

sisted of a fire-brick chamber with fire bars at the bottom, a funnel at the top for charging the fuel, and a tube for carrying off the gas. This rudimentary producer, although still in use at a few works, has been greatly improved upon by recent inventors, among whom may be mentioned especially Wilson, Taylor and Dr. Mond. There is no doubt that as steel making is so rapidly superseding iron making, there is a great future for coal dust in this connection.

I have incidentally referred to what is at present the largest market for this article, namely coking; in fact, as is well known, there are large districts where the whole of the soft coal produced is crushed, in order to be converted into coke. On this head it has been conclusively established that to make a satisfactory coke all coal requires washing, and of the various appliances in use for this purpose, there is little doubt that for efficiency and economy, especially in dealing with large quantities, the "Shepherd" is far ahead of all competitors.

The next purpose for which coal dust can be most profitably used is in the manufacture of "patent fuel," or "briquettes." The extent of the business in these is difficult to realize, but the following figures will give some idea of what is done in South Wales, which is the home of this important and lucrative industry:

During July, 1896, Cardiff exported 36,081 tons; Swansea, 33,034 tons, and Newport, 7,832 tons. A total of nearly 77,000 tons. Of this, not less than 25,000 tons crossed the Atlantic and was distributed through the West Indies, Central and South America, the balance going principally to the Mediterranean and French ports.

Although this industry, like all others, has seen its up and downs, few indeed have proceeded upon the even tenor of their way with less fluctuation, and the popularity of the commodity has increased every year. This is not to be wondered at when the many virtues of this class of coal are considered, notably its cleanliness, portability, adaptability and durability, and I for one hold to the opinion that during the next twenty years it will largely supersede the use of ordinary coal. Recently it has made great strides in France, Italy, Spain, Central and South America for steam purposes, many of the locomotives using it exclusively.

The greatest hindrance to the development of briquette making has been the difficulty of procuring a cheap and efficient "binder." Hitherto pitch has been almost universally resorted to, but of late years, owing to the appropriation of the products of tar distilling for other and more profitable purposes, there has been a diminution in supply and consequent increase in cost. This has driven our inventors to seek some more suitable substitute and one or two have been discovered and patented. The most important has emanated from the well known firm of Cory, Yeo & Co., Swansea, and this has reduced the cost of manufacture to about one shilling per ton.

It is not impossible that having regard to the high percentage of pitch naturally contained in coal in the form of bitumen, science may devise a means of treating coal dust so as to compel it to yield its own binder by exudation. In any case, this branch of our subject presents many interesting and attractive features, and there is little doubt that in the near future it will furnish a still wider field for the use of coal dust.

The last and certainly not the least important direction in which we have to look for a market for this fuel is close to our own doors, where we are consuming from 5 to 10 per cent. of our output on and about the mine for fuel purposes. In this connection I would like to ask how many mines are confining their consumption exclusively to duff or even how many are using a large percentage of duff, and yet there is no reason why any higher class of fuel than this should be used for steam generation. Many processes have been invented, and some of them patented. The more scientific and costly require the duff to be ground to impalpable powder, when it is used by means of a high forced blast discharging it into a fire brick retort, where it becomes practically a floating incandescent mass. There are five systems working on these lines in Germany, the most successful being the "Wegener," but they are all open to a strong objection in the cost of crushing the coal to a uniform series of tiny particles, and the difficulty of maintaining a uniform heat.

There are, however, simpler appliances by means of which ordinary coal dust can be fired under any type of boiler in the usual way, and as satisfactory results obtained as by the use of more expensive fuel. The only preparation necessary is to restrict the admission of air, to substitute deeper and closer fire bars, and to introduce forced draught from the bridge, and not, as is generally done, at the front of the furnace. This forced draught can most economically and easily be produced by the introduction of a tiny jet of live steam, superheated in a retort before it impinges on the flame. This is the principle of the Wilton and also the Howl patents, which have worked satisfactorily for seven years, and which only require to be better known that they may be generally adopted.

From the foregoing brief summary of the uses to which coal dust may be applied, and the extent to which it has already been used, it is surely not too much to say that it has a high economic value, and that any firm allowing it to accumulate on a waste heap is neglecting to utilize a valuable portion of their produce.

Improvements at Joggins Colliery, N.S.

A correspondent writing from Joggins respecting the operations of the Canada Coals and Railway Co. says:—"Since the strike, matters have progressed very satisfactorily, and the utmost good feeling between men and management is the order of the day. Since the general election our working time has been much broken up till last week. This has been mainly due to the pernicious effects of the strike, as also to dull trade. We are now working steadily, and strong hopes are entertained that good work will reign from this out."

We find that consumers won't buy until September, probably due to the unsettled state of affairs in the country. Consequently shipping, by water particularly, has been very light. However, water shipments are now commencing, and we anticipate shortly much better trade than last year at this time. The railway shipments are steady and improving. The demand for small coal is exceptionally good, so much so that we are only able to supply half of the orders received.

Only one of the slopes is working, and No. 2 is being repaired with a view to opening up shortly. A fan 14 ft. in diameter has been erected and will be in operation this week at No. 3 slope. It is an open fan and capable of giving 50,000 cubic feet of air per minute at a speed of fifty strokes. It is a facsimile of the fan generally in use at the mines of the Summerlee and Mossend Iron and Steel Co., Scotland, and it has been proved to give results equally as good as the Guibal fan, everything being equal, and can be erected at about one-third the cost.

I should mention that the coal coming from the slope working (No. 3) is of a superior quality to that got in any other portion of the property, and our customers are loud in their praises regarding it, and I believe it is only a question of time when this coal will come to be recognized as the foremost coal for steaming purposes in the provinces, if not all Canada. It is also a good coking coal, and I intend sending you a sample at an early date."

MINING NOTES.

Nova Scotia.

There are a few wild-cat circulars still floating around booming up worthless properties, and we notice in one instance that the promoters are not above using expert testimony in a way that was never intended. To clip a report in such a manner as to convey a totally different meaning to that originally intended, is sinking about as low as possible, and we strongly advise the investing public to make inquiries before sinking money. When the whole report of an expert is not in a prospectus, it may fairly be assumed that there is a very good (or bad) reason for leaving parts out, and the practice is to be strongly condemned.

A company is being formed to start gold mining operations at Block House, Lunenburg County. Some very good ore has been taken from this property, but has had to be carted a considerable distance to be milled.

There have been several fresh discoveries of gold in various parts of the province. A new lead has been discovered at Forrest Hill. The Government had provided some money for the improvement of the roads, not, by the way, before it was needed. In repairing the road a boulder showing gold was found, and the lead was found by trenching thirty feet. Another accidental discovery has been made between the Salmon Hole gold mine and the Oxford mine at Chezzetcook. Some time ago a man was going through the woods, and in climbing a cliff pulled some moss away which revealed quartz; by pulling more moss away a wide belt of quartz was found which showed gold. The man made several attempts to locate the place again and only succeeded on Labour Day.

New finds of gold are also reported from Eastern Passage and near Rockingham.

Mr. Carnegie Williams, of London, has been examining some old tailing dumps at Rawdon in the interest of parties in England.

Mr. C. F. Andrews has resigned the management of the Richardson mine, and Mr. Cox, of Isaac's Harbour, will probably take control.

The Barachaois mine at Wine Harbour continues to show improved returns.

The North Brookfield mine continues to keep up its very handsome returns; 376 oz. was the yield for last month from 431 tons of rock. Satisfactory progress is being made with the new plant which we hope to see running by the new year.

Mr. Partington was recently in the city and reports that the Oxford mine is looking really well, and he hopes to soon be producing some healthy bricks of gold.

Mr. Damas Touquoy was in town with a 69 oz. brick of gold.

The Golden Lode mine produced 759 oz. of gold from 91 tons of quartz, for the three months ending July 31st.

The Modstock mine produced 360 oz. of gold from 767 tons of quartz, for the three months ending July 31st.

During the month of August the two mills working at Goldenville produced over 300 oz. of gold, of which the New Glasgow Co. contributes nearly two-thirds.

British Columbia.

Boundary Creek.

While development work during the past month has been going on more slowly than could be wished, still a considerable number of sales have been made, and from the condition of affairs at present it seems probable that during the coming fall and winter such work will be quite extensive and systematic.

In Long Lake camp, Leslie Hill, for Mahon, MacFarlane & Mahon, of Vancouver, has bonded one-half interest in the "Denver Grande," for \$10,000; and a three-eighths interest in the "Jewel," 10 per cent. down. It is understood that these parties will commence development work as soon as the remaining interests are secured.

The "Amanda" has been bought by Charles Collins and associates for \$3,000. The five foot ore body on this property at present promises extremely well. The quartz in places has a uniform blue-black appearance, having been permeated by solutions of tellurides—principally hessite. On the same lead the "Alice," at the bottom of the 50 ft. shaft, shows 3 ft. of quartz, mineralized chiefly with pyrrhotite, the roughly concentrated mineral carrying over \$200 per ton in gold and silver.

In Providence camp, a considerable quantity of massive native silver is being taken out of the 8-inch vein on the "Combination."

Preparations are being made to continue the 50-ft. shaft on the "San Bernard," on which a 6-inch vein of extremely high-grade ore is being followed.

In Copper camp, on the "Copper," the cross-cut at the bottom of the 50-ft. shaft is in 70 ft., and for the last 30 ft. has been in good ore. It is expected the hanging wall will be struck in a few more feet. As on the surface the ore is brown hematite, with copper oxide and glance. The favorable appearance of the "Copper" will materially strengthen the confidence of mining men in the camp.