F. G. COLE.

ADJUSTABLE SQUARE AND BEVEL.

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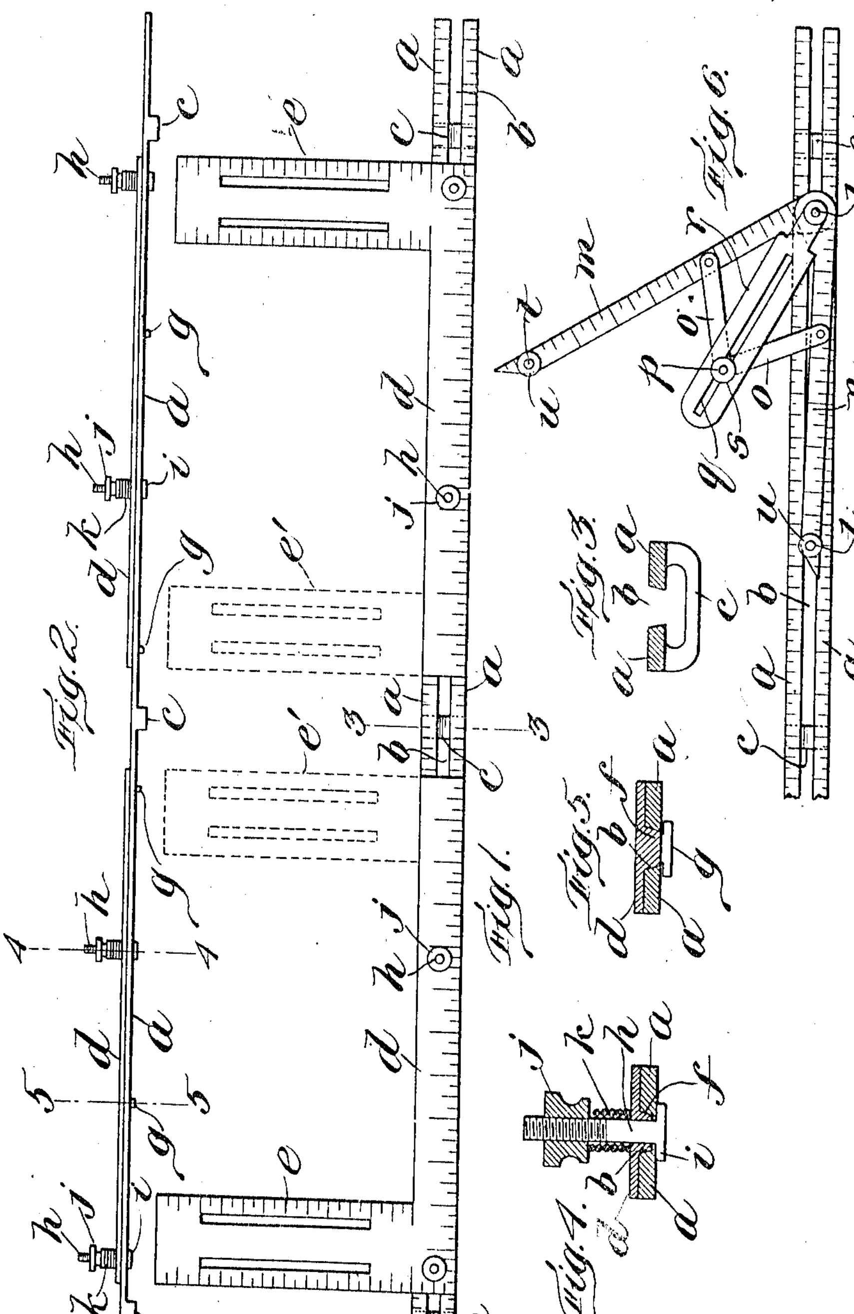
1,079,110. Patented Nov. 18, 1913.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE SQUARE AND BEVEL.

1,079,110. Specification of Letters Patent. Patented Nov. 18, 1913.

Application filed April 28, 1913. Serial No. 763,943.

To all whom it may concern:

Be it known that I, FRANK G. COLE, a citizen of the United States, and resident of Conway, in the county of Carroll and State of New Hampshire, have invented new and useful Improvements in Adjustable Squares and Bevels, of which the following is a specification.

This invention relates to carpenters' instruments, and particularly to carpenters' squares and bevels, and its object is to provide an adjustable instrument of this character, capable of a great variety of uses and possessing the novel features hereinafter described and particularly pointed out in the claim.

In the accompanying drawings which illustrate certain embodiments of the invention,—Figure 1 is a plan view of an adjustable square illustrating the invention, showing the base and two adjustable and reversible angle members; Fig. 2 is a side or edge view of the device shown in Fig. 1; Fig. 3 is a cross section, enlarged, of the base on line 3—3 of Fig. 1; Fig. 4 is a cross section, enlarged, on line 4—4 of Fig. 2, showing one of the adjusting screws; Fig. 5 is a cross section, enlarged, on line 5—5 of Fig. 2; and Fig. 6 is a plan view of another form of adjustable angle member.

The base consists of a flat bar of any desired length having a longitudinal, central slot for engaging and guiding the adjusting and sliding devices of the angle members presently to be described. This longitudinally slotted base, as herein shown, is composed of two flat metal bars *a*, *a* spaced apart to form the slot *b* between them, and secured to each other by bridge pieces or yokes *c*, of which there may be as many as are needed to give the base sufficient strength and stiffness. Said yokes are secured to the sides of the bars *a*, *a* and are bowed, as shown, so as not to obstruct the slot *b*, which is open and unobstructed from end to end. Two metal angle members or squares are adjustably and removably mounted on said base, each having a guiding arm *d*, overlying and slidably secured to the base, and an upright arm *e* disposed at right angles to the arm *d*. The arm *d* is preferably of the same width as the base upon which it slides, and is provided on its under side with a longitudinally extending tongue, or series of tongues, *f*, which fit within and engage the sides of the slot *b* of the base. The sides of slot *b* are beveled as best shown in Figs. 3, 4 and 5, and the tongues *f* are similarly beveled, so that when the arms *d* are clamped on to the base as hereinafter described the beveled surfaces of the tongues engage the beveled surfaces of the slot, thereby insuring a tight fit and preventing the possibility of any lateral play or looseness between the angle member and the base. At suitable intervals on the under side of the tongues *f* are the heads or studs *g* extending over the margins of the bars *a*, *a* at each side of the slot *b*, to hold the angle members in sliding engagement with the base. The angle members are held in adjusted position by clamping members consisting of studs *h*, extending through the slot *b* and the arms *d*, having heads *i* engaging the margins of bars *a*, *a* at either side of the slot *b*, and being screw threaded at their upper ends. Thumb screws *j* are screwed on to said studs *h*, and springs *k* are interposed between the thumb screws *j* and the arms *d*. By screwing thumb screw *j* downward until the springs *k* are fully compressed the arm *d* may be positively and immovably clamped in place. By loosening the screws *k*, the arm *d* will be yieldingly pressed by said springs against the base, and will be held in place by frictional engagement, with greater or less firmness according to the expansive force of the springs which may be regulated by the screws *j*. Such yielding frictional engagement will be sufficient to hold the angle member against accidental dislodgment, but will also permit the user to slide the angle member to different positions, so that when frequent changes of adjustment are required for the work in hand, they may be made without manipulating the screws *j*. Said angle members may be wholly removed by sliding them lengthwise out of engagement with slot *b*, whereupon if desired they may be reversed, right for left and vice versa, and applied as shown in dotted lines in Fig. 1, with the arms *d* extending outwardly instead of inwardly and the angle arms at the inner ends of said arms *d* arranged as shown at *e'*, *e'*.

In the modification shown in Fig. 6 the base is the same as in the other figures of the drawings. The angle member however consists of the legs *m* and *n* pivoted together by a stud *l* which is similar to *h* and is provided with a nut similar to *j*. Links *o*, *o*, each pivoted at one end to one of the legs, and pivoted at the other end to each other by

stud p, are provided to adjust the spread of the legs m, n. The stud p works in a slot q in bar r, and a thumb screw s on stud p, is used to clamp the links and legs in adjusted position. The bar r is pivotally connected to the legs at their pivotal point l. At the lower end of each leg is a stud t and thumb screw u, substantially like stud h and screw j, hereinbefore described. The pivot p is also in the form of a stud similar to h and carries a thumb screw w, similar to j. The angle member consisting of the legs m and n may be adjustably secured to the base by means of stud l and one of the studs t, as shown in the drawings, or by securing both studs t at the ends of the legs to the base with the pivotal point l at the top. In either case the angle member constitutes with the base a bevel, the angle of which may be varied as already described. Thus the device constitutes an adjustable square or bevel, as desired, suited to the great variety of uses to which such instruments are put in carpentering and building.

I claim:

A carpenter's instrument comprising a straight base consisting of a pair of bars spaced apart to provide a slot therebetween, said slot being open and unobstructed from end to end, and said bars being secured together by a series of yokes, an angle member mounted on said bars and adjustable lengthwise thereof, and clamping means extending through said slot adapted to secure said angle member in adjusted position.

Signed by me at Boston, Massachusetts this 23rd day of April, 1913.

FRANK G. COLE.

Witnesses:
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