

In times past, one of the principal reasons for the notoriously inaccurate estimates given by many timber cruisers was that they did not get a fair average of all the timber, which they would have been able to get by travelling along evenly spaced and parallel straight lines running across the tract.

#### IS IT PRACTICAL?

To those who say it is not practical to prepare a reliable topographic map by the methods just described, or that the cost is prohibitive, I would reply that in the autumn of 1896, Mr. Austin Cary, a practical timber cruiser, a graduate of the Yale Forest School and now Professor of Forestry at Harvard University, prepared such a map of Township 3, Range 5, in Franklin County, Maine. This township is 6 miles square, heavily timbered with spruce, and was gone over from 4 camps in a little over 6 weeks' time. Two weeks were then required in the office to work up the data collected in the field and prepare the map, which proved so valuable to the firm of Hollingsworth & Whitney, of Waterville, Maine, that other concerns were led to desire similar maps. The result was that, during the next few years, Mr. Cary's services were greatly in demand for work of this nature, and that he has prepared maps of this description for 200,000 acres of timber lands. Most of them are drawn to a scale of 4 inches to the mile, and have 50 foot contour lines representing the topography. As some woodsmen cannot easily read such maps, it was found advisable, in a few cases, to prepare cardboard or veneer models, which represent the land in miniature and show its main features just as clearly as if the men were on the land.

Taking the stumpage price of spruce at \$3.50 per M, and assuming that a township, containing 36 square miles, will average 5,000 board feet per acre, it is seen that we are dealing with a property worth \$403,200 in its present wild state, and easily worth \$500,000 by the time it can be got under proper management. From this it will be seen that an outlay of less than \$2 for every \$1,000 worth of property, or 4 cents per acre, will secure to the owners a first-class map of the topography of the entire township, which will enable them to sit in the office and discuss plans or let contracts with the same clearness as to details as if the men were on the land.

#### THE ESTIMATION OF TIMBER.

Where the supply of timber is both plentiful and cheap, timber cruisers or "timber lookers" are generally employed to make ocular estimates of the contents of stands, but where it commands a better price it is now customary to constantly check the judgment of the estimators by means of measurements on sample areas properly distributed over the whole tract.

At the outset it should be clearly understood that ability