

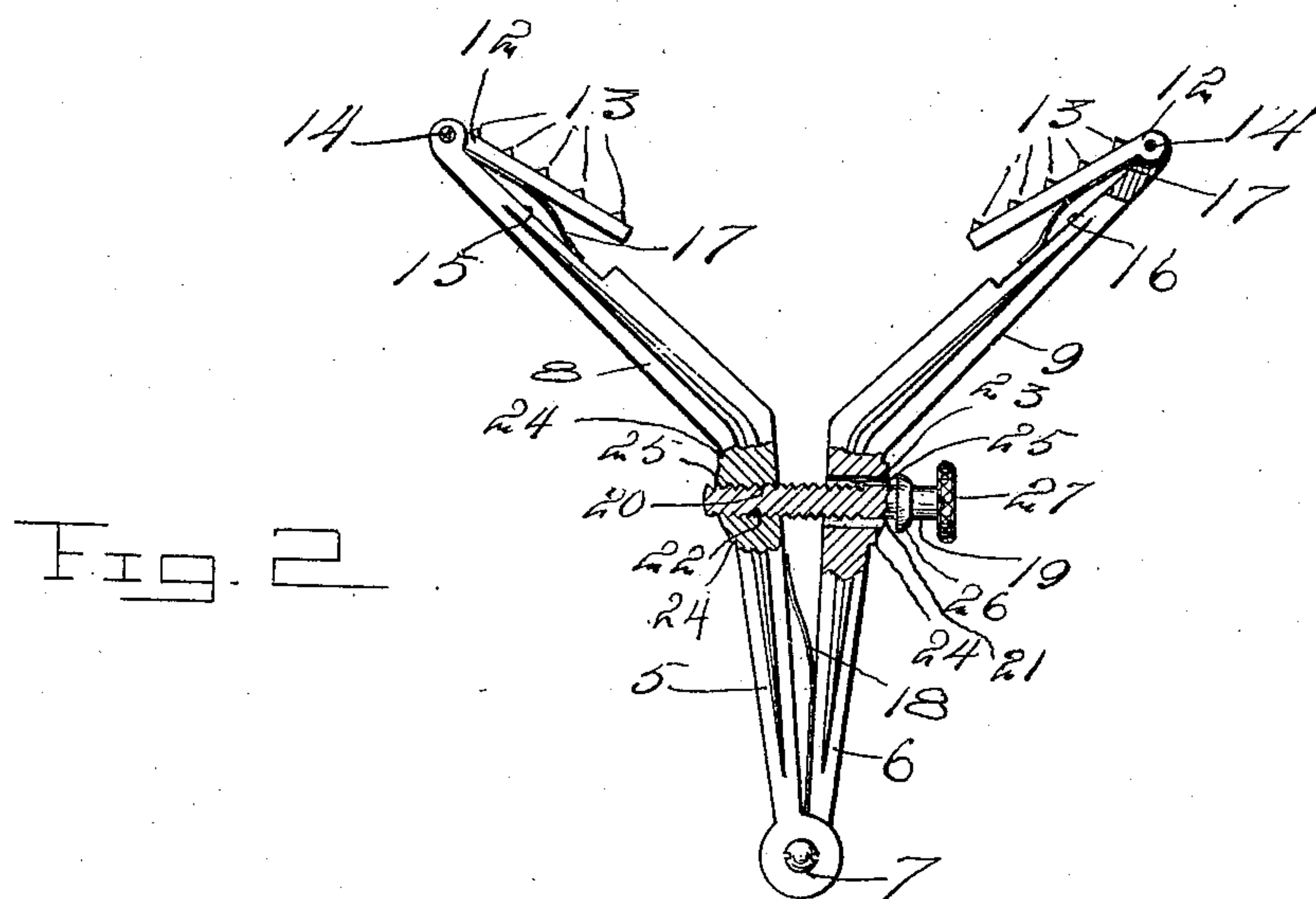
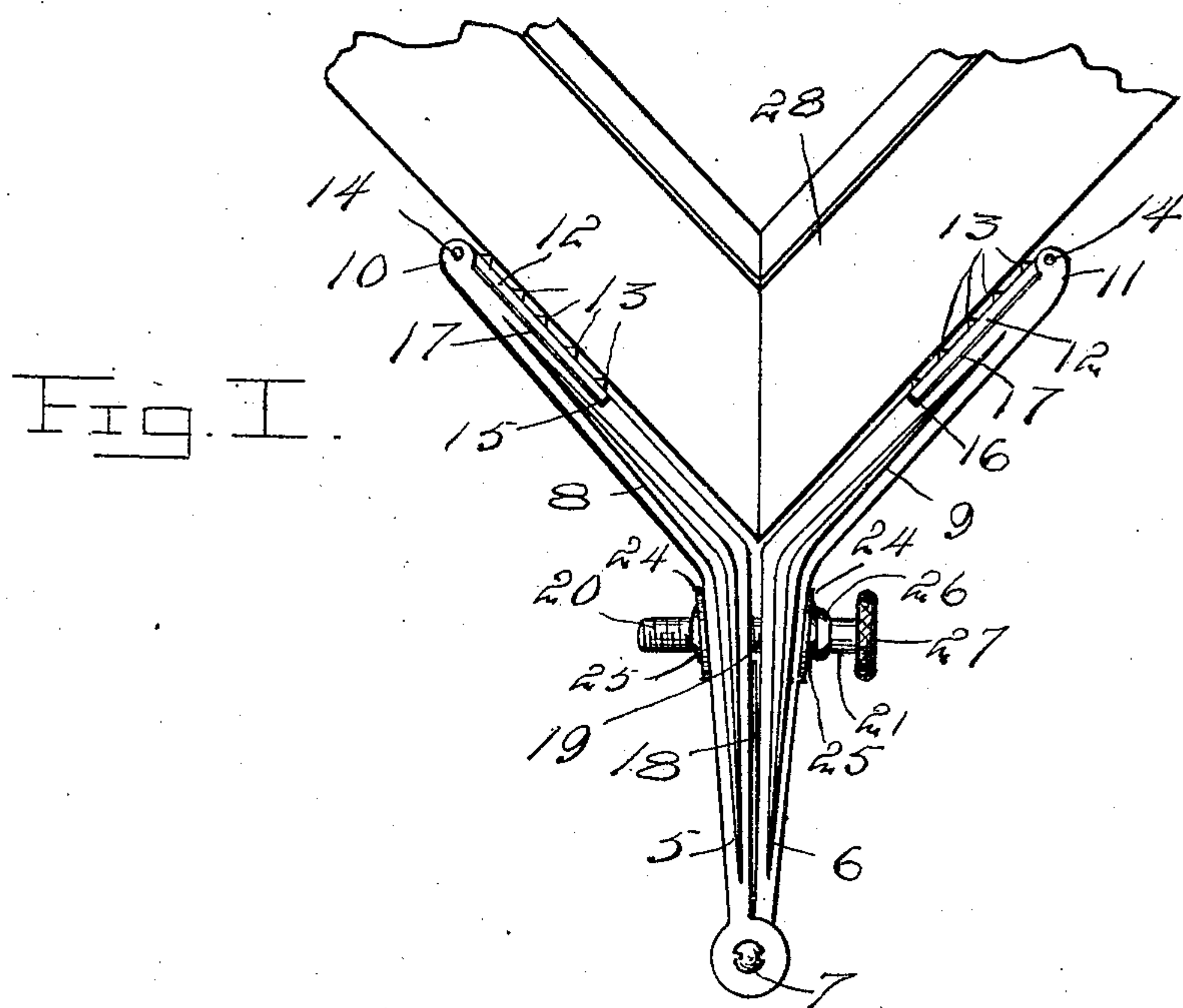
No. 842,555.

PATENTED JAN. 29, 1907.

A. E. JOHNSON.

MITER CLAMP.

APPLICATION FILED APR. 18, 1906.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## MITER-CLAMP.

No. 842,555.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed April 18, 1906. Serial No. 312,469.

*To all whom it may concern:*

Be it known that I, ARON E. JOHNSON, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Miter-Clamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in miter-clamps, and has for its object to provide a device of that nature which shall be adapted to be readily applied to miters of any description and without regard to the position or size of the miter.

The particular improvements consist in the provision on the upper ends of the clamp-arms of pivoted heads with serrated outer faces to engage the sides of the miter and of springs located between the clamp-arms and pivoted heads and tending to press said heads away from said arms and into contact with the miter sides.

Further improvements consist in the particular construction of the screw-bolt for opening and closing the clamp-arms, and still further improvements consist in the provision of a spring between the two clamp-arms to assist in opening the same when the screw is loosened.

The invention will be more readily understood from an inspection of the accompanying drawings, forming a part of the specification, and in which the same elements are referred to by like numerals in the several views, and in which—

Figure 1 is a front elevation of a miter-clamp constructed in accordance with my invention and showing the same in use in connection with a miter. Fig. 2 is a view similar to Fig. 1, but with the miter removed and the screw loosened to shown the operation of the several springs.

In the drawings, 5 and 6 designate, respectively, the left and right hand members or arms of the clamp pivoted together at their lower ends, as at 7. The upper portions of arms 5 and 6 are bent outwardly in opposite directions, as at 8 and 9, to provide the angular space in which the miter fits when the arms are closed and the clamp is in use. The upper ends of the arms 5 and 6 are provided with the vertical shoulders 10 and 11.

Pivoted at their upper ends between the

shoulders 10 and 11, as at 14, is a pair of heads 12 12, provided on their outer surface with teeth 13. These heads are adapted to be received in cut-away portions 15 and 16 in the inner face of the bent portions 8 and 9 of arms 5 and 6. The cut-away portions are of approximately the same depth as the thickness of heads 12.

Located between each head and the corresponding cut-away portion of its respective arm is a leaf-spring 17. The upper end of each spring is fastened to the under surface of its respective head 12, adjacent the pivotal attachment 14 thereof to the shoulders 10 and 11 of the clamp-arms, and the lower or free end of each spring is bent outwardly to normally hold its respective head 12 out of contact with the cut-away portions 15 and 16 of the clamp-arms, as shown in Fig. 2.

Attached at its lower end to the lower portion of arm 6 adjacent its pivotal connection with arm 5 is a third leaf-spring 18. The upper or free end of spring 18 is bent in a manner similar to springs 17 to bear against arm 5 to assist in opening the clamp when the locking-screw 19 is loosened. This screw is provided with a threaded portion 20 and with a plain portion 21, the threaded portion fitting into a correspondingly-threaded opening 22, extending through arm 5, and the plain portion passing through an elongated opening 23 in arm 6, in alinement with opening 22.

Arm 6 is enlarged, as shown at 24 in Fig. 3, this enlarged portion being provided to strengthen said arm at the point at which the opening 23 is located. The upper surface of the enlarged portion 24 immediately surrounding said opening is raised to provide a convex or spherical bearing-surface 25 for the shoulder 26 of the locking-screw, which is formed as an enlargement of said screw at this point. Owing to the provision of the elongated opening 23 and the convex surface of the bearing 25 the shoulder 26, of the locking-screw will fit tight against said bearing when the clamp is in use without regard to the size of the miter. Arm 5 is likewise enlarged at the point at which the threaded end of screw 19 passes through said arm in a manner similar to and for the same purpose as the enlargement 24 in arm 6.

The screw is provided with a head 27 by means of which it is tightened or loosened.

The teeth 13 on the outer surface of the heads 12 engage with the sides of the miter 28, as shown in Fig. 1, and thus assist in hold-



ing the same in place by preventing any slipping.

While the device has been constructed particularly with reference to its application to miters, it will be apparent that it is equally well adapted for use with any frames having square corners, as door or window frames or the like.

The manner of using the clamp will be apparent from the above, and further description on the point is thought unnecessary.

What is claimed is—

1. A miter-clamp comprising arms pivoted together at their lower ends and having their upper ends cut away in their inner faces to form seats; a head pivoted at its upper end to the upper end of each arm and adapted to be received in the cut-away portion thereof, each head having a serrated outer face; a spring secured at its upper end to the pivot of each head and disposed in the cut-away portion of each arm beneath the corresponding head, to force the latter outwardly into engagement with the miter; said arms being provided adjacent their bent portions with a pair of alining openings, one of which is threaded, and the other of which is elongated with respect to the first; a bolt passing through said opening and provided with a threaded portion fitting in said threaded opening and a plain portion passing through said elongated opening; a convex bearing-surface on the outer face of the arm in which said elongated opening is located, and surrounding said opening; a shoulder on said bolt adapted to bear against said convex surface; an operating-head for said bolt, and a spring connected to the lower end of one of said arms adjacent its pivot, to assist in opening said arms when said bolt is loosened.

2. A miter-clamp comprising arms pivoted together at their lower ends and having

their upper ends cut away in their inner faces to form seats; a head pivoted at its upper end to the upper end of each arm and adapted to be received in the cut-away portion thereof, each head having a serrated outer face; a spring secured at its upper end to the pivot of each head and disposed in the cut-away portion of each arm beneath the corresponding head, to force the latter outwardly into engagement with the miter, said arms being provided adjacent their bent portions with a pair of alining openings, one of which is threaded, and the other of which is elongated with respect to the first; a bolt passing through said opening and provided with a threaded portion fitting in said threaded opening and a plain portion passing through said elongated opening; a convex bearing-surface on the outer face of the arm in which said elongated opening is located, and surrounding said opening; a shoulder on said bolt adapted to bear against said convex surface; an operating-head for said bolt, and a spring connected to the lower end of one of said arms adjacent its pivot, to assist in opening said arms when said bolt is loosened.

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

ARON E. JOHNSON.

Witnesses:

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