

DOMINION MECHANICAL & MILLING NEWS

DEVOTED ESPECIALLY TO THE INTERESTS OF OWNERS AND OPERATORS OF

Flour Mills, Saw Mills, Planing Mills and Iron-Working Establishments.

VOL. X.—NO. VI.

TORONTO, ONTARIO, JUNE, 1888.

Price, 10 Cents
\$1.00 PER YEAR.

THE "CASE" ROLLER MILL.

THE illustration appearing on this page represents the "Case" roller mill as manufactured by Messrs. Inglis & Hunter, of Toronto, under license from the Case Manufacturing Co., Columbus, Ohio. The machine is the invention of Mr. J. M. Case, President of that Company, and is regarded by millers as one of the very best appliances on the market for the grinding of wheat. The patentee and manufacturers claim for this machine that it is dustless and noiseless, has perfect adjustments, and the longest bearings of any roll made. The arrangement of trammings and oiling the rolls and tightening the belts is one that commends itself to the mechanical mind. The doors for examining the stock and arrangement for leveling the rolls is simple and convenient.

By a simple device the rolls are thrown apart their entire length, and when brought together again they come back to their exact position, so that no resetting is required, no loss of time in testing and handling material, but the same results as before are had at once without experimenting. These rolls are provided with the "Case" Automatic Vibrating Feed, which requires no attention or adjustment, and never fails to spread the feed the entire length of the rolls.

Any further particulars regarding this machine will be cheerfully furnished by the manufacturers for Canada, Messrs. Inglis & Hunter, Toronto.

SAW MILL REFUSE.

By GEO. C. ROBIT.

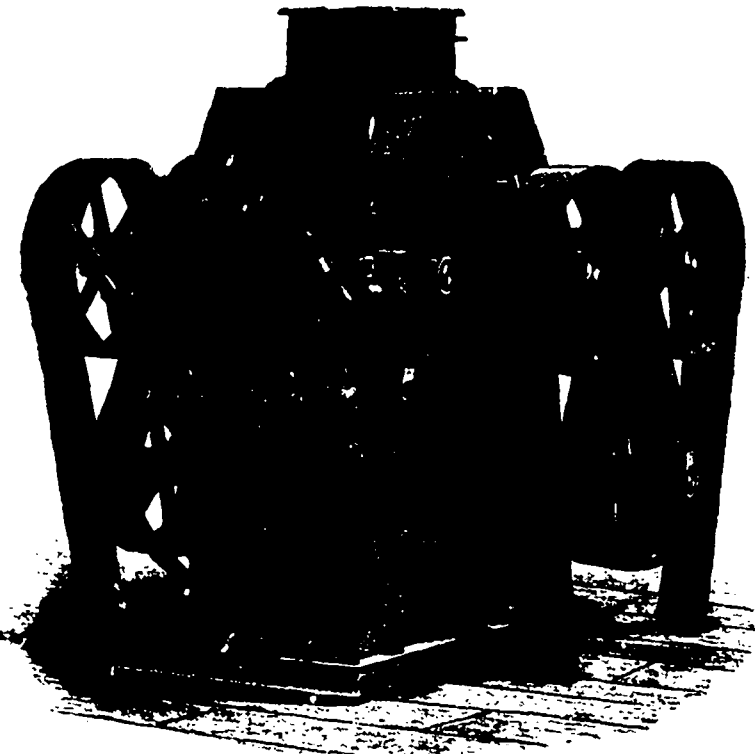
THE safe disposal of saw mill refuse is literally a burning question, and one which in many places is really a serious one and involves the expenditure of large sums of money. After the sawdust has been burned under the boilers in steam mills, and all that can be cut up into laths thus disposed of, there still remains a large amount of material which in one way or another must be got rid of. In earlier times the common way was by open fires maintained at a presumably safe distance from the mill, and to which the refuse had to be conveyed, often at considerable expense.

In more recent times furnaces have been specially designed, into which, by the action of machinery, the refuse is constantly discharged as fast as produced in the mill. For a large mill the furnace must be very large, and is very costly. In one case in Ontario the burner is over 30 feet in diameter and has a total height of 120 feet. The lower part has suitable openings for admission of air, and for entrance for repairs when necessary. It is really an iron casing, made of wrought iron plates, and lined with brick. This is about 60 feet high, and then tapers in till it is about 14 feet diameter, and thus is continued another 50 feet, and is crowned with a spark arrester. The refuse is carried up about 50 feet and is there discharged by a suitably shaped mouthpiece, so as to scatter the refuse over the bottom of the burner. This burner cost several thousands of dollars, and has been in use for several years with great success. The spark arrester frame is made of wrought iron piping, with the ends left open, so that air circulates through it and keeps it cool. This is covered with heavy wire netting, the meshes being about 1/4 inch square.

This kind of a burner is only well adapted for large mills, as it must be of considerable height to insure safety, and the height necessitates a large diameter.

The two things necessary in a successful burner are: first, the prevention of the escape of burning pieces or sparks of size sufficient to cause a fire, and secondly, some means by which the heat generated may be dissipated without injury to the furnace itself, so that it might last for a reasonable time.

These ends can be attained by building a brick furnace covered in with an arch. The walls and arch should be double, with considerable air space between, or have a number of flues built in them. These flues should be open at the bottom, and be carried up higher than the crown of the arch in the form of short chimneys. By this means currents of air will constantly



THE "CASE" ROLLER MILL.

carry off the heat. The flue from the furnace itself should be carried horizontally for some convenient distance, and if near water, it would be advantageous to carry it out over the water, so that any burning pieces carried by the draught might drop into the water and thus be prevented from escaping by the chimneys.

The chimney should not be at the end of the flue, but at least four or five feet nearer the furnace. The entrance to the chimney should be as square and abrupt as is possible. The object of this is, while giving free vent to the escape of the smoke or heated air, anything more solid, such as pieces of burning wood, can not turn the abrupt corner leading into the chimney, but pass on into the space beyond. Locomotives are now frequently constructed on this principle, having a smoke box extension beyond the smoke pipe, and into this, sparks and grit from the furnace collect, instead of being driven out through the chimney and scattered over the train as used to be the case.

The chimney from the burner should be arranged to give ample draught, but by making the flue of some length, and by one or two bends in it or bridge walls, the velocity of the current may be checked, and so prevent the chimney becoming too hot, and in this way an ordinary smoke pipe may be used. Should it be necessary to put a spark arrester on top it will be found of great advantage to make the frame of it of pipe, with the ends all open, so that air may freely pass through, and so prevent the iron from becoming too hot.

The bottom of the furnace may be made with several low parallel fire brick walls to take the place of grate bars, and doors should be provided for getting in to repair or clean, either by having heavy iron frames built in, or a better way is to form openings into the brick wall with an arch top and build up in such manner that the opening can be made at any time without injury to the wall.

It seems a pity that so much material, which it has taken years of sunshine and rain to produce, should be wasted, as is so often done in saw mills, and yet what else to do with refuse, than burn it, involves problems not easily solved.

Perhaps when the problem requiring the transmission of electricity and its use as a motive power have been solved, this one will have solved itself, and saw mill owners will then be able to run their mills without any surplus refuse.

MANUFACTURING SHINGLES OUT OF SAW MILL REFUSE.

THE Chicago *Timberman* is pleased to see the question of economy about a saw mill receiving a fresh impulse from the introduction of machinery for the manufacturing of shingles from the refuse of the trimming saws. The fact has long been apparent that very much waste has of necessity been endured in the making of lumber in the past, but labor saving machines have in a great measure obviated that loss in many respects. The introduction of shingle machines that will make two or four good serviceable shingles out of the waste piece from off the end of a board, is a move in the right direction. One of these machines can be seen working in the planing mill of Mr. Zack Chase, of Flint, Mich., and it is turning out No. 1 shingles from the actual refuse of the mill. It is not so long ago that the *Timberman* was laboring to convince mill men that dressed lumber was more marketable than in the rough, and now nearly

all large mills have planers attached, and save the shavings for fuel in place of paying freight upon them. We now see the shingle machine at work to utilize the fragments which would otherwise go to feed the furnace fires. The next move will be in bringing into activity some of the thousand and one ideas for the adaption of sawdust to some practical use. On this point the *Timberman* will yet "speak a little piece," believing as it does, that this awful loss of percentage on lumber by sawdust can be in some practical and profitable way utilized and made valuable. There has been countless fortunes floated down the several lumber manufacturing rivers of this country, and it is only of late that close attention has been given to the economy so long needed. So all hail say we, to all means and methods for saving the laboriously gathered products of our forests.

"There is danger in building big saw mills," said a mill man to me the other day, "that isn't always taken into consideration. Even though the slow sawing policy is adopted, and the product of the mill is much less than might be expected with the same amount of machinery, the trouble likely to be encountered is the impossibility of getting the lumber away from the mill as fast as it is made. I have had some experience of this sort. It's all right for three or four hours in the morning, or even to well up into the afternoon, but before night the tall of your mill is likely to get littered up. Some of your mill men who are going to run day and night this year will find this so, and I want to go on record as predicting that some of them will shut down oftener to clear up the mill than to fix up their machinery."