

## HEAD BLOCKS, ETC.

The head blocks must be accurate and durable, and move easily and rapidly. They should be small in construction, and of strong material well put together. For general purposes, setting to 1-16 of an inch is close enough, but in some cases they are needed to set 1-32 of an inch, as in making 1 1-16 inch boards with 1/4-inch saw kerf, as in this case if the blocks set to 1 1-16 only, the sawyer would have to leave the lever at the 1 1-16 inch pin every other throw. In some cases there is an independent knee to thrown ahead of the other when a tapering log is to be cut; but a joint between the knee and the backbone is undesirable, and another way of doing the same thing is to have a strong slide which can be extended 6 inches; which will answer very well where short logs are to be cut with but little taper to them, as in the northwest. But where hard wood is to be sawed there will be need of more taper, sometimes over a foot in short logs, and in these cases the independent knee will be necessary.

It is well that the blocks be faced with steel, the facings being renewable when necessary, (say in two or three years.) To allow free passage for bark and dust, the ends of the blocks may be left open. The set shaft should be good and strong so as not to spring. In some cases the blocks are brought back by coil springs, which have the advantage that they take up lost motion.

If there be two many notches, there will be less liability of the pawl catching the right one, one or more notches being lost with a heavy log, and one or two too many being got when the log gets sawed down. Thus the first boards will be likely to be too thin and the last ones too thick; and there will perhaps be remnants on the blocks that will be of no use.

The set-work racks, where racks are used, should be of cast steel, so that no motion will be lost. If there be self receding blocks, there should be buffers to catch them. There should be a scale to show the distance from the knee to the saw, and it is very convenient to have one covering the back ends of the blocks, which will be more convenient for the setter. Blocks should be broad, heavy and strong. Pawls are best of cast steel, and should be broad.

There is advantage and economy in good sawing for every one concerned. If the trees are sold by the thousand, the seller gets more for his trees. If the mill is stocked by the job, the stocker gets more for his labor. If the sawyer saws by the thousand feet, he gets more money for sawing the same, and the mill owner gets more, too. The raftsmen like well sawed lumber, because it packs closely, there is less danger that boards outside of the grubs will wash out, and thick boards do not have to be put out to prevent this; water and mud are excluded, and the raft runs lighter and draws less water. Builders prefer well sawed lumber.

There is one thing that can be said in favor of very strong mills; that very long logs, especially if they be hewed, can be sprung considerably and thus made straighter before sawing. For this purpose there may be upon each knee a windlass with a lever and latch. Ten feet apart is a good distance for the blocks.

There are cases where once in a great while very long lumber comes in. To provide against this, the carriage may be of the ordinary length, but in two sections, dovetailed together so that they will match exactly, and held together by stout couplings. Then when the extra long logs come in the carriage may be opened out lengthwise and the long logs taken in.

For making stock boards it is well that the blocks have wings which will prevent the springing of the lumber as it sets thin, and will thus keep the last boards of right thickness and surface.

Modern mills have live rolls to catch the lumber as it comes from the saw, and take it to where it is needed. These rolls may be of iron, say 24 inches long and 9 to 12 inches in diameter, being hollow, and running in babbitted bearings kept well oiled. They may be driven by a counter shaft having friction bevel wheels, or a vertical shaft through the floor having either bevel gearing or a belt.

The dogs should be so proportioned that they will hold large, small, or medium logs. It is

well that their points be steel bits which may be taken out and sharpened, or replaced. It is better that they hold the log or cant by its edges instead of spoiling its face.—*Lumber World.*

## TREE PLANTING.

The subject of tree planting is becoming more fully impressed on the minds of western settlers as its importance becomes more fully recognized. Farmers are planting trees for windbreaks for the protection of their crops on the prairie land, and while they are serving this purpose they are constantly improving in value for the timber they produce, for which ample returns will be received in the future. The railroad companies also have awakened to the importance of this subject, and are substituting belts of timber for the fences, with which they have hitherto attempted to prevent snow blockades along the line of their tracks. These live fences have been substituted for pine fences by the St. Paul, Minneapolis & Manitoba road, with excellent results, and the Northern Pacific is also following the example, and will thus attempt to prevent the snow blockade of their tracks which have hitherto caused them such serious annoyance. It is considered that from its durability and other advantages the live fence will be much cheaper and more economical, as a pine fence to be anything like serviceable, must be at least eight feet high, and this costs in the neighborhood of \$300 per mile. The necessity of tree planting on the western prairies is also recognized, not alone for the timber production, in order for its utilization for lumber purposes when it shall have attained sufficient growth, but also for the climatic effects and the increased rainfall, which many scientists maintain is derived therefrom. Whether this theory be correct or not, it is sustained by many of the foremost men, who have given their best thought and consideration to the investigation of the subject. Certain it is, also, that it has been practically demonstrated in many prairie countries, where tree-planting has been extensively engaged in, the rainfall has been materially increased, and the surrounding country has been vastly more productive, and corn and other crops have prospered where they had previously failed. In many sections of Dakota where in former years nothing but a species of corn known as "squaw" corn would mature, since timber belts have been cultivated and matured, other grains have superseded the corn alluded to, and the territory has become prolific with crops which previous to the timber growth alluded to, were known to be if not impossible, at least very improbable of successful results. In some parts of Dakota and Nebraska in which fifteen years ago the rainfall for an entire season amounted to only six or eight inches, since its occupation by settlers who have tilled the soil and planted large tracts of young timber, it has increased very materially, running as high as 100 per cent. While some writers maintain that the increased rainfall springs from the cultivation of the soil, the more general accepted theory is that it has been produced by the tree growth and its action on the atmosphere. This view is also further partially sustained by the moisture produced in many sterile and arid sections further east, after the land alluded to had been adapted to the growth of timber as an experiment because of its complete usefulness for agricultural purposes. However it may be, certain it is that tree planting is being more extensively engaged in and receiving far greater consideration on the western prairies than formerly, and this result is doubtless superinduced by practical demonstration of the beneficial effects, not only as regards climatic influences, but also for the profits derived in the increased value of the lands and the constantly increasing value of the timber for utilization for fencing, building and other purposes.—*Lumberman's Gazette.*

## DUTIES ON LUMBER.

Mr. Royal moved in the House of Commons on Thursday, March 1st, for copies of all correspondence relating to the abolition of duties on lumber imported into Manitoba and the North-West Territories. In doing so, he called attention to the very high duties which prevailed on this necessary article and the necessity of having

them removed, or materially reduced on lumber imported into the North-West. It was a well-known fact that the country depended almost entirely for its lumber supply upon that brought in from the United States, and the cost on account of duty increased about \$3 per thousand feet. Though the country possessed valuable pineries, they were not as yet developed, and a remission of the duty for a few years at least, till the home supply could be utilized, was very desirable.

Mr. Bowell said that the papers asked for would of course be brought down. Until they were produced and all the facts were before the House, it would not be possible to discuss the question intelligently. He might say though that the logs cut of which lumber was made and lumber in certain States were admitted free. He might also remark that a large number of logs had been purchased during the past year in the Western States, and floated down the Red River to be imported free of duty and manufactured in Winnipeg. It would be for the hon. gentleman to consider, when the papers came down, how far that interfered with the investments which had been made. He was not prepared to say that the price of lumber imported into the North-West was such as to justify the statement that the duty imposed amounted to \$8 per thousand. To say that would be equal to saying that lumber purchased in Minnesota cost \$4 per thousand. He was quite satisfied it would be found that large quantities of lumber were imported from Thunder Bay into Manitoba, and that east along the north shore of Lake Superior would furnish the North-West with a very large proportion of its wood.

Mr. Blake said that if the consumer was to derive any advantage by getting his lumber from within Canada, it was clear that he must now be paying duty.

Mr. Charlton suggested to the Government the propriety of making the duty on lumber specific, instead of *ad valorem*. The duty was now twenty per cent, and the American Government imposed a specific duty of \$2 a thousand, but our duty, if the price of lumber was \$40 per thousand, reached \$8 per thousand.

Mr. Watson (Marquette) said the price of lumber in the North-West was excessive, and in his part of the country the freight and duty together came to more than the original cost of the lumber at Minneapolis. The timber limits of the North-West were certainly being developed, but they did not half supply the demand. In view of that and the fact that freight rates were high, lumber should be admitted free. As far as Manitoba was concerned she did not require protection. Under the present policy, she had to buy her machinery and agricultural implements from Ontario, and to pay a price for them higher than she would have to pay if she could bring them from the other side. The Minister of Customs had said that logs came in free, but the hon. gentleman ought to know that the admission of logs free of duty did not lessen the price at all.

Mr. White (Roufrew) was sure the hon. member for East Simcoe (Mr. Cook) would not adopt the view of the hon. member for North Norfolk. The objects of the last speaker, regarding the lines upon which manufactured American articles should be admitted into Canada, Georgian Bay, and Lake Superior districts, were to supply Manitoba with its lumber, and the hon. member for East Simcoe (Mr. Cook) was making preparations to secure that trade for his firm. That hon. gentleman would therefore not favour the reduction or the removal of duties.

The motion was carried.

## THE BRISTOL TRADE.

Messrs. King Brothers have issued their annual timber circular, being a report of the timber trade during the year 1882, which contains much interesting matter concerning the course of business at this port during the last twelve months.

In reviewing the timber trade here for the past year, they say it must be stated that the tonnage employed in the importation has been 80,248 tons register, against 68,328 tons register for the previous year. The importation in cubic feet has been 22 per cent. heavier than in 1881; 15 per cent. less than 1880, and about 5 1/2 per

cent. above the average of the last five years. The consumption, fortunately, has been slightly in excess of the importation, and 6 1/2 per cent in excess of that in 1881, thus showing that a fair amount of trade has been done, though generally at low values. Business throughout the past year was done at very close prices, and competition was not only confined to importers here, but also extended to those of the neighboring Channel ports, who sold largely in this market. We trust soon to have a fresh outlet for goods from this port by means of a new railway now prospecting, which will not only be in the heart of our city, but in all probability around its quays.

CANADIAN WOOD.—Quebec white pine.—The importation has been much below the average, consisting of but 7,320 loads, the whole of which excepting 338 loads, were for railway purposes. The enhanced prices for these goods so limit the consumption that, notwithstanding the smallness of the import, the stock carried forward for general trade is 180 loads, being only twenty loads less than this time last year. Red pine.—No import. The consumption has been 47 loads, and the stock on hand 20 loads. Oak.—The figures show a decrease in the importation of about 65 per cent. compared with last year. There has been a fair consumption, and the stock carried forward consists of 44 loads. Elm.—There has been only a sluggish demand; the importation was small, and the stock on hand is only 8 loads. Ash has been in good request; the consumption has exceeded the import, and the stock held is less than half of last year. Walnut.—No import. Stocks are quite cleared. Birch.—No import. There has been a good demand, and parcels that have been brought in coastwise have found ready buyers. The stock now held is nominal. Deals.—The importation is nearly equal to that of last year, about 30 per cent. of which came forward by the Montreal Line steamers, and included several parcels for inland dealers. Prices ruled high; there has, however, been a fair inquiry, and the stock carried forward is 37 1/2 per cent. less than last year, consisting of 1,103 standards. Stave.—Only a small trade is now done in these goods, the consumption being so limited. Stocks are quite cleared.

## NEW BRUNSWICK AND NOVA SCOTIA GOODS.

—Spruce deals.—The importation has been larger than usual, and shows an increase of nearly 20 per cent. over 1881, whilst the consumption has been slightly in excess, thus leaving the stock on hand 2,312 standards or about 16 per cent. less than last year. Good values were obtained for these goods in the early spring, towards summer the chartering of several large steamers at low freight brought down prices, but with the withdrawal of the steamers from the deal ports freights rose, and deals increased in value until the end of September, since which there has been a gradual decline in price. Pine deals are not in favor, and have been only lightly imported. Birch, owing to the scarcity of Quebec, has been in good request, and with the exception of a small cargo now landing stocks are quite cleared.

## TREES IN STREETS FROM A SANITARY POINT OF VIEW.

An interesting controversy on the utility of trees in streets and open spaces in cities has been lately going on in the Geneva journals. It arose out of a discussion in the International Hygienic Congress, which was held in Geneva in August, and Dr. Piachaud, a member of the Congress, has since contended, in the *Journal de Geneve*, that trees in streets do more harm than good; that they impede the circulation of air; and that as for the shade they afford, people who do not like sunshine have only to keep on the shady side of the street. Instead of planting more trees in towns, as some propose, he would rather, in the interests of hygiene, remove all existing trees. In reply to Professor Goret, of the University, points out that the functions of trees in streets are not limited to acting as screens for sun-burning wayfarers; they temper the heat, and serve as a protection against dust. The evaporation from their leaves tends to keep the surrounding air cool and moist. One of the best means of refreshing the air of a sick chamber is to place in it plants and branches, and sprinkle them with water. A