

## Forestry Matters.

## PLANT TREES.

What do we plant when we plant the tree?  
We plant the ship which will cross the sea.  
We plant the masts to carry the sails.  
We plant the plank to withstand the gales.  
The keel, the keelson, and beam and knee.  
We plant the ship when we plant the tree.

What do we plant when we plant the tree?  
We plant the houses for you and me;  
We plant the rafters, the shingles, the floors,  
We plant the studding, the laths, the doors,  
The beams and siding, all parts that be;  
We plant the house when we plant the tree.

What do we plant when we plant the tree?  
A thousand things that we daily see;  
We plant the spire that out-towers the crag,  
We plant the staff for our country's flag,  
We plant the shade, from the hot sun free;  
We plant all these when we plant the tree.  
[Henry Abbey.]

## A CENTURY OF LUMBERING.

The present generation is the first one that has ever shown an appreciation of the value of the forests of the country. Past ages have changed the typical character of trees and clearing land has practically exterminated certain varieties of trees. The day of the black walnut as a lumber species, commercially speaking, has now gone by and the same will soon be true of the white pine. White pine is already nearly exterminated in Pennsylvania, and the ship yards in that state are stocked with lumber from distant states. In 15 years, hemlock will be exterminated in Pennsylvania.

The removal of forests from hill-sides does not decrease the rainfall. Four-fifths of the rain falling in a forest area is taken up by the soil, while four-fifths of the rain falling on a cleared area runs off in streams, causing floods and freshets. Last spring, driving along a stream so dry my horse could not be watered, I noticed signs of a terrible freshet. Crossing to a hotel, the land-lord said five persons were drowned in that freshet. Continuing across that country, I came to the head waters of a stream encircled by a rich forest growth. I saw no signs of a freshet there. I crossed to a third stream where there was a clearing and there were the same unmistakable signs of a freshet. These three streams were all within 15 miles of each other. In a nearby town, the assessors were obliged to pay a big bill of repairs caused by a heavy and severe overflow.

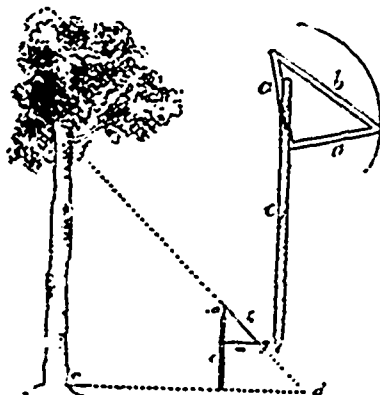
Forests giving off water moderate climate to a considerable extent. Death valley, Cal., is caused by dry winds passing over the tops of the Sierras, being emptied of moisture against the western slopes of the mountain. As the winds descend on the valley at the foot of the mountains, they are hot and dry and everything parches under their withering influence. Along the Adirondack range in New York, estimates place the quantity of vapor given back at 5000 millions of tons annually. In these days of machinery, gang and belt mills rip up boards in a twinkling, 500,000 ft daily. The complete exhaustion of the timber lands of the United States, if kept up at the present rate, will become a reality in 60 years. Regrettable as it may appear, the larger portion of this lumber is wasted and much of it goes to kindle forest fires. Barkings for turpentine is destructive to the tree, although not to the lumber. While in some sections of the country wood lands may now be obtained at a very nominal sum per acre, it will be but a few years before wood in all parts of the United States will be worth much more than present values.

To prevent forest fires, legislative action should be taken requiring lumber companies to clear up the wastes of a season's sawing. The Wisconsin lumbermen's association has already secured the passage of a bill for that purpose, realizing the necessity for self-protection. Each year the statistics of nearly all European nations show an increase in forest area. It will be but a matter of time before many states will pay a bounty on every acre of trees planted. Such plantings invariably redound to the good of the state. The Mississippi levee system is necessary to a large extent because of the removal of trees about the headwaters of contributing rivers. Kansas and Nebraska are de-

pendent on irrigation. Colorado was originally peopled by gold miners, and the trees felled. There are three states dependent on a single forest area, and Utah is much in the same condition. If the state never dies, its citizens should be bound to leave it in as good condition as it was given to them. Five years ago I went over a barren sand hill where white pine seeds had been planted, germinated and become quite high. Last year, these same saplings were 200 and 300 ft high. In Pennsylvania, 3,000,000 ft of timber is burned annually and in 50 years 1,500,000,000 ft of timber has been destroyed. The white oak is better than the white birch in Connecticut, and many acres can be profitably planted with such trees and the state bounty on such plantings claimed.—[T. J. Rothrock, Pa. State Forestry Commissioner.]

## MEASURING A TREE.

It is often desirable to know the exact height of a tree, and especially in getting out long timber it is of importance to know the height to a limb or burl or



AN EASY WAY TO MEASURE A TREE.

other imperfection. This may be ascertained by means of the following simple device. Take two straight pieces of wood, *a* and *b*, about 15 in long and fasten them together at the ends at exact right angles to each other. Connect the opposite ends by means of a diagonal stick, *c*, having a perfectly straight outer edge. Fasten the horizontal stick by means of a bolt and thumb-screw to a stake, *d*, about 5 ft long. The length of the sticks is immaterial provided the horizontal and perpendicular pieces are of exactly the same length.

Select a point at approximately the same distance from the tree that the limb is from the ground. Set the stake upright in the ground and fasten the triangle in such a manner that one arm shall be perpendicular while the other is horizontal and pointed to the tree. Sight across the diagonal stick at the height which it is desired to measure. If the line of vision comes above, move nearer the tree. If it falls below, move back until the line of vision strikes the desired point. Then making due allowance for irregularities of the ground, the distance from the stake to the tree will equal the height of the point taken.

Another method nearly or quite as good is to set a pole of known length upright by the side of the tree. Measure the length of the shadow of both the pole and the tree. These known, use the rule of three as follows: Length of the pole multiplied by the length of the shadow of the tree and divided by the length of the shadow of the pole will equal the height of the tree.—[C. O. Grimsby, Washington Co., Vt.]

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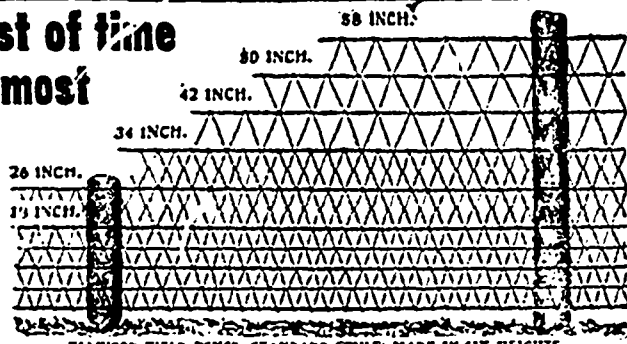
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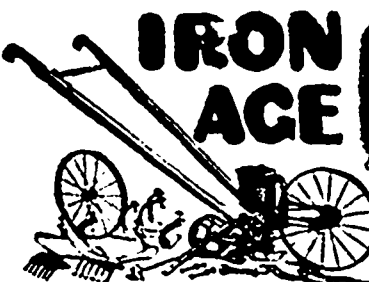
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