

FIRE DEPARTMENT STATISTICS.

The following useful table has been compiled by the chief engineer of the Baltimore Fire Department, and revised by the *Coast Review*:

Cities.	Area Sq. Miles.	Popu- lation.	Engi- ne Cos.	H. & L. Cos.	Chem. Eng. Cos.	Water towers.	Fire boats.	Mem- bers.	Fire plugs.
New York	41½	1,715,721	63	27	5	3	3	1,070	9,981
Chicago	18½	1,200,000	76	28	23	1	4	1,005	14,104
Philadelphia	129½	1,142,053	41	12	2	1	1	594	8,447
Boston	34½	448,477	40	17	10	2	1	762	6,800
Brooklyn	22	978,394	30	11	..	1	1	641	4,760
Baltimore	33	434,439	16	6	8	1	1	304	1,420
St. Louis	61½	451,770	35	13	4	1	..	417	4,084
Cincinnati	24	315,000	26	10	3	..	1	293	1,750
Detroit	28	250,000	20	10	6	1	1	300	2,294
Minneapolis	9	206,000	18	5	8	1	1	266	2,746
Buffalo	40	255,664	23	9	4	1	1	345	3,100
San Francisco	40	298,997	26	7	7	1	..	488	2,284
Louisville	13½	161,129	14	6	..	..	..	144	681
New Orleans	38	242,039	25	8	9	1	..	273	1,220
St. Paul	55	150,000	13	10	8	1	1	199	1,968
Milwaukee	27½	205,468	15	7	7	1	1	253	1,800
Pittsburg	..	263,312	19	6	2	..	..	239	1,858

The proportion of members to population in several of the larger cities is about as follows: New York, one to 1,700; Chicago, one to 1,200; Philadelphia, one to 2,000; Boston, one to 575; Baltimore, one to 1,400; Brooklyn, one to 1,600; St. Louis, one to 1,200; Cincinnati, one to 1,000; San Francisco, one to 600, ranking second in this respect.

San Francisco has a fire-boat, called the "Gov. Irwin." It belongs to the State, and in the day time is under the control of the harbor commissioners. After 4 o'clock p.m., however, the boat is moored to the wharf at the foot of Market street, and then is under control of the chief engineer of the city fire department. Steam is kept up constantly, and the boat responds to all alarms from water-front boxes. The "Gov. Irwin" has eight connections, four on each side. It has done great service at water-front fires. In addition, J. D. Spreckles & Bro. have two large tug boats, with heavy pumps, capable of throwing five streams each. These boats can be brought into service at any fire, if desired. It would be better, of course, if San Francisco owned its own fire-boat, but, as it is, with the state fire-boat and two private fire-boats, San Francisco must be credited with fair protection of this sort.

SEVEN REASONS WHY A MAN SHOULD INSURE HIS LIFE.

- 1.—In the first place, it puts him in better shape to do business, if he insures, for by so doing he is relieved of anxiety as to the welfare of his family in the case of his death. Therefore, being relieved of this anxiety, he is better prepared for the battle of life in every respect.
- 2.—It protects his family, furnishes immediate relief, and keeps the wolf from the door in case of his death.
- 3.—It protects his estate, in case he dies, by furnishing ready money to meet urgent demands, as creditors all want their money as soon as the debtor dies, and often force sales in order to buy for less than the real value.
- 4.—It strengthens his credit, as often a man might be able to borrow money if the lender knew he would live a few years and make the money to pay him back. So, you see, if he insures (and in case he dies), this meets the objection, as the lender could collect out of the policy the amount due.
- 5.—It proves to be a better savings bank to him than any other investment of deposit. After he pays the premium, he is compelled to pay the second, the third, the fourth, and so on, until a certain time, for if he fails to make full

payment he suffers a partial loss, and in order to prevent this loss he is forced to make a special effort to keep up his policy to the end of the period, in order to reap the full benefit. By so doing he saves money, which he would have withdrawn, had it been in tangible shape, if he was pressed to meet his bills. So, you see, a life policy forces a man to save money in self-defence. As it has been said, "a man cannot cut off a corner of his house to pay his bills," neither can he cut off a part of his policy to pay them.

6.—A man ought to insure, because few men succeed in life, only about five out of a hundred. Thus there are about 95 per cent. of the men of this country who will leave their families in want if they do not insure their lives, as this is the only way in which they can be sure to leave a competency for their families, by simply taking a policy in some standard company, and keeping the premiums paid when due, as they can carry ten times the amount of protection in this way that they can in any other.

7.—A man ought to insure his life, because, in case he should live to be old, his policy, which is free from taxation, will protect him in his old age—by converting the policy into cash, or taking an annuity for life, which makes him absolutely independent of the cold charity of the world.—*Weekly Statement.*

TROLLEY-WIRES AND LIGHTNING.

We noted some time ago a statistical inquiry in Germany whose results seem to show that the network of telephone wires in large cities has the effect of diminishing destructive lightning-strokes. A similar effect is ascribed to trolley-wires by D. B. Grandy, an electrician of St. Louis, who, in *The Electrical Engineer*, calls attention to the fact that in the summer of 1894, and even to a greater extent during the summer just past, the switchboard of the central telegraph office in that city has been entirely free from electrical disturbances, in marked contrast to preceding years, when the blowing of fuses and the burning of instruments were matters of very frequent occurrence. He states, says *The Engineering Magazine* in an abstract of the article, "that within a few miles of the city the electrical storms have been more frequent and more destructive the present year than ordinarily. He suggests that the extension of trolley-wires throughout the city during the past two years may explain the phenomenon. There can be little doubt that such is the case. It would be difficult to contrive a more effective means of equalizing excessive electric tension between the air and the earth, which is the accepted cause of electrical disturbances, than a network of suspended trolley-wires, grounded not only at each end, but through every car in transit upon the route. So effective is this protection that a seat in a trolley-car is probably the very safest place in the world during a thunder-storm. Nor is it worth while to jump overboard in case the lightning blows out a fuse and creates an explosion, as the passengers did one day in an open car in Boston; if one has time to jump, the danger, if there was any, has passed away."

BUILDING VALUES AND CO-INSURANCE.

Quite a number of property-owners have been very much perplexed as to how to arrive at the actual cash value of old buildings when calculating the amount of insurance required to be carried by the eighty per cent. co-insurance clause. It is a rather difficult problem to settle, but Mr. E. F. Beddall has submitted to the Tariff Association a plan which seems to be a very satisfactory solution.

It provides that the Tariff Association shall elect a certain number of appraisers who shall be practical builders in good standing, and that the assured may, at his own expense, procure from one or more of the appraisers an estimate of the value of the building. The Tariff Association will then approve of the attachment of the following clause to the policies:

"Upon the certificate of . . . . (name to be given) . . . . filed with the Tariff Association of New York, and dated . . . . 189 . . . , it is hereby agreed that the maintaining of insurance of . . . . dollars (\$ . . . . ) on the building described herein, is a compliance with the conditions of the co-insurance clause hereto attached."

The amount named in the clause is to be eighty per cent. of the sum certified to by the

appraisers. Mr. Beddall's plan provides for the careful choosing of the appraisers, and for their permanent disqualification should any abuse of trust be successfully charged by a member of the Association. Altogether, the system seems very feasible and well calculated to settle this question of building values in a simple and effective manner.—*N. Y. Journal and Bulletin.*

A TRAVELING GROCERY.

Storekeepers are fighting an important Southern institution. An attack on an institution maintained by the Plant system has been made at Orlando, Florida. Two employes in charge of the railroad "supply car" have been arrested on the charge of selling goods without licenses. The same complaint has been made in other communities at various times. From the railroad point of view the supply car combines benevolence with business, but the storekeepers of Orlando think it is an unwarranted interference with their legitimate traffic.

The supply car has been in use on the Louisville & Nashville system for years. The purpose of the car is to furnish the track hands with supplies, saving them the necessity of losing time in going to market. It is stocked with everything that a laborer requires for his family, and goes over the road twice a month. The men are furnished whatever supplies they want at cost, with ten per cent. added to cover handling. They are not compelled to buy from the car, but it is almost universally patronized.

Experience shows that a large army of laborers can be kept better under proper discipline, if furnished with whatever they may need in the way of supplies at their places of work. If the laborer goes to the neighboring towns to buy his supplies, he buys on credit, and the merchant charges him a larger price than he would charge a customer who paid cash. The railway company does not run the car with the expectation of making any profit on the goods. The person in charge is authorized to furnish supplies to employes only.

The Plant system has in its employ about 1,500 track hands, and this large force keeps in safe condition the 2,000 miles of track. It is necessary that these laborers should be thoroughly disciplined and always at their posts. They are furnished homes, rent free, by the company on the line of road, and the company is now furnishing them supplies practically at cost.—*Florida Citizen.*

WHALE OIL AND BONE FOR 1895.

Not since 1876 have fewer vessels entered the port of San Francisco laden with whale products. The North Pacific fleet for the year was composed of thirty-three ships. Three were lost in the Arctic or off the Alaskan coast; fifteen have returned and fifteen winter in the Arctic. The receipts of oil, bone and ivory at San Francisco for the twenty-two years past have been as follows:—

	Vessels, No.	Oil, Bbbs.	Bone, Lbs.	Ivory, Lbs.
1874	11	10,000	86,300	7,600
1875	12	16,300	157,000	25,400
1876	7	2,800	8,800	7,000
1877	20	13,900	139,600	74,000
1878	21	9,600	73,300	80,000
1879	22	17,400	127,500	32,900
1880	20	23,200	339,000	15,300
1881	26	21,800	345,500	16,400
1882	30	21,100	316,600	17,800
1883	37	13,300	160,200	23,100
1884	40	20,373	295,700	5,421
1885	43	30,143	448,075	7,066
1886	43	20,661	332,961	5,273
1887	41	32,884	603,400	550
1888	42	16,083	275,700	14,700
1889	48	12,019	216,755	1,130
1890	44	14,985	247,360	4,000
1891	46	12,124	220,650	1,300
1892	42	12,700	416,850	15,800
1893	50	6,935	310,200	8,600
1894	18	8,409	240,054	7,367
1895	15	4,117	104,595	4,415
Total	679	330,473	4,669,066	324,122

—There is a great scarcity of breadstuffs in South Africa at present, the crops having failed, owing to drought. Railroad rates on imported grain have been reduced, and the Transvaal Government has been asked to remit duties until the emergency shall have passed.