MICA IN QUEBEC.

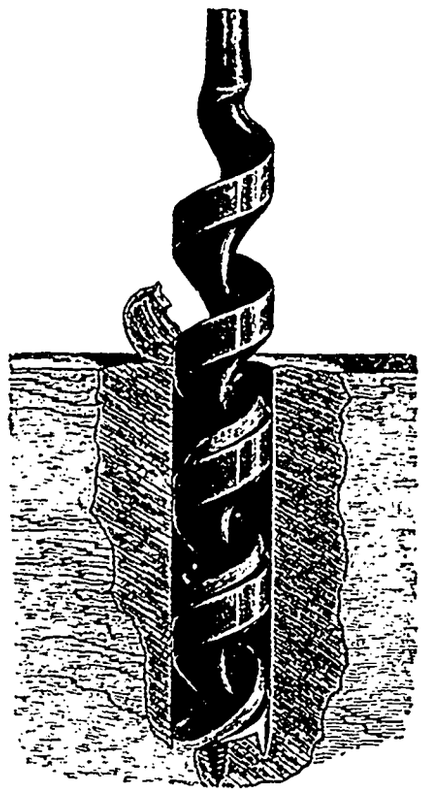
There has been considerable development in the mica industry in Quebec in the past year, as is shown in J. Obalski's report to the Department of Mines, where he states that in 1897 from 50 to 100 men only were employed in the mines while in 1898 the number employed in them and in trimming the mica exceeded 250 with seven or eight important mines in operation, and some twenty prospects producing a little mica. In the course of the year, a large number of prospecting licenses in the counties of Ottawa and Pontiac were taken out. In the latter, some discoveries were made, so far of little value, but which may lead to more important finds.

The demand for amber mica, which is almost exclusively shipped to the United States, is good, and we must believe that the Canadian mica is well appreciated, seeing that it finds a regular market notwithstanding the high duty of 20 per cent. ad valorem and 6 cents per pound, on thumb-trimmed mica and 12 cents on the knife-trimmed article, and it may even be remarked that the consumers, while being very hard to please as regards the fashion in which the mica is prepared, are less so with respect to the quality itself; certain dark colored micas, which were formerly difficult of sale, now finding purchasers more easily. The demand also appears to be better for small mica and less for the large, which results in the first place from the great difference in price, which may range from 5 cents for one by three inches, to $1 per lb., for mica of large dimensions. These large dimensions were formerly necessary, but they are now replaced by plates of micanite (prepared by E. Munsell & Co., of New York), or of micabeston (prepared by W. H. Sills, of Chicago), which are nothing but thin plates or sheets of small mica glued one upon the other, and afterwards pressed to the thickness of one-sixteenth of an inch, thus forming plates which are cut any desired size. The United States customs duties are paid by the consumers and weigh more heavily on the small than on the large mica. Thus, mica of 5 cents per lb., or $100 per ton, has to pay 20 per cent. or $20, besides 6 cents multiplied by 2,000 or $120, thus $20 + $120=$140 or 140 per cent., while mica of $1 per lb., or $2,000 per ton, has to pay 20 per cent of $2,000 plus 6 cents multiplied by 2,000, namely, $400 + $120 = $520 or 26 per cent., freights being the same. The tariff of 12 cents on knife-trimmed mica also explains why thumb-trimmed mica especially is shipped, upon which there is only a duty of 6 cents, besides the 20 per cent. ad. valorem. The mica is sold in barrels weighing 350 lbs. net.

AN IMPROVED BIT.

We illustrate the Ford patent bit, a tool which has been subjected to thorough testing upon different kinds of wood and which has a distinguishing peculiarity over other bits, which lies in the twist. Its shape is determined by and defined as that of a single concaved twist. This gives it a single cutting edge and a single projecting lip. The thread of the screw point is a continuation of the twist of the upper part, so that one merges into the other. The concave shape of the upper surface of the twist has the effect of drawing the borings towards the centre or axis of the bit, thus preventing friction of borings against the sides of the hole, and thereby also preventing choking, says The Scientific American. For this bit, the necessity of constantly withdrawing for removing the chips does not exist. The cut shows the self-cleaning action of the tool, and also presents its general shape. The drawing was made from an actual boring with the bit, the hole being made one-half in each of two separate pieces of wood, which were then separated to give the model for the artist and to show its action. The bits were tried in different kinds of wood vertical to the grain, diagonal thereto, and in other ways. The straightness of the hole was also remarked, and the absence of any tendency to split the wood was an evidence of the good clearance. The screw point held its grip very well, no pressure whatever being required for the feed, even in end grain boring. The action of the edge is a true cutting one, not a scraping one. The Aikenhead Hardware Co., of Toronto, will send prices on receipt of enquiry.

The Ford Bit Company has perfected a tool that has taken the lead over all makes of auger bits, says the American Review, December, 1898. This bit differs from other makes in the twist, its shape being a single concaved twist forged from the bar into shape between dies under heavy trip hammer blows, which process makes the grain in the steel much finer and tougher than can be made by the old process of twisting. This peculiar twist gives it a single cutting edge and a single projecting lip. The thread of the screw point is a continuation



of the twist of the upper part, so that one merges into the other. The concave shape of the upper surface of the twist has the effect of drawing the borings toward the centre or axis of the bit, thus preventing friction of borings against the sides of the hole, and thereby also preventing choking. For this bit, the necessity of constantly withdrawing for removing the chips does not exist. Another peculiarity of the Ford bit is that the screw point holds its grip so well that no pressure whatever is required for the feed in end grain boring. It is equally effective in all kinds of wood in any angle, and will make a hole cleaner and straighter than can be done by any other tool, which is fully demonstrated by the fact that this bit can be used successfully inside a hollow mortising chisel, the action of the edge being a true cutting one, not a scraping one. The Ford improved bits are made in various sizes and for various kinds of work. Their regular car bits are for fine work and deep boring; ship auger car bits for rough and rapid boring in hard wood for car shop work, also ship auger bits, ship augers, etc., either with or without screw for shipyard work. They are put up in half dozen and dozen sets of assorted sizes, packed in neat cherry boxes. A full display was made at the Mechanics' Fair in Boston during October and November, 1898.

OTTAWA VALLEY CANAL.

McLeod Stewart, chief promoter of the Montreal, Ottawa and Georgian Bay ship canal, has returned from Great Britain, where he has been engaged in floating a company to take up the enterprise. The result of his visit is, he says, the formation of a company and a guarantee that if the needed encouragement is forthcoming, the work on the canal will be commenced in August of this year, and completed by July 1, 1902. If the necessary encouragement is given by the Government, he says, the scheme will be financed without difficulty. The sum of $2,000,000 has been subscribed, and $200,000, an essential guarantee before legal organization could take place and the work proceeded with, has been paid into Lloyds' Bank, with instructions to transfer it to the Canadian Bank of Commerce in Ottawa. The engineers, including Kenneth Mackenzie, son of Sir J. Mackenzie, Bart., are coming out to complete the sur-