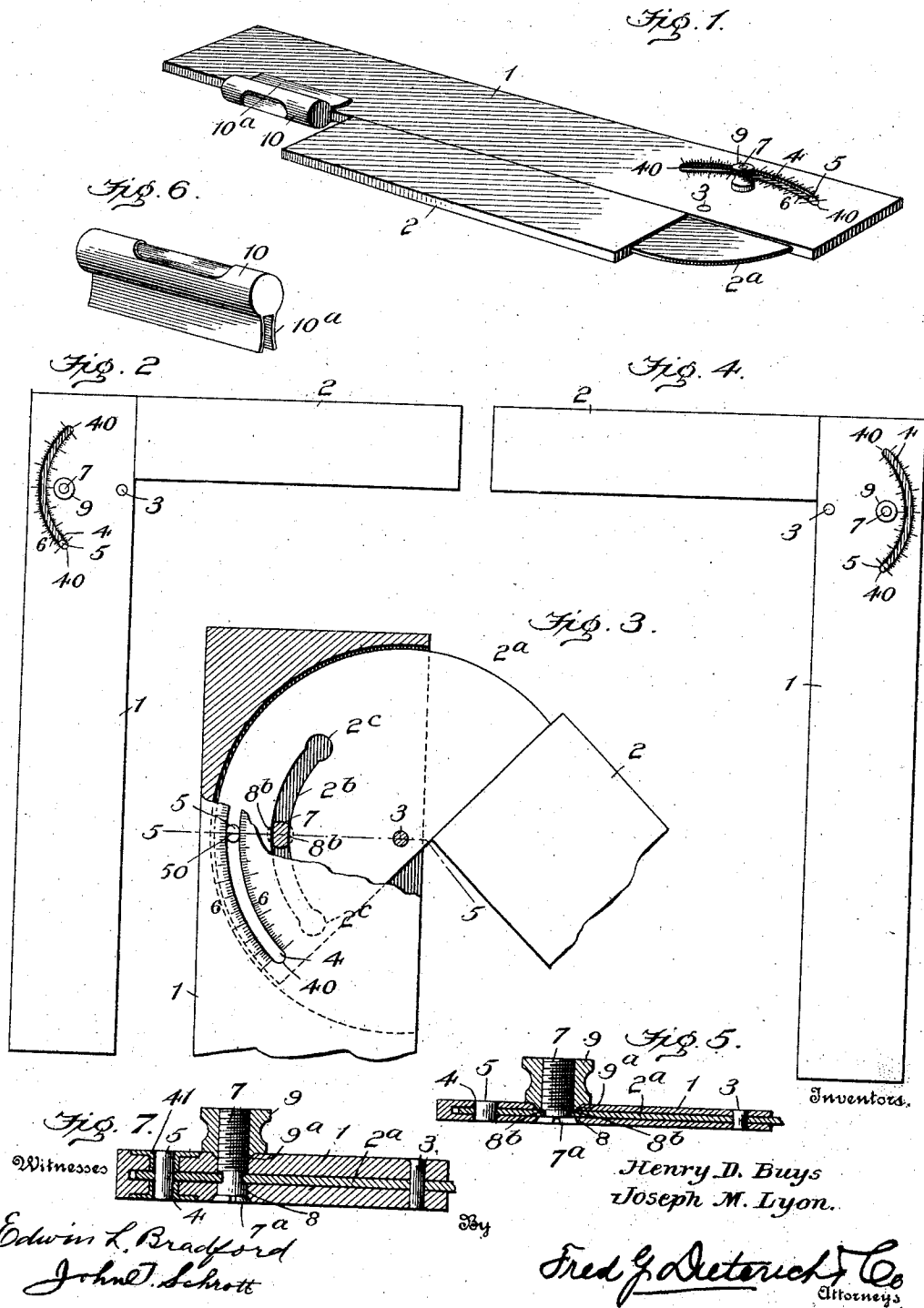


No. 883,783.

PATENTED APR. 7, 1908.

H. D. BUYS & J. M. LYON.
FOLDING SQUARE.

APPLICATION FILED JUNE 27, 1907.



UNITED STATES PATENT OFFICE.

HENRY D. BUYS AND JOSEPH M. LYON, OF PEARL, IDAHO.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, HENRY D. BUYS and JOSEPH M. LYON, residing at Pearl, in the county of Boise and State of Idaho, have invented a new and Improved Folding Square, of which the following is a specification.

Our invention, which generally relates to improvements in bevel squares, primarily seeks to provide a simple, compact and easily manipulated mechanic's tool or implement more especially adapted for carpenters uses, and which embodies cooperating features of construction whereby the same can serve as a folding try or bevel square and degree indicator, and whereby the square can be readily set at any angle desired.

Our invention also has for its purpose to provide an implement of the character stated, capable of being used by right or left handed persons, which can be conveniently carried, the bevel adjustments quickly made and the bevel edges fixedly held at the adjusted positions.

With the above objects in view our invention consists of an implement of the character stated embodying certain details of construction, and peculiar combination of parts, all of which will be hereinafter fully explained, specifically pointed out in the appended claims, and illustrated in the accompanying drawings, in which,—

Figure 1, is a perspective view of our improved square folded. Fig. 2, is a plan view thereof, the parts being open to form a try-square. Fig. 3, is a similar view, the short angle blade being closed to an angle of 45° with a part of the main blade being broken away to better illustrate the hinge end of the short blade, the indicator and the pointer hereinafter referred to. Fig. 4, is a plan view which shows the try-square in position for use by a left-handed person. Fig. 5, is a transverse section on the line 5—5 of Fig. 3. Fig. 6, is a detail view of the detachable level used in connection with our complete implement. Fig. 7, is a detail view of the hinge end of our improved square, illustrating a slightly modified construction thereof.

The stock or body of our improved square is constructed of a long blade or arm 1 and the short foldable blade 2, made of any suitable material, preferably spring steel.

The inner end of the long arm is formed with a horizontal recess to receive the thinned or hinge portion 2^a of the short arm 2 which is secured to the inner edge of the long arm by

the hinge bolt 3 in such manner that the said short arm 2 can be opened out at right angles to the inner end of the member 1, as shown in Fig. 2, or folded flatwise against the inner edge of the said member 1, as shown in Fig. 1.

4 designates a segmental slot in the long arm or member 1 which is concentric with the hinge bolt 3, and in which plays a pointer 5 that is made fast to the hinge portion 2^a of the member 2, and is projected from each face thereof, through the slot 4, as clearly shown in Fig. 5, and the said pointer projections have short opposite edges made of semi-circular shape whereby to snugly fit within the seats 40—40 formed at the ends of the segmental slot 4 so as to bring the indicating edge 50 of the said indicator or pointer in alinement with the zero lines of the indicator scales 6 delineated at each edge of the slot 4 and on each face of the member 1 when the short arm is swung to the limit in either direction.

By providing a scale on each face of the member 1 and projecting the indicator from each face of the hinge portion 2^a of the arm 2, our improved square can be conveniently manipulated by a right or left handed person.

Fig. 7 illustrates a slightly modified form of our invention which shows the stock of the square made of wood. When thus made the hinge member is preferably made of thin metal, and is secured to the arm 2 as shown. In this form, the slot 4 in the long arm is lined with sheet metal as at 41, the ends of which are bent over and countersunk in the opposite faces of the long arm and form scale receiving surfaces.

7 designates a clamp screw that passes through an aperture in the arm 1 in radial alinement with the fulcrum of the blade 2, which has a countersunk head 7^a to receive the countersunk edges of the opening 8. The bolt is also provided with flat opposite faces 8^b—8^b to play in the segmental slot 2^b formed in the hinge member 2^a, so as to provide against the said screw becoming loosened or turning during the adjustment or use of the square. The screw 7 is held to its clamped position by a thumb or milled nut 9 which also has a bevel bearing surface 9^a for engaging with the countersunk edge 8^a on the coincident face of the arm 1.

By making the opposite ends of the aperture 8 beveled, as stated, it is obvious that the clamp screw can be inserted from either side, thereby providing for the implement be-

ing readily used by a right or left handed person, and to permit of quickly adjusting the parts for a right or left handed person, the end of the curved slot 2^b in the member 2^a is enlarged as at 2^c to permit the passing of the clamp and bolt through the several parts and in position to be engaged by the thumb nut.

10 designates a detachable level, which forms a part of our complete device that is adapted to be secured to any of the edges of the square by the spring clamp members 10^a secured thereto, and which are arranged to slip over any of the edges of the square, as will be readily understood by referring to the drawings.

From the foregoing description taken in connection with the accompanying drawings, the advantages of our invention will be readily apparent.

20 It will be readily noticed that when closed the instrument presents a neat and compact appearance having no irregular edges. Its edges are adapted to be used as a straight-edge rule a try or bevel square and the hinge connections are such that the laying out or measuring of any angles up to 90° is rendered expeditious and accurate since the angles can be quickly ascertained from the scales on either side of the arm 1, and by reason of arranging the scale slot in the manner shown the indicator or pointer is protected from being jarred or knocked out of its true position when opening or closing the short arm quickly, since the inner edge of the shoulders at the hinged end of the short arm form the abutment faces for limiting such movement of the said short arm.

Having thus described our invention, what we claim and desire to secure by Letters Patent, is,

1. In an instrument of the character described, the combination with the long arm having one end horizontally recessed, provided with a hinge bolt near its inner edge, and a segmental slot near its outer edge concentric with the bolt, the opposite faces of the said arm adjacent the slot having an indicating scale; of the short arm having a

hinge portion movable within the recess in the long arm and fulcrumed on the hinge bolt, and an indicator projected from both faces of the hinge portion that plays in the slot in the long arm for the purposes specified.

2. In an implement of the character described, the combination with the long arm having a recessed end, a pivot bolt in said end, and a segmental slot concentric with the pivot bolt having indicator scales along its edges; of the short arm having a hinge member fulcrumed on the pivot bolt and movable in the recess in the long arm, said hinge end having indicator studs projected from its opposite faces into the segmental slot and means for clamping the short arm to hold it to its adjusted positions, as set forth.

3. The combination with the long arm having a recessed end, a pivot bolt and a segmental slot having indicator scale edges, of the short arm having a hinge member fitting in the said recess and having an indicator projected into the segmental slot for cooperating with the indicator scales, a clamp screw that passes through the said long arm and the hinged part of the short arm, a clamping nut therefor, said hinged part having a segmental slot concentric with the pivot, the end of which is enlarged and the clamp bolt having opposite straight faces and shoulders for cooperating with the slot in the hinged portion.

4. In combination with the short arm having a hinge member provided with an indicator stud; of the long arm having a recess to receive the said hinge member and a fulcrum bolt for said member, said long arm having a slot concentric with the said fulcrum bolt, a metallic casing in said slot having its opposite edges lapped over the opposite faces of the long arm and carrying indicator scales and means for clamping the short arm to its set positions, as set forth.

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Witnesses:

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