

PRACTICAL HINTS TO HARDWOOD MANUFACTURERS.

The demand for oak throughout New England is small, as compared with the demand for other hardwoods, and to consumers have such queer ideas in regard to the wood that the trade is not altogether satisfactory. The shipbuilders whose yards are located along the coast, probably use as much as any one industry. Carriage makers use quite an amount, and the railroad companies buy more or less for bridge purposes, and in addition to these there is at certain seasons of the year a limited demand for white oak plank for export.

White oak is the only species that find any sale in New England, and the prejudice is so strong against red oak that few consumers will attempt to use it at any price. The supply is obtained partly from northern Vermont and Canada, partly from Ohio and Indiana, while considerable is consigned east by the mill men of West Virginia and Kentucky. The carriage and bridge builders obtain much of their supply from Canada. The shipbuilders send to Ohio for their long sticks, and to the Virginias and Canada for certain smaller sizes. For house finishing purposes the trade is largely supplied by the mills of Ohio and Indiana. The export trade calls for plank from two to four inches thick, and generally all 16 feet long; the quality must be almost perfect, and a check or crack in the ends will condemn a piece immediately. The oak of West Virginia is well adapted to meet the demands of the foreign trade, but there appears to be very few mill men who understand how to manufacture good quality oak, hence the unsatisfactory comments on the southern oak are largely due to the ignorance of the mill men. It is the nature of oak to crack in drying, not only in the ends but on the face, and it should be the study of the sharp sighted mill man to reduce that feature to a minimum. First of all paint the ends of the logs, and when the lumber is sawed and ready to pile, place the sticks close together and directly over each other, and above all things thoroughly protect the lumber from the snow and rain. Heavy dews and occasional rainfalls, followed by the rays of a burning sun, will spoil the best of oak in a very short time; it therefore pays to put a substantial covering over each pile, at the same time allowing the air to pass around and through the piles continually. Several attempts have been made to introduce Virginia oak into the New England territory for bridge and railroad purposes, but all such efforts have proved unsuccessful and unprofitable, almost wholly on account of the inferiority of the manufacture. Splits, cracks and heart shakes have condemned its use.

The rules of inspection on oak in the Boston market are as follows:—

Oak shall be inspected as No. 1, No. 2, and cull.

No. 1.—Shall be 7 inches and up wide, and free of all defects.

No. 2.—Shall be 6 inches and up wide, and may have a few small sound knots, but two-thirds of the entire piece, as a whole, must be suitable for first-class work without waste.

Culls—shall include all lumber not up to the standard of the above grades.

Oak is inspected for cracks and splits, and such defects will lower the grade.

Standard lengths are 12, 14 and 16 feet.

Standard thicknesses are 1, 1½, 2, 2½, 3 and 4 inches.

The standard inspection is 75 per cent. firsts, the balance good seconds.

For the last two years quarter-sawed white oak has gradually been growing in favor, and the present demand is largely in excess of any previous demand for years. The thickness most used is inch, and it is worked into flooring and general house finish. The furniture manufacturers are using quite an amount for dining tables and sideboards, and the manufacturers of desks and chamber sets use limited amounts. The beauty and value of quarter-sawed oak is in the figure, and it takes more than an ordinary sawyer to cut the saw to good advantage. Only the largest and best logs should ever be quartered, as a most desirable feature in such stock is to secure clearness and width. The eastern market will take quartered oak, five inches and up wide, but the buyers also place

the value on a car load by the amount of lumber that is over 12 inches in width.

The best length to cut quartered oak is 14 feet, although there is a demand for more or less 16 feet, and for such a good price is easily obtained. The demand for thick quartered oak is limited, and the price is usually from \$3 to \$4 a thousand more than for boards.

Quartered oak should always be square edged, and piled in such a manner as to dry out perfectly straight. An eighth of an inch should always be allowed in the sawing, so that the boards will dry out full thickness. It is always better in shipping oak from the South to send it by all rail, as the saving in freight by rail and water is not sufficient to offset the damage in handling, and the unsatisfactory dock accommodations in Boston. Cull oak and three-quarter inch stock, used in the south for tobacco boxes, are not used in the east, and have no market value.—*Northwestern Lumberman.*

FACTS OF INTEREST.

At the fourth annual meeting of the American Forestry Congress President Higley responded and drew attention to the importance of the movement for the restoration of the forests as touching agricultural, climatic, and commercial interests. The various causes, and bringing about the waste of forest trees was referred to and statistics presented in detail showing the rapid and wide-spread destruction of the country's forests. The speaker claimed that the climate and the culture of the soil would be greatly improved and the water supply would be made more abundant by the conservation of trees.

The Rev N. H. Eggleston, Chief of the Forestry Division of the Department of Agriculture, Washington, read a paper giving some facts and figures in regard to the forests of the country and their consumption. In the course of his remarks the speaker said that the recent census shows that the whole area of land surface, Alaska being out of consideration, is 1,856,070,400 acres; total forest area, 440,990,000 acres; total farm area, 295,650,000 acres. Of unimproved and waste lands, including "old field," there are 1,115,430,400 acres. There are 150,000 miles of railway, including side tracks. It has required 396,000,000 ties for their construction. Supposing that the ties require to be renewed once in six years and that 10,000 miles of new road are built annually, if 25 years be allowed as the time necessary for trees to attain a size suitable for making ties, then it would require 15,000,000 acres of standing timber to supply the annual demand for ties, or an area almost exactly equal to that of Vermont, New Hampshire, Connecticut, and Rhode Island combined. But with the increase of railroads it is to be considered that the annual demand for ties is all the while increasing. The census reports the consumption of 145,778,713 cords of wood and 74,000,000 bushels of charcoal for fuel in dwellings, stores, factories, steamboats and locomotives. This, in a single year, would clear the forests from an area of 30,000,000 acres, about equal to that of New York and North Carolina. The census also reports that in 1880 forest fires consumed the trees on 20,274,089 acres, and there is no reason to believe that a less area will be burned over this year than in 1880. The census gives the amount of lumber cut in 1880 at 18,000,000,000 feet. Last year the cut had increased to 28,000,000,000 feet, which would lay bare an area of 5,600,000 acres, equal very nearly to that of New Hampshire. Altogether, it appears that the forests of the country are subject to an annual drain of 50,750,089 acres, which would clear a wooded surface equal in extent to the area of all the New England States, together with New Jersey and Maryland. It may well be inquired how long the forests can endure this drain, how long the country can bear this rapid destruction of its most important material element of its prosperity.

A Lovely Complexion.

"What a lovely complexion," we often hear people say. "I wonder what she does for it? In every case, the purity and real loveliness of the complexion depends on the blood. Those who have sallow, bilious faces, may make their skin smooth and healthy by taking enough of Dr. Pierce's 'Golden Medical Discovery' to drive out the humors lurking in the system.

TIMBER AND DEALS FROM ST. JOHN

One-sixth is not a serious falling off in shipment from St. John of deals thus far in 1885 as compared with 1884. The total shipment from that city to Europe during nine months of the present year, has been 126,503,963 superficial feet, carried by 181 vessels of 144,803 tons, as compared with 150,013,731 feet, 202 vessels, 169,931 tons in a like period of 1884. A notable point of contrast is a smaller number of steam craft which have this year carried deals; there were 50 steamships of 65,768 tons in this trade last year, while this year there are only 23 of 32,451 tons. The shippers were, in the main the same as the former year, Alexander Gibson leading, with 65,000,000 feet, then W. M. Mackay with 15,300,000, R. A. & S. Stewart with 18,000,000, Guy, Bevan & Co. with 11,000,000, followed by Geo. McKean, Sam Schofield and Knight and Co. The shipments to principal ports in the two years as under:—

Port.	Vessels.	1885.		1884.	
		Sup. Ft.	Tons.	Sup. Ft.	Tons.
Liverpool	52	47,981,383	70,519,539	70,519,539	70,519,539
Bristol Channel.....	33	24,023,843	22,846,324	22,846,324	22,846,324
Barrow.....	7	9,220,610	11,929,629	11,929,629	11,929,629
Queenstown.....	9	5,828,401	4,150,311	4,150,311	4,150,311
Belfast.....	6	4,604,123	3,670,202	3,670,202	3,670,202
Dublin.....	0	4,102,213	2,958,156	2,958,156	2,958,156
London.....	4	2,776,599			
Crookhaven.....	7	2,651,042	1,261,188	1,261,188	1,261,188
Cork.....	8	2,593,709	2,044,235	2,044,235	2,044,235
Londonderry.....	4	2,272,526	2,408,017	2,408,017	2,408,017
Fleetwood.....	3	2,072,842	4,231,370	4,231,370	4,231,370
Glasgow.....	4	1,671,029	1,167,176	1,167,176	1,167,176
Dundalk.....	4	1,654,606	1,916,016	1,916,016	1,916,016
Limerick.....	8	1,618,230	3,758,563	3,758,563	3,758,563
Mersey Channel.....	2	1,395,467			
Waterford.....	2	1,197,785	1,167,705	1,167,705	1,167,705
Continent.....	2	1,347,955	2,347,007	2,347,007	2,347,007

Though none were despatched to Africa, as last year some went to Rotterdam. Cargoes went to two or three smaller Scottish ports, as Ayr and Irvine; the bulk of the remainder to Irish minor ports.

There is not much difference in the shipments of timber from St. John this year from those of last year. The total quantity of birch timber exported this year, says the *St. John Globe*, was 12,231½ tons. Of this total 10,487 tons went to Liverpool, 800 tons to Carnarvon, 370 tons to Glasgow, 503 tons to Queenstown, 7 tons to Haro Island, and 4½ tons to Wexford. In the like period of last year, the shipments of birch were 11,555 tons, Liverpool receiving 5,521 tons, London 2,432 tons, Bristol Channel 752 tons, Carnarvon 1,054 tons, Conway 315 tons, Glasgow 847 tons, Queenstown 404 tons, and the remainder going in small lots to three or four ports. The pine timber shipped this year amounted to 2,973 tons, 2,315 tons being sent to Liverpool and the balance to Fleetwood. Last year the total shipments of pine amounted to 3,676 tons, Liverpool receiving 2,865 tons, Fleetwood 626 tons, and the remainder going to several ports in small lots.

A NEW WRINKLE IN SAWS.

There has always been some things in the behaviour of band saws when in motion that have never been satisfactorily explained. After the saw has been carefully hammered and put in apparently perfect shape, when no straight-edge can detect any irregularities in the surface, and when it seems to be all that it is possible for a band saw to be, there have still been imperfections in its running which have been explained in a vague and empirical manner by referring them to imperfections in the wheels, or to weakness in some part of the machine.

There has, however, a discovery recently been made in Chicago which solves one of the problems in connection with the use of the large-sized band saws, and which has attracted great attention on the part of some of the principal saw manufacturers, who admit that it has taught them a new wrinkle in the fitting of saws for actual duty.

To Mr. Edwin Benjamin must be given the honor of this discovery, though he disclaims any particular credit for it, saying that it is only what any sensible man might by a little consideration have known to have been the case, and the only wonder is that it was not thought of before, and long ago.

Mr. Benjamin has been engaged for six months past in building a band saw mill on his own designs and when the saw was first

stretched on the and the power was applied, he was naturally very critical of its workings. The saw seemed to be in perfect order as far as the plate was concerned. The wheels were in perfect balance, and the whole machine was of unusually solid construction. Yet, when he put his hand against the guide blocks just above where the log would be run through, he felt a distinct and disagreeable vibration. He was at a loss how to account for it. If the saw had been cutting he would not have been surprised. It occurred to him that perhaps the saw might not be perfect after all. He found that the saw felt as rough as a rasp; hitting a confused succession of irregular blows. This convinced him that after all the pains taken in hammering the saw, it was not flat, so he stopped the mill and examined the saw.

Straight-edges showed irregularities in the plate. It was full of "open" spots, causing hollows on one side and "bumps" on the other. An experienced hammerer was sent for—Mr. Sampson, foreman of the Diston repair shops in this city—who fitted up an anvil which could be applied to the side of the saw, which was then carefully hammered as it stood stretched on the wheels. The result was that the saw, when again put in motion, ran with perfect evenness.

The point of all this is simply that putting a saw under its working strain brings out latent defects which could not be discovered before. Saws are ordinarily hammered when lying flat on a saw table and anvil. But that very hammering, while it corrects observable irregularities, weakens the saw by making it thinner in spots or changing the texture of steel, so that when put under working strain these weakened spots stretch out and show in the shape of concave or convex places. It is evident that where such a spot occurs the strength of the saw is lessened by just the proportion that the diameter of such a lump bears to the whole width of the saw, and thus the saw is rendered liable to give away. Moreover, such irregularities must cause the saw to do rough work and render it liable to heat.

The importance of this discovery is testified by such saw manufacturing concerns as Henry Diston & Sons, of Philadelphia; Branch, Crookes & Co., of St. Louis and E. C. Atkins & Co., of Indianapolis, each of whom sent representatives to investigate the matter. One of the firm of Branch, Crookes & Co., said that he put an entirely new phase on the matter, and he telegraphed his firm to make no more guarantees on band saws sold, until they had facilities for finishing them under working strain. Mr. E. C. Atkins, of Indianapolis, came to Chicago with no other object than to see Mr. Benjamin in regard to the matter. In a call at the *Lumberman* office he said that the discovery put a new responsibility on saw makers, who would have to revise their methods of finishing and hammering.

Not only are band saws altered by being put under working strain, but any saw that is worked under strain can be improved in the future. It is pretty certain that much of the trouble with both gang and circular saws has been caused by defects developed only under working strain; though in the case of the latter it probably cannot be remedied, as that strain is produced only when the saw is revolving, when no work can be done on it.

Though Mr. Benjamin's discovery can yield him no profit, he takes justifiable pride in it as one which will prove of vast benefit to the lumber manufacturing industry, and make possible another step forward in the progress of the band saw as a practical tool in the saw mill.—*Northwestern Lumberman.*

Advice to Mothers.

Are you disturbed at night and broken of your rest by a sick child suffering and crying with pain and cutting teeth? If so, send at once and get a bottle of Mrs. Winslow's Soothing Syrup for children teething. Its value is incalculable. It will relieve the poor little sufferer immediately. Depend upon it, mothers, there is no mistake about it. It cures dysentery and diarrhoea, regulates the stomach and bowels, cures wind, colic, softens the gums, reduces inflammation, and gives tone and energy to the whole system. Mrs. Winslow's Soothing Syrup for children teething is pleasant to the taste, and is the prescription of one of the oldest and best female nurses and physicans in the United States, and is for sale by all druggists throughout the world. Price 25 cents a bottle.