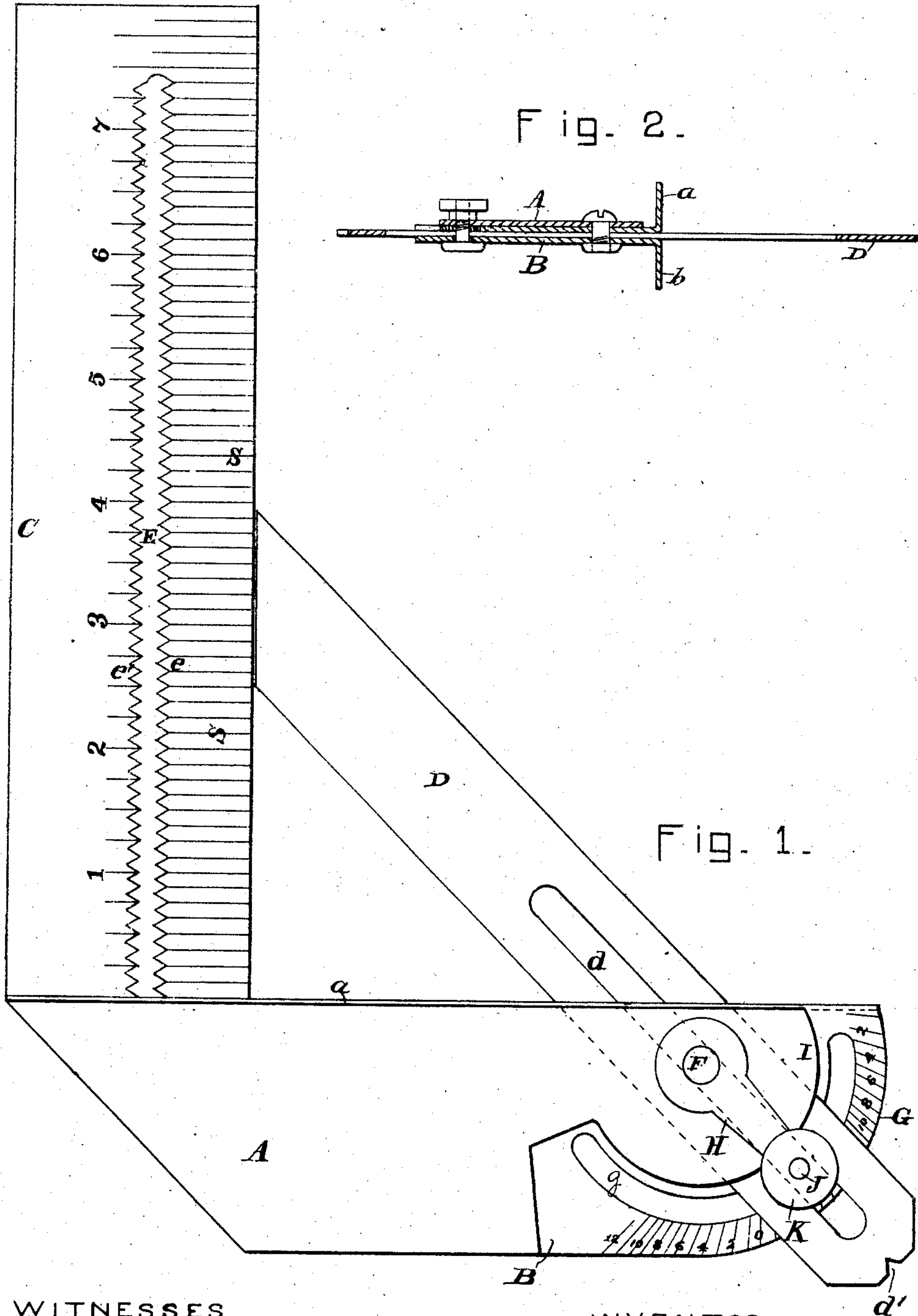


No. 854,351.

PATENTED MAY 21, 1907.

A. W. HIGHT.
COMBINATION SQUARE.
APPLICATION FILED OCT. 19, 1906.



WITNESSES.
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UNITED STATES PATENT OFFICE.

ALBERT W. HIGHT, OF BALLARD, WASHINGTON, ASSIGNOR, BY DIRECT
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COMBINATION-SQUARE.

No. 854,351.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed October 19, 1905. Serial No. 283,525.

To all whom it may concern:

Be it known that I, ALBERT W. HIGHT, a citizen of the United States, and a resident of the city of Ballard, in the county of King and State of Washington, have invented certain new and useful Improvements in Combination-Squares, of which the following is a specification.

My invention relates to an improvement in squares, and particularly to that species of squares commonly called try-squares.

The object of my invention is to simplify and improve such devices, both in their manufacture and in their use.

The scope of my invention will be defined in the claims terminating this specification.

My invention is shown in the drawings in the form now preferred by me.

Figure 1 is a plan view of my square. Fig. 2 is a section through the beam at the pivot for the protractor or bevel arm.

In the form of square shown in the drawings the beam is composed of two metal plates, A, B, having bearing edges formed by flanging or bending over their edges to form flanges *a*, *b*. These plates are secured together at one end with the blade C, between them. The body of these plates are therefore separated by the thickness of the blade, thereby forming a pocket which accommodates the protractor or bevel arm D.

The blade C, preferably has a scale S, marked adjacent its inner edge and also adjacent a slot E, which extends longitudinally of the blade. This slot has one or both edges serrated, forming rows of notches *e*, and *e'*, which are spaced to conform to the subdivisions of a scale. As shown, the notches in the series *e*, coincide with the eighth inch divisions, while the notches in the other series are spaced half way between these, therefore coinciding with the odd sixteenths of the scale. By placing a pencil point in one of the notches and sliding the square along one side of a board, the board may be marked with a line parallel with its edge. The notches being spaced to conform with the subdivisions of the scale, the mark may be made at the exact distance desired. The notches on opposite sides of the slot are in staggered relation, whereby sixteenth inch

divisions may be obtained with the notches in each series an eighth inch apart.

A notched slot is preferable in this sort of device over holes as it may be of such a width as to accommodate the largest pencil. It is also preferable to have the notches in the edges of a slot rather than on the edge of the blade as the blade edges are thereby preserved for use as straight edges for ruling.

The plates A, and B, forming the beam have a protractor or bevel arm D, pivoted between their ends opposite the blade. These ends of these plates are shaped to circular segments concentric with the pivot bolt F. One of these segments G, is of larger radius than the other and has a scale S, marked upon it, whereby the protractor or bevel arm may be set. The figuring of this scale preferably is such as to indicate the number of inches rise for one foot horizontal. It is so indicated upon the drawing, although this may be different. In order to permit the use of a longer bevel arm, I prefer that this arm be provided with a pivot slot *d*, so that it may be projected and withdrawn. When the device is in use as a try-square the arm may lie in the space between the plates forming the beam.

To clamp the bevel arm D, I mount a clamping arm H, upon the same pivot F, and carry it beyond the edge of the smaller segment I, and pass a clamping bolt J, through the outer end of the arm H, through the slot *d*, in the protractor or bevel arm D, and through the slot *g*, in the segment G of the beam plate B. By screwing down upon the nut K, on this bolt the whole may be clamped securely together. I preferably place a washer between the arm H, and the segment G. This plan of construction clamps the bevel arm very securely as it applies the clamping pressure at a considerable distance from the pivot. I also provide one end of the bevel arm D, with a central notch *d'*, in which a pencil point may be placed to use the device as a scratch gage in many places where it could not otherwise be used. In this use the back or thin edge may be used as the bearing surface. This is very convenient about moldings, window and door casings, etc.

What I claim is:

1. A square having a slot extending lengthwise the blade, both edges of said slot being notched and the notches on opposite sides being in staggered relation.
2. A square having a slot extending lengthwise the blade, both edges of said slot being notched and the notches on opposite sides being in staggered relation, and a scale adjacent said notches.
3. A try square having a slot in its beam in the same general plane as its blade, a bevel blade in said slot, a pivot connecting the beam and bevel blade and having an adjustable connection with the bevel blade, and a clamping bolt removed from the said pivot and adapted to bind the bevel blade in adjusted position.
4. A try-square comprising a beam composed of two plates having the blade between them at one end, a blade lying between the other ends of said plates and constituting a bevel or protractor arm, said arm having a longitudinal slot, and a pivot bolt passing through said slot and a clamping bolt also passing through said slot at a point removed from the pivot bolt.
5. A try-square comprising a beam composed of two separated plates, a blade secured between one end of said plates, a protractor or bevel arm between the other ends of said plates, a pivot bolt therefor, a clamping bolt adapted to secure said bevel arm in position, and a scale upon one of the beam plates by which to set the bevel arm.
6. A try-square comprising a beam composed of two separated plates, a blade secured between one end of said beam plates,

the other ends of said beam plates being shaped to concentric circular segments of unequal radii, a protractor or bevel arm pivoted between said plates concentric of said segments, and a scale upon the segment of larger radius by which to set said arm.

7. A try-square comprising a beam composed of two separated plates, a blade secured between one end of said beam plates, the other ends of said beam plates being shaped to concentric circular segments of unequal radii, a protractor or bevel arm pivoted between said plates concentric of said segments, and having a longitudinal slot whereby the arm may be shifted along the pivot, and a scale upon the segment of larger radius by which to set said arm.

8. A try-square comprising a beam composed of two plates, a blade secured between the beam plates at one end, the other end of the beam plates being shaped to circular segments, the larger segment having a circular slot outside the smaller segment a protractor or bevel arm pivoted concentric with said segments, a clamping arm carried on the same pivot and extending beyond the segment of smaller radius, and a clamping bolt extending through the clamping arm, the slot in the segment and the protractor or bevel arm.

In testimony whereof, I have hereunto affixed my signature this 14th day of October 1905, in the presence of two witnesses.

ALBERT W. HIGHT.

Witnesses:

H. L. REYNOLDS,
NORMAN R. SMITH.