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SQUARE.

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990,355. Patented Apr. 25, 1911.

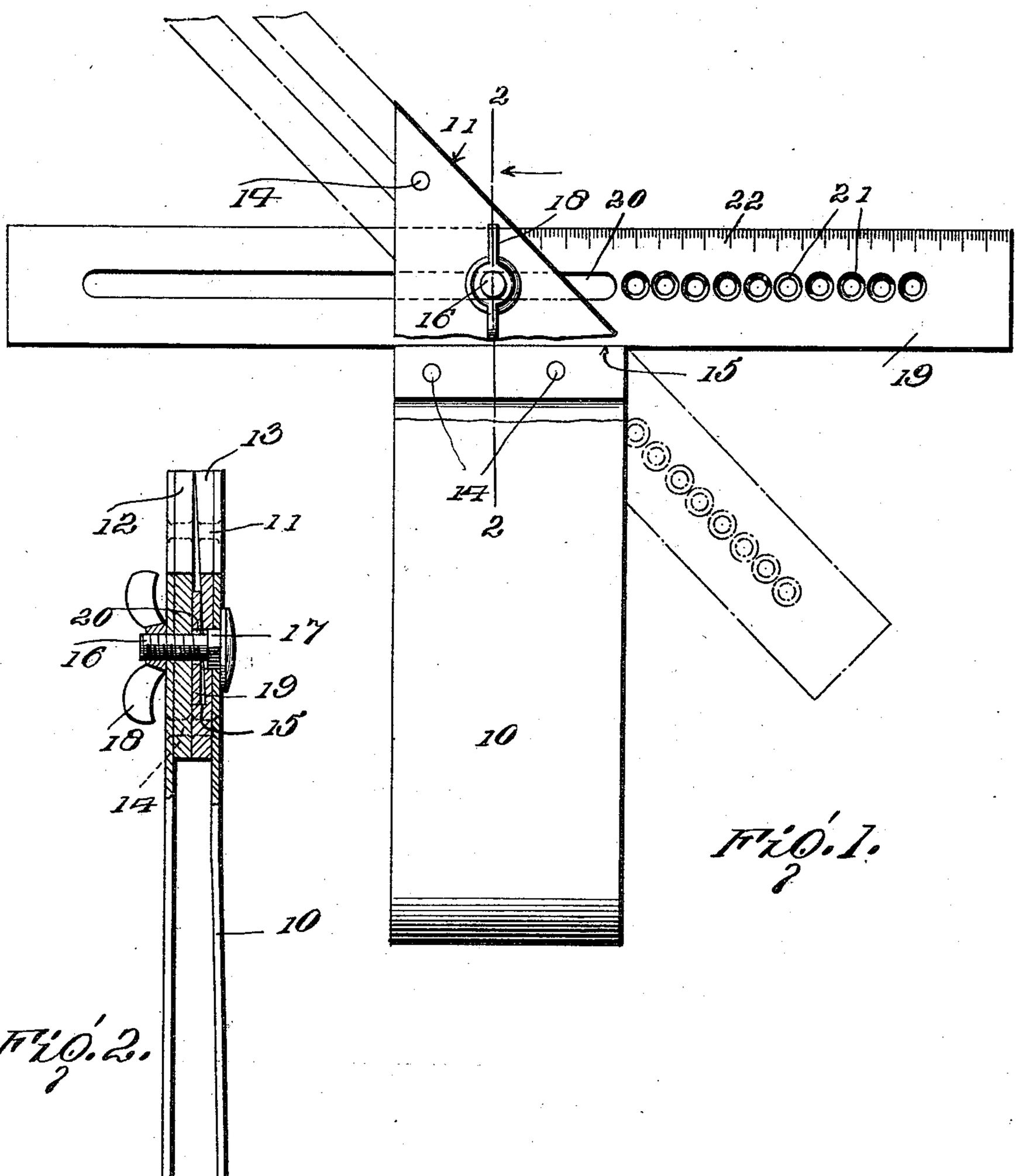

FIG. 1.

FIG. 2.

FIG. 3.

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UNITED STATES PATENT OFFICE.

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SQUARE.

990,355. Specification of Letters Patent. Patented Apr. 25, 1911.

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To all whom it may concern:

Be it known that we, SHANNON D. HASTINGS and GEORGE J. ENGERT, citizens of the United States, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Squares, of which the following is a specification.

This invention relates to measuring instruments and refers particularly to a combined square embodying a try-square, a bevel, and a scribe.

An object of this invention is to provide the handles, and may be rigidly clamped in means whereby the blades may be quickly and accurately adjusted at right angles to the handles, and may be rigidly clamped in such position to provide a try-square.

Another object of this invention is to form a simple and compact square which is capable of being folded to accommodate itself to pockets so that it may be conveniently carried by the workman.

The invention further contemplates the formation of a square having a pair of jaws to grip the blade, one of the jaws being provided with a shoulder to hold the blade at right angles to the frame or handle, and at the same time having the jaws formed so as to receive a clamping bolt which contracts the jaws so that they engage, with substantially equal pressure at their ends, the sides of the blade to thereby insure the rigid holding of the blade relatively to the frame.

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

Figure 1 is a side elevation of the square disclosing in dotted lines one adjustment thereof. Fig. 2 is a view through the same taken on the line 2—2 of Fig. 1. Fig. 3 is an end view of the square looking at right angles to the upper beveled end thereof.

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

Referring to the drawing the numeral 10 designates the frame or handle of the square which is in the form of a strip of metal, preferably spring steel, which is bent substantially U-shape. The free ends of the frame 10 are provided with beveled edges 11 approximately 45°. Against the inner faces of the opposite arms or jaws of the U-shaped frame 10 blocks 12 and 13 are positioned and secured through the medium of rivets 14. The block 12 is provided with an inner flattened and smooth face, while the block 13 is provided adjacent its lower edge with a shoulder 15 in its inner face, the upper end of the block 13 being gradually enlarged to correspond at its upper edge with the thickness of the block 12. The frame 10 is provided through one of its jaws with a clamping bolt 16 having an angular portion 17 to seat within a correspondingly formed opening in the jaw to prevent the rotation of the bolt 16 when in position. The outer end of the bolt 16 is extended through the blocks 13 and 12, respectively, and secured through the opposite jaw of the frame 10 by means of a winged nut 18. This construction is disclosed particularly in Fig. 2 wherein the winged nut 18 is engaged against the outer face of one of the jaws of the frame 10 to hold the jaws and the blocks 12 and 13 in a contracted position. The blocks 12 and 13 are of substantially triangular form, having their long edges coinciding with the beveled edges 11 of the jaws of the frame 10, and each having one of the opposite edges thereof flushed with the long edge of the frame 10.

A blade 19 is employed which is formed of a strip of metal of a thickness approximating the thickness of the frame 10 for engagement between the blocks 12 and 13. The shoulder 15, as observed from Fig. 2, is slightly deeper than the thickness of the blade 19 in order to accommodate the same, while the outwardly inclined wall of the block 13 forces the blade 19 over against the block 12. The inner wall of the block 13 is inclined outwardly toward the top of the block to effect the binding of the blade 19 when the blcks 12 and 13 are forced together and the blade 19 is seated upon the shoulder 15. The blade 19 is provided centrally and longitudinally with a slot 20, of a width sufficient to receive the bolt 16 therethrough when the blade 19 is engaged between the blocks 12 and 13. The blade 19 is further provided with a plurality of apertures 21 which are arranged in longitudinal alinement with the slot 20 for the reception of the point of a marking tool or instrument, as a lead pencil, or the like,

when the square is to be employed as a scribe. The edge of the blade 19 is provided with suitable graduations 22 in accordance with the manner in which the square is to be employed.

When the improved square is to be employed as a try-square, the blade 19 is grasped in one hand while the handle 10 is held in the opposite hand, and the blade 19 is turned about the bolt 16 at substantially right angles to the frame 10. Owing to the formation of the frame or handle 10 from spring steel the jaws of the frame are yieldably held in contact with one another, and consequently when the inner edge of the blade 19 registers with the shoulder 15, the blocks 12 and 13 will be caused to snap together and to thus hold the blade in the required position. The winged nut 18 is now tightened upon the bolt 16 to secure the blade 19 against displacement. When an angular adjustment is to be effected relatively to the blade 19, for instance, an adjustment of 45°, or in the direction of the beveled edges 11 of the frame 10, the bolt 16 is loosened to permit of the operation of the blocks 12 and 13, in order to swing the blade 19 in the desired angle, and to raise the blade out of engagement with the shoulder 15. Fig. 3 of the drawing discloses this adjustment of the blade 19 in an angle of 45°. It will be observed that the block 13 is gradually enlarged toward its outer and upper end, which terminates in a point, and that the block 13 is engaged against the side of the blade 19 at the outermost corner of the frame 10, and also at a point adjacent the shoulder 15. These two points are engaged against the blade 19 with approximately equal pressure when the clamping bolt is tightened. It will be observed that the block 12 is provided with a smooth inner face, in order to rigidly hold the blade 19 when the same is forced thereagainst.

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

1. A square including a U-shaped spring frame having the jaws thereof in yieldable contact, blocks engaging against the inner faces of the jaws of said frame, one of said blocks having a shoulder formed in the inner face thereof at right angles to the frame, a clamping bolt engaging through said jaws and said blocks, and a slotted blade positioned between said blocks and about the central portion of said clamping bolt.

2. A square including a spring frame, blocks carried against the inner faces of the ends of said frame, one of said blocks having a shoulder in the inner face thereof at right angles to the frame, a blade engaging between said blocks and adapted to rest against said shoulder, and a clamping bolt carried by the frame for engagement through said blocks and said blade.

3. A square including a U-shaped frame, blocks secured against the inner faces of the ends of said frame, one of said blocks having a shoulder formed across the inner face thereof and having an inclined wall extending outwardly from the shoulder, a blade for engagement between the blocks upon said shoulder, and a clamping bolt carried by the frame for engagement through said blocks.

4. A square including a frame, resilient jaws formed on said frame, blocks engaging against the inner faces of said jaws, one of said blocks having a shoulder formed across the inner face thereof, a longitudinally slotted blade engaging between said blocks and adapted to rest on said shoulder, and a clamping bolt passing through said jaws and said blocks, to secure said blade in position.

5. A square including a U-shaped spring frame having beveled outer ends, triangular blocks engaging against the inner faces of the outer ends of said frame, a blade engaging between said blocks, and a clamping bolt secured through said blocks to clamp the blades in position.

6. A square including a U-shaped frame, blocks secured against the inner faces at the outer ends of the frame, a blade engaging between said blocks, said blade having a plurality of apertures arranged in longitudinal alinement centrally of the blade for the reception of a marking instrument, and a clamping bolt engaging through said blocks to secure the blade in position.

In testimony whereof we affix our signatures in presence of two witnesses.

SHANNON D. HASTINGS. [L. S.]
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."