

## CAPACITY CIRCULAR SAWS.

The following is from Emerson, Smith & Co's hand book for sawyers: "How much lumber to each horse power will a circular saw mill cut? is often asked. A horse power is that which will raise 33,000 pounds, one foot high per minute; 12 superficial feet of heating surface on a boiler, is supposed under ordinary circumstances, to generate steam for one horse-power. In a large mill of thirty horse-power capacity, each horse-power ought to manufacture 1,000 feet of lumber; but in smaller mills, proportionately less. A ten horse-power ought to manufacture or saw 5,000 feet per 12 hours. Mills of larger power than 30 to 40 horse, ought and generally do, overrun 1,000 feet to the horse. The friction of a small mill being proportionately greater than that of a larger mill, the leverage upon circular saws of same size being the same in each, and the power required to keep up the momentum being the same in both, is the cause of this disproportion in capacity. In very hard timber 16 teeth to every inch of feed is a suitable number. And in soft timber, 8 teeth, and in medium or mixed timber, hard and soft, 12 teeth to every inch of feed is plenty. The above rule applies to saws not thinner than No. 8 gauge. Saws No. 8 gauge and thinner require proportionately more teeth; thicker than No. 6 gauge require proportionately less teeth.

Each tooth in a circular saw, No. 9 gauge, and thicker, that is used on a board mill, will cut on an average from 500 to 1,000 feet of lumber per day and consume from one-half to a full horse power.

## A SAW WITHOUT TEETH.

A saw without teeth that will cut steel rail in two minutes is in operation at the Central Hudson shops in Greenbush, N. Y. The saw is run by a ninety horse power engine, more power than is required to run all the other machinery in the shops, and is 38 inches in diameter and  $\frac{3}{4}$  of an inch thick at the edge. The disk is made of Bessemer steel and runs at a very high rate of speed. While in the operation a Band of five encircling the saw, and the many sparks flying from the revolving disk resembles a display of pyrotechnics. To keep the saw cool and to prevent it from cracking, a tank of water is placed above the machine from which a small stream runs down and drops on the saw while in motion. By this plan one saw will cut nearly 3,000 rails before it is worn out. A steel rail after about six years' constant use, becomes battered at the ends, and by cutting them off the rails can be used in branch and switch tracks. Rails are cut by this machine for the whole line of the Central Hudson railroad. The saw while cutting, bears down hard on the rail, the end of which is left as smooth as the bottom of a flat-iron. One remarkable thing about the machine is that the chips cut from the rail fly back under the the saw with such force as to form a solid piece of steel nearly as firm as the rail itself.

## A BIG POPLAR.

The Cornersville (Tenn.) correspondent of the *Marshall Gazette*, writing to that paper says: "The big poplar tree in Dogget's cove has been a noted landmark for nearly 70 years, and is more talked of, perhaps, than any tree in the state. Its size has from time to time been given all the way from 29 to 33 feet in circumference. Passing that way recently I went to the tree, viewed it and measured it carefully. The bark, which was three or four inches thick, had most of it fallen off, and I found it to be 26 feet and, perhaps two inches in circumference, clear of any spurs. It has the appearance of being slightly hollow, and is in dying condition. The trunk is fully fifty feet to the first limb. It is a monster tree and there is a vast amount of good timber in it, but it will soon be ruined. This section has always been noted for its large fine trees. A beech tree standing on the old county line, about five miles north-west from this place, and which was blown down some six or eight years ago, had a perfectly straight trunk of nearly 60 feet, clear of limbs, and was 5 feet 5 inches in diameter, and in consequence, difficult and hard to handle."

BRITISH COLUMBIA saw mills are said to be kept very busy, and are scarcely able to keep up with the orders that are coming in.

## WISCONSIN LOGS.

A careful inquiry among lumbermen leads to the discovery that about two-thirds of the log crop is hung up, and cannot be delivered at the booms without a freshet. Of the 200,000,000 feet of logs banked on the Wisconsin and its tributaries north of the city, less than 70,000,000 feet have as yet reached the booms. About 35,000,000 feet are laid up in the Tomahawk, having made all stages of progress from the source to the mouth. The remainder, about 95,000,000 feet, are in the main river between Eagle and Stevens Point. About ten days ago a jam formed on Grandfather, which, from last reports, remains unbroken. This caused an abandonment of the Tomahawk drive, and a cessation of labor by the association. The drive for the season is virtually ended, and unless there comes a freshet not a log can be moved. Quite a number of the mills have hardly enough stock for a two weeks' run. The weather during May was unprecedentedly dry, and all the driving streams have shrunk and dried up much earlier than usual. Add to the dry weather the forest fires which have burned many thousand acres of pine, and the outlook for lumbermen and timber owners is not rosy. Indeed, it is a matter of serious moment to the entire people of this valley. Without logs the mills will be closed. This means hard times for laborers and merchants and will bring distress to many a family. It is beyond all human power to afford a remedy, and it behooves the laborers and workmen to make hay while the sun shines. Let them practice economy, act soberly and be industrious.—*Wausau Central*.

## A BENEFIT EITHER WAY.

American owners of timber limits in Canada acquired them with the intention of taking over the logs and manufacturing them in Michigan. The increase of the export duty to \$2 per thousand feet makes this design difficult of execution. It is probable that some logs will be taken over, in which case the Canadian treasury will get the benefit of the extra duty; and some mills may be erected by Americans on Canadian streams, by which the manufacture of lumber here will be extended. Owners of Canadian limits, residents on the other side, are reported to be about to try both experiments. One of these limit holders has sold at a good profit. The future state of the American market for lumber will probably determine whether logs will hereafter be shipped to the States in large quantities or manufactured here. Meanwhile there seems to be a disposition to prepare for both contingencies; and if expensive mills be once put up in Canada, the motive to work them, while any profit can be made, will keep them in operation.—*Monetary Times*.

THE *Monetary Times* says:—There has been shipped by the Collin's Inlet Lumber Co., so far this season, to outside markets, some two and a half million feet of lumber, leaving about the same quantity still in the yard. We learn from the *Manitoui Expositor* that the drives finished last Saturday. Cutting commenced in May and will be continued till October. About 75 men are employed by the company. The same journal states that the largest load of timber that ever left Canadian shores on one bottom was contained in the barge L. Hotchkiss. It was consigned to the Michael's Bay Lumbering Company at the south side of the Manitoulin Island on the 18th, and was composed of 18,000 ties, 12,000 pavement posts and 500 telegraph poles, a number of the latter being 65 feet long and two feet at the butt, the whole measuring 18 feet from the deck. This company has shipped, or will ship this year, half a million pieces in ties and posts, a million feet of lumber, and about 15,000 telegraph poles. Shipments are expected to be finished about the end of October.

DURING 1885 there was shipped from California to Australia 5,950,000 feet of redwood pine. This, in one way, indicates the possibilities of Canadian trade on the Pacific ocean when the line of steamers are running from the terminus of the C. P. R.

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