

POPLAR AS A BUILDING TIMBER.

At the present time, when so much interest is being manifested in the merits of the poplar when used for building purposes, it may be profitable to consider shortly in our columns the cost of producing the various items required in house-building, and compare it with the foreign timber which has so successfully of late years competed with our home produce. Before going into figures, some of its properties may be generally stated as helping in arriving at a proper comparison with other woods.

In the case of flooring it has been a matter of surprise that poplar has decreased to such an extent in popularity. It is most essential in all kinds of wood for flooring that it should be thoroughly seasoned, but especially is this so in the case of poplar, which shrinks in the drying to a very great extent; but when once thoroughly dry it will not warp or twist, as is the case with some foreign battens, and it is with the greatest difficulty that dry poplar will ignite—in fact, by itself it will rarely make a fire even after being lighted up by some other combustible, but will gradually die out. Poplar, when seasoned, has also in the eyes of every well regulated housekeeper another very important property, which is its nice white color for flooring, and the closeness that the grain has acquired in the drying, makes its white color easily retained by scouring, which color it retains for many years, being very unlike the foreign wood, which soon becomes musty and dirty, which no amount of scouring can take out. It may be judged how much poplar shrinks in the drying, and how fine the grain must necessarily become, that thoroughly seasoned only weighs about one-half what the green timber weighs.

It may here be stated that according to eminent authorities its tenacity is from 6,000 to 7,000, comparing very favorably with other woods generally used in house construction.

It should not be forgotten that poplar, when used in a damp building, is very liable to go to decay, but poplar is certainly not an exceptional wood in this respect, as all woods are liable, more or less, to decay when exposed to dampness.

A very important feature in poplar, when comparing its cost as a building wood, is its lightness. When this quality can be combined with moderate strength, as it is in poplar, its value in house construction is much enhanced. Its lightness acts advantageously in two ways: first, as regards the cost of carriage; and secondly, effecting the desirable object of not overburdening a house with heavy-weighted timber. The average weight of seasoned poplar is about eighty cubic feet to a ton, which is considerably lighter than Norwegian whitewood. Of course its heavy weight when in a green state necessitates its being converted and seasoned as near as possible to its place of growth, otherwise extra carriage on double the weight adds very materially to its cost, and when competing with foreign battens it requires every economy to be exercised.

The great length to which poplar grows, and carrying with it its girth, enable the saw-miller to procure extreme length suitable for joists, beams and rafters, and its parallel growth enables the conversion to be done with smallest percentage of waste, which is one of the principal considerations in producing scantlings. When converting poplar into the various items for housebuilding, so many are these sizes that only a very little study is required to utilize the whole tree.

When cutting up a poplar tree into sizes suitable for building material, there need be very little waste, as the flooring board sizes being as thin as from 1 in. and upwards, by breadths from 6 in. to 7 in., and lengths being no great object, the thick slabs may all be utilized, as recommended above. It effects a considerable saving to have the timber converted at a saw mill as near as possible to the place where it has grown. It is well to have the tree crosscut in suitable lengths from 12 feet and upwards, joists, rafters, &c., being wanted in such various lengths, and the oftener a poplar tree is crosscut, the more profitable does it cut up. The average amount of over-measure in fairly well-grown poplar is about 25 per cent;

of this there is thrown of an entire waste when cutting thick sizes one-half, but in the case of building sizes, which are of such a variety, the amount of slab waste with careful study should not be more than five per cent. This leaves a clear gain of 20 per cent., or one-fifth of its value. No doubt, in the case of so cheap a wood as poplar, this does not amount to more than 1d. to 1½d. per foot, as the cartage from the woods and other labor expenses have to be paid on the ½-girth measure. The cost of sawing up poplar into such sizes as are required in building, running from 6x1 for flooring up to 10x8 for joists, averages upon the whole, as near as may be reckoned, somewhere about 3d. per foot cube on the converted sizes.

The whole of the scantling should be immediately piled up for drying, and in the course of six months they will have dried sufficiently as to have reduced the weight so far as to permit their being covered by rail or otherwise at a weight of from 70 to 80 feet to a ton; and poplar being a wood which is produced in almost every part of the country, it is unnecessary to send it off from any particular spot to an extreme distance. In the case of the flooring boards they should be thoroughly seasoned before being planed, which, if done, will enable them to put up a much smoother surface than foreign battens; they must not, however, be planed in a green state, as its then fibrous nature prevents the iron from leaving a nice surface, and the shrinkage in seasoning, after being planed, causes it to get very rough. There are no other expenses connected with the conversion of poplar, and it will thus be seen that with careful cutting up all sorts of scantling can be produced at a cheaper price than what even foreign white battens can be delivered to any inland town; we have therefore a superior wood, in every respect cheaper, ready to hand, and this fact only requires to be known and brought prominently before the attention of architects and builders by our English timber merchants.

From the various reports of poplar sales we gather that standing timber can be purchased at 6d. per foot and under, which with 4d. added for labour and cartage, and 3d. for sawing, deducting in over-measure, makes the price such that the poplar as a building timber can successfully compete with the foreign importations. Were the fact of its great superiority in so many respects as a building timber studied more by those interested, we certainly should not find this useful tree from time to time reported as unsaleable, and its rapid growth enables a continuous supply to be forthcoming.

We hope to see a healthy interest taken in this subject, and by its being brought out prominently before the builders very soon to see the poplar taking the place in the market that its qualities demand. It is certainly not a wood that will ever command the price of such timber as larch or hardwoods, but by its more generally use we hope to see the same reasonable competition for it that there is for those other home-grown timbers, so that our own country's produce may be all utilized so far as we are possessed of it.—*Timber Trades Journal*.

LUMBERMEN RAISING ORANGES.

A correspondent of the *Lumber Trades Journal* says:—Tarpon Springs, Fla., January 25, 1884, I have bought myself a place here and expect to build a house as soon as I can, that is, something temporary for the present. Regarding the amount necessary to get an orange grove, I would say that anywhere from two to five acres of land, properly tended to and brought to bearing, will pay a man an average of \$500 per acre each year. To do this and see that it is done properly, requires one's attention and some outlay of money. Land can be bought in desirable locations from \$25 to \$90 per acre (that is, at present.) Yesterday I bought 50 acres water front, at \$40, and marsh land, which I expect to drain at \$10 per acre. Back a ways equally good land will sell for from \$8 to \$15; of course this is for the bare land, covered pines; clearing costs from \$15 to \$40 an acre. If one comes to this country and wants to make it profitable from the first, he must go into something that can be realized on, such as vegetables, etc. All such as northern vegetables, strawberries, tomatoes, cucumbers

grow here all winter, and can be sent north at exorbitant figures. At the same time one can set out a grove and have it a nucleus for a bank account, which it certainly would be after coming into bearing. I would not advise anyone to come to this country unless he could give some time to it, and personal attention. This is the new part of Florida, and the best, climate grand and healthy, and chances of a rise in property are among the best in the state. For anyone troubled with throat or lung complaints, this is the country. Florida in ten years will be the greatest resort in this or any other country. I have had all the lumbering I want, and propose to still make money, and take life comfortable and easy in the garden of the world.

CIRCULAR SAW NOTES.

Extra thin saws require more teeth than thick ones.

For light cross cutting, the pendulum or swing-saw is best.

Care must be taken with inserted-toothed circulars to have the guides clear the teeth.

Any circular saw should balance perfectly in any position before and after toothed.

If the mandrel is a tight fit when cold, it will be apt to spring the saw when it is heated.

Saws over 30 inches in diameter should, where possible, have three bearings for the spindles.

By the use of inserted teeth, circular may be enlarged from one to two inches effective diameter.

Railway sleepers are best sawed by feeding them on an endless chain with loose dogs gripping the end of the timber.

The "gang circular," consisting of several disks on one arbor separated by collars, was patented in England by Sayner & Greenwood, about 1825.

Clamping several circular saws together on one arbor, without any distance pieces, for use in rasping dye woods, etc., was invented by Sayner & Greenwood.

Such machines are better in hardwood than in soft, as in soft wood the power consumed by rotating cutters is much less excessive, and the cutters do cleaner work.

Emerson makes circular saws to 54 inches diameter, as thin as to 12 gauge at the rim, 11 at the centre; 66 to 62 inches in diameter to 10 gauge at the rim and 9 at the centre.

In order to prevent wearing out the guides of a circular it will be well to hold the end of a new oil stone against the disk where the guards touch it; this will polish and furnish a track.

The greener the timber the greater the friction of the saw against the wood, and the greater the advantage of the opening wheel or revolving wedge.

For cutting double tenons entirely with saws there must be two flat saws to cut the outer faces or sides, and a wobble or drunken saw to cut out the stock between the inside faces.

It is well to fit swing cross cuts with an automatic stop-gauge to cut any length of board, and moving out of the way as the saw

advances to let the last boards cut fall at once out of the way.

The advantage of having separate pedestals for bearings of circular saw mills is that they can be easily taken off for repair or renewal. The disadvantage is that they are somewhat less rigid.

The double two high circular saw was patented in Great Britain in 1824 by Sayner & Greenwood; the original machine having the cant resting on the horizontal rollers and fed by vertical ones.

Where large quantities of heavy logs are to be cross cut, there should be at the entrance to the mill a large sunk circular which can be brought up through the floor so as to cut the log on the ground.

Circular saws are used to cut heavy rough tenons—one cut being made parallel to the wood and another perpendicular to the plane of this cut, to form the shoulder. Generally there are two disks on one arbor, with a distance piece or collar to regulate the thickness of the tenon, while the shoulders are cut by two smaller saws cutting in the same plane, and their bearings working in slides, so that the cut shall be no deeper than is required to meet the cut of the saws forming the face.—*Southern Lumberman*.

National School of Forestry.

It is intended by the promoters of the exhibition, which it is proposed to hold in Edinburgh, Scotland, next summer to make it the starting point of a national School of Forestry, an institution much needed in Great Britain. At present students have to go to schools on the continent for instruction, while there is ample scope for study at home.

The Hallowell (Maine) Granite Company are cutting the drum for the Yorktown monument. It is one of the largest stones ever "in the slings" in this country. It now weighs forty-five tons, and when cut will weigh about 25 tons. It is to be nine feet and six inches in diameter, and eight feet and four inches high. The derrick to be used at Yorktown, in erecting this monument, is now being constructed in Boston. The mast, a single stick, will be 102 feet long, with a boom 98 feet in length. They were cut in Oregon, and brought around Cape Horn.

A CONTEMPORARY states that the achievement of Sir John Lubbock in teaching a dog to read printed words has been eclipsed by Professor Hagar of the state normal school at Salem. By the exercise of marvellous patience and skill, the latter has succeeded in doing what has hitherto been regarded as a scientific impossibility. He has taught a woman to drive a nail.

A VERY superior article of cedar shingles are being manufactured in Wahjamega, Tuscola county, Michigan. It is said they are worth \$1 per thousand more than pine shingles, will last much longer, and as there is millions of cedar in Northern Michigan, the production of cedar shingles is doubtless destined to become an extensive industry.

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on Jan. 26th, 1883 and 1884, and also the Consumption for the month of Jan. 1883 and 1884:—

	Stock, Jan. 26th, 1883.	Stock, Jan. 26th, 1884.	Consumption for the month of Jan. 1883.	Consumption for the month of Jan. 1884.
Quebec Square Pine.....	233,000 ft.	230,000 ft.	64,000 ft.	99,000 ft.
"Waney Board.....	245,000 "	344,000 "	"	"
St. John Pine.....	8,000 "	30,000 "	42,000 "	00,000 "
Other Ports Pine.....	47,000 "	83,000 "	19,000 "	7,000 "
Red Pine.....	58,000 "	52,000 "	7,000 "	8,000 "
Pitch Pine, hewn.....	624,000 "	380,000 "	43,000 "	118,000 "
"Sawn.....	522,000 "	502,000 "	57,000 "	70,000 "
Planks.....	00,000 "	000,000 "	00,000 "	00,000 "
Dantle, &c., Fir.....	46,000 "	127,000 "	23,000 "	8,000 "
Sweden and Norway Fir.....	21,000 "	126,000 "	00,000 "	00,000 "
Oak, Canadian and American.....	304,000 "	336,000 "	31,000 "	14,000 "
"Planks.....	105,000 "	167,000 "	17,000 "	40,000 "
"Baltic.....	34,000 "	13,000 "	6,000 "	0,000 "
Elm.....	43,000 "	14,000 "	8,000 "	8,000 "
Ash.....	5,000 "	22,000 "	5,000 "	0,000 "
Birch.....	68,000 "	68,000 "	34,000 "	23,000 "
East India Teak.....	13,000 "	85,000 "	0,000 "	14,000 "
Greenheart.....	123,000 "	106,000 "	4,000 "	3,000 "
N. B. & N. S. Spruce Deals.....	20,122 stds.	19,057 stds.	4,062 stds.	3,777 stds.
"Pine.....	1,500 "	1,063 "	"	"
Quebec Pine & Spruce Deals.....	8,035 "	8,261 "	417 "	790 "
Baltic Red Deals, &c.....	4,343 "	4,920 "	184 "	155 "
Baltic Boards.....	361 "	91 "	39 "	14 "
Prepared Flooring.....	3,395 "	4,091 "	844 "	180 "