within the sphere of their duties.

This expression of opinion was the result of a proposition to place the Philadelphia Department under the charge of the Insurance Companies of that city—and we do not see that any objection can be taken to their decision. If the Companies are engaged in the business of paying to insurers the losses sustained by fires, it is scarcely reasonable to ask them to try their best to make conflagrations impossible. The simplicity which made the proposition may be admirable, but the wisdom of it is not beyond question.

The duty under discussion belongs to no special class of the community, but is to be assumed by the whole and we maintain that no city, town, village or hamlet, is free from blame where this important matter is slighted, and where it has not become one of chief consequence and received an attention corresponding to the means of the locality To what extent Canadians take this duty home is easily determined by the status of the various Fire Departments, and however well certain places have provided in this respect, there remains to be done a world of work compared to what has been achieved, and about this special work, let them remember that delays are particularly dangerous.

Efficient Firemen.

Time is the great requisite for building up valuable and efficient service in our Fire Department, given the qualities needful to the formation of good firemen, and you have yet but the basis of the desired end—nothing but close and continued training will utilize these qualities—and it is needful therefore to retain in the service those who prove to have their possession. For no slight cause should a department lose a capable man, and every exertion should be made by the authorities to render the position of such men, not only comfortable, but an object of emulation to be desired and striven for, so that an extensive choice may offer for the filling of vacancies in the ranks.

Let the men feel that their places are useful and honorable, that they are to be kept only by steady application and the attainment of a high standard in the execution of duty, and you cannot more forcible incite them to respect themselves and their work. To do this it will be needful to deal liberally with them regarding wages, lodgement, appointments and provision for sickness and wounds.

Much of the latter duty (the others being granted) will be done by the men themselves, and it is to such measures and these only that we are to look for the efficiency of that service, to which so momentous interests are committed.

A valuable improvement, a platform and appliances for raising heavy ladders has been introduced into the New York Fire Department by the Chief Engineer of the Washington Fire Department Mr Martin Croom. Chief Bates had the machine thoroughly tested Feb. 13th, at the corner of Elizabeth and Hosmer Streets. When trucks pass, upon which the apparatus is placed, was run up to a large two story house, and in one minute and fifty seconds a heavy extension ladder was raised, and the firemen mounted on the roof of the building. The ladder was then lowered to the street and raised again. The time occupied in raising the ladder a second time, when everything was in readiness was only 90 seconds.

Electric Fire Alarm System of Toronto.

PAPER READ BY MR. G. H. CARVETH, BEFORE THE NATURAL SCIENCE ASSOCIATION OF UNIVERSITY COLLEGE, TORONTO.

This system is best made plain by a description of the different instruments used, and then by a short account of the work performed by each. First, then, the batteries, the prime source of power, and that on which the working of the whole system depends are placed in

FIRE HALL, NUMBER ONE, ON BAY STREET.

Within a room on the second floor of the hall, arranged on shelves occupying two sides and one end of the room, are rows of glass jars. The kind of battery used is that known as the gravity battery, which consists of a glass jar about 8 inches high and 6 inches in diameter, having a zinc casting suspended near the top, and a copper plate placed on the bottom, and provided with a gutta-percha-covered wire leading out of the jar. One or two pounds of sulphate of copper are placed on the bottom of the jar and enough water is poured in to cover the zinc about one inch. As the name of the battery indicates, its action is dependent on the separation of the sulphate of zinc, which is formed at the top of the jar, and the sulphate of copper solution which gravitates towards the bottom of the jar. When the water in the upper part of the jar becomes saturated with sulphate of zinc, the sulphate crystallizes upon the zinc plate, stopping the action of the battery. The conducting power of a solution of sulphate of zinc is greatest when the sulphate is diluted with an equal quantity of water. Part of the solution, therefore, is from time to time removed by means of a syphon, and replaced by water. On a stand in the room is a large box filled with sulphate of copper, from which the batteries are replenished when required. The city is divided into five fire districts, so that five distinct batteries are necessary. The district having the greatest length of wire is provided with the largest battery, composed of 60 cells, while that district lying nearest to the battery station has only 30 cells. It is found that the current of electricity generated by this kind of battery is the most regular that can be obtained; and since the cells require cleaning but once a month, both on this account and also in regard to cost, it is preferable to all others. The metallic copper deposited on the positive pole often shows the crystalline nature of the metal. The strength of these batteries is well exemplified by the story related by the foreman of the Bay Street Hall of an occurrence that happened on Temperance Street. One time during an alarm of fire, the wires became by some accident broken, and a man passing attempted to repair the mischief. While endeavoring to do so he grasped one end of the broken wire in his right hand and the other end of the wire in his left. Immediately he did so the current of electricity traversed his body, and coming from such a powerful battery he was rolled over and over in the mud on the roadway, till some one more conversant with the subject happened along and by placing the two broken ends of the wire in contact with each other, released the unhappy man from his miserable plight. From the batteries five wires pass out into an adjoining room where they are in connection with *Galvanometers*, by which the intensity of the current is registered, and any weakness in a particular battery is made known that it may be remedied at once. In this room are also the *automatic repeaters*. These are instruments by means of which when the current is broken in a wire from one of the five districts, the effect is conveyed to the four other districts. These repeaters consist of four brass instruments placed side by side, the construction of which is as follows:—Near the end of the case in which they are contained is an electro magnet on the first or longest circuit. The armature of this magnet is in connection with an india rubber cylinder, on one part of which is placed a plate of iron. On this plate of iron rest two platinum points, joined on to the wires from the second electric circuit. When the two platinum points (separated by an interval of one-quarter of an inch), are resting on the iron plate, the electric current passes between the two points. When the current is broken in some part of the first line the armature is released, the cylinder revolves, and the two platinum points rest on the india rubber cylinder, which is a non-conductor, and the current is broken in the second line. This broken current releases an armature from a magnet on the second line which causes the second cylinder to revolve, thus breaking the connection in the third circuit, and so on through all the lines in the five districts. This causes the alarm to be given at all of the stations in the city simultaneously, but as each station has only a certain number of boxes to attend, no confusion is caused by a general alarm. From the batteries we follow one wire only, as the arrangements in one district are that of all the others. After leaving hall number one, the wires, placed on poles, run along the tops of these till a corner is reached, where a fire alarm box is placed. Here the wire bends down along the pole, traverses the box and is again carried up to be continued along other poles and through all the other boxes in that district till it communicates with the fire hall. In this building it is in connection with the large bell, the gong and the doors in front of the horse stable, whence it is continued out of the building again and back to Bay Street to the battery. So that each fire district is traversed by a perfect current of electricity, the only means of communication with the currents of other districts being at the repeaters and that only in case of an alarm being given.

THE FIRE ALARM BOX.

The internal arrangements of three boxes only have been examined, but as they are all constructed on the same principle a description of one will suffice. Internally connected with the handle which comes to view when the outer door of the box is opened, is a collection of clock work, so arranged as to be wound up when the handle is pulled down. Part of this clock work is a brass wheel, on the periphery of which a number of cogs are fastened, having different arrangements for different boxes. At the box under consideration, No. 129, the cogs are situated in this fashion: One cog, a long space void of cogs, then two cogs with an interval of half an inch between them, then a long space followed by nine cogs, also with spaces one-half an inch long between each two of them, then a long space. When the handle is released, the clock work, which has been wound up, begins to run down, the wheel with the cogs on its circumference revolves, and each time the two platinum points ending the incoming and outgoing wires slip off a cog, the electric connection is broken all along that circuit, the large bell rings, the gong strikes, and the door in front of the horses flies open. Then the two platinum points are raised on the next cog, thus completing the electric connection, again to be broken in the next space. It can easily be seen how that the number 129 is struck on the large bell when the alarm is given from box No. 129. The clock work is so arranged that the same number is struck four times (in Canadian boxes), five times in American boxes, the brass wheel revolving four or five times. It is unnecessary to enumerate the many mistakes that are continually being made by people who are ignorant of the working of the system, pulling the handle in the wrong manner. One example is sufficient to illustrate this point. During a certain fire, a man went to the box, which was No. 15, and after opening it gave the handle fifteen different pulls, thus deranging the whole system.

THE GONG.

This is an apparatus inside the hall on which the numbers are struck so that the firemen may know at which box the alarm is given and thus are directed where to drive. As only five of the stations in the city have large bells it is necessary for all the others to be provided with this apparatus (and indeed some of them have both large bells and gongs). Each gong is composed of an elongated box under which is placed a bell or sounder. The wire enters the top of the box, passes through an electro magnet and again issues at the top. When the current is broken, the armature falls back from the end of the bar of soft iron and releases a weight of about twenty pounds, wound up after every three alarms. This weight causes a hammer to strike the bell, then the electric connection is again made, the armature is attached to the end of the bar of soft iron and the weight remains stationary till the connection is again broken, when another blow is sounded upon the gong. As from the numbers struck on this or on the large bells the fireman must gather

the direction of a fire, great attention is paid to this piece of apparatus

The apparatus for releasing the horses can be explained in a few words Each horse remains in a box stall loose, facing the main room of the fire hall In front of him is a door pushed outwards by a spring This door is forcibly closed and fastened by an iron band at the top riveted to a long iron bar, which is in connection with an electro-magnet at the end of the series of doors by an armature When the electric current is broken the iron band slips off the side of the door which is thus pushed open by the spring behind it and the horse rushes out and places himself in his position before the hose-reel, or the salvage wagon as the case may be In connection with the iron rod above the doors are two ingenious contrivances, one for removing the covering from the bed of the foreman up-stairs during sleep, and the other for causing a dilatory horse to start out in quick time, being in the shape of a whip quickly revolved behind him. But these are mechanical contrivances, both being worked by weights which are released when the electric current is broken

THE LARGE BELL OR STRIKER

The large bell remains stationary and the blows are struck on it by a weight of about forty pounds descending on the outside lower rim after describing an arc two feet in length. The mechanical appliances for moving this weight or hammer are too complicated for explanation here, but the general principle is easy A weight of 1,200 pounds is brought to bear upon the hammer whenever the electric current is broken, and when the circuit is again completed, the hammer is drawn back also by this heavy weight ready for another blow.

NOW, THEN, TO SUM UP.

When a fire is discovered near a certain fire alarm box, the box is unlocked and the handle is pulled forcibly downwards, thus winding up the clock work Just at this point let us for a moment consider the position of all the apparatus. The machinery in the box is wound up ready to revolve backward and by bringing the two platinum points on the wires, over a space between the cogs, to break the electric connection. The weight at the large striker is wound up ready to come into play with a force of 1,200 pounds The weight of 20 pounds in the gong is wound up also ready to bring its force into play, and the spring behind the stable door is acting with a strong force The hand at the box is removed from the crank Immediately the brass wheel revolves the electric current is broken the large bell strikes one the gong strikes one, and the doors before the horses fly open At once the electric connection is again made and all the apparatus except the doors is again ready for another blow This is given by the platinum points coming over the second space between the cogs on the brass wheel By the time the number of the box has been sounded on the gong the horses are hitched up and the firemen in their places ready to proceed on their arduous task of fighting the fire fiend

The Silsby Engine.

This engine seems to grow in favor with the public Our exchanges give accounts of tests satisfactorily passed and purchasers secured, among which we may note that at Malone, Franklin Co N Y, and another in Dallas, Texas Part of the test at Malone is interesting, and we quote from the *Palladium*:—

"Next the hose was lengthened out to 1,500 feet, extending from the tannery to the M E church and rising hills variously estimated at from 75 to 100 feet in height and through this quarter of a mile of hose a stream was forced through an inch and an eighth nozzle which reached to the roof of the building, or a horizontal stream of 85 feet The engine at this time showed 125 pounds of steam pressure and 260 pounds water pressure on the hose. (The average steam pressure during the five hours the engine was being tested was 80 to 85 pounds) It was a terrible test—one that the engine would never be asked to make in actual service—and the result exceeded all expectations."

The last number of the *American Machinist* contains an illustration of this engine, and designates it as being "one of the most improved types of American steam fire engines," and characterized by all that elegance of design and finish, and strength in its working parts, for which the steam fire engines of this country are noted, "also stating that "the peculiar advantages of this build of engine are quick steaming, steadiness and force of water supply and ability to play during the largest and fiercest conflagration without stopping to take up lost motion. The steady stream of a rotary engine is much easier on hose than the pulsating stream of a reciprocating engine, and the jet falls and remains with pressure where directed, without throwing the pipemen round."

We also notice by the *Daily News*, of Griffin Georgia, that the Stonewall Fire Company No 2 of that place, have purchased a steamer from the Silsby Manufacturing Company The company favored the purchase of a Silsby engine on account of the good service of the fine steamer of No. 1, which has been in use for ten years, and is now in excellent condition.

The Old Story of State Supervision.

In the Albany correspondence of Tuesday's issue of the New York *Herald* we find the following.

The Insurance Department has just completed its twentieth year, and its expenses have amounted to more than $1,100,000. This is exclusive of fees collected from the companies by the legal favorites of the superintendent More than $235,000 have been spent in printing reports, and two-thirds of all these disbursements are chargeable to the second decade. The cost of running the department in its first year was less than $10,000 now it is more than $50,000. For a correct appreciation of these figures it is expedient to compare the corresponding expenses of the Bank Department, which I also have compiled selecting it as one not remarkable for economy, so as to be sure to do no injustice. During three of the twenty years the national banks did not exist, so that its range of operations then was a vast one. And even state banks of issue the savings deposits have increased so prodigiously that the bulk of operations has not shrunk much yet its expenses were less than $500,000 or only 45 per cent of those of the Insurance Department in the same time If the Legislature doubts the accuracy of the foregoing figures, let it order an official inquiry.

Whether the Legislature will or will not doubt the accuracy of the *Herald's* figures is a matter of little consequence The fact is that the expenses of the Insurance Department have been rendered necessary by the legislators who have burdened the statute books with unnecessary laws, the administration of which cost between $70,000 and $80,000 a year There is nothing that approaches an equivalent in the shape of protection to policy-holders or any one else given in return for this enormous outlay, but the chief purpose for which state supervision is maintained, namely, to provide comfortable places for useful politicians is thereby fulfilled.

Notes.

The Senate committee on insurance of the Massachusetts Legislature has under consideration the question of amending the insurance law of the state so as to require the adoption of a uniform policy for fire insurance companies.

The engineer of a steam fire engine in New Haven has invented an attachment for his engine house alarm clock which, at appointed hours opens feed bins and lets the regular amount of food all prepared into the horses' mangers The principle can be applied to the feeding of barn stock.

The Connecticut Legislature has passed a resolution calling for an investigation of the Atlas Fire Insurance Company, of Hartford. Why this resolution was introduced or passed is a mystery. The company according to its statement on file in the office of the Insurance Commissioner, is not only solvent, but has a surplus over all liabilities of $26,982 60.

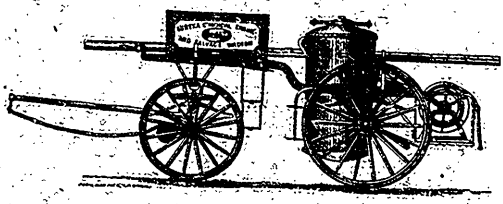
There is a superstition among the firemen that when a certain number of them dream of fire about the same time, a conflagration is sure to follow very soon. So strong is this belief that some of them prepare for it by hanging their caps and belts on the bed posts. Before the fire one morning it is said that as many as 12 had dreamed something about a fire.

The Fireman's *Standard*, Boston Mass.—The March number of this journal is to hand with a portrait of Chief Engineer John A. Bennett, of Cleveland, Ohio, with a sketch of his career showing meritous service An article on the danger to which the fire alarm wires are exposed from the multiplicity of telephone and telegraph lines—is worthy of attention here and elsewhere. The Boston Council will apply to the State Legislature for power to take all these under its control An account of the Boston 4th district fire department and other matters of interest go to make up a very good number.

THE EUREKA

CHEMICAL ENGINE.

THROWS A STREAM FROM 50 TO 100 FEET.



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FULLY EQUIPPED WITH LADDERS, AXES,

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A COMPLETE FIRE DEPARTMENT IN ITSELF.

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An Effective Fire Stream in Ten Seconds from the Time the Machine Arrives on the Ground.

Experience has proved that Corporations depending upon Chemical Engines for their fire protection save SEVEN BUILDINGS STANDING OUT OF TEN, with comparatively small damage by water, while for steamers the best record is three buildings standing out of ten, with a large damage by water.

☞ One town in Illinois of 7,000 inhabitants, with a Fire Department consisting of two steamers and one Chemical, has not used their steamers but once in three years, doing all the work with the Chemical, Hook and Ladder truck, and light apparatus. This town had eight fires last year alone.

Second-Hand Steam and Hand Fire Engines for Sale.

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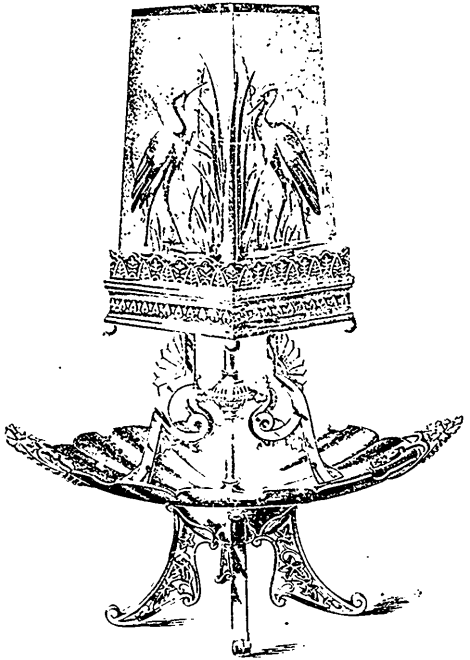

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