THE SAW MILL OF THE FUTURE.

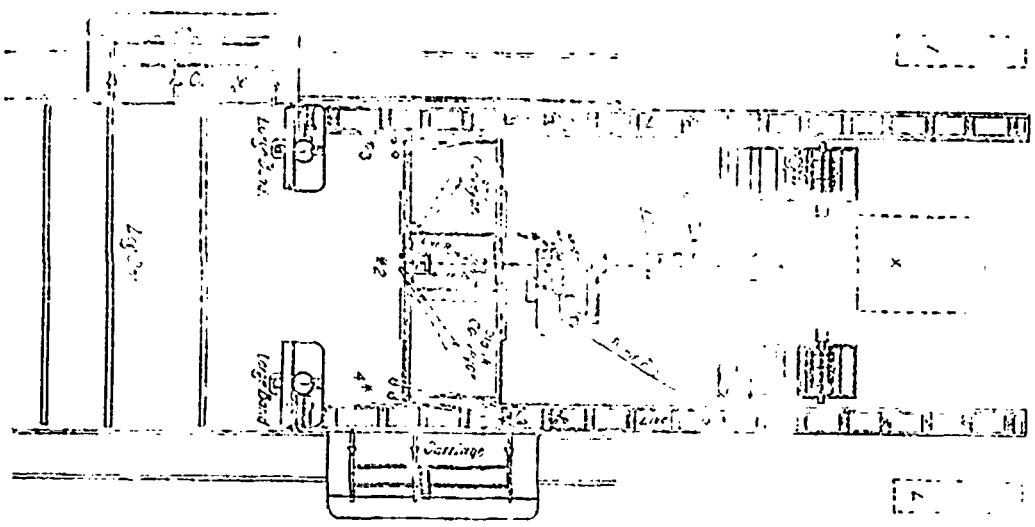
I HAVE recently travelled in different timber districts in the United States, Canada and Europe, and owing to my business, as well as my mechanical tastes, have had my attention called to the different methods of saw milling pursued in these different countries and under different conditions. As was to be expected, where the timber is most valuable, the thinnest saws are found in use. In the old countries of Europe their methods of sawing are very slow, and to the American they seem very far behind the times; in fact, their saw mill machinery would not be tolerated for an instant in a saw mill on this side of the water.

But as our timber is becoming scarcer and the better grades are becoming more valuable all the time, our progressive mill men are looking about for better saw mill equipment, and the American saw mill of the future will have to meet the demand for that economy which is practiced in Europe, without sacrificing to too great an extent the present capacity.

There can be no doubt that the band saw is the tool to which we must look, and thinner saw blades must be employed than those in common use at present. Advance in this, as in every other line of progress, has not taken place steadily, but after an advance there has been a backward step. Thus the first band saw blades used were much thinner than those used at present. They were not entirely satisfactory, mainly for the reason that the operator did not know how to care for them. If a saw blade refuses to perform the work in the best possible manner, there are always two ways to remedy it, one to abandon the thin saw blade and use a thicker one and this, I regret to say, has been the usual practice and accounts for the thick band saw blades we are now using. The other and the correct method is to fit the saw blade more carefully, to study the reasons which have caused it to do imperfect work, and to correct these defects. We are now commencing to do this, and the writer confidently predicts that within five years, in place of 14-gage band saws being the standard thickness, you will find saws 16-gage and thinner will be the rule.

I believe that the ideal mill of the future will use saw blades 17-gage in thickness. The advantages they will possess are numerous; they will be more flexible. This means a band mill with wheels of comparatively small diameter, and will admit of a much lighter, more compact, and hence more portable mill. Our valuable timber in many states, like Tennessee and Kentucky, is located in a hilly country, and the logs can not be transported to the large river mills. The saw mill of the future must go to the logs, and not the logs to the mill. There will be no disadvantage in the way of capacity in this respect. To begin with, we, none of us, know the maximum capacity of a band saw blade.

I was recently in a saw mill in northern Wisconsin. This mill was sawing logs averaging 18 or 20 inches through. I noted carefully with my watch the length of time elapsing from the time the saw entered a 16-foot log until it emerged from the other end. Often no more than two and one-half seconds were required, and never more than three seconds. Of course this was a 14-gage, 11-inch saw, but thin saws are doing even more than this in proportion. A firm in Illinois recently sawed, on a band resaw, carrying 19-gage saws, 39,960 feet of 1 × 12 cottonwood in nine hours. The saw blades were, most of them, old and narrow, and thus their average width was not over four inches, probably less. This firm takes special pride in the small saw kerf removed, hence this day's work means much more than if they were making this capacity at the expense of the quality of the sawing. This, of course, was a continuous feed, and there was no lost time as would be the case in sawing logs in a saw mill; but allowing two-thirds lost time for reversing the carriage and loading and turning of logs, you still have about 15,000 surface feet, which could be sawed by a log mill with a 19-gage 4-inch saw if it were fitted and cared for as well as these blades were.



MODERN DOUBLE BAND MILL, WITH RESAW.

The small band mill which will be used in the future will have 60 to 70 per cent. of the capacity of the present large band mill; 1-16 inch in saw kerf will be saved as compared with the present 14-gage saws. In the large plants of the future, where the capacity must be maintained, band resaws will be used for this purpose. They will be placed directly back of the log saw, which converts logs into flitches, and the band resaw will convert this latter into boards or planks of the required thickness. This feature is not experimental. They are being used extensively for this purpose at the present time. One firm alone has sold over thirty to saw mill owners during the past two years.

The accompanying diagram represents a double band mill, which, equipped with 18-gage saws, will produce 75,000 to 80,000 feet of four-quarter pine in a day of ten hours. It will remove a saw kerf of 5-64 inch. This capacity, at first glance, would seem impossible, but when it is remembered that the present band mill carrying 14-gage saws will saw 40,000 feet of inch boards per day of ten hours, unquestionably the same number of logs could be handled with a thinner saw blade if only one-half of the cuts were made. In the proposed mill this will be done, the band resaw making each alternate cut.

The saw mill band resaw has many novel features in the way of set works, devices for sawing slabs, changing thickness, self-centering automatically, becoming rigid for slabbing, etc., as occasion may require. In the mill of the future all of these advantages will be insisted upon, and, moreover, in order to make all the saving which results from using so thin a saw kerf, a better class of set works will have to be used. There are a number of friction set works in existence at present, which are, undoubtedly, the outgrowth of this latest demand. In short, the future of the thin saw blade is brighter at present than ever before. It seems to meet every requirement, and the writer is never surprised at any new record that is made for either accuracy or capacity.—E. C. Mershon, in the Wood-Worker.

TRADE NOTES.

Senator Poirer, of Shediac, N. B., has purchased from the Robb Engineering Company, of Amherst, N.S., a 60 h.p. engine and boiler for his saw mill.

D. K. McLaren, 24 Victoria Square, Montreal, informs us that their western branch is open in the Imperial Block, Galt, where a full stock of belting, card clothing and mill supplies is on hand.

J. L. Goodhue & Co., of Danville, Que., are completing several large belts for a new saw mill on the Pacific coast, consisting of one 48 feet double, two 20 feet double, two 18 feet double, and the smaller belts required. They also have on hand a large order for an Ottawa concern.

The Canadian Locomotive & Engine Co., Kingston, Ont., advise us that they have shipped a carload of shingle machinery to McLaurin & McLaren, East Templeton, Que., and a carload to Gillies Bros. Co., Braeside, Ont., this month, besides several smaller orders, and business in this line is improving.

R. Bell, jr., of the Hensall machine shop, recently shipped the following orders: One large double saw mill top saws, log jackers and overhead centre, to Arrowhead, B.C.; heavy saw mills to Arnprior and Hagarsville, Ont.; medium saw mills to Orillia, Tweed and Toronto; engine and boiler to Dashwood, and wood-working machinery to Toronto.

Mr. Madison Williams, successor to Paxton, Tate & Co., Port Perry, Ont., has recently shipped and has under construction the following: 10-inch brass horizontal mining wheel, with Globe case, to British Columbia; 23-inch Vulcan to D. McInnes, Judique, N.S.; 26½-inch Vulcan and case to Thos. Elliot, Hamilton, Ont.; one 40-inch and one 48-inch Leffel to St. Hyacinthe, Que.; one 44-inch Leffel to E. H. Bartlett, Bartlett's Mills, N. B.; set of heavy gearing to Hon. J. B. Snowball, Chatham, N.B.; 20 ft. Lane saw mill and carriage, with special rope feed-works, to S. G. Parkin, Lindsay, Ont.

Messrs. Baldwin, Tuthill & Bolton, of Grand Rapids, Mich., report the following recent sales of band or gang saw filing room outfits: Mitchell & Rowland Lumber Co., Toledo; Union Dry Dock Co., Buffalo; Raine & Raine, Empire, Pa.; W. A. Jones & Co., Caledonia, Pa.; Clark-Rowson Lumber Co., Grand Rapids, Mich.; Kalamazoo Sled Co., Kalamazoo, Mich.; Saginaw Mfg. Co., Saginaw, Mich.; Montgomery Bros. Lumber Co., Buffalo, N.Y.; Woodward Lumber Co., Atlanta, Ga.; Hubbard Bros., Mobile, Ala.; Jos. F. Paul & Co., Boston, Mass.; H. A. Hodges, Buffalo Bluff, Fla., together with single machines or partial outfits to over 60 other concerns throughout the United States and Canada. They are having a remarkable demand for their 1898 book on saw fitting from both millmen and filers.