

THOSE LITTLE MILLS.

By JOHN SHAW, IN "LUMBER."

I OFTEN go into planing mills that remind me of the galleys of the old class of whale ships of thirty or forty years ago. The stove filled almost the whole width of it and there was just room for the cook when the door was slid back to crowd in and sit down on a little narrow bench that he had to brace up against the stove in order to sit down with safety on it. In this galley was kept all the cooking utensils for a crew of from twenty-four to thirty-six men; and you can imagine how pots had to be nested together, and kettles and dishes and all the cook's necessary utensils had to be grouped and corraled in order to get them in that little galley, in which he had to be almost doubled up to stand. He had to be like the boy's toad—when he stood up he sat down. But the cooking was done there, and the whalemens got fat and lazy and often had the scurvy for a change.

We may as well call this convenient as to call a planing mill convenient where you have to climb over a grindstone to get at a band saw, or a band saw so near to a molding machine that you have to have a board nailed up to keep from getting into the bottom band wheel when setting up.

I know low beams and floors are very convenient for laying and sticking up files and tools and wrenches on, but the inconvenience comes in when dust and shavings have so covered them up that you have to go pawing around in the shavings and dust to find them. The cook's galley had this in its favor, that the dust could not cover up the spoons and knives and forks he had stuck in it to be handy to get at.

We must often have charity for those who put machinery into low and narrow quarters, because, from the conditions of being near the center of their trade they find it hard to find proper quarters in which to set up their machines.

Notwithstanding this, they pay an awful percentage for their narrow accommodations, and yet, it seems as if some firms courted this percentage of loss by voluntarily selecting little, low, tucked-up quarters, where machines are fairly piled on top of each other, like packages in a warehouse.

I have in my mind now a room 30x60, in which is an engine, three planers, a jointer, two turning, a molding machine with saw, a band saw, grindstone, emery grinder, and saw for sawing strips for matchers. It has the accommodation of running all the planed stuff outside, but all molding stock is dropped inside, and it is an art study to keep things clear so anyone can get around the mill. If this room was convenient to an open shed where a stock of lumber could be easily handled, there would be some excuse for crowding so many machines into so small a space, but it has not even this convenience, and stuff has to be left in a load or two at a time and carried around by hand.

We do not consider it a sign of convenience when lumber is laid around in a mill as if it was going to play leap the frog to get where it was needed, and yet once in a while we find this to be the case. Firms that have been a long time in the business hold on with an awful tenacity to old surroundings, and hold on to old-fashioned machines because they have got used to them, and in being so used to it, they feel like the elderly lady did about moving into a new house. She could get along very well with everything, but could not see for the life of her where she was going to hang her broom and dust pan. And so it seems with many old firms. They have always been used to being piled up in a heap, and they would be lost in a good, wholesome, clean, convenient mill, where everything was get-at-able, and the machines did not tread on each other's corns. Not a great while ago a firm was prospecting for a mill site, and the point they wanted to make was to locate so that the cost of handling stock should be brought down to the least possible amount, and stuff could be delivered to the machines and shipped from the mill at very little cost. They said: "We don't want to handle our stock any more times than we can help, and we shall fix it so that when once in the mill, once at the saw and once at the planer for matched stuff, and once at the planer for surfaced stock, will be all we shall handle till it goes directly on cars or vessel." They believed they could make a

profit on their stock by saving in the cost of handling, and they were men that could and would accomplish what they undertook. The plan of the mill was very large and roomy, with accommodations for laying in a large amount of rough stock. All lines of shafting was under the floor, and the planing mill proper was only one story, with truss roof, which was to be lighted in the best possible manner.

The truss roof left the whole floor free from any obstructions so that teams or trucks could unload at any desirable point. You say, and truly, that all firms, or individuals, cannot so desirably locate. I grant that they cannot, in all cases, but I do say that there are hundreds of cases where mills are just the counterpart of their owner, pinched and shriveled and tucked up. Men often show their character in whatever they do, whether it be in building a mill or shop, or in the daily transaction of business.

Years ago I often heard a man say he wished his mill would burn down so he could build a decent one. The old mill never did burn down, "bad luck to it," but a couple of years ago he had stood it just as long as he could, and it was razed, and now a splendid mill stands in the place of the old one, and in speaking to me about it recently he said: "If I had torn it down twenty years ago I would have made enough to have twice paid for the building." A thousand others might "go and do likewise," and all the regrets they would have would be that it was not done "long, long ago."

A great many carry these old places because they came to them as a legacy from some grandfather or ancient maiden aunt, who wore spit curls each side of her wrinkled brow, and to lose the memory of these ancients, long since gathered to rest, would be a great sacrilege, and hence any loss of money or inconvenience would be a virtue if the memory of ancient departed friends and their eccentricities were only preserved.

To anyone locating or building a mill or shop or factory now, one great point to be gained is, room enough in it to handle the stock of whatever kind you are making conveniently. It is true that some men understand better than others do the fine art of passing stock along from one machine to another. This is where good calculation comes in, and it is far better to call in such expert experience, where it will be for our benefit, than to rely on ourselves, when we can find out a better way from others. It is a common thing to seek information in regard to money investments, trusting almost implicitly on another's knowledge in making or getting loans or making investments. Then why not as well avail ourselves of others' experience and knowledge in arranging buildings and machines for making the money which we may hope to buy bonds or stocks with (may be you could get some of the recently issued bonds, if you pay enough for them).

It is a wonder that inexperience does not oftener seek the aid of experience in such matters.

Oftener it is that "every crow thinks her own young the whitest," and men are apt in the same way, to think that in all such matters, their own opinions are superior and more practicable than are any one's else, and hence the idiom, "They that dance must pay the fiddler."

AN ENGLISH BAND SAW.

AN English builder of band saw mills has built a horizontal band mill which is now on exhibition in London. From published cuts and descriptions it appears that the carriage and log run is under the saw, with all the machinery suspended above it, the cutting being done by the under half of the saw, slicing off the top of the log to any thickness desired, the whole saw frame being raised or lowered by a twin-screw motion. It is said to be very simple in all its workings, and as it requires no space below the mill floor proper, the makers claim that if the portable band mill ever comes into use it will be a horizontal one, something after the pattern of this one, if not this very thing. From a mechanical standpoint these claims are not unreasonable. It now remains for an American band mill maker to take up this English idea, perfect it, and build a light, strong, portable mill that can be placed on the ground in the woods, and that can be transported easily and operated economically.—Hardwood,

THE CARE OF BOILERS.

THE boiler being the vital part of the steam plant, which again is the center of all motion and life in a mill or factory dependant on that form of power, all the skill and attention possible should be directed to their preservation in good order, and at the smallest possible expense consistent with good results. To this end all means proposed should receive the careful consideration of those interested, so that the best plan applicable may be chosen in each place. It is evident that the same method is not practicable under all circumstances, for while the general principles involved are in all cases the same, the working out of these principles necessarily varies. Thus all water derived from wells where the underlying rocks are anything except granite or sandstone contains a greater or less proportion of solid matter, varying, according to one list in my possession, from as little as 6.7 grains per gallon to as much as 353.8 grains per gallon. In the same localities the water of the streams is likely to partake to a considerable extent of the characteristics of that in the wells. So it may be said that over the greater part of the country it is impossible to procure even comparatively pure water. Even that which falls as rain and snow in inhabited localities contains impurities washed from the air in its descent, although the proportion is so small as not to interfere with its use in boilers, provided it could be obtained in sufficient quantity; but this, from the nature of the case, is impracticable.

Of course not all the solid matter found in well water is of the kind which forms scale. Lime and magnesia are the principle ingredients of scale, with at times a combination of iron and some organic matter, a mixture of iron especially forming a peculiarly hard and obstinate scale. The question of greatest interest to a man in charge of steam boilers is, "How shall I get rid of the scale in my boilers?" The correct answer perhaps smacks of the Hibernian, but I believe it to be: "The best way to remove scale from boilers is not to let it in." After a dozen years of experience with water containing seventeen to twenty grains of solids per gallon, the greater part being of the incrusting kind, I am satisfied that with a little care and the use of moderately good exhaust steam heaters no trouble need be had with scale in a boiler which is well taken care of.

One great trouble in this matter is that owners are unwilling to allow the firemen reasonable compensation for the extra time required to properly do the work connected with keeping the boilers clean. Some only allow a quarter of a day's pay for the time necessary on Sunday to wash out and clean up generally. It is safe to say that the firemen, unless made of sterner stuff than the majority of the race, does not, on an average, put in much more time than he is paid for. Other owners allow full pay for the day, depending on the engineer and fireman to keep the plant up to the highest condition possible. In one such plant with return tubular boilers, which has been run for fifteen years, with the kind of water just mentioned, no trouble has been had with scale on the boilers for ten years at least; and the heaters are not of the most recent construction either.

Very much depends on the care taken of the heaters as to their efficiency, for if they are allowed to become foul, the accumulation of slush is liable to pass on to the boiler, at least, if the heater is one of the closed variety. While it is a little more trouble to take care of an open heater, as they are generally provided with some kind of a filter which requires some attention to keep in good order, they are, I think, a little more efficient in heating the feed water, while the proportion of steam condensed in the process, being pure water, is also of some advantage. Where the plant is of sufficient size to warrant the expense, or where the water is so hard as to require it as a measure of safety, the addition of a live steam heater of proper size will almost prevent scaling. The water being raised to the temperature of that in the boiler, practically all the incrusting matter is dropped by the water, which is then frequently filtered through a layer of finely-ground coke or similar substance, and so enter the boiler practically pure.—F. Riddell, in American Miller.

A Boston man has patented a process by which glass veneers are made to represent highly polished wood.