

## THE MERGER.

(Montreal Star.)

Mr. Jas. Ross has agreed to turn over to Mr. E. R. Wood, Sir Henry M. Pollatt, and Mr. W. M. Aitken, 50,000 shares of Dominion Coal Stock at \$95 a share.

The control of the Dominion Coal Co. now rests with steel and coal interests, who will begin work upon a merger, expected to greatly enhance the value of both Steel and Coal shares.

While Mr. Ross has disposed of the bulk of his Coal holdings, giving him \$4,750,000, it does not seem likely that many of the other Coal shareholders will sell upon the same terms, as payments are to be made quarterly over a period of thirty months.

They will be invited to do so shortly, but holders of over 50,000 shares of Coal stock have already signified their intention of holding their securities and going into the merger, which will, with its great plants and unlimited resources of iron ore and coal, prove to be the greatest industrial enterprise in this country, and one of the greatest in America.

The combined bond and stock capitalization of the two companies is about \$65,000,000, and both Mr. Plummer and Mr. Wood have said "no more water," which means that the concerns are going to be brought together without the inflation that has almost invariably been a feature of latter-day financial deals.

It will likely be some time before the interests now in control of the Coal Company meet in conjunction with the Steel people and formulate the terms of the merger to be submitted to the shareholders.

In the meantime however various schemes are being discussed informally, and it is likely that whatever plan is adopted there will be an exchange of securities upon a basis very advantageous to all concerned.

Mr. E. R. Wood believes that the combination of the two will eventually work innumerable benefits to the security holders of Steel and Coal.

Mr. Jas. Ross also speaks in a very sanguine way in regard to the possibilities of a merger.

The Steel Company is already undertaking improvements and extensions that will add several millions to its yearly income, while the Coal Company, now emerging from the strike, should enjoy a period of prosperity that the strike has denied it this year.

As already stated in the Star, Mr. Plummer will be president of the new enterprise, while the vice-presidents will be Mr. J. K. L. Ross and Senator L. J. Forget.

The Steel-Coal situation has taken many intricate twists and turns with the complexion of things chameleon-like in its changes. Instead of being the largest holder of Coal, Mr. Jas. Ross is now a moderate holder of Coal and one of the largest holders of Steel.

Some say Mr. Ross owns 12,000 shares of Steel, others say 20,000. In any case, Mr. Ross, Mr. Mark Workman, and Mr. H. F. Dimock are the three largest Steel holders, with Mr. Plummer and Senator Forget not far behind.

## IGNITION OF COAL DUST BY NAKED LIGHT.

At the annual meeting of the North Staffordshire Mining Institute, an address was given by Professor John Cadman, D. Sc., on the subject of 'The Ignition of Coal Dust by a Naked Light.'

In order to demonstrate that coal dust could be ignited by a naked flame, Dr. Cadman experimented with a sheet iron pipe, placed in a vertical position. At the base was a naked candle flame, and when some coal dust (Cockshead) was strewn in, explosions took place. First he tried some coal dust of 200 linear inch mesh fineness. Instantly a flame shot up, and there was an explosion which sent up a cloud of dust. Coal dust of 160 mesh fineness produced a slighter explosion.

Dr. Cadman did not believe that there was a single person who believed that coal dust would not explode. It would explode very easily indeed. It was fully established that coal dust, per se, was an explosive agent, and that almost without exception all colliery explosions of magnitude had been initiated or propagated by coal dust. A flame of considerable dimension was generally supposed to be necessary to initiate a coal dust explosion. Indeed the Royal Commission on Explosions from Coal Dust in Mines reporting in 1894 summarized their conclusions on this point as follows:—"Coal dust alone, without the presence of any gas at all, may cause a dangerous explosion if ignited by a blown-out spot or other violent inflammation. There appears to be no probability that a dangerous explosion of coal dust alone could ever be produced in a mine by an naked light or ordinary flame." Ignitions of coal dust, flour, sugar, etc., were by no means uncommon, and had frequently been traced to the flame of some open light or boiler fire. But such ignitions did not attract general attention, and their significance was apt to be misunderstood. Whilst conducting a series of experiments at the Birmingham University, with a view to ascertaining how far coal dust could be exploded by the break of an electric circuit, or by the flame of an open light, he was astonished to find with what ease coal dust could be ignited if only the requisite state of fineness of particle were present. That paper was intended to very briefly place on record a few experiments respecting the ignition of coal dust by means of an ordinary candle flame. The subject of electric ignition would be dealt with in a subsequent paper, and it sufficed to say that currents of a comparatively low order might be made to produce ignitions of dust.

The experiments had been mainly conducted in a wooden gallery 12 ft. long by 8 inches square, although some of the tests had been made in sheet iron pipe 9 inches diameter, and of similar length. The gallery was placed in a vertical position with a candle burning at its base. Coal dust having been previously ground to the requisite fineness was gently thrown into the top of the gallery, until the cloud of dust gravitated to the bottom and became ignited by the candle, and explosions were produced varying in intensity in accordance with the dust. Generally speaking, with a given sample the finer the particle the more violent the ignition. The experiments had demonstrated that fineness of particle played an important part in the initial ignition of the dust. With the sample of Cockshead used faint ignitions were obtained with a dust which passed the 100 mesh sieve, and which would not pass the 150 mesh, and it was interesting to note how the per centage of ash increased with the finer dusts. Although it was obvious to the eyes that different degrees of fineness produced different velocities at ignition, as indeed occurred with samples of different dusts of the same fineness, he was not able, so far as those experiments went, to put figures to the velocities. It was, however, intended to record the time that it took the flame to pass given points in the gallery in order to compare ignitions of various dusts of different degrees of fineness.