

were allowed to apply upon the age at which he entered, seventeen years ago, because, he says, he only has to pay \$17.28 per \$1,000 as against the \$53.10 that it would be in an old line company. The difference is \$35.82 per year, which gives a lurid idea of what is going to happen to the A.O.U.W. of Ontario before many years come and go. A similar yearly loss happening on all the older members of the society ought very soon to open the eyes of the young men to what they are doing and to what they ought to do.



THE COAL OIL LAMP.

Considering the enormous number of kerosene lamps burning nightly on this continent, it is of importance that those who use them should have some knowledge that there is possible danger in their use, and should be instructed how to handle them with safety. To this subject the Ohio Fire Marshal, Mr. Davis, devotes one of his periodical papers to citizens of his state. Here is what he says upon the chemistry of fire and of explosion. He tells also how and why a lamp explodes,—and we all know how often we hear of fire and loss of life from the explosion of kerosene lamps:

All the facts of the chemistry of fire, and of explosion as well, can be told in a simple story of what occurs in the light of an oil lamp. While the lamp burns the oil slowly disappears, and there is an apparent but not a real loss of matter. Kerosene, being the thinnest of safe oils, is drawn rapidly by capillary attraction to the top of a wick. When a match flame is touched to the oil in the wick's top, its heat liberates the atoms of carbon and hydrogen, of which the oil is composed, and permits them to unite with the oxygen of the air for which they have a greater affection than they have for each other.

In low test oils the heat transmitted by the metal warms the oil to a point at which it gives off an inflammable vapor which forms under pressure in the globe. A burner which is kept bright radiates heat, while a dirty one conducts the heat to the lamp. If the wick be too small, flame will travel down the tube; if there is a leak at the collar escaping gas ignites, and if the burner is removed for the purpose of filling it, after the lamp has been burning, the gas within the globe expands and may reach a near-by light. Air $\frac{1}{8}$ oil vapor will explode if it touches a flame.

Ohio, it appears, has a law which compels the use of a lamp oil which has a higher flashing test than any other state. And it is to be observed that coal oil, which is above the Ohio requirement that it shall not give off a vapor which will ignite from a flame until it is heated to 120° Fahrenheit, burns with a light that is almost white. If the oil has dropped below that test, as it will if stored for a few months, it burns yellower. These facts apply in a general way to the combustion of all sorts of material. Explosions are to be dreaded from the use of inferior oil, and from the ignorance or neglect which allows kerosene lamps to become dirty and their burners choked up. The experience of the State of Ohio has been that most lamp accidents have occurred from the upsetting or the dropping of the lamp. And some suggestions are given as to the kind of lamp to use. Metal lamps, says Mr. Davis, are not liable to break, but they heat the oil more. A lamp should never be filled within fifteen feet of any blaze, and the oil should be kept in a cool place always. A good precaution to take is to remember that a lamp of glass should weigh one pound for each pint it will hold, and its foot should

be broader than its bowl and heavier. Thin and easily shivered lamps are more dangerous.



SIBERIA AND CANADA.

A paragraph in our Manchester correspondent's letter dwells a little upon the probable competition of Siberia with Canada. Great Britain, he reminds us, is the principal buyer of Siberia's butter, and the seller of a little machinery to the latter, while Germany and the United States are both selling goods in that far country. "Canadian manufacturers may be interested to learn that at Irkutsk and elsewhere, there are customers for harvesters, axes, saws, files, small machinery generally, portable engines, river steamers, nickelled baths, mining implements, traps for animals, as well as cooking stoves, spades, forks, hinges, padlocks, and small-arms." Irkutsk is a place on the Siberian Railway, of 50,000 population and extensive trade, situated near the frontier of Mongolia, close to Lake Baikal and about midway between the Ural Mountains and the Pacific Ocean. It ought to be added that credits out there are everything but short, and we must remember besides that the whole of Russia is affected seriously by the financial strain of war. The method of sale recommended by a British Board of Trade commissioner is the combined store or agency, holding such stocks as are necessary to develop gradually a large and broad trade.

The possibilities of Siberian competition with Canada on a large and strenuous scale are not yet realized by Canadians generally in the way such an important subject demands. Nor is it sufficiently known that the Russian Government, which recent events have shown to be not particularly business-like in many respects, has made an exception in the case of the fostering of the industries of its eastern provinces. Its wisdom has certainly been manifested in the systematic efforts it has made to develop the trade in eggs, butter, and other produce with Great Britain; and the success of these attempts is proved by the remarkable manner in which farm produce of this nature has invaded the market for which it was largely intended, and by the constant increase which is now taking place in the trade. Canadians ought to realize these facts before it is too late.



THE MAY FIRE LOSS.

The fire waste in the United States and Canada, during the month of May, shows, like the previous month, a satisfactory diminution. The following summary, tabulated by the New York Journal of Commerce and Commercial Bulletin, shows the figures in detail:

	1903.	1904.	1905.
January	\$13,166,350	\$21,790,200	\$16,378,100
February	16,090,800	90,051,000	25,591,000
March	9,907,650	11,212,150	14,715,400
April	13,549,000	23,623,000	11,901,350
May	16,366,800	15,221,400	12,736,250
Total, 5 months.	\$69,070,600	\$161,887,750	\$81,322,100

Underwriters may be said to be looking forward with a little more hopefulness of spirit, the losses during the summer months generally being much lighter than in the other seasons of the year.