

THE RETAILER AND Wood-Worker

THE EXHAUST FAN OR BLOWER.

SINCE the introduction of the exhaust fan in mills and factories for the purpose of carrying off the dust arising from the various machines, there is no place where its usefulness is better demonstrated than in the planing mill, as well as all other wood-working industries. Aside from the satisfaction of having the mill clean and at all times free from accumulations of dust and shavings, the cost of removing the same by this means to a convenient place for storage is much less than that attending the removal of the same by hand labor. The fact is, at the present time no first-class planing mill is considered complete without a shaving room in close proximity to the boiler room, and the exhaust fan with the necessary piping, not only to take the dust and shavings away from the machines, but also to deposit them in the shaving room. The unskillful manner in which the piping has been arranged in some mills has rendered the fan so ineffective, says a writer in the Age of Steel, that but little useful effect has been derived from it, and, to quote the language of a well known operator, "the fan does a little and the wheelbarrow the rest."

Now, there is no necessity for such a condition, provided a suitable sized fan is selected and run at its proper speed. But there is no part of the plant that requires more careful calculation and good judgment than this part of the outfit. The selection of an exhaust fan of the proper size and capacity is of the utmost importance, and this can only be determined by the size of the mill, the number of machines, and the distance to which the dust and shavings are to be carried; in the second place, the size and shape of the piping and the proper proportion between the intake and discharge of the main conduit. The location of the fan is not so important a matter so long as all the branch pipes are connected upon the exhaust side; but in practice it has been found, where the conditions are such as to admit of it, that the most effective place for its location is about midway between the points where the first shavings are received and the point at which they are discharged. The size of both portions of the main conduit should in all cases be governed by the size of the openings in the fan. The efficiency of this part of the output for performing its work in a satisfactory manner depends upon the velocity of the air as well as in the main conduit. If the main conduit is of a certain size with the fan running at a given speed, the velocity of the air will be in a certain proportion to that speed, provided it is not in any manner obstructed; and it is also important that the same relative velocity should be maintained in each one of the laterals. But if, as is

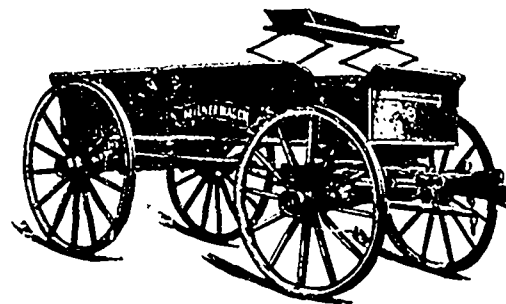
frequently the case, the combined area of the lateral pipes is greater than the area of the main conduit, then when all are in use, the air current will be less just in proportion to their combined areas. Another fault in the construction of the lateral pipes is in the manner in which they are connected with the main conduit, and although, as a rule, the machines are so arranged that the lateral pipes are necessarily at right angles with the main conduit, still the connection should be made in such a manner that the lateral will by means of a round bend enter the main conduit at an angle of from 30° to 40° in the direction of the current, so that instead of obstructing its velocity it will help to increase it. Again, the diameter of the laterals in all cases should depend upon the character of the material to be carried off. The shavings from a planing machine are much lighter than the sawdust from a resawing machine or a common saw table, and, while a moderate current of air would carry off the shavings from the former, a much stronger current would be required for the latter. Hence, where everything is in proportion to the size of the main conduit, it is found in practice that the pipes from a resawing machine should be of less diameter than those from the planer, in order to obtain greater velocity in the air. That portion of the main conduit leading from the fan to the shaving room is another point in which there has been a diversity of opinion. Some claim that it should be enlarged as it recedes from the fan in a certain proportion to its length. There is no good reason why such should be the case, and it is not warranted in mechanical philosophy. Now, with this part of the conduit as well as the other, its efficiency depends entirely upon the velocity of the air, and by enlarging it as it recedes from the fan, and thereby increasing its area, must have the effect of checking the current, and consequently it will have less power to carry forward the material.

Messrs. G. O. Gilbert & Son, Bishop's Crossing, Que., in remitting their subscription, write: "We never feel too busy to read THE LUMBERMAN as soon as it comes to hand."

A furniture manufacturer of very long experience gives this advice to those who finish and polish wood: Never thin your filler by guess; avoiddupois weight is safer. Vary the body of your filler to the pore of the kind of wood to be filled. If you have a good job to do, don't try to do it by using your filler extra heavy. Smooth work to begin with followed by well-filled pores starts your foundation aright. Remember that work started smooth and kept smooth will continue smooth to the end. Remember that, the smoother your work at the finish, the less scouring there is needed to get the result. Whiskers sand off easier after the filler than at any other stage. Filler can be coated over in 24 hours; it is always better to give it 48. Always shellac mahogany before you fill, if you desire an unclouded result.

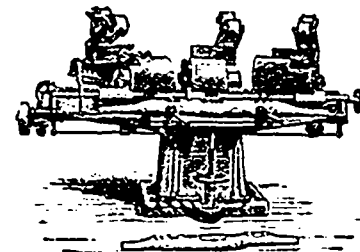
A MODERN WAGON FACTORY.

THE pleasure was afforded us a short time ago of a visit to the Milner-Walker Wagon Works Co., Limited, of Walkerville, Ont., who have the largest and most complete works of their kind in the Dominion, embracing as they do a flooring capacity of sixty thousand sq. feet, together with 500 feet of dockage on the beautiful Detroit river, and a railway spur extending from the G.T.R. through the works to their dock affords excellent facilities for handling the incoming material and outgoing product. These advantages, together with some 60 different



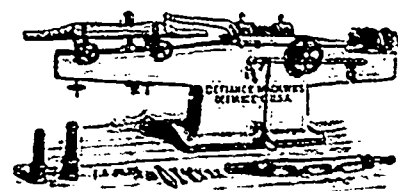
machines of the very latest improved designs, purchased from the renowned wagon woodworking machinery manufacturers, the Defiance Machine Co., of Defiance, Ohio, enables these works to produce from 25 to 30 wagons per day, each machine being able to turn out more than even their guaranteed capacity.

These new works have been very much encouraged by extensive orders from various parts of the Dominion; already they are shipping from three to five cars of wagons weekly, and nothing but praise is heard from all quarters regarding their



PATENT THREE-HEAD AUTOMATIC GAINING MACHINE.

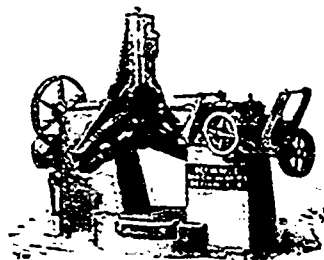
production. Canada, and especially the locality where these works have been established, certainly has reason to be proud of such an enterprise. We cannot speak too highly of the machines in these works. So solid are they that they do their work without the slightest tremble, thus ensuring durability. Much credit is due Messrs. Kitternring & Sons, proprietors of the Defiance Machine Works, who have so successfully daring



NO. 2 PATENT AUTOMATIC SKEIN SETTING AND FITTING MACHINE.

nearly half a century brought into use many such valuable labor saving devices. This company deservedly rank among the most worthy manufacturing concerns of the great Republic to the south.

Mention should be made of the officers of the Milner-Walker Wagon Works Co. The general manager, Mr. Wm. Milner, whose fame as a wagon builder is well and favorably known over the entire continent, together with the world-



NO. 2 AUTOMATIC WHEEL BOXING MACHINE.

renowned business gentleman, Mr. Hiram Walker, as president, and the well known financier, Mr. D. R. Pierce, as secretary and treasurer, makes success doubly certain for this enterprising concern.

The accompanying cuts represent three of the many machines supplied by the Defiance Machine Co. for these works, and which are necessary to accomplish the work of wagon making with accuracy and precision.