

HOUSING LUMBER.

THERE is a growing sentiment in favor of storing lumber under cover, especially if it be above the grade of common, or is of high-priced varieties. Of course transactions in lumber at wholesale are too large as yet to admit of a general application of the principle to all kinds. This is especially true of the white pine trade, where single concerns handle 50,000,000 feet and upwards during a single season. To house all such a stock, or even all the best grades in it, has hardly been thought feasible as yet. Granted, what is the fact, that no one handling so large an amount in a year even had one-half of it in stock at one time, it is still not quite certain that this amount, even, could be covered with economy under present conditions of the trade.

But it is a fact that vastly more stock could be housed than is now the custom, if lumbermen only thought so.

A large amount of white pine could be stored under cover to the benefit of the lumber to such an extent as to more than offset the cost. The same is true of yellow pine, and this fact is gradually being recognized, especially by dealers, the manufacturer not yet paying much attention to the subject.

Dealers and handlers of the hardwoods are taking by far the most active interest in the question, and a large number of both wholesale and retail dealers are now storing a good proportion of their stock under cover. Many of them put all their best grades and all rather scarce, high-priced stock under a shed as soon as received, even though it may be green. Others pile their green stock in the open air for from three months to a year, and then transfer it to the shed. All the hardwoods, if not all woods, deteriorate when piled in the open air, subject to alternate drying and wetting and the direct rays of a hot summer sun, and to the effects of freezing and thawing when soaked with rain or melting snow.

Many of the hardwoods are very susceptible to the influence of the elements, and begin to decay very quickly when left exposed to them. Others warp, check and twist, while if put under cover immediately from the saw, they dry out flat and straight, and with only slight checking. Many kinds of lumber become discolored and spotted or lose their natural color by long exposure to the elements in the open air, and only retain their real beauty when seasoned under cover.

Choice hardwoods, worth \$40 or more a thousand feet, such as quartered oak, cherry, curly birch, curly and bird's-eye maple, and walnut, will always pay for careful housing, and this fact is well understood by many wholesale consumers who carry a greater or less amount of stock until it is from one to four years old. Many retail dealers are recognizing the fact that money put into a well constructed shed large enough to hold all but their dimension and coarsest inch, is money well invested and that will pay a good interest.

The man who would leave his well-filled pocket-book out of doors on top of a pile of lumber, would be looked upon as a candidate for the insane asylum; but that is just exactly what he does when he leaves his piles of fine, wide quartered white oak or similar valuable lumber uncovered and exposed to all the inclemencies of the weather.—Hardwood.

FURNACE FOR SAWDUST AND REFUSE.

I SEE in the December number a request for plan of furnace for sawdust and refuse to keep plenty of steam. I have tried a great many plans—a deep and narrow fire box for wood; shallow and wide for sawdust; but a brick cone with a blast without any grates whatever, beats anything I ever saw. I have run one for two years with success.

I build them like this: Throw away all grates. For three boilers use two cones; four boilers, three cones. The cones must come between the boilers so sawdust will drop back of center of cone. The top of cone must come about three inches below where top of grate originally was. If you get them too high when throwing in wood, you will hit them. I deepen the ash box just enough to get them the right height. The cones are made round like the old-fashioned straw bee-hive, and drawn in enough to leave a hole in the top 18 to 24 inches, to be covered

feet, and from the box to cone run a six-inch stove pipe with elbow to turn up into cone. You can put a damper in your stove pipe if you want, but it is not needed for three boilers. This box and pipe are buried under ground from four to six inches, and covered with brick and clay.

Now for the cones: Build them in a circular with fire bricks and tip them in a little and draw in every course. The back half of your cone must have air-holes. Use your brick in the circular endways. First tier of brick leave hole $1\frac{1}{2}$ inches in opening at each end of brick, second tier $1\frac{1}{4}$ inch opening, third tier one inch opening, fourth tier $\frac{3}{4}$ inch opening. Now this is only the back half of the circular to be opened. The front half must be made tight or otherwise the blast would blow out at the doors and you could not get near them. The draft doors must be bricked up. Put in a thimble with sheet iron; cover to give draft when firing up in the

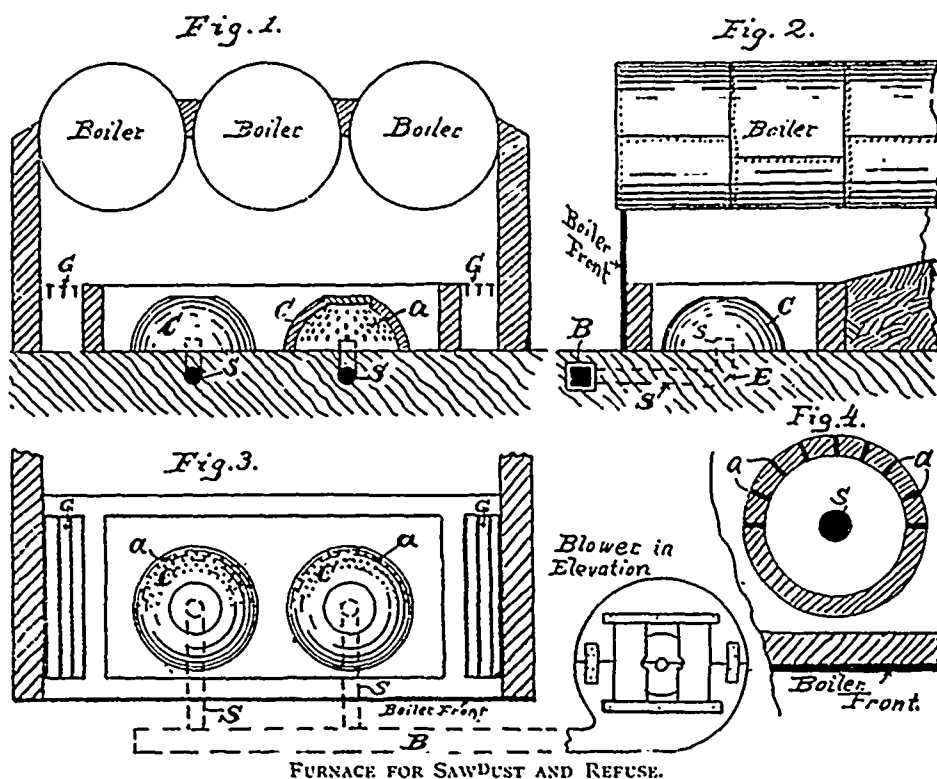


Fig. 1, Front Elevation, boiler front removed, one cone in section. Fig. 2, Side Elevation, side of furnace removed. Fig. 3, Top Plan, boilers removed. Fig. 4, Sectional Plan of Cone. C, Cones. B, Box. E, Elbow. S, Stove Pipe. G, Grates. A, Blast Openings.

tightly with an old logging car wheel, or old grates broken off the right length. Common clay will do to lay up cones, by using lots of salt. The cones must be started on the bottom large enough to leave sufficient space between them sideways and front. The bridge wall behind must not be over 16 inches from cone. If your side wall comes farther than 16 inches, build up a wall and put on several other grates. Where you can drop sawdust on side, or use wood, fire brick must be used all around.

Now about building the fan (any millwright can build one): Take 2 x 6 and match same as flooring to make the fan box. No. 14 sheet iron is just the thing to go around the outside circular; hard wood 2 x 4 for fan; arms notched and boxed together, two 10 inch flanges for fans to hold same. Fan blades to be made out of band saws or out of No. 14 sheet iron, size 8 x 10, with two belts. Fan when completed, three feet diameter, two inch shaft, and ought to run 1,200 per minute, with slides to close, or give more air if needed. Then build a wooden box out of 2 x 10 and 2 x 12, leaving a 10-inch hole from fan along in front of arch, say from two to four

morning. It takes a little longer to fire up than if you had grates, but when ready to go, and you get a little used to it, it beats anything ever put in a saw mill. It will cost less than a new set of grates, or any other device. It can all be made at your mill except shaft and boxing. This is no experiment, but is running in a great many mills. I should have stated that bottom of fire box must be bricked over with common brick, ashes cleaned out once a week; clean out holes with small iron hook at the same time. The space between cones, and cones and bridge wall, can be made larger, but it will take more fuel, and the smaller the cones the better they will stand. The cones must be set close to front of arch and a wall eight inches thick must protect fire front. In this way you get the fire well to front end of boiler. The space between cones must be regulated by size of boilers; 36 inches outside diameter is large enough for cones.

—A. J. Acker, in Wood-Worker.

A Rochester man has built a tiny engine, three-fourths of an inch long, weighs 31 grains, runs perfectly and goes in a thimble.