

THE CARE OF BAND SAWS.

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The writer has had a varied experience as a saw-filer and hammerer in numerous mills, cutting a great variety of woods, and will endeavor to impart to others some of the knowledge thus gained. While I know there are many other men just as expert on band saws as myself, I believe that a word from me of my experience and of what I practice daily will be interesting to the less experienced filers and also to mill men. The following is my practice:

Suppose there are a lot of new saws in the filing room to commence on; in taking the saws out of the case, be careful not to bend the plate or knock the corners off the teeth, put saw on the hammering bench, and with straight edge held lengthwise of the saw, look it over, and if you find any lumps take the light cross-faced hammer, say two pounds, and knock down all the lumps all the way across the saw with the long face, being careful not to blow except where it is needed. You might as well give a blow a quarter of a mile away as a quarter of an inch away from the lump. Do not place too many blows about testing the saw with straight edge. If you do too will drive the saw through, and it will require time and labor to get it back. Next, put the saw up on the brackets over bench, and go over the inside in the same manner, always commencing on the outside and always finishing up on the outside, or log side. A beginner is liable to do a little too much, and if so, he will leave the last side worked on a little dished, and therefore it is better for the saw to be dished into the log than out of the log, although to be accurate it should not be dished or turned over at all, but perfectly flat on both sides.

After you have gone over the saw in this manner, go over again and apply the straight edge crosswise on the inside of saw; this will show you the lumps running lengthwise of the saw; stand in front of the levelling table or anvil, and with the cross-face of the hammer knock down any lumps that may be found, using care not to hit too heavy so as to make a dint in the plate. After going over saw in this manner put saw down and go over the outside in the same way. If you do this with care you will have a saw with a straight toothed edge and a flat surface. Now, take a droop level or tension gauge, use a No. 3 gauge with a 7 or 8" saw, a No. 6 for 9 or 10" saw, and a No. 8 for a 12" saw. Hold the gauge in the right hand and put the left under the saw, say 3 feet from the right hand, and mark with chalk the saw where the droop level or gauge shows darkness. Then with the saw stretcher roll the saw lightly the distance the gauge shows the saw to be stiff, and repeat until the saw conforms to the gauge from one edge to the other.

The Bolton stretcher and shear is the latest and most up-to-date machine, and if proper care is used will never dish the saw. After thus going over the saw and making it fit the gauge all round, examine the saw on the levelling table with straight edge to see if it has been dished at all; if it has you will have to level it again with the cross-faced hammer, but if you have a good stretcher it will not dish the saw unless you use too much pressure. Never allow the saw to pass through the rolls bent up or down, unless you wish to bend the saw. You now have a saw straight and flat with a good even tension all round it.

Next look at the back of saw. Use a back level 5½ feet long. Have the edge to be used concaved ¼ inch in the entire length. Mark every place where the level does not fit the saw, and roll the saw about 1½ inches from the back edge, from mark to mark, but never roll longer at one time than the length of the back level. If the back edge of the saw is up to a tight fit to the back level it is good, but if not look at the tension, and if you have opened the saw any, roll next time ½" nearer the back edge; but if the saw is stiffer roll ½" nearer the centre. By following this method you can draw the back without altering the tension, and with practice you can make a perfect running saw and do all the tensioning with the roller.

Always look over the saw with droop level after you have put in the "back," to be sure you have no tight or loose spots; if the saw is too loose roll very lightly along both edges; by so doing you will not change the back. The saw is now ready to put on the sharpener. If you follow these instructions you will have a saw that will stay on the wheels without oscillating, and will stand heavy feed. Before putting a saw on a new or an un-

known mill you should examine the mill and see that the boxes are all right and that there is no lost motion. Line the face of the lower wheel parallel with the V track, and line the top wheel with the lower wheel; put on the saw and tilt the upper wheel until the saw runs ¼ of an inch off the top wheel. Be sure to do this with the tilt device. Do not use the cross line, as it throws the saw in a twist so that it will rub against one guide more than the other, and probably cause it to crystallize and crack, besides causing an undue wear on the face of the wheels. Always have the tension even, whatever the droop or amount of tension used may be.

Do not open the saw too near the front edge, as it may crack in the gullet, and do not leave the front edge too stiff or firm, as the saw will snake in a hard log and go back on the wheels. Some filers leave their saws tight for 1½ inches from toothed edge in order to avoid cracks, but I do not think this is the best way. If a saw shows a tendency to crack in front with the tension I have been using, I change the tension to a larger circle, which gives a little less tension, but I let it run from one edge to the other on a perfect circle, except that I leave a half inch strip on the toothed edge, so that the level will show dark for a half inch and then light from there to the back edge.

For hard wood and heavy feeds a saw requires more tension than for soft woods and light feed; therefore be sure to have the saw straight edgewise, for it will stand one-third more feed. For example: You cannot drive a bent nail in hardwood, but straighten it and you can easily drive it. A band saw is similar, and with the edges straight will cut better with less liability to dodge. Always run a little back or convexity in the back edge of the saw, about 1/32" in 5 or 6 feet, and if the saw is properly put up, it will run without oscillation and present a fine cutting edge, and not drive back in the cut. If the wheels are crowing, open the saw a little more where it rests on the wheels, examine the saw as it comes off the mill, and if any light or loose spots, or any long or cross faced lumps appear, take them out. By going over the saws frequently you have not so much work to do at any one time, and you have better cutting saws with less tendency to crack.

In this way a saw should run from 6 to 9 months without cracks, and if cracks occur they are probably due to faults of the filer.

Sometimes our best saw manufacturers make a saw that may crack, or the teeth may split, or it may be ground uneven, or it may be too hard or too soft, and cannot be tensioned to run without making snaky timber. In such cases, as the character of the saw can usually be easily discovered, its condition should be immediately reported to the maker. Saw makers should not be expected to send out saws to be used from three to nine months and then condemned. If defects existing in new saws are not promptly reported as soon as discovered, the fault lies with the filer; do not condemn a saw without giving it a good fair trial. Don't lead the saw with the guides; don't set guides too light; they should be set true to saw with a clearance of about the thickness of writing paper on each side. If the saw does not then run straight, it must be dished or the swage is too heavy on one side, the grinder does not grind square, the track may not be in line, the wheels may not be in line with each other, the face of the wheels may be uneven, or the tension may be uneven in your saw. Be careful in fitting and tensioning your saws at all times, but always see that the mill is in good order also. The best mills and the best sawyers meet with accidents, and saws get pulled off and twisted or bent, which makes extra work for the filer. But don't get angry—it must be put up with. In such a case, go to work, but take it easy; take a block 8 or 10 inches deep, and with a lever or pike 3 x 4 used as a pry, bend the saw back to place. Always apply the lever the way the bend runs, that is, if the bend is square across the saw, use the lever the same way, but if it runs at an

angle, from one edge to the other, this is a twist, and you must set the block so as to press with lever directly on twist or ridge. In this way you can bend it back nearly as good as ever; after this, a little work with the cross-faced hammer, placing all blows with the long way of blow parallel with the ridge, will remove it. Never try to level a saw that has no tension in it, but go over it with roller and put in some tension, and you can then level your saw perfectly easy.

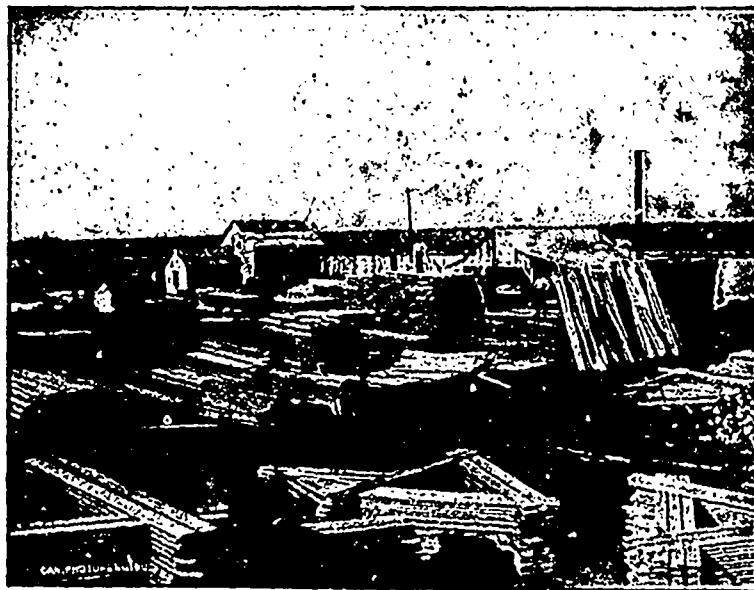
(To be Continued.)

MILLS OF JAMES H. SANDERSON.

ALTHOUGH the saw mills of the Northwest Territory cannot be compared with the gigantic establishments found in Eastern Canada, there are, nevertheless, several mills of considerable importance. At Prince Albert, Sask., the Moore & Macdowell mill is one of the finest. Smith & Co. have also a good-sized mill at the same place, and a third is owned by James H. Sanderson, a view of which is given herewith. Since this view was taken, however, the mill and yards have been greatly improved and extended.

Mr. Sanderson commenced his present lumber business in the year 1887, with four men, and now employs twenty-five the year round. Besides cutting a large quantity of lumber, chiefly spruce, he has a complete planing mill and wood-turning shop, in which all kinds of mouldings, sash, panel doors, etc., are made from the native spruce, which he claims to be superior in quality to the spruce further east.

The equipment consists of two boilers, two engines, saw mill (with a Wm. Hamilton No. 3 carriage and rope feed), lath and shingle machines. In the planing mill and workshop there are a surfacer, matcher, sticker, cut-off and rip saws, tenoning machine, and everything required for the manufacture of doors and sash. The capa-



LUMBER YARD AND MILLS OF JAS. H. SANDERSON, PRINCE ALBERT, SASK.

city of the saw mill is 20,000 feet per day, besides running the shingle, lath and planing mills at the same time.

The market there is principally local, but Mr. Sanderson states that trade is working up now on the branch line of railroad between there and Regina, as the country is settling up. He also ships lumber to several points on the main line.

No matter in what part of the Dominion you are situated, an expression of your views on any subject relative to the lumber trade is solicited by the publisher of this journal. No reader should wait for a personal invitation. Assistance thus rendered, as well as suggestions for making this journal more valuable to subscribers, will be much appreciated.

Col. James Domville, M.P., of St. John, N. B., is very enthusiastic over the lumber business which his company expects to do in the Klondyke. The estimated cut from the claims owned is two and one-half million feet. The lumber will sell for \$200 to \$300 per thousand feet. The colonel is now sending out a number of boat builders, and the boats will sell at from \$100 to \$200 each and will cost about \$40.