

## U. M. W. A. METHODS.

The United Mine Workers' Journal, the official organ of the U. M. W. A., is a weekly published in Indianapolis. Its editorial columns are filled with the kind of stuff that incites ignorant men to violence. From casual inspection of its editorials we are led to conclude that its methods are mediaeval.

For instance, in referring to the Glace Bay strike, the U. M. W. Journal of July 22 remarks editorially that the Dominion Coal Company pays a maximum wage of \$1.40 per day. This is so absolutely absurd that it warrants the conclusion that the U. M. W. A. is consciously hard up for an excuse, and that its organ is doing its best to manufacture a colourable story.

Unionism of this kind is not wanted in Canada. As we suggested in our last issue, deportation of U. M. W. A. agitators is a necessity—Canadian Mining Journal.

## THE MANUFACTURE OF COAL GAS.

The manufacture of gas from coal has now reached a state of perfection, and it may be informing to many of our readers to know how the process is carried out.

This is done in a series of closed vessels. The first process is to break up the coals to about 2 inch cube, and then place them either by hand or by machinery into clay retorts, placed horizontally about 20 feet long. This coal (in about 7 cwt. charges) remains there for about six hours, at the end of which time most of the gas has been driven off by the application of heat surrounding the retorts. The heat is derived (in all modern work) from producer gas, worked on the regenerator system, to a temperature of from 1,600 to 2,500 degrees Fahr. After the gas leaves the retort it passes up an ascension pipe about 6 inches diameter to a hydraulic main, from thence to a larger main pipe, and then to condensers which consist of a series of pipes for further cooling the same, and bringing it down to the temperature of the atmosphere. During this process a large quantity of tar and ammoniacal liquor is formed, which runs down into the tar well. The gas then passes on through another large vessel called a tar extractor, which is filled with various devices for removing the whole of the tar from the gas. It then proceeds to another vessel for the removal of the whole of the ammonia, and this is generally accomplished by passing a stream of water distributed over a service of boards in a large vessel. The gas passes through this vessel and the water absorbs the whole of the ammonia left. It then proceeds towards the purifiers which consist of large cast iron boxes which are filled either with oxide of iron or lime in various thicknesses according to the size of the works. In large works the gas passes through several feet of these materials which remove the sulphuretted hydrogen and carbonic acid and other impurities. The gas then goes forward to be measured through what is called the Station Meter, which continuously records the hourly make of gas. From thence it goes to the large gas holders and is distributed by governors and other apparatus under varying pressures to the several districts in the town. The quantity of gas obtained from each ton of coal varies according to the quality of the coal, and ranges

from about 10,000 to 11,000 cubic feet.

The tar produced varies from 9 to 12 gallons per ton, the ammoniacal liquor from 25 to 45 gallons per ton of coal carbonised and the coke produced is about 14½ cwt. per ton of coal carbonized.

In the early days of gas manufacture there was very considerable difficulty in getting rid of the tar and ammoniacal liquor, but now by the aid of chemistry and science they have become very valuable. The tar is distilled, and from the products all the beautiful aniline dyes are made, and the ammonia is manufactured into sulphate of ammonia which is one of the best fertilisers now so largely used for agricultural purposes.

## WORLD'S PRODUCTION OF GOLD IN 1908.

The world's production of gold in 1908 was valued at £88,876,462, as compared with £82,258,891 in the previous year. The production in 1908 was not only the largest on record, but it also showed a larger increase compared with 1907 than for any time since 1898. Large increases in production are shown by the United States, Canada, Mexico, Russia, Rhodesia, and the Transvaal. The production of British India was about the same as in 1907. The only important gold producing country which showed a decrease was Australia. In spite of the lower price of silver there was an important increase in the production of that metal, which amounted to 200,655,383 ounces in 1908, as against 183,386,250 ounces in 1907. The decreases in the United States and Australia are explained by the reduced outputs of some of the base metal mines which yield silver as a by-product of copper and lead. The large increases in Mexico and Canada are explained by the extension of the application of the cyanide process to the treatment of silver ore in the former country, and to the large production of the Cobalt district in the latter country.

## MINE WATERING AND DUST.

With reference to the problem of watering mines to prevent dust explosions, a number of engineers have lately condemned this system as inefficient, not only because of the increase in fatalities from falls of roof, but also because of the explosions at the Reden, Radbod, and other collieries in Europe and America, where the sprinkling system was in use, showed that this method of watering does not render dust innocuous. In dealing with this question, Mr. Frostmann, taking the case of the Reden mine in Germany, says that although the system of water did fail in the Reden mine, it must be admitted that this system was on account of the fact that sufficient attention had not been paid to the danger of the mine drying up through the large quantity of air passing in the cold season. The explosion at Reden took place on a Monday morning shortly after the descent of the miners. The mine had therefore not been watered for about 36 hours. The average temperature of the outside air was at that time about 26.6 degrees F. The air left the mine with a temperature of 78.3 degrees F. Each cubic