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A "CROWN DIAMETER FINDER"

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Occasionally it is necessary to measure accurately the crown diameter of standing trees. Such measurements are required for the development of volume tables based on aerial photographs and sometimes are needed in connection with other applications. It is, of course, no easy task to make accurate measurements of crown width, especially on tall treees; and the difficulties are compounded when only one man can be assigned to the job. To solve this problem, the "crown diameter finder" was developed by the Forestry Department of the Michigan College of Mining and Technology. The instrument can readily be constructed from materials which are inexpensive and readily available.

The device is simple. A 6" square piece of 3/4" plywood is adequate for the base. Two pieces of pine 3/4" square x 4" long, two small pieces of mirror, two chalk-line levels (obtainable at small cost from any hardware store), small nails, and glue comprise the elements of the finder. A 3/8" (approximately) hole must be bored through the pieces of pine. Figure 1 shows plainly how these materials are assembled to construct the instrument.

To use in the field, take a position beneath the edge of the tree crown. Level the instrument by looking at the level vials and small mirror with the right eye. Sight through the eyepiece with the left eye and move forward, backward or to one side until the edge of the tree crown is centered in the crosshairs. Mark the spot by dropping a plumb-bob or other object. Repeat the procedure on the opposite side of the tree crown. The distance between these marks can be measured or paced. Several measurements on the same tree can be taken if needed.

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In order to locate the edge of the crown of a tree more easily, it sometimes is desirable to tilt the instrument so as to follow along the tree stem and braches to the crown-width extremity. Then using the levels, the observer can adjust his own position to a point falling directly below.

This instrument has been used successfully by forestry students of Michigan Tech, and others, who were faced with the problem of measuring diameter of the crown of standing trees. In practice, it was found that a man working alone could obtain accurate measurements. Two men, of course, could do the job more quickly, but even so the instrument should improve the accuracy of measurement. It is believed that this instrument, or one patterned on its principles, will have use elsewhere.

CROWN DIAMETER FINDER

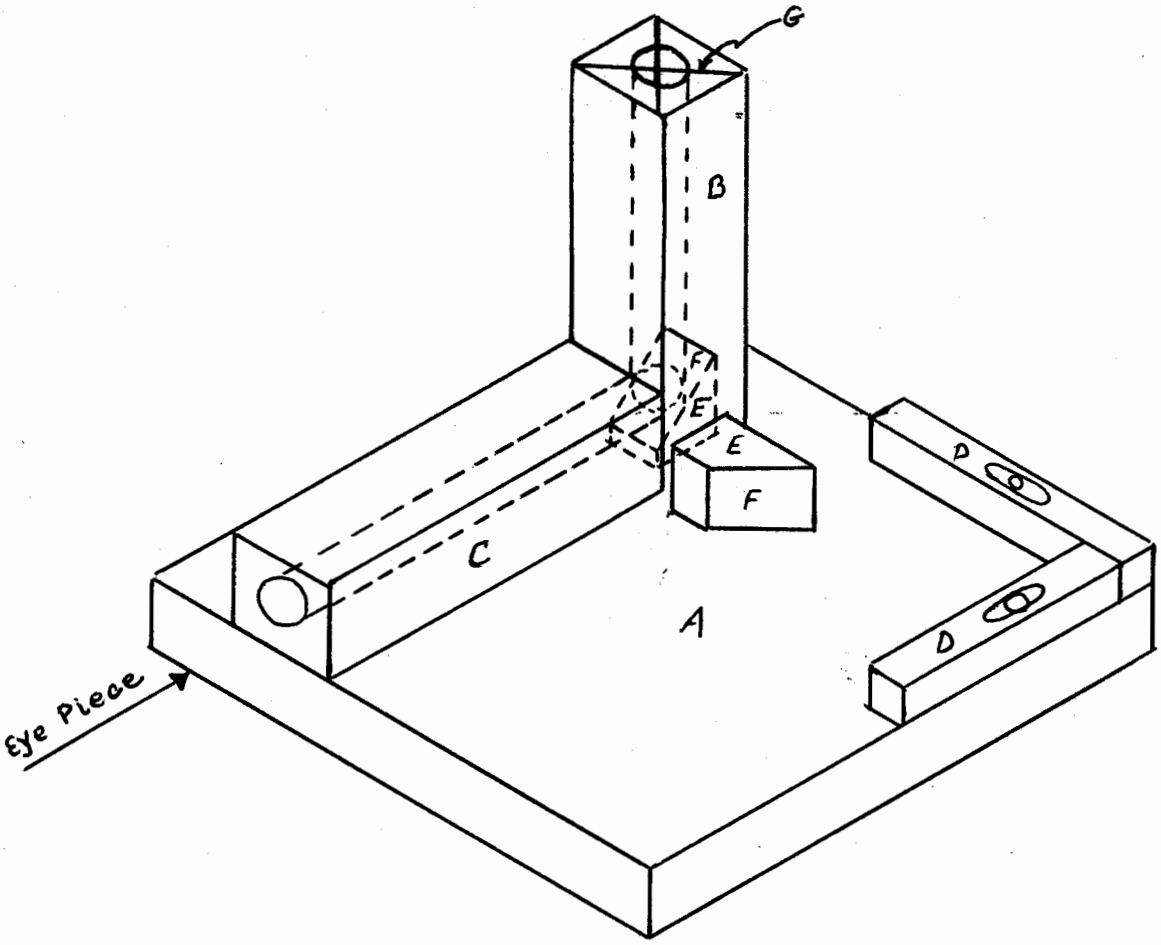

Figure 1.

CROWN DIAMETER FINDER

A. -----6" x 6" x ¾" Plywood base.

B. -----¾" x ¾" x 4" block with 3/8" hole through the center.

C. -----¾" x ¾" x 4" block with 3/8" hole through the center.

D. -----Level vials.

E. -----Small wood blocks

F. -----Mirrors glued to the wood blocks.

G. -----Thread crosshairs.