VIEWS AND INTERVIEWS.

Seen Through Other Eyes.

Among the delegates to the World's Congress of Young Men's Christian Associations a few months ago was Editor Defebaugh, of the Chicago Timberman. He varied his labors as a delegate to that great meeting by inspecting English methods of lumbering and seeing anything, evidently, that would interest him as a lumberman-journalist. In a recent issue of his journal Mr. Defebaugh tells us of his visit to Windsor Park. He says: "To one whose impression of England is that it is a little, overcrowded island, the existence within twenty miles of London of such a forest as Windsor Park is a startling revelation; although if he be a timberman he will perhaps not be greatly impressed with the historic "fine old oaks," from a commercial point of view, at least. William the Conquerer's oak, for instance, is a mere hollow shell, little longer than it is broad. The English people pay the same respect to the ruins of a noble tree as they do to ruins of any other sort, especially when the aforesaid tree can be connected in some manner or other with some historic personage. The age of some of these historic trees, such as that just mentioned, makes our own charter oak a mere infant. When this forest first became a royal possession, in 1791, it contained over 60,000 acres, including Maidenhead thicket, Tylehurst and Wickham heaths, and other commons. While a considerable portion of this land has passed from the domain of the ornamental to that of the useful, the balance has been greatly improved, by the reclamation of swamp lands and in other ways, so that the forest is to-day in better condition than it has ever been. It was in these improvements that the late Prince Consort made his reputation for scientific "farming," which means merely that he was a successful grower of trees, and not of potatoes or hay. Windsor, however, is by no means the only large forest which remains of the million acres with which this portion of England was once covered; although it is the most notable, through being a royal possession. Epping forest, although since the time of Charles I. it has dwindled from 60,000 to 6,000 acres, in its still spacious extent preserves almost unchanged the appearance of the early English forests, before ever Julius Cæsar waded ashore to establish his authority in the island. The principal trees are oaks, beeches, blackthorns, hawthornes, and hornbeams; the latter a tree much resembling the beech, whose limbs show a curious tendency to reunite with the parent stem, jug handle fashion. There is also elm and ash among the timber, and birches are rapidly increasing in number with the drainage of portions of the land and the thinning out process about which there has been considerable fussing recently. The appearance of the forest varies greatly in the different portions, but an examination shows that these variations are caused by new combinations of the various trees, rather than by the introduction of new varieties; and compared with an American forest of equal extent, the number of different varieties of trees represented is exceedingly small.

Hopeful.

The intense depression in lumber circles for many months, and especially so in the district of Washington territory, has not sapped all feelings of hope with the Puget Sound Lumberman. Our cotemporary sees signs of at least slow progress. "What a demand for lumber and shingles," says this journal, "must come when business revives. Nearly every lumber yard in the country looks as if a cyclone had passed through, and it will be to most of the yardmen like starting business over again. Stocks have been badly reduced since the financial flurry struck the country; in fact none have been buying the past year to stock up. The orders that have been placed with the mills and dealers the past 10 months were for the barest necessities, such as repairs, etc. The farmers, mechanics and capitalists have postponed building until brighter days. When, therefore, business revives what an immense amount of building there will be. The same is true of the demand in foreign lands. Australia, for instance, must begin to build soon; so much South America where the rebellions and wars of the past five years have retarded progress. And Mexico and Europe need buildings. All this activity will come when the sun shines again, and then the saw mills will be busy places."

Immense Leaves.

With some trees the leaf is not the least significant part of the tree. A writer in the Lumber World tells us that really gigantic leaves are seen in the vegetable world. The largest of all leaves are grown on palm trees. Travellers tell of the Inaja palm, on the banks of the Amazon, in Brazil, the leaves of which are fifty feet in length by ten to twelve feet in width. Certain leaves of the Ceylon palm attain a length of 20 feet and the remarkable width of sixteen feet. The natives use them for making tents. Next comes the cocoanut palm, the usual length of whose leaves is about 30 feet. The umbrella magnolia, of Ceylon, bears leaves that are so large that a single one sometimes serves as a shelter for fifteen or twenty persons. One of these leaves carried to England as a specimen was nearly thirty-six feet in width. The plant whose leaves attain the greatest dimensions in temperature climates is the Victoria regia. A specimen of this magnificent plant exists in the garden of the Royal Botanical Society of Edinburgh, Scotland. Its leaf, which is about seven feet in diameter, is capable of supporting a weight of three hundred and ninety-five pounds as it floats on the water.

Durability of Cedar.

The following experiment is related as having been made by a farmer in Western Missouri with the purpose of ascertaining what kinds of woods would last longest when exposed to all the vicissitudes of the weather. He took a number of stakes two feet long and one inch thick, drove them into the ground, and left them there for four years. At the end of that time he found that elm, ash, hickory, white pine, oak and fir were entirely rotted, so that in some cases the stick could not be drawn out of the ground, and in several it left only a line of rotten vegetable fiber. Yellow pine and teak were decayed on the outside only, the interior remaining firm and solid, while the best cedar was as good as when first put in the ground. The experiment should be of value to people who make fences and also to builders, as showing what kind of wood will best suit places where dampness is the natural condition.

TIMBER WORKING HINTS.

TO get as much timber as possible from a log, cut the log up into lengths of from 12 ft. to 16 ft., find the largest square that you can cut out of each piece, and then saw it out. Let us take an example, and work it out. "A stick of timber is 42 ft. long, 12 in. diameter at the top, and 30 in. at the bottom. It is cut into three pieces of equal length, what sized squares can be cut out of each piece?" Here we must, first of all, cut it up into three equal lengths, and each of these we find to be 14 ft. long (because $42 \div 3 = 14$). Next we must get the biggest square that can be cut out of each of those pieces, and in doing this the diameters at the ends of the middle log must be determined. These we can arrive at in the following way: Take the difference of the diameters of the two ends given, divide this difference by the number of equal lengths into which the log is to be divided, and this will give the common difference between the ends of the log. Doing this we get $30" - 12" = 18"$ difference of diameters. Then $18" \div 3 = 6"$, as the common difference between the diameters. From this we find the four diameters to be 12", 18", 24", and 30".

We must now determine the side of the largest square that can be cut from each log, and in doing this we must take it from the smallest end of each log. Bearing in mind that to get the side of a square described in a circle you multiply the diameter by .7071, we find the sides of the square to be:—

1. In the smallest log, S 4852 in., because 12 in. $\times .7071 = 8.4852$ in.
2. In the next log, 12 7278 in.
3. In the next log, 16 9704 in.

To roughly estimate the contents of a log:— First, get the mean girth of the tree by taking the circumference at the top and bottom, adding them together and dividing the result by two, or else measure the circumference about one-third of the way up the tree. Now a certain portion of this girth is taken up by the bark, so take off an eighth of this mean girth to allow for the bark, and then if you take a fourth of the girth thus reduced, square it, and multiply the heighth of the tree, the result will be the cubical contents of the tree. The above may be tabulated thus:—

Let g = the mean girth of the tree after an eighth has been deducted,
h = the height of the tree,
c = the cubical contents of the tree;

then $c = \left\{\frac{g}{4}\right\}^2 \times h$, or $h\left\{\frac{g}{4}\right\}^2$.

Of course, if you take the height in feet, you must take the mean girth in feet; if in inches, the girth must be in inches.

STATISTICS FOR SAWS.

1. For sawing up of baulks, the proper stroke is 20 in. The proper number of strokes per minute equals 120. The surface cut per indicated horse-power per hour equals 45 ft super. in soft and 35 ft. in hard woods.

2. For the sawing up of deals, the proper stroke is 20 in. The proper number of strokes per minute equals 150. The surface cut per indicated horse-power per hour equals 45 ft. super.

3. For circular saws, the best speed is 6,000 ft. per minute. Every horse-power indicated will cut 75 ft. super. in soft and 56 ft. super. in hard woods per hour.

RULES FOR FINDING THE WEIGHTS THAT TIMBER OF A GIVEN SIZE, SUPPORTED AT BOTH ENDS, WILL SUSTAIN.

1. If a weight be uniformly distributed from end to end of a horizontal beam it produces the same effect on a beam as though one half the weight were gathered at the centre of the beam.

Example: A horizontal beam, 16 ft. in length, sustains a floor 2 ft. each side of it—if the weight of floor and load that may be expected to get on it be taken as 75lb. per square foot, we should find the total load sustained by the beam to be its length multiplied by number of square feet sustained, multiplied by the load on each square foot, or $16 \times 4 \times 75 = 4,800$ lb. This would be equivalent to a centre load of 2,400 lb.

2. (Converse of first.) If a beam sustain a certain load at the centre it will sustain twice as much load, provided it be uniformly distributed.

3. The safe load should not exceed one-fourth or one-fifth the breaking load in bridges, or in floors subject to much vibration from moving bodies. In roofs the safe load should not exceed one-fourth or one-third the breaking load. (These precautions are necessary for two reasons: timber is injured by a load much below the breaking load, and imperfections in workmanship and materials are constantly occurring.)

4. (The safe load is assumed to be one-fifth the breaking load.)

To find the safe load that a horizontal pine beam, supported at both ends, will sustain:—

Rule.—Multiply the breadth of a beam by the square of its depth, and that product by the number 90; divide this result by the length of the beam between the supports, and the quotient will be the number of pounds in the load that the beam will safely carry at the centre. If the load is uniformly distributed it will be twice the safe centre load, and the foregoing result may be doubled to obtain the distributed load. (See rule first and second.) If any material besides pine is used, instead of the No. 90 must be used the numbers in the following table:—

Material	No.
White oak	120
Red or black oak	110
White ash	130
Swamp ash	80
Black ash	60
White beech	90
White cedar or arbor vitæ	50
Walnut	60
Tamarack	80
Spruce	90
Maple	110
Hickory	140
Rock elm	70
Locust	120
White pine	90

Example.—What will be the centre safe load of a pine beam, 4 in. by 6 in. supported in two places, and 12 ft. long between the supports?

(1) If the depth be 6 in., and the breadth 4 in., the centre load will be equal to $4 \times 36 \times 90$ divided by $12 = 1,080$ lb.

(2) If the depth be 4 in. and the breadth be 6 in., the