

of having the woods seasoned in New Brunswick climate gives manufacturers an undoubted advantage.

With the foregoing facts before us, it cannot but be admitted that the consumers are much better served by having the woods cut up and seasoned in this country. They obtain better material unquestionably. The saving in raw material should insure lower prices for them, and the saving in freight is a considerable item.

At the conclusion of Professor Alcou's interesting and valuable address, which was received with great applause, a valuable discussion took place.

BALANCING PULLEYS.

If a pulley is placed on a mandrel that is too loose for the bore, and one of the set screws tightened just to hold it in place, the wheel is not going to be brought to a perfect balance by placing the shaft on narrow edged bars and weighting the lightest side till the wheel will stand in any position. Neither will it do to wedge in arbor on all sides with shingle nails filed to a point with the object of bringing the mandrel in the centre for the purpose of balancing. Leaving the wheel to stand loose on the shaft while the arbor is rolling on the bars will give a much better result, but to get a wheel anywhere near perfect in balance a true mandrel must be used that will let the wheel drive on to the centre, and made to rest between two narrow straight-edged bars that have been tested with a spirit level. This gives a revolving motion so delicate that it stands next to the knife edge in accuracy and requires, but the slightest weight to throw the wheel out of balance. The pulley will have a tendency to roll back and forth when placed on the bars, and this is sometimes taken advantage of in finding the lightest side of the wheel, as it is as important to find the place where the balancing weight is to be added, as it is to determine the amount that is to be attached to the weight of the wheel. During the rocking motion of the wheel a mark is made on the rim at the same height from the supporting bars, as the wheel comes to rest on each forward and backward movement. The central position taken from these points locates the lightest side of the wheel in about the manner that the dead centre of an engine is found by blocking under the crosshead, and throwing over the fly-wheel till it is brought up by the same stop again, and dividing the movement in halves. The wheel is then rolled around till the lighted side stands level with the mandrel. This brings the centre of gravity the farthest to one side of the central line of the wheel, and assumes some of the good qualities of a balancing scale. A weight sufficient to hold the wheel in this position will be all that is needed to keep it equally poised in any part of the circle.—*Boston Journal of Commerce.*

TIMBER AND DEAL FREIGHTS.

(To the Editor of the Journal of Commerce of 24th January.)

STR.—It is much to be regretted that notwithstanding the anticipations of an improvement in trade all round, the first charters which have been made from Quebec this season are at rates little, if anything, better than those of last year. There is no doubt that the ruinously low freights which have ruled at Quebec and the deal and pitch pine parts during recent times are and have been owing in the greater measure to the reckless competition of owners having vessels engaged in these trades, especially North of Europe, ships which appear to accept anything merchants think fit to offer. Last year prospects looked fairly good shortly after the opening of the season at Quebec, but, as usual, the market was spoiled by owners and captains rushing in and accepting whatever rates suited shippers and merchants to offer. The shipbrokers at Quebec complained of the action of the shipowners and captains in frustrating their efforts to establish an advance in freights. Shipowners have been acting under a sense of unreasoning panic, each trying to outstrip his neighbor in the race to ruin—grasping at anything and everything for the sake of employment, and apparently losing sight of the hopelessly unremunerative nature of their operations. From all quarters come complaints of the loss and of shipowners being reduced to the brink of insolvency, yet they make no effort to save themselves. It is self-evident that it is impossible for this state of affairs to continue; the end must be very near at hand with a great many owners now. If a combined effort is not made to put freights up a general bankruptcy of owners of wooden vessels must inevitably ensue. Combinations and trades unions are resorted to and adopted in other industries when those interested find things arrived at a point which does not afford a living, and there should be no insuperable difficulty of shipowners entering into a combination for mutual protection. It must come to this, or universal ruin for the present owners of the large amount of wooden tonnage afloat, amounting to several millions of tons register, and representing many millions of money. To all appearances, under existing circumstances, the ships must pass into other hands at mere nominal prices, and perhaps new owners may be deluded into the experiment of running them at rates of freight which do not pay expenses, but they must speedily awake to the fact that the game is not worth the candle. This experiment has already been tried, in a measure, by foreigners, who have been acquiring ships at ridiculously low prices, as compared to their cost

and intrinsic values, but the majority have discovered by this time that even under these conditions the result is disastrous.

There is no good reason why freights from Quebec should be less than 25¢ per load for timber, and from the deal and pitch pine ports 60s and 100s per standard respectively. These rates would be easily obtained if shipowners will resolve to accept no less and stick firmly to that resolution. The trade can well afford it, wood goods have been selling at absurdly low prices for some years past, and no one interested appears to be any the better off for it, except, perhaps, the consumers of the goods, who have, probably, been lining their pockets at the expense of the producers and shipowners. The trade was in a much more healthy condition when prices were considerably higher than they are now, and any movement in the direction of a return to better rates should be welcomed by the shippers, carriers and merchants. Anyhow, it is a question of life or death with the shipowners, and it rests with them whether they will make a stand for existence or quietly submit to extinction.

It may be said, in addition, that if owners abroad would give positive instructions to their agents in England not to fix their ships at such ridiculously low rates it would be some help towards getting freight up. British shipowners are anxious to hold off, but when they see foreigners rushing in and snapping at everything, they are obliged, in self defence, to accept what they can get.

It is utterly impossible for ships to pay expenses out of such a rate as 19s to 20s per load from Quebec, as instanced by the following particulars of a voyage made last summer by a vessel of 950 tons register under favourable circumstances as to outward freight and all possible economy as to expenses, viz. :—

Disbursement at port of departure, including provisions and outfit.....	£302
Disbursement at Quebec.....	367
Insurance on hull and freight out and home.....	269
Disbursement at port of discharge, including captain's and crew's wages.....	392
Brokerage on timber charter.....	14
Sundry commissions.....	49
	£1,393
Freight out to Quebec.....	£ 200
Net freight from Quebec to a port in U. K. at 19s 6d per load.....	1,084—£1284
Loss on the voyage.....	£ 109

SHIPOWNER.

THE TREATMENT OF FOREST SEEDS.

WM SAUNDERS, F. R. S. C., Director of the Central Experimental Farm, Ottawa has issued the first Bulletin relating to the workings of that establishment. Among many other things of interest we find the following remarks regarding the treatment of forest seeds.

The great importance of encouraging and stimulating tree planting among the farmers, especially in the Northwest Provinces, is beyond dispute. It is felt also that this can only be accomplished on the scale of magnitude required by the planting of suitable forest tree seeds, which can be gathered from the native trees growing in the Provinces or purchased at a small cost. This leads us to add a few words of advice on the general treatment of forest tree seeds.

Many of the tree seeds which mature early are better sown soon after they are gathered. This applies especially to the several varieties of elm and to the soft maple. The hard maple, box elder and ash seeds keep well over winter, provided they are stored in a cool place and not allowed to get too dry. Acorns, nuts and stone fruits are most successfully planted in the autumn, but if kept over winter should be mixed with moist sand and exposed to frost and planted as early as possible in the spring, taking care that they are not at any time left in masses under conditions so as to heat. Many failures with seed arise from not sowing it in partial shade. If seeds are exposed alternately to hot sunshine and cold, while they are swelling, they will frequently rot before they appear above the surface. The requisite shade may be obtained by the use of brush wood, or a light layer of corn stalks or straw, removing this as soon as the seedlings are up and fairly established. Many nurserymen enclose their seedbeds with wooden frames, on which are laid light frames made of one-inch strips and covered with cotton or muslin. These are convenient and can be provided at small cost. Seedlings of evergreen trees grow slowly and require to be shaded and kept moist during hot weather all through the first year of their growth and some times longer. Seeds take some time to swell their coats after being placed in the ground, hence, if planted dry, they should be sown as soon as soil can be had to cover them. Germination may be hastened, especially with seeds of hard texture, by pouring hot water on them and allowing them to soak for twenty-four hours before sowing.

Seeds sometimes fail to grow from being planted too deep. The larger nuts and acorns should be covered with soil about as deep as the seed is thick; other smaller seeds should not be covered with more than half an inch of mellow soil, pressed gently with the back of a spade so as to make the earth firm around them, and when the young seedlings appear they should

be carefully weeded. Occasionally seeds will remain in the ground until the following season without germinating. Should any fail to grow by the time spring is over, and on examination the kernels are found sound, the seedbeds should be kept weeded and shaded until the next season.

Anyone desirous of securing a copy of the Bulletin referred to can do so by addressing the Experimental Farm, Ottawa.

British Trade With Canada.

The export and import trade between the United Kingdom and Canada in the month ended the 31st ult. shows a total export from the United Kingdom to the Dominion, of £507,769 contrasted with £435,467 in January of last year, an expansion of £70,302, equal to 16 per cent. Of horses £750, in value was shipped to Canada in excess of last year. Articles of food and drink show a falling off, and in raw materials, wool exhibits an increase of £2,200. The expansion in cotton piece goods is £20,975, being £137,033 last month against £116,029 for the corresponding period. Of linen piece goods there was £3,700 more shipped than in the first month of 1886, and of silk broadstuffs £2,600. Woollen fabrics show a falling off of £7,400, but in worsted fabrics there was an increase of £18,500, and in carpets of £5,000. Hardware and cutlery were shipped £300 in excess of January last year. The exports of iron show a marked increase, the total being £42,640, as compared with £17,111, an increase of £25,529, or 149 per cent. The increased value of the exports of machinery is £500 in steam engines, and £400 in other kinds. An increase of £12,400 is shown in haberdashery, £2,300 in earthen and china ware, and £5 800 in seed oil, but in apparel and slopes there was a decrease of £500 and in stationery of £900. As to the imports from Canada to the United Kingdom the total last month amounted in value to £30,373 against £35,150 in January, 1886, showing an increase of £16,223, equal to 47 per cent. Of wheat, £7,695 came to hand, some being imported in the corresponding month. Flour shows an increase of £7,400; butter, £3,400; and cheese, £2,300; but in cured and salted fish a decrease of £2,300 is exhibited. The imports of copper ore were \$8 400 more in January last year, but the lumber trade shows a decided falling off, the quantity of hewn wood received being only £24 in value, for a decrease of £3,716, and of sawn wood £7 012, a reduction of £6,900.

The Duty on Sawn Lumber.

A well-known lumber merchant says the duty of \$2 per thousand feet, which was imposed by the Government last session on all unsawn lumber exported from Canada to the States, has had the effect of stopping the taking of Canadian lumber by Americans. The few Americans who had the misfortune to have large limits on their hands at the time the tax was imposed have either disposed of them to Canadian firms or erected mills on the Canadian side, where they sawed up the lumber and then exported it free of duty to the other side. Since this duty was imposed Canadian lumbermen have had much brighter prospects, and he thought that one long our lumbermen of the Lake Superior and Georgian Bay districts would be able to compete with their neighbors across the line.

Taper Pike Poles.

We direct the attention of our readers to the advertisement on page 15 of this issue, of W. Forsyth, Peterborough. This gentleman has lately gone into the manufacture of Taper Pike poles, which is something entirely new to the Canadian trade. A large number of the leading lumbermen in Eastern Ontario are already using this article and consider it by far the best that has yet been introduced. When an article of merit is placed on the market and once tested, it generally finds a ready sale, as doubtless will be the case in this instance. Our readers would do well to send for a sample article.

No Voice For War.

In regard to the little hostile demonstration made by a few small politicians on account of the fishery troubles with Canada, no doubt the editor of the Orange, Texas, *Tribune* voices, in a rough way, the sentiments of every Confederate veteran in the following paragraph.

"Well, we say let 'em fight. We don't care, but we don't want any of it in our'n. We used to be quite ardent and patriotic, but that was when we were too young to know any better, but we have gotten gloriously over all that as we have come to the conclusion that we would rather go down the shady side of life with a whole hide than to have our name recorded on the sacred pages of history, if we have to cross over the flood loaded with lead to get it rec'd."

To Prevent Dry Rot.

It has been ascertained that timber which has been floated in water for a considerable time is no longer liable to the attack of dry rot. The albumen and salts are slowly dissolved out, thus depriving the fungus of the nutriment needful for its development. A French experimenter has shown that fresh sawdust rots away in a few years in damp earth, whereas sawdust from which the soluble matters have been soaked by water remains unchanged under like circumstances.