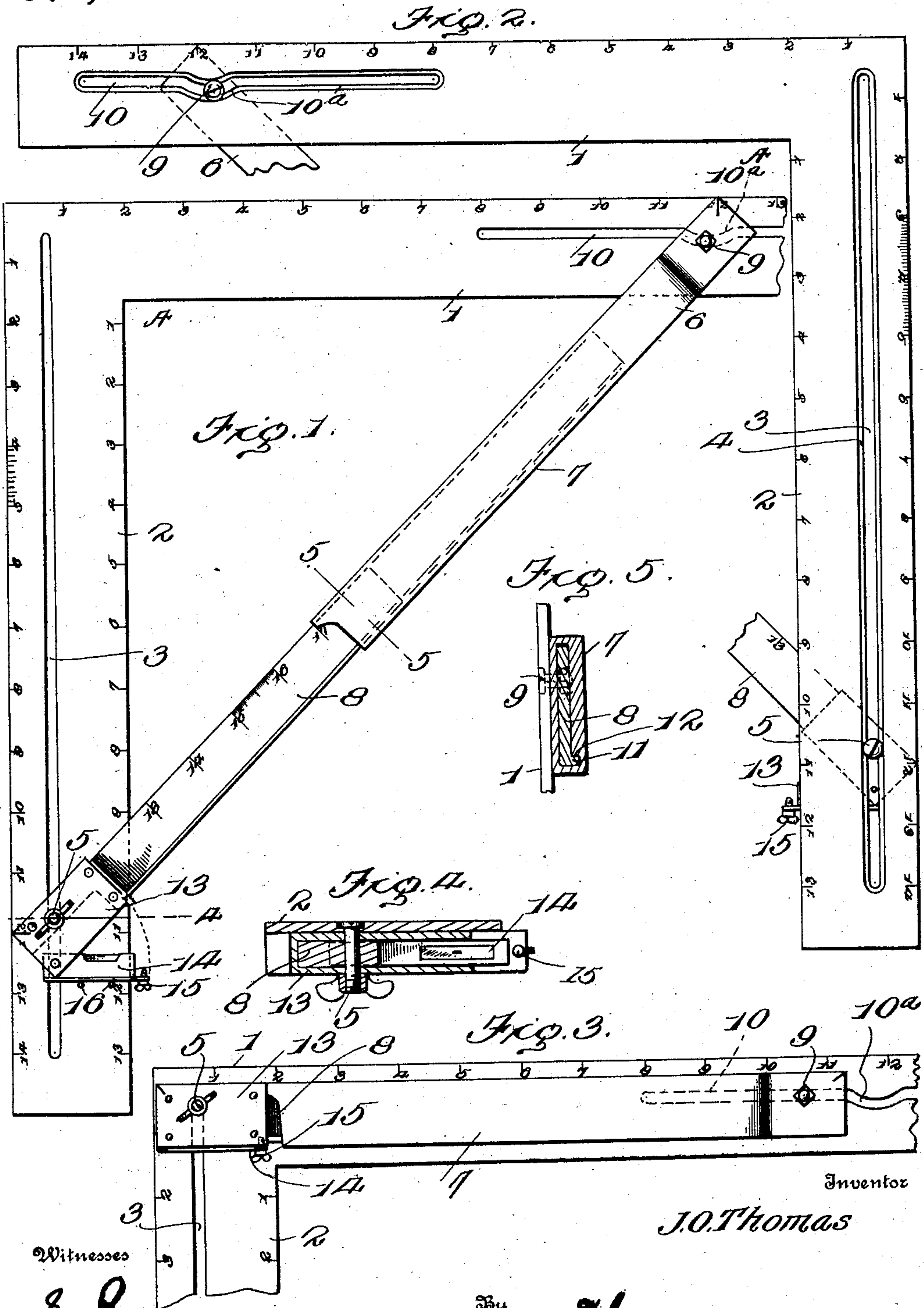


J. O. THOMAS.
COMBINATION SQUARE AND BEVEL.
APPLICATION FILED JAN. 15, 1909.

973,584.

Patented Oct. 25, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

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COMBINATION SQUARE AND BEVEL.

973,584.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN O. THOMAS, citizen of the United States, residing at Ogden, in the county of Weber and State of Utah, have invented certain new and useful Improvements in Combination Squares and Bevels, of which the following is a specification.

This invention comprehends certain new and useful improvements in measuring instruments and relates particularly to a combined square and bevel.

It is well-known that in carpentry whenever a square is used, it nearly always happens that a bevel is also used, and my present invention has for its primary object an instrument which will combine and embody the characteristics of both a square and a bevel, so that it may be used in a variety of cases without the necessity of employing two separate and distinct instruments or tools. And the invention also has for its object a simple and efficient construction of device of this character which may be easily adjusted and held at the desired adjustment, the invention consisting in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation of my improved combined square and bevel. Fig. 2 is a similar view illustrating it from the opposite side and with the bevel leg broken away. Fig. 3 is an enlarged detail view of a corner portion of the device. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1, and Fig. 5 is a sectional view on the line 5—5 of Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

The stock A of my improved measuring instrument which constitutes the square thereof, comprises members 1 and 2 secured rigidly together in right-angular relation to each other. The member 1 is laid off in inches or fractions of inches along both of its edges and on both faces, as is also the member 2. The member 2 is formed with a longitudinally extending slot 3 and is also

formed in one face with a recess 4 extending around the walls of the slot.

A clamping screw 5 is arranged to work within the slot 3, the head of the screw being accommodated in the recess 4. This screw is secured to one end of a bevel leg 6. This leg 6 is constructed in telescoping sections 7 and 8, the section 7 being pivotally connected by means of a stud or clamping screw 9 with the member 1 of the stock, the said screw 9 being received in a longitudinal slot 10 formed in the member 1. The slot is formed intermediate of its ends with a curved portion 10^a.

It will be noted that the curved portion 10^a of the slot 10 admits of the swinging of the hollow member 7 against the member 1 and inwardly of the edges of the same. This construction frees the opposite edges of the member 1 when the device is used as a square and presents to view any graduations which are formed thereon.

The section 7 of the leg 6 is hollow, as shown, to receive the other section 8, the said section 8 being laid off in inches and fractions of inches and being preferably formed with an angular reinforcing edge 11 working in a slot 12 in the section 7. That end of the section 8 to which the clamping bolt 5 is connected is formed with a pocket 13 and a spirit level 14 is designed to be received in said pocket and is pivotally mounted so as to be swung out of the same when desired for use, the said spirit level being provided with a thumb-screw 15 for engagement in a correspondingly threaded aperture formed in the edge of the section 8, by means of which the spirit-level 14 may be securely clamped in a closed position. If desired, the member 2 of the stock may be provided with pins 16 to limit the outward movement of the spirit level. The spirit level 14 is thus so arranged that when it is swung downwardly against the pins 16 it is in parallel with the lower edge of the member 2 in order to determine the true vertical position of the member 2 by the relative horizontal position of the lower edge of the same.

From the foregoing description in connection with the accompanying drawings, it is evident that I have provided a very useful combined square and bevel, particularly for use in the smaller lumber or wooden building work, for example, if a

carpenter desires to build a roof at any pitch, the bevel could be set accordingly, and the rafters could then be easily laid out with the bevel for both ends, and the slide measure of the sections 7 and 8 in the center, giving the length of rafter the number of inches to the foot and the bevel for the lumber for the gables, as well as for the studding in the gables, all without changing the bevel.

As another example of the use of my improved measuring instrument, wherever it may be necessary to put in angular braces, for instance, it will be noted in the drawing, at each end the bevel leg 6 is adjusted at 12 on the square. The slide measure which is formed with the two telescoping sections 7 and 8 of the bevel leg 6 then indicates 17 inches between both. In a building 20 feet wide a rafter would cover $\frac{1}{2}$ or 10 feet. The slide measure just mentioned shows 17 inches between points. 17 times 10 is 170 inches or 14 feet and 2 inches, which would be the proper length of the rafter. Obviously that rule will apply to any angular pitch, and also made out at any pitch or angle, the instrument giving the correct bevel for both ends.

As clearly illustrated in the drawings, the slide measure which is formed by the sections 7 and 8 of the bevel leg may be laid out in inches and parts of inches up to 32nds, and the outer edge of the scale of the leg 2 may be laid out in inches and fractions of inches up to 12ths.

It is to be particularly noted that the curved portion of the slot 10 permits the point or corner of the section 7 of the bevel leg 6 to stand flush with the graduation 12 at any angle of the bevel, while at the same time provision is made for permitting this end of the bevel leg to be adjusted for a portion of the length of the stock member 1.

Obviously my improved measuring instrument is useful in laying off stairways. It is only necessary to set the bevel leg at the number of inches for treads and risers, and then the stairs can be laid off much more quickly and accurately than with an ordinary scale.

Having thus described the invention, what is claimed as new is:—

1. In an article as specified the combination

of two members arranged at right angles to one another, one of said members being formed with a longitudinally extending slot, the opposite of said members having a slot formed therein with a curved portion immediately thereof, telescopic sections arranged to cross said members, a pivot pin disposed through one of said members in the curved slot and in the end of one of the said sections, a clamping bolt disposed in the longitudinal slot and connected to the opposite of said sections, the second of said sections having a pocket formed in the end thereof and a spirit level hingedly carried by said second section for engagement within the pocket.

2. An article as specified including a pair of members arranged at right angles to each other, one of said members having a longitudinal slot with a rabbet formed about the edges thereof, a bolt engaged in the slot and seated in the rabbets, a telescopic member of two sections extended across said first named members and engaged at one end by said bolt, the second of said members having a curved slot formed therein, and a pivot pin disposed in the curved slot and through one end of said telescopic member, the curved slot admitting of the adjusting of said telescopic member longitudinally against the outer face of said second member and inwardly of the edges of the same.

3. A device as specified including a pair of angularly arranged members, one of said members having a longitudinal slot with a rabbet in the edges thereof, the opposite of said members having a longitudinal slot with a curved portion therein, a clamping bolt engaged in the first slot, a pivot pin located in the second slot, and a telescopic member carried by said bolt and said pin, the slots in said angularly arranged members being so disposed as to admit of the adjustment of said telescopic member coincident with said angularly arranged member having the longitudinal slot.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN O. THOMAS. [L. S.]

Witnesses:

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