

HINTS ON BOILER STEAMING.

By GEORGE W. HOTCHKISS.

WOULD you suppose that the cracks in the brick case wall of a chimney stack would have any perceptible influence upon the draft? This was the question asked me by the manager of a large saw mill, as we walked about the premises, and proceeding, he said: "Here for many years we have run a battery of eight boilers, and until within a couple of years have had no trouble to keep up all the steam we required, but about two years ago we began to have trouble." About that time you put in the band saws, I suggested. "True," said he, "but that was not the trouble, or at least the whole of it; in looking for it we came to notice that the brick part of the stack, which as you see is about twelve feet square and twenty high, had a number of large cracks in it, and concluding that this had something to do with causing the trouble with the draft, we set the mason at work and filled them up; this made considerable difference, but did not fully cure the evil, and we began another hunt, and finally found it in our methods of firing. Our boilers were fired with sawdust fed by carriers, which delivered the sawdust in large heaps on the grates, so we had a smothered fire all the time, which prevented the blaze from reaching the fire sheets; this had been our custom for years, and we had no trouble, but in those days we had green sawdust of the coarse character produced by our circular saws. Of late, by reason of the forest fires which compelled us to cut our timber to save it, our stocks have been more largely of old logs which have lost their pitch through lying in the water so long, and the sawdust is therefore less inflammable while more water-soaked; of course, the finer sawdust of the band saws made considerable difference, and this we strove to overcome by burning more slabs. But we did not reach the seat of our trouble until we adopted a new system of firing. Just take a look into this fire box; observe how clean and intense the blaze, and the grates are almost clean; you can see every part of them; here was the trouble with our draft; we had been trying to make steam with smothered fire. We have had no trouble since we began to feed the sawdust only so fast as it would burn; where we formerly used eight or ten loads of slabs with the sawdust, we seldom use any after we get the fire started in the morning and the grates well heated; a couple of waggon loads of slabs is about all we use in the day's run."

Here is a hint for sawmill men who have trouble with their draft. Don't try to keep too heavy a body of fuel, especially sawdust, on your grates. A quick blaze under the fire sheets is better than a large body of dead smoke. The sawdust from a band saw being so much finer than that from a rotary, unless the grates are very fine in the mesh, there should be a mixture of fine wood with it, and here is where the "hog" is of great utility, converting the slabs and edgings into just the proper size to aid the finer sawdust and intensify its flame. Mix them together with a shovel on the hearth, or with carriers if you feed automatically, not allowing too large an accumulation on the grates, and my word for it, you will get rid of the largest cause of the trouble in keeping up steam.—Lumber Trade Journal.

The Gilmour Company, of Trenton, Ont., are rebuilding their dam on the Scootamatta river.

QUESTIONS AND ANSWERS.

"(1) In log run, can a buyer measure out the defects; if so, to what extent? (2) If there are two or more splits in the end of a board, can a buyer measure them out; if so, in what grade? (3) In purchasing a lot of elm logs "log run," can the hearts be measured out if they are not sawed out? (4) Should it be necessary to give the manufacturer orders to saw the hearts out? (5) Are there any persons appointed by the government or by the Lumbermen's Association for the inspection, grading and measuring of lumber?"

To the above questions we have received the following replies: (1) No; if defects were not of such a nature as to throw the board into mill culls it should be accepted at its full measure, unless it was reduced for bad edging, barky or waney, for instance. (2) If the splits are straight and do not extend more than two feet from the end of the board, and the board is not less than 10" wide, the board should be accepted in No. 1 grade. (3) A dealer has no right to measure out the heart unless it is specially agreed that he do so in scaling the logs. Hearts, as a rule, are always sawed out of hardwood by manufacturers. This is seldom or ever done with pine, hemlock or spruce. (4) If the logs were hardwood I do not think it should be necessary to give orders to have the hearts cut out. It has always been the custom to cut out the hearts unless instructed to leave them in the lumber. This rule should be reversed in manufacturing pine, hemlock or spruce. (5) There are no government inspectors in Canada, and every manufacturer makes his own inspection.

COST OF POWER IN BOX FACTORIES.

WE too often hear the remark made that power in a box factory costs nothing.

We thoroughly agree with the above when the box factory is a shook factory, and the same is located in the woods or adjacent thereto, where slabs, kindlings, shavings and sawdust are a nuisance and a drug, and absolutely valueless as a money producer. But when the box factory is located in the heart of a large city, power is worth something, in fact is worth a great deal. Because the kindling wood brings a big price, sawdust and shingles are burned, and are usually referred to as nothing of value.

The shaving press is now an established fact around a box plant, and what it means towards the solution of the sawdust and shavings problem those alone know who have used the press.

The uses for fixed sawdust and shavings are many, but one thing above all else are they good for, viz., insulating ice-houses. We know this to be a fact.

As to the value of shavings as a fuel, compared with coal. On a three days' continuous test the following facts were learned, viz., that 8,000 pounds of baled shavings at \$2.50 for 2,000 pounds, or if bales are full weight, 12½ cents a bale, in other words. \$10, with the aid of an extra fireman at \$1.50 a day, will produce steam about equivalent to three tons of soft coal at \$3.90 a ton, \$11.70. In other words, a ton of 2,000 pounds of shavings at \$2.50 is worth practically three-fourths of a ton of coal at \$4.00.

Where a man can dispose of shavings at 15 cents a bale, he can better afford to buy coal and

sell his baled shavings and sawdust. In large cities the progressive, alert box man does not boast that his power costs nothing, and when thinking of putting in machinery the question he first asks is, "How much power does it take?"

A machine that daily uses 40 h.p., taking it from an engine with a capacity of say 100 h.p., that machine costs in dollars and cents to run through the year \$1,440.00 on a basis of \$4.17 coal, ten hours a day for 309 days. Every horsepower added to a plant, when a market can be had for fuel and shavings, means outlay. The shavings and saw dust may cost nothing, but they are worth, like any other commodity, what they will fetch.

The failing of the average box man when making up estimate, is to repeatedly refer to this and that as "costing nothing." Every movement of the men, every turn of the saw, every stick of waste costs something and represents some value in material and time and labor expended upon it, all of which gets into the payroll and expense account.

If box men realized, concludes Charles Cristadoro in the Barrel and Box, that to turn a board over costs money, many items of expense now ignored as too trifling for account would be considered and duly charged for.

TAMARAC WANTED.

THE Ontario Forestry Department has received a letter from the Imperial Institute of London, England, replying to the enquiry made some time ago as to the possibilities of developing a lucrative export trade in tamarac between Canada and the mother country. The letter states that gum of any kind is practically unknown in England, gum-chewers being confined to Canada and the United States. But there is a good demand for tamarac for medicinal purposes, and a number of British importers have evinced a desire to see some samples of Canadian tamarac. Mr. Southworth is collecting samples and will forward them in a few days. He is also sending over some specimens of the Canadian shumach, which is used largely in England for tanning purposes. At present the European market is supplied by Sicily, and even Toronto firms secure their shumach from there. But in the Ontario north country there are large quantities of shumach cumbering good agricultural land and which is of no use whatever to settlers. Mr. Southworth sees no reason why these apparently useless bushes cannot be turned into a profitable staple of export.

GERMAN METHODS.

THERE are no factories in Germany where cheap furniture is produced, it is made in small quantities at the workshops of individual joiners, who are supplied by wood-working establishments with the different parts in an unfinished state. These joiners work at a very cheap rate. It may pay American manufacturers to export high-class articles of wooden furniture to Germany, provided these are tasteful in design and superior in finish to those made in Germany. They should be of superior workmanship and solidity, and, if anything, somewhat cheaper in price than similar articles of German make. It must be taken into account that such American furniture will have its original cost price increased by about 20 per cent. of the selling valuation here, owing to the cost of packing, freight, insurance, and the German import duties.