

MINING.

THE CANADIAN ASBESTOS INDUSTRY.

Written for the Engineering and Mining Journal.

Until 1879 Italy supplied nearly all the fibrous asbestos required by the world, but in that year a number of companies were formed to work the veins known to exist near Thetford and Black Lake, in the Province of Quebec, Canada. Since then, owing to the constantly extended use of woven asbestos, the mining of this mineral has become of considerable importance. According to the official statistics of the Canadian Goological Survey, the value of the asbestos mined in Canada in 1891 was \$1,000,000, being exceeded only by that of coal, nickel, copper and petroleum. This industry is now in the hands of 13 incorporated companies, having

This industry is now in the hands of 13 incorporated componies, having an authorized capital of about 3½ million dollars, of which 2¼ millions are, according to Mr. Klein, invested in the industry in Canada. To prepare the asbestos for market two operations are necessary, viz.:

To prepare the asbestos for market two operations are necessary, viz. : the mining proper and cobbing or separation of the asbestos from the adhering serpentine. At most of the mines the drilling is done by steam or compressed air, 45 ft. of hole per day of 10 hours in the former case and 50 to 55 ft. in the latter being considered a fair day's work at an average cose of seven to eight cents per foot of hole drilled. At present there are in use seven c.mpressors, with a total capacity of 44 drills, and there are 44 steam drills.

The average cost of drilling amounts to three and one-half cents per too of rock broken.

Dualin, which contains 35 per cent. nitro-glycerine, and costs 20 cents per pound, is the explosive used; it is fired by electricity. The expense freexplosives is about 3 cents per ton of rock. The broken rock is roughly sorted in the pit, the waste reck being sent to the dump by wheelburrows, or in the larger mines by derricks, and the crude asbestos to the cobbirg sheds. The cost of this averages 25 cents per ton of rock.

The s-cond and most important part of the work is the dressing of cobbing of the asbestos and then grading it. This grading is generally dote by hand by boys. Some of the mines have, however, partially or entirely adopted machinery for this purpose, in order to avoid the loss of asbesta contained in the so-called cobbing stone, *i. e.*, large pieces of rock with a voin of asbestos in it, which did not separate by the blast, and which car only be separated by heavy sledge hammers or by crushing.

The first to try to solve this problem was the Scottish-Canadian Asbest. Company. Their plant consisted of a Blake crusher, travelling picking tables. Cornish rolls, revolving screens, elevators, chokers and blowere.

The Anglo-Canadian cleo runs a crusher and a set of sieves, and is Johnson's Company has recently put in a couple of crushers to overweak the old dumps. None of the processes at their present state, however, my as yet be considered complete, the main difficulties being two:

1. That, if asbestos is crushed with a considerable amount of stone, us the latter is reduced to powder—the long and most valuable asbestos partially destroyed.

partially destroyed. 2. If the stone is not entirely reduced before grading, it is new impossible to free the fibre from the stone, and a large amount of waster the result.

The cost of cobbing, according to Mr. Klein, varies considerably, according to the quality of material. While some ashestos will break from the six very easy, other requires considerable labor; then larger veins will some be gathered than small ones. He places it, including the breaking of a cobbing stones, at \$7 per ten at the leading mines.