

## LUMBER TRADE WITH THE ARGENTINE REPUBLIC.

MR. J. Arthur Maguire, Consul-General for the Argentine Republic, when in St. John, N. B., a few weeks since was interviewed concerning the probable increase in duty on spruce going into that country. He said: "The commission, which was appointed by the Argentine Republic on the tariff question thought the tariff bill, which passed the United States Congress would reduce the duties on all goods from the Argentine Republic, still more than under the existing reciprocity treaty between that country and the United States, and they recommended to their Government that the duty on hard pine from the States be lowered from \$13 to \$9, and that the duties on spruce and white pine from Canada be increased from \$2.50 per 1,000 feet on the former to \$4.77 and on white pine to \$4.67 as compared to \$2.50. These recommendations, he said, had not yet been carried out, and he did not think they ever would be. He had had cables and letters from Buenos Ayres and had not been notified of any change in the tariff. The Argentine Republic, said Mr. Maguire, grew large quantities of hard woods, equally as good as the United States pine, and if the duties on the latter article were reduced the Argentine merchants feared that the country would be flooded and the home wood could not be sold in its own market. If the suggested new tariff came into force pitch pine would take the place of spruce, as it could be purchased almost as cheaply in the States now and is almost equally as good for the Argentine requirements. In case the tariff is adopted he will take precautions to prevent the shipping of Quebec lumber from Portland as American lumber. He will have it so fixed that all Quebec lumber shipped through Portland will be accompanied by certificates of origin, so that the Americans cannot send the lumber forward as the product of their country. Portland, he says, can never compete with Quebec in the shipments of spruce and white pine. Personally, Mr. Maguire says, he would not have any fears of increased duties if he were sending a cargo to the Argentine Republic.

The other day Mr. Maguire was comparing the shipments of lumber from New Brunswick and Nova Scotia to the Argentine ports, and found that the two Provinces had sent forward four times as much this year as in 1892.

Mr. Maguire feels that the Argentines have a country of wonderful resources. Last year a million bushels of wheat were sent over the world from the Republic, and this year the shipments will amount to one million and a half bushels. Mr. Maguire sailed on Dec. 15th from Halifax for Europe, whence he will go to the Argentine Republic on business connected with his office. He expects to be absent about four months. Mr. Maguire's headquarters are at Quebec.

## CHIMNEY DRAUGHT.

IF any one will look over the transactions of the mechanical engineer societies, says the Manufacturers' Gazette, and read the discussions on chimney draught, he will be surprised at the differences of opinion expressed by the learned men. But there is one fact as to which there can be no doubt, namely, to produce a good draught in any chimney, the height of the chimney is an essential factor for the economic combustion of fuel.

The draught power of chimneys is dependent on their area of cross section and height, other things being equal. The ordinary tables of formulae for dimensions of chimneys for various horse powers of boilers are based on the following assumed or asserted data:

First The draught power varies as the square root of the height.

Second The power varies directly as the area of the shaft.

Boiler-makers as a rule assume the above to be correct. Now as to the facts in practice: The draught power based on the above for a chimney 48 inches in diameter and 150 feet high would be only sufficient for 425 horse-power boilers, whereas Le Van says he has actually produced 1,000 horse-power based on 30 pounds of water evaporation by a chimney of the above dimensions, and propose to add a 200 horse-power boiler as soon as may be required.

The above is cited to show the fallacy of all the formulae as to draught power of chimneys. It is assumed,

according to the above rule, that their height should be eight times the area of the chimney. The quality or kind of fuel is not stated.

The important factor, grate surface, depends on the different kinds of fuel used, and the conditions under which the fuel is burned. Again, the tables are also based on a temperature in the chimney of 600 degrees a very high temperature, it would seem, having in view proper economy. The intensity or degree of heat evolved by the fuel varies in proportion to the rate at which it burns; the greater the draught is the greater the amount of work produced from the same fuel.

The power of draught is directly proportional to the height of the chimney, and the velocity with which the external air flows in to supply the draught depends upon the temperature of the ascending gases. The higher the temperature is the lighter will be the gases, which consequently will produce a stronger draught.

There is draught in a chimney without fire. In a great many chimneys the infiltration of air through the masonry has, no doubt, a great influence to retard the velocity of the heated gases when in use. The intensity of draught is independent of the area, and depends upon the difference between the inside and outside temperature. The degrees of heat produced by the fuel vary in proportion to the rate at which it burns; the greater the draught, the greater the amount of work that will be produced from the same fuel.

This goes to show the importance of tall chimneys; therefore, the power of draught is directly proportional to the height of the chimney, and the velocity with which the external air flows in to supply the draught, depends upon the temperature of the ascending gases.

Air at 250 degrees temperature expands to double its volume at 32 degrees; therefore, the higher the temperature the lighter will be the gases, which, consequently, will create a stronger draught.

A rapid draught is, in one respect, equivalent to a large fire-grate area, since it enables more fuel to be burned in a given time, and thus increases the power of the boiler in generating steam. A rapid draught, however, has this advantage, that, inasmuch as the temperature of the furnace is higher when the same quality of heat is generated in a small space than it will be when generated in a large space, the heat is transmitted much more rapidly to the water in the boiler in the case of the strong draught, by reason of the higher temperature thus obtained. The manufacturing requirements of modern times demand the building of high chimneys, so as to enable more fuel to be burned in a given space of time, and thus increase the boiler.

## HARDWOOD DIMENSION.

THE business of cutting dimension stock from hardwood is one that requires considerable study, and the average operator, not having much experience, usually works at a loss, says C. P. Crosby in an article in *Hardwood*. It must be remembered at all times that a manufacturer of chairs or tables, or any such goods, when buying dimension stock, insists on getting it as low as possible, say about 35 per cent. less than first and second lumber would cost him, and that he will inspect it in the most rigid manner. Should a piece be a trifle warped or checked, or should there be a knot on one side, even if the piece is to be so used that the knot will not show, that piece is culled.

I recently saw about three carloads of rock elm wagon stock that has been cut for a company and rejected, or rather the perfect stock was taken and the balance left at the mill. Scarcely a piece had any more serious defect than a simple sun check or a knot one-quarter inch in diameter, or some other little thing like that; and had this wagon company cut the stock themselves from dry plank, they would most likely have used every piece. This illustrates how dimensions will be culled.

No. The way to do it is to cut all the good lumber out of these culls in the mill; then either work it to the size you want, or pile it by itself, where it can be reached easily when you have orders for it. But usually you can cut it to length and size in the saw mill, and then, if it is piled under cover, it will season without warping or checking.

Do not think you can take the dry culls from the yard and manufacture them as cheaply as the green stock. I

will cite the case of a large concern in Wisconsin which pursued the plan of selling its common and better and piling back the culls, until there was as much cut as anything else in the yard. They would saw the log properly, turning it until the heart was reached, and finally leave a 3x8 or 3x10 heart plank. This heart plank they were in the habit of taking into the planing mill when dry and ripping for table legs, etc. But in many cases they would not get one piece out of a plank, and they were doing all this work for nothing. The one-inch stock they treated the same, but this of course had better material in it and yielded some bed and hair stock as well as some flooring. Still the manager of the company got so discouraged by the culls which seemed to accumulate faster than they could cut them up, that he resigned, and his place was filled by a younger man. I advised the new man to cut his three-inch plank into wood and rip out all the good stock from the culls in the saw mill, but I have not been at the mill in question since the new management took control, and do not know what course was followed.

There are a number of dimension sizes which can be cut and sold green, and this is the best way to sell them, as they have no opportunity to check or warp. I especially allude to neck yokes, singletrees and doubletrees, which are preferable green, as they will turn up more easily than if dry.

A mill man soon gets discouraged trying to cut piece stuff out of culls, as the first contract he takes is usually a large one, and his first shipments are culled pretty liberally, while the price is so low that he can barely get out even when everything is accepted. A few shipments of this kind disgust him so that he stops cutting and disposes of his stock at any price he can get. But when he learns the business slowly, taking no contracts, he finds out where are salable sizes and cuts enough to make a carload or so, and then sells it and cuts some more, cautiously developing the business and gathering experience, he finds a vast field lying open to him, nowhere overstocked with good material; and by making an absolutely perfect article and cutting the sizes ordered he can build up as large a business as he is able to handle, and will probably find it profitable.

Let him learn at the outset that there is no sense in cutting up a 3x10x16 to get one table leg worth five cents, and he has grasped the most important fact in the whole business. If his culls are worth \$5 in the yard he must get at least \$15 for his product, or he is not doing a successful business. It takes fully as long to handle one table leg as it would to pile or load a piece of lumber that would scale eight or ten times as many feet. As one very bright mill man expressed it "it takes a lumber piler just as long to pile a piece of 2x4 as it would a 2x10x16."

Every piece of dimension stock must be handled separately and examined on all sides before it goes into the car, and it takes a great deal of time to do it. The smaller the sizes, the lower is the price, and yet it costs a great deal more to handle them. After a man has gained experience in the business he can save considerable small stuff out of slabs and edgings, which is so much clear cash in his pockets. There is no limit to the sizes to be cut or to the time one might spend in discussing the question.

## WORDS OF CHEER.

J. T. SCHELL, of Macpherson & Schell, Alexandria, Ont., writes: "I have for some years considered the CANADA LUMBERMAN the best of its kind we have had before us as a trade paper, giving general information, good market reports and conveying to my mind freedom from fads, booms and jingo bombast not always absent from lumber journals. Your weekly editor should be appreciated."

Mr. Banford, of the firm of Banford Bros., Listowel, Ont., was accidentally killed in his planing mill at the place, while working with a circular saw.

Messrs. Cutler & Savage, of Michigan, have purchased from Cook Bros. limits 111 and 117 for \$75,000. Mr. Barnet, of Barnet & Mackie, Renfrew, Ont., has bought No. 1 Paxton limit. The price in this case has not been disclosed.