

thrown forward into the rolls or else they stick in the sash. It can happen that these loose pieces can cause bending or breakage of the gauge screws, and let the distance pieces between the saws come out. The broken off screws can damage the saws so that the partly cut log must be drawn out backwards in order to permit spanning one or more new blades, which, of course, is an aggravating and expensive proceeding. It often happens also that in sawing logs into boards with the tip end first the log, by reason of irregular projections thereon, is swerved sidewise, and this makes the boards "out of wind." Also, the passage of the log through the sash by means of the feed rolls is more difficult, and where the saws are dull the feed may refuse to act at all.

Where a horizontal sash is used the log must be run in butt first for all purposes, because every log, whether it is to be sawed into boards or merely squared, must be set to a certain gauge, horizontally, in order to make the first and the last cuts come out exactly right.

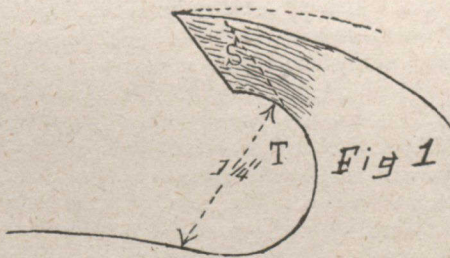
As, however, the local conditions vary so—as regards the taking the logs from the water or from the yard, for example—it is to be recommended that care be taken to turn the log, if necessary, before putting it on the trucks, so that the end may come first to the sash for which the special conditions call.

CIRCULAR TEETH AND THEIR CARE.

By A. M. St. Cyr.

I picked up a handbook by one of the largest and best manufacturers in the world and read as follows:—"The distance between points is so largely a matter of individual preference that we prefer to have it decided by our customers and noted in the order."

The maker of saws does not wish to commit himself to the opinions of A lest he miss a sale to B. The very indefiniteness of information in "handbooks" has led many to think that the spacing of teeth is of very minor importance, while in fact it is one of the "little things" that mean success or failure. There is one, and only one, best form of tooth and spacing.



A series of experiments made by Mr. Biddle a few years ago showed the facts to be as follows:—

At the proper speed a tooth will cut one-twelfth of an inch very nearly as easy as one-thirty-second; that in the same kind of wood the teeth "held their edge" in proportion to the time in the log; and that the limits of speed were 6,000 and 14,000 feet per minute. It is doubtful if the experiment was conclusive, for in the 50,000 feet per day mills there is a very different tooth put on at "quartering time" from what we see in a 10,000 mill.

This article is not written for men who can command a filing room worth the price of a good sawmill, but for men who must do the best with the material at hand.

We will suppose that your boiler is not over-cylindereed so that you can hold a uniform speed and that you wish to cut all the lumber possible from both hard and soft wood.

A sixty-inch saw with thirty-six teeth will give the best results on all round work.

This will give a spacing of 5 7/32 inches between points and without undue strain will stand a four-inch feed.

The form of tooth here figured will be found as nearly perfect as it is possible to make one; it has the form of a chisel, the shank "S" gives strength and the deep circular throat T gives ample room for circulation of dust. The saw once hung on the mandrel it must have a care that knows no cessation. In spite of all vigilance saws are worn out more by the file than by the log.



File square across the front, and cease filing when the tooth comes to a cutting edge. You cannot make it more than sharp. When you have filed away to the dotted line 't' is time to gum the saw.

If your business justifies a mill it will justify an eccentric swage and a tooth shaper.

The upset is good as an auxiliary, but it alone will not make the tooth shown in Fig 2.

I could almost advise a mill man to get a swage first and a saw with what money he had left. Long ago when I had a six by seven gauge saw, cut four to six thousand feet a day, I rounded up Saturdays. The rounder was a piece of sandstone. The saw would wobble and I would find some of the teeth as in Fig. 3. By the time they were squared up with the swage they were too short.

I have had good success with a piece of gas pipe held at right angles to the saw. It will bring the teeth down square.

But better than all is to never let the saw get "out of round."

A thin piece of board hollowed at one end to fit the collars gives a sure measure and the long teeth can be brought down with the file.

BAND RIP SAW CRACKS.

A certain planing mill had trouble with its band rip saw blades cracking. In spite of many suggestions offered, the saws kept on cracking, which kept the filer brazing about every time the saw was taken off. They were ripping 1 and 2-inch pipe stock, changing the saws twice each week. The stock was clean and bright, and the saws seemed to be all right with the exception of the cracks. They had taken off some of the weights, relieving the strain on the blades, with but little, if any, improvement. Finally a filer suggested changing saws oftener, and after much talking and figuring they concluded they would try the suggestion, though they had little faith in it. Much to their surprise, the change was just what they were looking for; the saws stopped cracking, the filer was happy and the owners well pleased. Having several resaws running and the filer being very busily engaged, it never dawned upon them that it was cheaper and quicker to sharpen often than to keep brazing.