

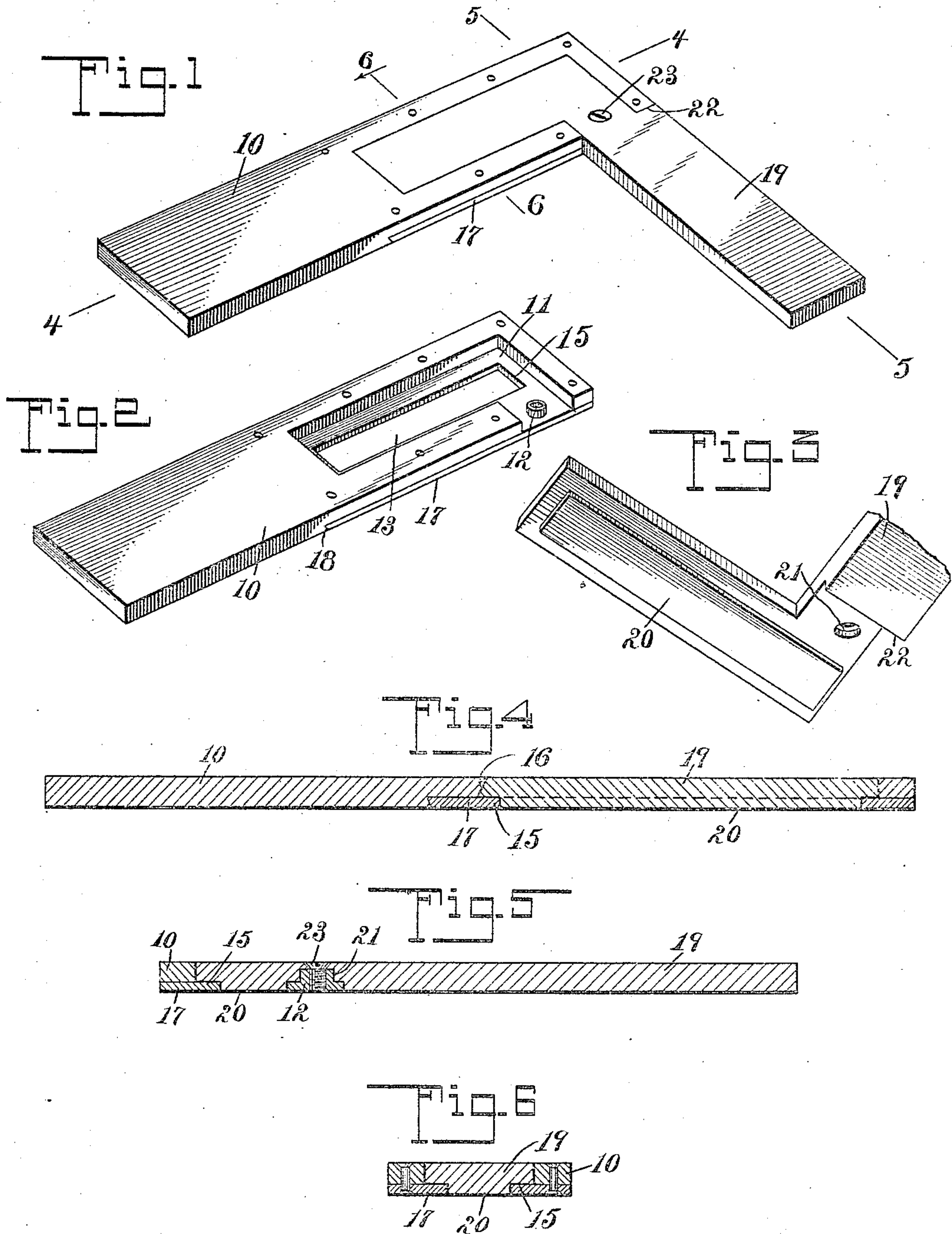
T. C. HOWLAND.

SQUARE.

APPLICATION FILED JULY 10, 1908.

943,351.

Patented Dec. 14, 1909.



WITNESSES

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SQUARE.

943,351.

Specification of Letters Patent.

Patented Dec. 14, 1909.

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To all whom it may concern:

Be it known that I, THOMAS C. HOWLAND, a citizen of the United States, and a resident of Long Branch, in the county of Monmouth and State of New Jersey, have invented a new and Improved Square, of which the following is a full, clear, and exact description.

In order that a square having separable arms may be of any practical value, it is necessary among other things that there be no play or yielding between the arms after they are assembled, otherwise the square will be so inaccurate as to unfit it for use, since slight movement at the point of connection will be multiplied as the ends of the arms are approached. To insure a tight joint between the separable arms and substantial contact between their edges is essential, and the joint should not require a sliding movement of the arms upon each other in assembling them, as this is conducive of wear, and even though such a square be accurate when new its accuracy will not be lasting.

My invention contemplates a square having separable arms adapted to be economically manufactured by stamping out, but which, if found desirable in practice, may be cast from any suitable metal, and when assembled maintain their proper angular relation which is accomplished by providing one of the arms with a longitudinal channel having a branch at or near one end extending through the side edge of the arm, and with the bottom of the channel provided with a slot, forming flanges, and the other arm having a portion closely fitting and conforming to the channel and the slot and seated on the said flanges.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a square as preferably constructed in accordance with my invention; Fig. 2 is a perspective view of one of the arms of the square; Fig. 3 is a perspective view of the other arm of the square; Fig. 4 is a section on the line 4—4 of Fig. 1; Fig. 5 is a section on the line 5—5 of Fig. 1; and Fig. 6 is a section on the line 6—6 of Fig. 1.

In the construction of a square in accord-

ance with my invention, one of the arms 10 is provided in one face with a channel 11, the principal branch of which is arranged longitudinally of the arm and the other branch is extended through one edge of the arm and is provided with an internally threaded projection 12 rising from its bottom. The longer arm of the channel 11 is provided in its bottom with a slot 13, the same being of a width relative to the channel to provide inwardly-projecting flanges 15 at each end, and preferably also at the opposite sides. The edge walls of the channel 11 are preferably perpendicular to the face of the arm or only slightly inwardly beveled, except at the inner end, which is under-cut as indicated at 16. In order that the arm 10 may be economically produced by stamping it out, the flanges 15 surrounding the slot 13 are preferably formed on a separate piece or plate 17 having the full width of the arm, to which it is riveted or otherwise suitably and permanently secured. For this purpose the arm is cut out a depth equal to the thickness of the flanges 15 and the plate set in flush, with its inner end slightly beveled and fitting in the under-cut edge 18 of the cut-out portion. The other arm 19 of the square has its inner end portion constructed as an exact counterpart of the channel 11 and slot 13, for which purpose it is of L-form, beveled at the end and provided with a panel 20 on its under face, and also provided with a recess 21 for receiving the projection 12, and cut out at the top edge near the corner to form a shoulder 22 which serves to abut against the edge of the arm 10 adjacent to its outer end and bring these edges of the arms into alinement, as clearly illustrated in Fig. 1. The two arms thus constructed are assembled and detached by moving them to and from each other in a lateral direction, which affords substantially no opportunity for wear on the abutting edges and consequent loosening in the joint. The arms of the square when assembled contact the full thickness of the material, in which relation they are secured by a single screw 23 passing through the arm 19 and threaded into the projection 12.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A square comprising two separable arms, one of the arms provided with a lon-

itudinal slot adjacent to its inner end and isolated from its outer edges, the other arm having an approximately inflexible end portion extending at an angle thereto and fitting within said slot of the first arm, with the outer edges of said end portion engaging with the edges of the slot substantially the full thickness of the square.

2. A square comprising two arms, one of which is provided with a longitudinal channel having a branch at one end extending to the side edge of the arm, and with the bottom of the channel provided with a slot forming flanges, and the other arm having a portion closely fitting the channel and the slot and seated on said flanges.

3. A square comprising two arms, one of said arms having a channel formed in one face thereof, and a slotted plate formed as a separate part and secured to the opposite face of the arm, forming the bottom of the channel, and the other arm having a portion fitting within said channel and slot of the plate.

4. A square comprising two arms, one of which is provided with an L-shaped channel having an under-cut end wall, and the other arm having a counterpart portion fitting within said channel, and a screw securing

the two arms together adjacent to the opposite end wall of the channel.

5. A square comprising two arms, one of which is provided with an approximately L-shaped channel having a projection on the bottom thereof, and the other arm having a portion adapted to fit within said channel and provided with a recess for receiving the projection, and a screw connecting the two arms together, threaded into the projection.

6. A square comprising two separable arms engaged and disengaged by a relative lateral movement, one of the arms provided with an opening isolated from its outer edge and having a channel passing through its inner side edge and isolated from its end; and the other arm having an angular end portion seated in the opening and channel of the first arm approximately flush therewith and having contact at the edges substantially the full thickness of the square.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS C. HOWLAND.

Witnesses:

ASA E. FERRY,
WILFRED E. HAYNES.