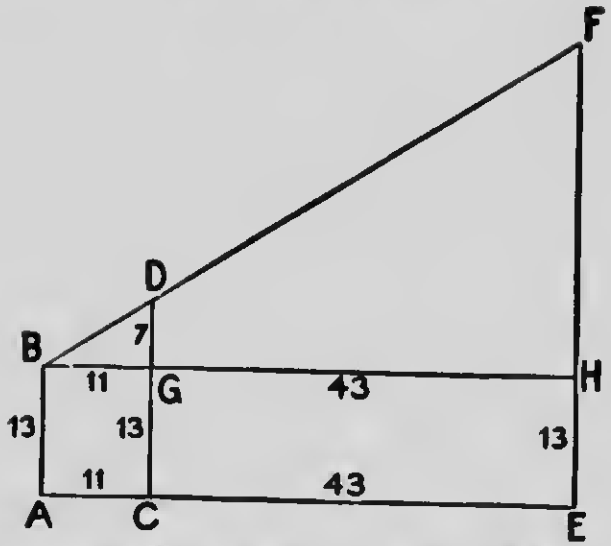

Suppose $AC = BG = 11$, $CE = GH = 43$,
$AB = 13$, $CD = 20$.

Then by similar triangles **BGD, BHF**

$$\frac{HF}{43+11} = \frac{7}{11}; \quad HF = \frac{7}{11} \times 54 = 34\frac{4}{11}$$

Then height of object, $EF = 34\frac{4}{11} + 13 = 47\frac{4}{11}$.

3. Suppose we wish to find the distance of an object **B** from **A**, without going over the distance **AB** with a surveyor's chain or other instrument for measuring.

Measure a *base line*, **AC**, of, say, 250 feet, and note the angles **CAB, ACB.** Then, on paper, construct a triangle $A_1B_1C_1$, equiangular to **ABC**, but with a base line A_1C_1 of, say, 1 foot. Measure the length, in feet, of A_1B_1. The line **AB** will be 250 times the length of A_1B_1.

This example embodies the principle of the range-finder, so much used in military and naval operations.