

# RUNNING CIRCULAR SAWS.

(By James F. Webster.)

Have seen men who, to judge by the intelligence they displayed, had better be running an ax in a wood yard. They would jam a saw through a board like a man running a beetle and wedge. If the saw choked up and stopped, they would pull the board back a foot or two, take breath themselves, then bring the lumber slap bang against the saw again, stopping it dead. Something has got to slip. The saw belt is the thing that usually does it. The belt can't run off, for it has a cob house of edgings nailed around it. Like a horse in a horse-power machine, the poor belt can kick as much as it chooses, but must run as long as it holds together.

Sometimes a well-regulated saw will bind. It will crowd into the work and cut a wider strip than can pass between the saw and fence. Now the average man tries to remedy matters by pulling the work back. The back of the saw cuts itself clear, but there is a spot the width of the saw that has not been touched, so the saw runs in there again and is just where it was before. The trouble is caused by the saw getting hot. It expands and dishes over. The saw always dishes toward the coolest side. The cool side is the sharpest, or may be has a trifle more set in it.

When a saw acts as above, lift the board square off the saw. If you have just started into a long board, bear down on your end, and let it swing upon the edge of the table, and raise clear of the saw. If nearly through the board, let it swing upon the back of the table, and raise your end of it. Be very careful to keep the board snug against the fence while lowering it back upon the saw. The cool air striking the saw takes out all the dish, the saw straightens up and cuts itself clear as the board is replaced, and will go along all right. There is always one thing to look out for when a saw cuts this caper, and that is to see if the saw don't need filing or setting. Nine times out of ten this is the cause of the trouble.

In jointing boards upon a sliding carriage you will sometimes feel the board crawl sidewise as the saw cuts along. When this happens, just take the saw off and play dentist for a few minutes. When a saw smokes (and when a man does also) it is time to quit also. Saw the timber, don't burn it off. File a saw before it gets dull. Do n't follow the rule one old chap had, viz.: "When edgings would slide off the saw without catching, then file the saw." Any saw that can be filed with a three-cornered file, should need but three strokes of the file for each tooth—two for the face and one for the back. It does not take long to go round a saw at this rate, and it can be done every time if the saw is filed before it gets too dull.

Sometimes when taking a saw from the arbor, a blue spot is found upon one or both sides of it. Just look that saw over, and see if there is not a spot of gum or dirt close to the blue spot. Glue is had to get on a saw. Pitch is worse, and there is something in maple sap wood that is worse than either. A spot of gum upon a saw will cause it to heat, and the blue spot tells the story. Take a piece of sand-stone or soft Scotch "rag," wet the saw, and scour off all the dirt or gum. Blue spots do not hurt the temper of the saw, but they are apt to spring the saw, take a permanent set, and the only cure is hammering.

Hammering a saw is the sawyer's bugbear. Almost every one of them has tried to take a kink out of a saw by hammering and many failed in the attempt. The way they did was to lay the saw on the buzz-planer table, and rounding spot up, then take a five-pound hammer and attempt to beat down the bent spot. Just like putting a saucer upside down and trying to hammer it flat. A man might as well attempt to straighten a dent in a tall hat by placing it on the floor and pounding on the top of the crown with the heel.

Take a steel straight-edge long enough to reach across the saw. Hold the saw nearly plumb upon your finger (if a small saw) and locate the bend. It is generally a little round spot. Lay the saw, rounding place down, upon the anvil. If you can not afford to own an anvil to true your saws upon, you are too poor to own a saw, and you had better sell out. Have a little hammer not larger than your finger. The face should be round and convex, and not over an inch in

diameter. The pane of the hammer should never be used, except in severe cases. Strike one or two blows upon the bent place. Be sure that the saw lays true upon the anvil, or you may hammer until you are tired, for all the good it will do. After striking one or two light blows, test the saw again with the straight-edge. If it shows any improvement, strike a few more blows and test it again. If no change is seen, strike a couple of hard blows and make another test.

The principle of the thing is, that the convex side of the saw is larger than the other side, so it puffs out; the hammer blows upon the smaller side stretch the surface, and have a tendency to correct the error by swelling out this side, and of course shrinking the other. Sometimes hammering as above only makes the matter worse. In this case, mark the spot with chalk, or by some other means, and strike several blows in a line extending from center to circumference through the bent spot. Strike each side of the spot so as to stretch the whole saw to agree with the full place.

The simplest bend to remove is when an arc of the saw is sprung one side and the line of bend follows the chord of the arc. All that is needed to cure is a number of light blows all in a row upon the hollow side as above, and right in the line of the hollow or bend. The worst case to deal with is a twist, part of the saw bent one way, part of it another, and the rest of it both ways. In this case, go for all the low places upon one side first. Get them all out and the saw will dish. It is very easy to deal with a dishing saw—just hammer the rim. Take the worst saw you ever got hold of, and if you can hammer it so as to be dishing, then the battle is yours. A few good blows at the roots of the teeth, and that saw is good for something.

Once get it through your head where to strike a saw, and you can easily true up a bent one. If you have an old saw that you have always kept to look at, try your hand on that. Pick out a true place in it and strike there with your hammer, and see what the effect will be. Strike four or five blows in a line and measure the bend they cause. Now, try to straighten the saw back again, always bearing in mind that you can not drive down a bulging place. You must coax it down. Do it as Paddy coaxed the pig to go ahead, by hitting him on the nose. "If the mountain won't go to Mahomet, then Mahomet must go to the mountain." If a certain part of the saw is to big, then stretch the rest of the saw to correspond. It does n't take much hammering. Have often seen saws hammered too much. It would spring the saw the other way every time, and then it would have to be hammered elsewhere to get it back again.

Hammering, like filing, wants to be done "just before it is needed." A small kink needs but three or four taps of the hammer. Let it go, and another kink gets in, the saw springs out of shape, and you may have to get an expert to hammer it into shape again. Don't let a saw run a minute after it needs fixing. It is only a waste of time, power and elbow grease. It is ten times as much wear to the machinery, saw, and man. If we could only make the men who tolerate dull, untrue saws believe the above they might get rid of lots of hard work and poorly cut stock.

One day while passing through a shop, a circular saw was heard making a noise as if it were having an awful hard time. Every time the sawyer forced a board against the saw it would slow down and stop after going eight or ten inches. The countershaft kept right on, and did n't seem to care what the saw was doing. Upon going around the saw table where the belt could be seen, it was found to be sagging badly, it was too loose. The remark was made to the sawyer that "if he took up the saw belt, the saw would work better." The sawyer said, "I'll be—if I take up any belts around this mill unless I have an order to." That man can not be blamed, either. The foreman would fuss and fret around a man every time he found him doing a little repair work, and it shows that the foreman des n't know his business. The men get so they hate to mend anything. It is hard in any shop to make the men "take a stitch in time," but when the whining boss runs the shop, then every crack goes until it breaks clear off.

Patch up little breaks as fast as they are found, and

things will work better. If the corner of a belt cement joint starts up, don't let it go until the belt breaks, but warm the belt, work a little cement (one third fish, two thirds common glue,) hammer the parts together and drive in a few pegs. Five minutes will do the job, but it will take half an hour to mend the belt if it runs a week longer without fixing.

Some sawyers raise the table until the saw barely reaches through the work. They claim that the saw cuts better and easier. That is a mistake. It puts double the work on a saw. For example: Take an eight-inch saw and a pine board. When the board runs close to the collars, the saw cuts nearly square across, and the action of the teeth is to cut off the grain of the wood and then split out the pieces thus cut off. This agrees with the action of cutting tools in general. When the table is raised the tendency is to split before cutting. This, with the increase of the section upon which the saw acts, which is doubled, makes it much harder for the saw. The chip is smaller, but does not compensate for the extra section of cut.

Always run the saw as high as possible. If the pulley is small, or the machine is belted down, raise up the saw until the collars project almost through the table. Keep the saw sharp and true. Use more oil than cuss words, and leave tobacco and rum to cure snake bites and bee stings. Then your saw will cut a great deal of lumber, and do it easily.

## Output of Logs and Timber.

The following quantities of saw logs, square and flat timber, and other wood goods were cut in the Ottawa agency of the province of Ontario during the season of 1889, yielding a revenue of \$234,192.71.

237,664 3/4 ft. pine sawlogs \$1	...	\$237,664 77
209,278 ft. basswood sawlogs 75c	...	156 90
277,920 ft. ash sawlogs 50c	...	138 97
14,763 ft. mixed sawlogs 50c	...	7 38
284,419 ft. spruce sawlogs 50c	...	142 19
615,412 ft. hemlock " 50c	...	309 20
21,656 ft. tamarac " 50c	...	10 52
158 ft. butternut " 50c	...	50
30,340 c. ft. pine square timber 2c	...	606 80
8,320 " hemlock sq. " 1c	...	83 26
534 " pine dimen'n " 2c	...	10 68
10,553,211 ft. pine booms \$1	...	10,553 21
149,349 ft. tamarac sawlogs 50c	...	74 66
145,712 ft. spruce square 50c	...	72 84
25,800 ft. mixed " 50c	...	12 40
45,238 ft. hemlock " 50c	...	22 62
5,122 ft. ash and hemlock sq. 50c	...	2 56
2,468 ft. ash square 50c	...	1 23
123,616 railway ties at 2c	...	2,472 32
2,350 tel. poles at 50c, 15c per ad val	...	175 49
869 1/2 cords posts at 30c per cord	...	260 80
32,876 ft. cedar 3c, 15c per ad val	...	147 55
450 traverses at 3c each	...	13 50
583 cords soft wood at 12 1/2c	...	72 88
740 cords hemlock at 20c	...	148 00
45 1/2 cords shingles at 30c	...	144 37
6 spans 2,200 lbs " 50c per M	...	60
trespass charges	...	931 64
		\$234,192 71

## THE QUEBEC GOVERNMENT'S SALE OF TIMBER LIMITS.

The sale of Government timber lands which took place in the city of Quebec on January 9, was exceedingly successful. The prices realized were the best on record, and the total sale amounted to about \$200,000. The Ottawa Valley limits as advertised were the first offered for sale, the first four lots being withdrawn, because there were no offers covering the upset price. In the Upper Ottawa district Mr. P. Fitzgerald, of Chapeau, bought nearly 300 miles of pine at prices ranging from \$76 to \$565 per mile. Mr. Walter Ross purchased 100 miles at from \$126 to \$155 per mile. Mr. E. Lauzon, of Ottawa, bought 128 miles at prices ranging from \$210 to \$290 per mile. Twenty three miles were sold to J. B. Laflamme for \$500, and 25 for \$470; 26 miles to Hon. James McShane for \$255 and 11 miles at \$510. Seven miles were sold to Mr. A. F. Leggo, of Ottawa for \$605, the upset price being \$125. This lot seemed to be gilt edged, as there was a great competition among several well known lumbermen. The land contains 250 trees per acre. It is said that the lot changed hands after the sale with a further advance, Mr. Bryson, of Pontiac, being the buyer. In the Lake St. John district Mr. H. J. Beemer bought 72 miles at \$17, 10 at \$1 and 10 at \$9. A number of limits, principally spruce and hardwoods, were sold in other parts of the province, but realized much lower figures than those given above. Messrs. Price Bros & Co., O. Jalbert, and Guay & Co., were among the purchasers.