

export trade in South America and the West Indies. Possible tariff changes are still influencing buyers. It is generally anticipated that free lumber is coming, but until the Wilson bill has passed through all its vicissitudes, no one is perfectly sure what the outcome may be.

WHITE PINE.		
Up's, 1, 1 1/2, 1 3/4 and 2	\$47 00	50 00
1 1/2 and 3 in.	55 00	57 00
1 3/4 and 3 in.	58 00	60 00
1 1/2 and 3 in.	38 00	40 00
1 3/4 and 3 in.	40 00	42 00
2 in.	50 00	52 00
4 in.	54 00	56 00
Fine common, 1 in.	35 00	38 00
1 1/2 and 1 3/4 in.	37 00	38 00
2 in.	39 00	40 00
3 in.	45 00	46 00
4 in.	45 00	46 00
Cut g up, No. 1, 1 in.	28 00	30 00
1 1/2 to 2 in.	35 00	36 00
No. 2, 1 in.	18 00	20 00
No. 2, 1 1/2 to 2 in.	24 00	26 00
No. 3, 1 1/2 to 2 in.	18 00	19 00

BOX.		
xx10 and 12 in. (No 3 out)	14 00	15 00
xx6 and 8 in. (No. 3 out)	13 50	15 00
xx13 and wider.	15 00	17 00

SHINGLES.		
18 in. XXX, clear.	3 75	4 00
18 in. XX, 6 in. clear.	2 85	3 00

LATH.		
No. 1, 4 ft.	2 50	2 60
No. 2, 4 ft.	1 95	2 00

ALBANY, N.Y.

ALBANY, N.Y., Mar. 10.—Just at present it is a case of anticipating a fairly good lumber season, but real work has not yet actually begun.

PINE.		
1 1/2 in. and up, good.	\$56 60	\$60 00
Fourths.	58	60
1 1/2 in. good.	52	55
Fourths.	47 50	50 00
1 1/2 in. good.	42 45	45 00
Fourths.	37 40	40 00
1 in. good.	32 35	35 00
Fourths.	27 30	30 00
1 1/2 in. good.	22 25	25 00
Fourths.	17 20	20 00
1 in. good.	12 15	15 00
Fourths.	7 10	10 00
1 1/2 in. good.	2 10	2 20
Fourths.	1 10	1 20
1 in. good.	1 10	1 20
Fourths.	1 10	1 20
1 1/2 in. good.	1 10	1 20
Fourths.	1 10	1 20
1 in. good.	1 10	1 20
Fourths.	1 10	1 20

LATH.		
Pine.	\$2 40	\$2 30
Spruce.	\$2 30	\$2 40

SHINGLES.		
Sawn Pine, ex. xxxx.	\$4 40	\$4 50
Clear butts.	3 15	3 25
Smooth, 6 x 18.	5 50	5 60

SAGINAW, MICH.

SAGINAW, Mich., March 10.—When dealers contrast conditions at this port with those of a year ago, they are inclined to become blue. Then it was easy to sell lumber, and get one's own price for it. Buyers to-day are going it slow, and they are not so sure that lumber may be worth all that is being asked. Business in a word is slow, and it is hard to say just how trade will develop this spring.

FINISHING LUMBER—ROUGH.		
Uppers, 1, 1 1/2 and 1 3/4.	45 00	48 00
2 in.	46 00	49 00
3 in.	47 00	50 00
4 in.	48 00	51 00
5 in.	49 00	52 00
6 in.	50 00	53 00
7 in.	51 00	54 00
8 in.	52 00	55 00
9 in.	53 00	56 00
10 in.	54 00	57 00
11 in.	55 00	58 00
12 in.	56 00	59 00

SIDING.		
Clear, 1/2 in.	24 00	25 00
3/4 in.	25 00	26 00
1 in.	26 00	27 00
1 1/2 in.	27 00	28 00
2 in.	28 00	29 00

TIMBER, JOIST AND SCANTLING.		
2x4 to 10x10, 12, 14 and 16 ft.	\$11 00	20 ft.
18 ft.	13 00	22 and 24 ft.
For each additional 2 ft. add \$1; 12 in. plank and timber \$1 extra; extra for sizes above 12 in.		

SHINGLES.		
XXX 18 in. Climax.	3 65	18 in. X (cull).
XXX Saginaw.	3 40	XXX shorts.
XXX Climax.	2 25	XX
18 in. 4 in. c. b.	1 25	

LATH.		
Lath, No 1, white pine.	2 25	Lath, No. 2, W. pine, Norway
		1 65

NEW YORK CITY.

NEW YORK, March 10.—Business is not looking up to any encouraging extent in the Metropolitan market. A considerable amount of building is anticipated in the early spring, but the effects of present plans is not being felt in lumber quarters. Prices, however, keep quite firm; certainly a hopeful sign of the confidence in the ultimate condition of lumber.

WHITE PINE—WESTERN GRADES.

Uppers, 1 in.	\$44 00	45 00	Coffin boards.	20 00	22 00
1 1/2, 1 3/4 and 2 in.	46 00	47 00	Box, in.	17 00	17 50
3 and 4 in.	55 00	58 00	Thicker.	17 50	18 50
Selects, 1 in.	40 00	41 00	Cell, base, fig. No. 1	40 00	42 00
1 in., all wide.	41 00	43 00	No. 2.	35 00	37 00
1 1/2, 1 3/4 and 2 in.	43 00	44 00	No. 3.	24 00	26 00
3 and 4 in.	52 00	53 00	Shelving, No. 1.	30 00	32 00
Fine common, 1 in.	36 00	37 00	No. 2.	25 00	27 00
1 1/2, 1 3/4 and 2 in.	38 00	40 00	Molding, No. 1.	36 00	37 00
3 and 4 in.	46 00	48 00	No. 2.	34 00	36 00
Cutting up, 1 in. No. 1	28 00	30 00	Bevel sid'g, clear.	22 50	23 00
No. 2.	21 00	23 00	No. 1.	22 00	22 50
Thick, No. 1.	29 00	32 00	No. 2.	20 00	20 50
No. 2.	24 00	26 00	No. 3.	16 00	17 00
Common, No. 1, 10			Norway, c'l, and No. 1	23 00	25 00
and 12 in.	22 00	23 00	No. 2.	20 00	22 00
No. 2.	20 00	21 00	Common.	18 00	19 00
No. 3.	17 00	18 00			

BELTS IN SAW MILLS.

IT is frequently stated, says the Tradesman, that there is no place where a leather belt is subjected to harder use than the saw mill, and that the belts that drive the saw under the most favorable conditions are short lived. While this is true to a certain extent, still there is no good reason why this should be the case. It is also true that the belt which drives a circular saw is subjected to more variations in tension, from the fact that the resistance offered to it is more variable than in any other class of machinery; still, that is no good reason why a good leather belt should not last a reasonable time under favorable conditions. But here is the trouble: The manner in which many mills are constructed is such that favorable conditions for the belt are out of the question. In the first place, the pulleys upon the mandrel are too small in diameter and too narrow upon the face to admit of sufficient belt power at a reasonable tension, and to remedy this defect the belt is not only subjected to a ruinous tension, but heavy binders are applied to complete the job and render matters worse so far as the belt is concerned. It is often the case where a sixty-inch saw is used with the usual feed, that the belt is required to transmit 60 horse-power, when at its proper speed and tension it should not be required to transmit over from 30 to 40, but by the means of a heavy binder it is compelled to perform its work regardless of consequences; then, if it gives out in a short time somebody except the right one must take the blame. Experience has fully demonstrated that a leather belt in order to be durable and lasting should never be subjected to a tension to exceed 100 pounds to the inch in width, consequently the pulley should be of sufficient diameter and wide enough upon the face to admit of a belt of sufficient width to transmit the maximum power at that tension, without the use of a binder. It is estimated that a sixty-inch saw, making 600 revolutions per minute, with the average feed in pine lumber, requires not less than a maximum of 60 horse-power, which would require a pulley upon the mandrel thirty inches in diameter and eighteen inch face to give that power with a reasonable surplus for contingencies. A saw of that size running 600 revolutions per minute and furnished with a pulley thirty inches in diameter would give you a belt speed 4,712.40 feet per minute, and if the belt were eighteen inches wide and subjected to a stress of 100 pounds to the inch in width, the whole stress would be equal to 1,800 pounds. As the fractional power of all leather belts is equal to 40 per cent. of the stress it follows that the effective force of the belt will be equal to 720 pounds. To find the power of a belt we multiply the speed in feet per minute by 40 per cent. of the stress and divide by 33,000. Hence, 4,712.40 times 720 divided by 33,000 equals 93.42 horse-power and this should be sufficient to drive the saw up to its speed without the use of a binder or straining it otherwise beyond its powers of endurance. Under such conditions there is no reason why a belt should not stand as long as in any other part of the mill. Still we find many mills of this kind with a pulley of from eighteen to twenty inches in diameter and frequently not over from twelve to fourteen inch face and a belt of that width is compelled to drive it. By the same rule it will be found that a fourteen inch belt upon a twenty-inch pulley at 600 revolutions per minute will not give more than about fifty-five horse-power, while the same belt upon one of eighteen inches in diameter will only transmit thirty-six, and all the power required beyond that amount is only obtained by overstraining the belt, which soon destroys it and the only remedy for the difficulty complained of is to use larger pulleys and wider belts and leave the binders out of the question.

STRENGTHENING OLD BELTING.

BY means of an ingeniously arranged apparatus the strength of old belting is now renewed or augmented to such a degree as greatly to lengthen its service. To accomplish this, two large, hollow copper cylinders are provided, and into these steam is admitted, so that they are always heated. In a tank is a solution composed of beeswax, borax, glue, starch and molasses, prepared in equal quantities, the solution being in liquid form; and there are guide rollers, through which runs the leather belting, which is in process of treatment. The belt to be operated upon is started into the machine at a point where it can enter the tank, and while passing through the latter the leather receives an application of the solution; the press rollers immediately squeeze the compound into the fibre of the leather, and then the heat from the cylinders, over which the belt is being drawn, dries the compound. All the rollers and cylinders rest in the bearings. As represented, the application of this compound to the belt, and immediately drying, is to add strength to the fibre of the leather in a remarkable degree.

MECHANICAL ARTICULATION.

TO make a sound by steam power loud enough to be heard ten or fifteen miles for signal purposes, as in the case of the steam siren, a 10-horse power boiler is used that must be red for all it is worth, for it takes steam to furnish lung power for a device of this kind, says the Boston Journal of Commerce. The steam is allowed to rush direct into the open air from a valve in the horn that opens and shuts 250 times in a second to give a pitch that will correspond with the human voice. The trouble with sound like this is that it is too regular, with all the pulsations just alike and calls for interruptions similar to those found in telegraphy to give signals. What is wanted is to rig up some way to have perfect control of every pulsation on the opening and closing of the valve for every discharge of steam, that the horn may work more like the telephone; in fact, make the steam siren speak for itself by working on the phonographic principle. A single word is composed of no more vibrations than there are pulsations made by the steam horn during the time it takes to pronounce it. This number could be spaced off on the rim of a large wheel as though intended for teeth to a gear, and a tooth cut for every space that will open and close the valve on its own hook independently of all the others; then when the wheel is given a single revolution each tooth will act on the lever of the steam valve in their regular order and produce the word they have been shaped out for. With a set of no more than twelve wheels quite a conversation could be kept up by simply changing the lever opening from one to another, as the case may require, but who will attempt to shape the first valve wheel? Already a sectional view of a phonographic cylinder has been made that will show the styles perfectly, and has been magnified and photographed till the vibrations for a single word can all be traced on a 12-foot circle. This ought to be large enough for any mechanic to be able to reproduce on a wheel 2 feet in diameter with a one-eighth milling cutter quite closely on the pantographic principle, and given the siren a distinct articulation. The first time it may sound a little hoarse, but might improve in this respect as the surface of the valve wheel wore smooth.

DESIGNING vs. MAKING.

IT is very easy to tell by a quick, searching glance whether a piece of machinery has been "designed" or only "made," in other words, whether the plans have been carefully studied and weighed for convenience and cheapness of manufacture, or whether they have been neglected and the machine built piecemeal, making the latter parts fit the first ones. This is too often the case with some machinery, and we find to our sorrow when we come to repair or replace some part, that what should be a minor repair necessitates taking down the whole machine to get at the piece to be replaced. This counts against a machine when the repair bills are charged to it as should be the case in a well organized shop, and probably prevents another order for this machine being placed when another is wanted. It will pay to look your machine over and see if there is not some part which comes under this head and that can be improved, and these little improvements in get-at-able-ness all count in a machine's favor with the men who have them in charge.

PUBLICATIONS.

The "Progress of the World" of the Review of Reviews is not confined merely to a review and discussion of current events. In this department of the March number, for instance, appears a report upon the geographical and scientific explorations that have recently been completed, or are now being carried on, accompanied by maps and portraits of the explorers.