

(No Model.)

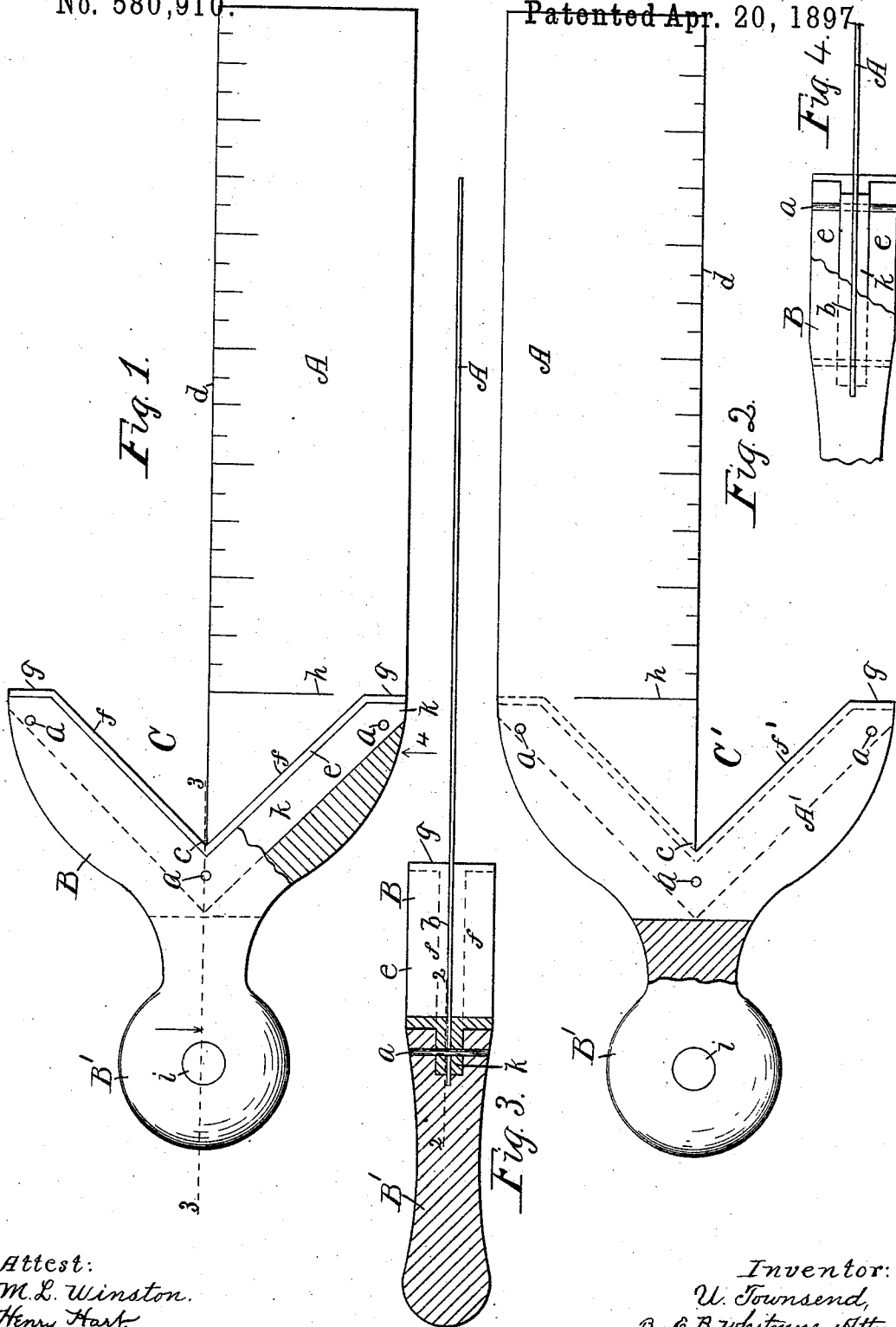
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COMBINATION CENTER SQUARE.

No. 580,910.

Patented Apr. 20, 1897.



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# UNITED STATES PATENT OFFICE.

URIAH TOWNSEND, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO  
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MINISTRATRIX OF SAID URIAH TOWNSEND, DECEASED.

## COMBINATION CENTER-SQUARE.

SPECIFICATION forming part of Letters Patent No. 580,910, dated April 20, 1897.

Application filed November 25, 1895. Serial No. 570,087. (No model.)

*To all whom it may concern:*

Be it known that I, URIAH TOWNSEND, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Combination-Squares, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a combination tool or device which I have styled a "square" or "combination-square," it consisting of a metal blade of uniform thickness and preferably parallel sides and a holder for the blade. The plan and construction of the device are such that by its use the center of a circular disk or piece may be quickly found, as, for instance, the center of the end of a cylindrical body, as a round shaft; also, the center of a square or an octagonal body or shaft may be found by its use. The device is also useful in drawing miter-lines, and serves the purpose equally well as a try-square or T-square.

The invention is hereinafter more fully described and particularly pointed out.

Referring to the drawings, Figure 1 is a side elevation or plan of my improved combination-square, a part being broken away; Fig. 2, the reverse side of the same with a part of the holder broken away and sectioned on the dotted line 2 2 in Fig. 3. Fig. 3 is a longitudinal section of the handle on the dotted line 3 3 in Fig. 1, seen as indicated by the arrow pointed thereon. Fig. 4 is a view of the edge of the holder, seen as indicated by arrow 4 in Fig. 1, parts being broken away.

As to the parts of the device shown, A is a blade of sheet metal, preferably steel, having a spring temper.

B is a holder for the blade, which may be of metal or wood, to which the blade is rigidly secured by rivets or other simple fasteners *a*, passing through both parts. The blade is preferably inserted in a longitudinal kerf *b* at the middle plane of the holder, as shown in Fig. 3.

The holder is formed with a handle B' and a large angular notch or V-shaped opening C at the side opposite the handle, the angle *c* of which notch or opening is preferably made

ninety degrees. The size of this angle is, however, a matter of choice or of use to which the tool is to be put. For instance, if the angle *c* were either obtuse or acute it would answer all the purposes for which the tool is intended except to draw miter-lines or for finding the centers of square or octagonal bodies. In any case, whatever may be the size of the angle *c* the blade is so inserted that its working edge *d* accurately bisects the angle, as shown. The blade is formed with a laterally-projecting arm A', the inner face of which, with the straight edge of the blade, forms an angular notch or opening C', corresponding to one-half of the opening C in the holder, the angles of the two notches being placed to correspond, as shown in Fig. 2. The edge *d* of the blade being placed to bisect the angle in the holder, the short side *f'* of the blade will coincide with the adjacent face *f* of the holder.

In case the holder is made of soft material, as wood, I provide it with a metal cap or facing *e* at the angle, as shown, for the purpose of providing it against abrasion and wear where most subjected thereto. This cap or facing piece is accurately formed to correspond with the opening C, the sides or faces *f f* of the angle being plain surfaces meeting in a diedral angle at *c*, the planes of the two faces being at right angles with the plane of the blade. The end faces *g g* of the cap or piece *e* are made with a considerable surface, so that if the tool be used largely as a T-square or a try-square those surfaces will not wear away so as to render the tool inaccurate, said faces being held against the edge of a board, for instance, for the purpose of squaring.

The metal cap *e* when used is formed with a strengthening-web *k*, which occupies a corresponding cavity in the holder and through which the fasteners *a* pass to hold said cap firmly both to the holder B and the blade.

As shown, the tool is alike on both sides, so that it may be held in either hand when being used. The blade is provided at either side with a zero-line *h* in exact line with the two end faces *g g* of the holder, the plane of these faces being at right angles with the

working edge  $d$  of the blade, and, if found convenient, the edge  $d$  may be graduated to conform to a scale of equal parts.

As a matter of convenience, the handle B' of the holder is located directly opposite the apex of the notch C, so that the square can be used either side up or as a try-square without inconvenience, as the handle lies in a line with the inner edge of the blade, and it may be provided with a hole  $i$  for the purpose of hanging the tool on a nail or other support.

As shown, the blade A and the handle B' of the device extend in opposite directions from the opening C—that is to say, are on opposite sides of said opening.

What I claim as my invention is—

1. A combination-square consisting of a blade and holder therefor, the latter being formed with a handle, and at the opposite side with an angular opening, one edge of the blade bisecting the angle of said opening, the blade being provided with a laterally-projecting arm, the inner edge of which, with the straight edge of the blade, forms an angular opening corresponding to one-half of the

opening in the holder, one side of which opening in the blade coinciding with one side of said opening in the holder, the blade being immovable in the holder, substantially as shown and described.

2. A combined square comprising a holder, one side of which is provided with a V-shaped notch and a transverse groove or kerf, the ends of the sides formed by the notch being cut off to form two surfaces on a line with each other, and the opposite side of the holder is provided with a handle directly opposite the apex of the notch, and a blade with an extension secured in the kerf of the holder so as to bisect the notch, and having its surface provided with a zero-line in exact line with the ends of the sides, substantially as set forth.

In witness whereof I have hereunto set my hand, this 21st day of November, 1895, in the presence of two subscribing witnesses.

URIAH TOWNSEND.

Witnesses:

ENOS B. WHITMORE,  
M. L. WINSTON.