

### BITUMINOUS COAL ON STORAGE

The chief objection from our standpoint to bituminous coal is its liability to ignite spontaneously. Still this hazard has been decidedly over-emphasized. Soft coal is easily ignited and quite often fires caused by locomotive sparks, oily waste, tramps, steam pipes, etc., in other words, fires from extraneous causes, are charged up against spontaneous combustion. It is human nature to blame an irresponsible agency for all our troubles, which is all the easier done since a fire generally destroys the evidence of its origin.

Practical experience has taught us that bituminous coal (a poor heat conductor) maintains in the storage piles the temperature at which it was piled. For example during July or August with the freshly mined coal confined for days and weeks in steel cars too hot to be touched by bare hands, and this hot coal piled afterwards in the full glare of a mid-summer's sun, we will find that the coal pile from top to bottom will maintain for months a temperature of 90 degrees to 100 degrees F. If this warm coal is piled in the open and is occasionally dampened by a thundershower, it heats up quite noticeably and may ignite.

The physical condition of the coal should be the main consideration. Of course it must not possess too high a latent heat, and it must be dry, and above all it must not be too finely broken up. In other words "lump" coal is the safest, and screenings are the worst. Under present conditions, though, we will find mostly unscreened or "run of the mine" coal and this class of coal, especially when freshly mined, will heat spontaneously.

Spontaneous combustion of bituminous coal generally occurs within three to six months of the time it was mined, and coal stored for a year can be considered fairly safe or "seasoned."

We used to have great faith in "ventilation," but "thorough" ventilation of "run of the mine coal" is impracticable, and poor or insufficient ventilation only increases the danger of spontaneous combustion.

When fires occur, no attempt should be made to use water unless it is available in tremendous quantities. Insufficient water, especially inside of buildings, may cause serious explosions. The best way to handle a bituminous coal fire is to remove the pile as quickly as possible and spread the coal out on the ground in very thin layers.

In issuing policies on bituminous coal the following points are worth ascertaining:

1. In how many distinct piles is the coal stored? The more piles the better.
2. How many tons in each pile? Two hundred tons is plenty for one pile.
3. How far are the piles apart? They should be at least twelve feet apart.
4. How quickly can the coal be moved in case of heating? Are cranes with clam-shell buckets available or is dependence placed on manual labour?
5. When was this coal piled? If piled during extreme mid-summer heat, considerable caution is necessary.
6. Is the temperature of the coal taken regularly? This can be done readily by driving two or three inch iron pipes into the piles in which an armoured thermometer is lowered. When the temperature reaches 150 degrees F. remove the coal at once.

7. Is the coal roofed over? Coal in the open is, of course, less desirable than coal that is roofed over. Alternate dampening by rain and drying by sun and wind is quite undesirable. If the coal is roofed over, the storage building should, of course, be adequately ventilated.

8. Are the coal piles exposed by railroads, or what are the exposures?

9. Is the coal under constant supervision? Is the yard fenced in? Is the building kept locked? I have found large coal piles in remote locations beyond all supervision.

10. Is the coal piled on "dry" ground? The drier the location the better.

The spontaneous Combustion Clause is a delusion and a snare for which we should not make a substantial rate concession. How are we to prove that the fire was started by spontaneous combustion? Quite contrary to general belief, spontaneous combustion does not always start in the bottom of the pile, but is likely to start anywhere. I dug into a coal pile which was practically on fire four feet below the top, but was quite cold ten feet lower down. In short, by attaching the Spontaneous Combustion Clause we simply reduce our premium income without obtaining any compensating advantage.

The rate obtained should also remunerate us for the enormously increased cost in salvaging coal owing to the high cost of labour. In bulky low-priced material like coal there is always an abnormal relation between the cost of salvaging and the value of the salvaged material.

To be sure, the increased cost of coal brings us an increased premium income, but even this is insufficient, particularly when we consider that time and again under present conditions we will pay a total loss because no labour was obtainable at any price. You know, moving heated or half-burned coal is not a job anyone would tackle for their health. I distinctly recall a case where two score of men were overcome by gas fumes when loading a tramp steamer with coal which had been too long in steel cars in the hot summer sun.

If the bituminous coal is in small piles, separated by at least twelve foot roadways, and the coal is under careful supervision and can be moved readily, we can write it freely at a minimum rate of 3 per cent.

WILLIAM VLACHOS,  
Inspector, Philadelphia.

### NORTH AMERICAN LIFE ASSURANCE CO.

November was another record month for the North American Life of Toronto. Received business was over \$1,500,000 making the largest November in the history of the company. This is an increase of more than \$660,000 over November, 1917.

The three leading North American Life producers for the month of November were: H. W. Slipchenko, Saskatoon; J. A. Collins, Edmonton, and A. H. Westhaver, Saskatoon.

Mr. E. J. Harvey, supervisor of agencies for the North American Life, has just returned from a visit to the eastern agencies.

New agents appointed during November were: Geo. E. Shortreed, Hillsdale, Ont.; Percy Hembruff, Espanola, Ont.; S. L. Bradley, Cochrane, Ont.; J. N. Stone, Campbellford, Ont.; E. L. Kirkpatrick, Roblin, Man.; W. J. Hamilton, Niagara Falls, Ont.; and F. E. Whittal, district manager at Windsor, Ont.