

an axe or wedge. Splitting has its drawbacks, however, and it involves hard work and a deplorable waste of good material, so though the trade has apparently fought against it for years we have gradually gotten into the habit of sawing these blanks and we are now finding out that a man who knows his business and will apply himself properly can get straight grained blanks out of a handle or spoke bolt with a saw and do it easier and save timber.

In sawing the large blocks, say from eight inches up, the practice has been to take this short log or block, split it through the centre with a large saw, then turn it down and split the halves into quarters, after which the quarters were worked into blanks so as to carry the grain of the wood through them the same as if they were quarter-sawed. It might be said, too, that this same practice prevailed in regard to the smaller bolts, down even to five and six-inch hickory. It was found, however, in practice, that while this sawing is some improvement in the way of economy in timber over splitting there was still too much waste, especially since hickory has become so scarce and high in price, and it was then what is known as centre-sawing was introduced.

To understand centre-sawing as applied to small hickory, say running between five and eight inches in diameter and the reason for it, let us assume that this stock was first split in half, then into quarters and afterwards these quarters into blank sizes; it will frequently be found that they do not work out even and there is a piece that goes to waste on the edge of one quarter and one on the edge of another, which if put together would make a blank. Now, then, in order to avoid this waste and make sure of utilizing all that it is possible to in the circumference of the block, the trade resorts to what is known as centre-sawing, that is, they take a saw table—any ordinary rip-saw table that the saw can be adjusted in will do—adjust the saw so that it will just reach up to the centre of the block, sawing through that way, then have a saw cut into the centre of the short log, and that's where we get our name of centre-sawing. Then the block is turned enough to get a piece big enough for a spoke blank sawed from the circumference into the centre again, cutting V-shaped sections, and so on around until the block is all worked up.

In other words, instead of splitting the block into halves and quarters it is simply split into the centre all the time. For hickory spoke bolts the usual size required is that which will make a finished square $1\frac{1}{2}$ by $1\frac{3}{4}$ inches.

This method of sawing up small hickory stock gives what is known as the high-grade white hickory spokes, and the blanks after they have been cut out in this way, that is, blocked out by centre-sawing, are put on to a truck and run into a steam box to loosen up the bark. When they are taken out of box the bark is peeled off with a hand axe, a lick on the other side easily blocks the heart off out of the way and leaves a finished high-grade spoke blank made by the saw in which there is a nice, straight grain if the timber was straight enough to split, and more is secured out of the block than could be got either by splitting or halving or quartering it with saws.

One practice of centre-sawing applies to the making of clapboards out of short logs, the preferable size being 16 inches to 20 inches in diameter, and four to six feet long. In the preparation for this work the logs are put into a lathe and turned to a uniform diameter or rounded up, in which process the bark and dirt are removed, then it goes to an automatic clapboard-sawing machine. This machine consists of a saw that will reach to the centre of such logs, and a frame which supports them and travels back and forth on a track. These sawing frames are usually provided with self-acting reverses

and set up so that after a log is put into the machine and the saw started it works up the log automatically.

A full set of these clapboard machines for centre-sawing and dressing such lumber as weatherboards or bevel siding, consists of a lathe for rounding the logs, a crane for swinging them into and out of the machines, a clapboard-sawing machine, planer and jointer, and a butter or trimmer.

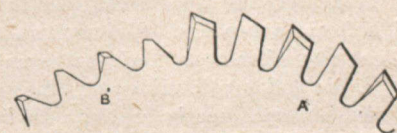
The product of these machines no doubt would look like short stuff to some people, but, on the other hand, they make a claim of quality, in that they are quarter-sawed; a claim of economy in working; in that they use up practically all the log after the bark and uneven places are taken off with the lathe, which they are able to do by making the thick edges of the clapboard of the outer circumference of the log in the natural course of events, giving a good board quarter-sawed at a very nominal waste of the material in the work. It may be that there are other methods of what is termed centre-sawing, or rather other uses to which the practice of centre-sawing is put.

FILING TEETH FOR SAWING FIR.

The Douglas fir, useful as it is, is quite different in texture from any of the eastern woods; and, to one used to these, is very disagreeable to work. The hard grain is so very hard and the soft grain is so very soft that it requires very sharp tools to work it satisfactorily; but, at the same time, it dulls them very rapidly. The difference in the density of the grains makes it tricky to drive nails in; and, together with its inelasticity makes it split very easily.

A form of saw-tooth which the writer thinks good for sawing this kind of wood is shown at A (see f cut), which is rather similar to the form used formerly in whip saws and spoken of by old-time writers as good for circular saws. It gives substantially the same effect as the ordinary cut-off tooth point, while having greater strength, rigidity and lasting qualities.

The front side of the tooth is filed less fleaming than is the usual custom—thus allowing it to carry away the sawdust with less crowding to the side—while the necessary acuteness



for cutting the grain is attained by giving the top a longer bevel. The top is given a very obtuse angle with the front—thus giving stiffness and wearing qualities—then ample throat room is provided to carry out the dust.

It would seem that practically the same results might be attained by filing the common tooth as shown at B. In fact, it does not appear that the form A is much better than B except that there is more throat room in the former. This difference is doubtless important, but could readily be removed by the judicious use of an emery wheel. If makers and users of cut-off saws must have the teeth all alike, there is doubtless much merit in this method of filing.

HOW I FIT CIRCULAR SAWS.

With a long straightedge that reaches from eye to rim, a beginner will think he has tension evenly distributed if it shows open in the centre, but let him take a short one, and I