

No. 877,426.

PATENTED JAN. 21, 1908.

H. F. HOLTSMANN.  
JOINER'S HAND CLAMP.  
APPLICATION FILED DEC. 29, 1906.

Fig. 1.

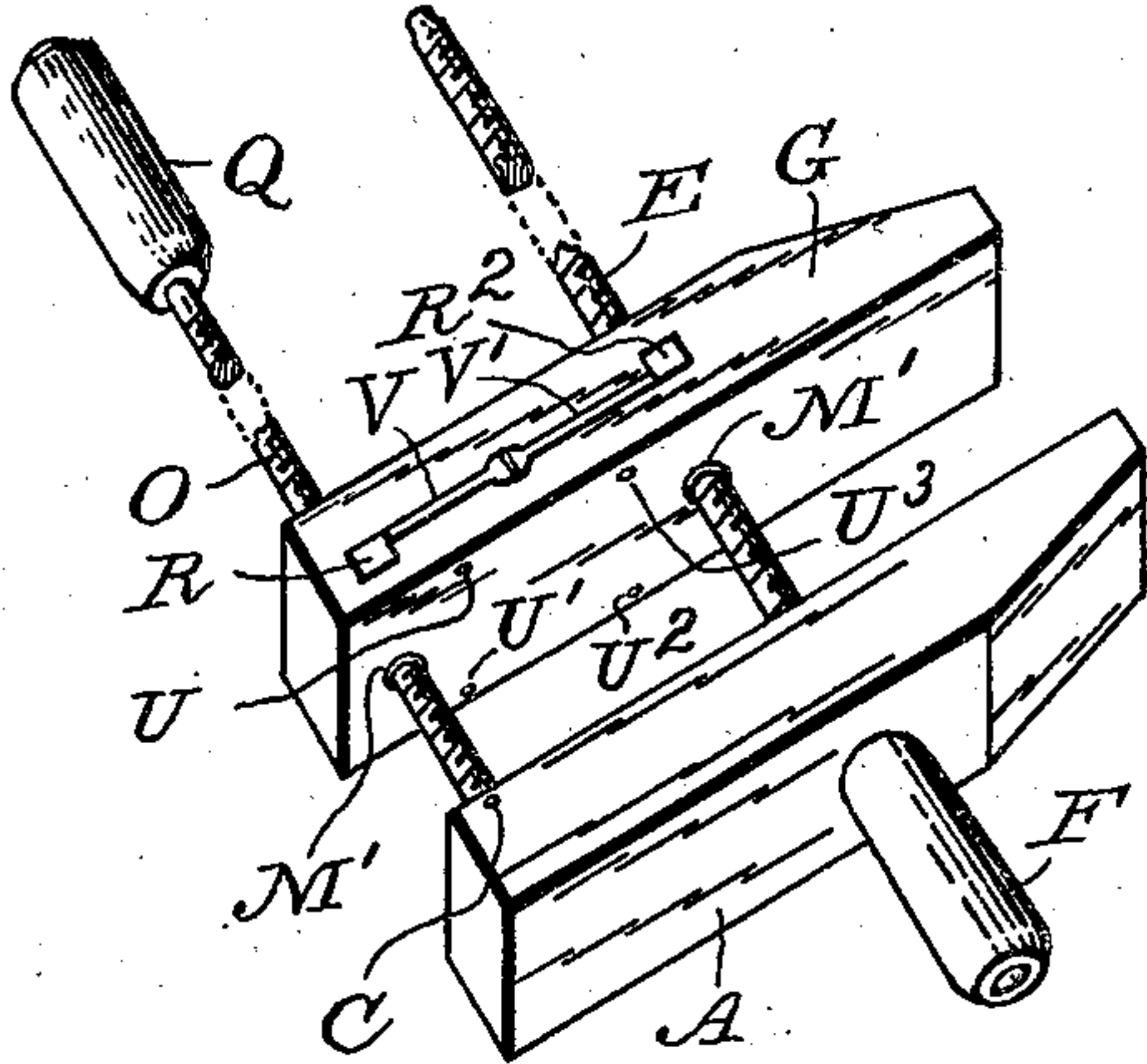


Fig. 2.

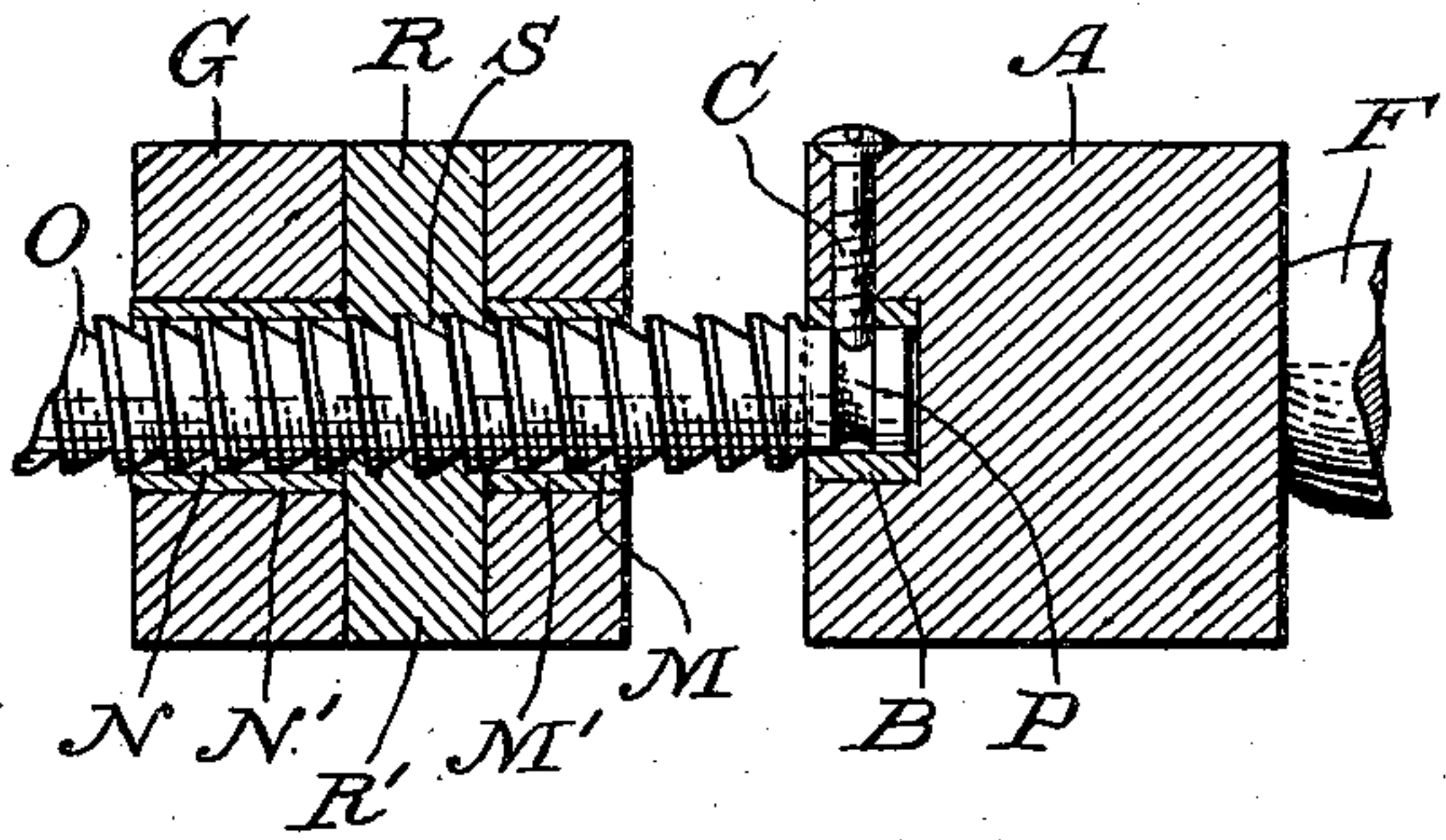


Fig. 5.

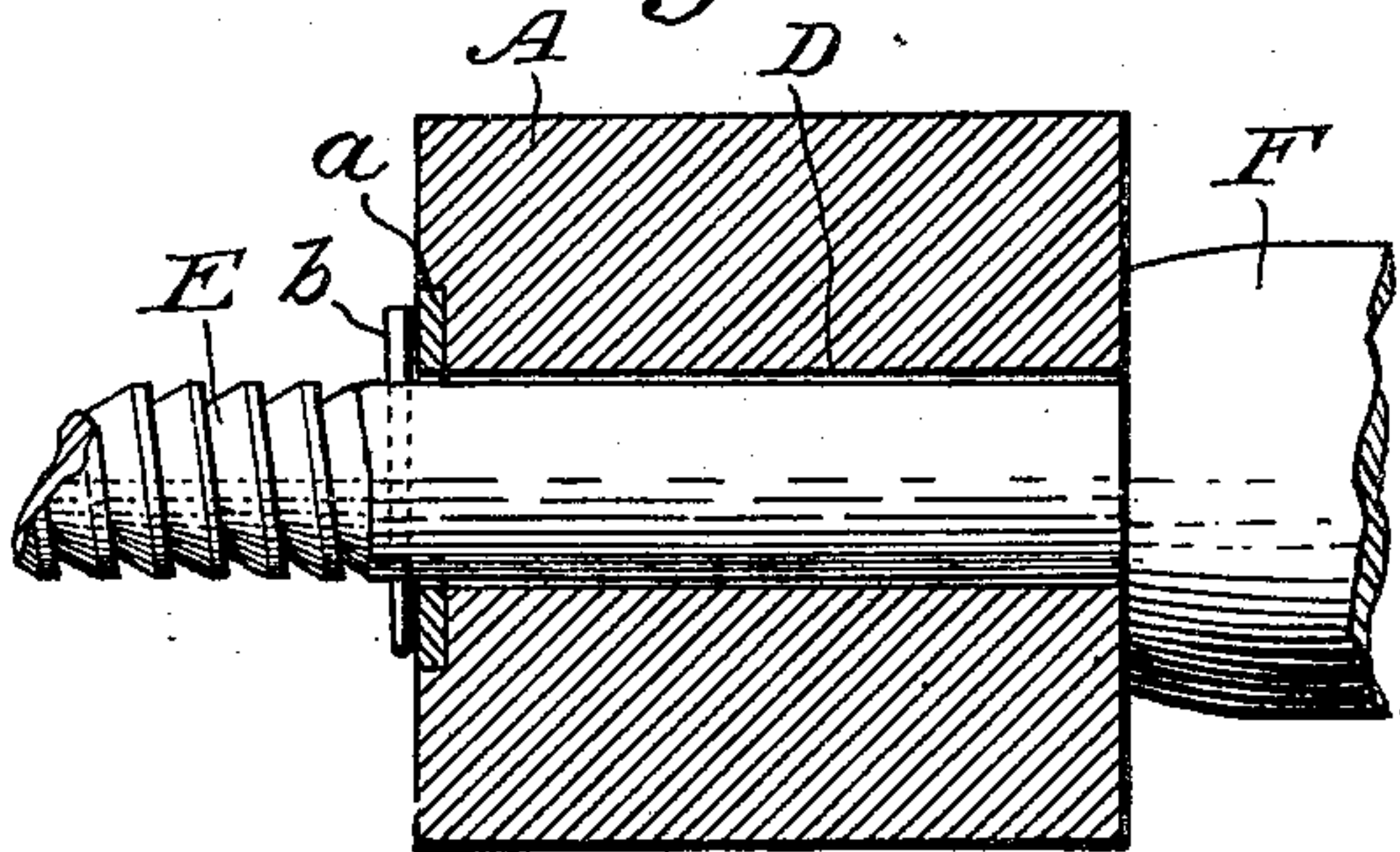


Fig. 3.

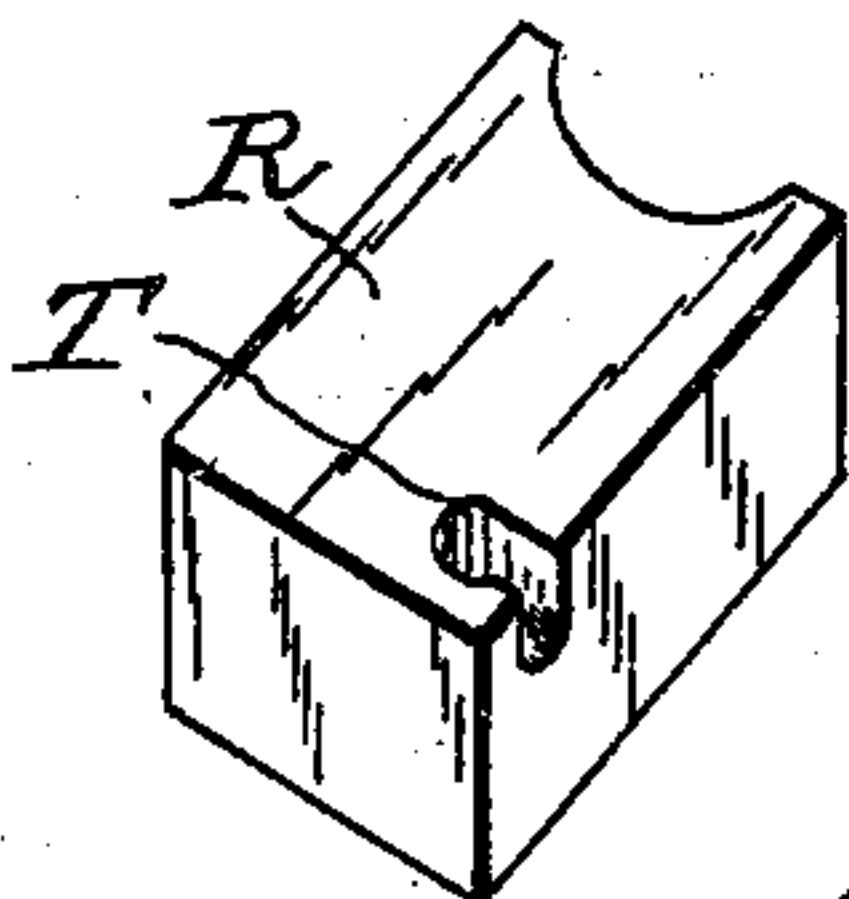


Fig. 4.

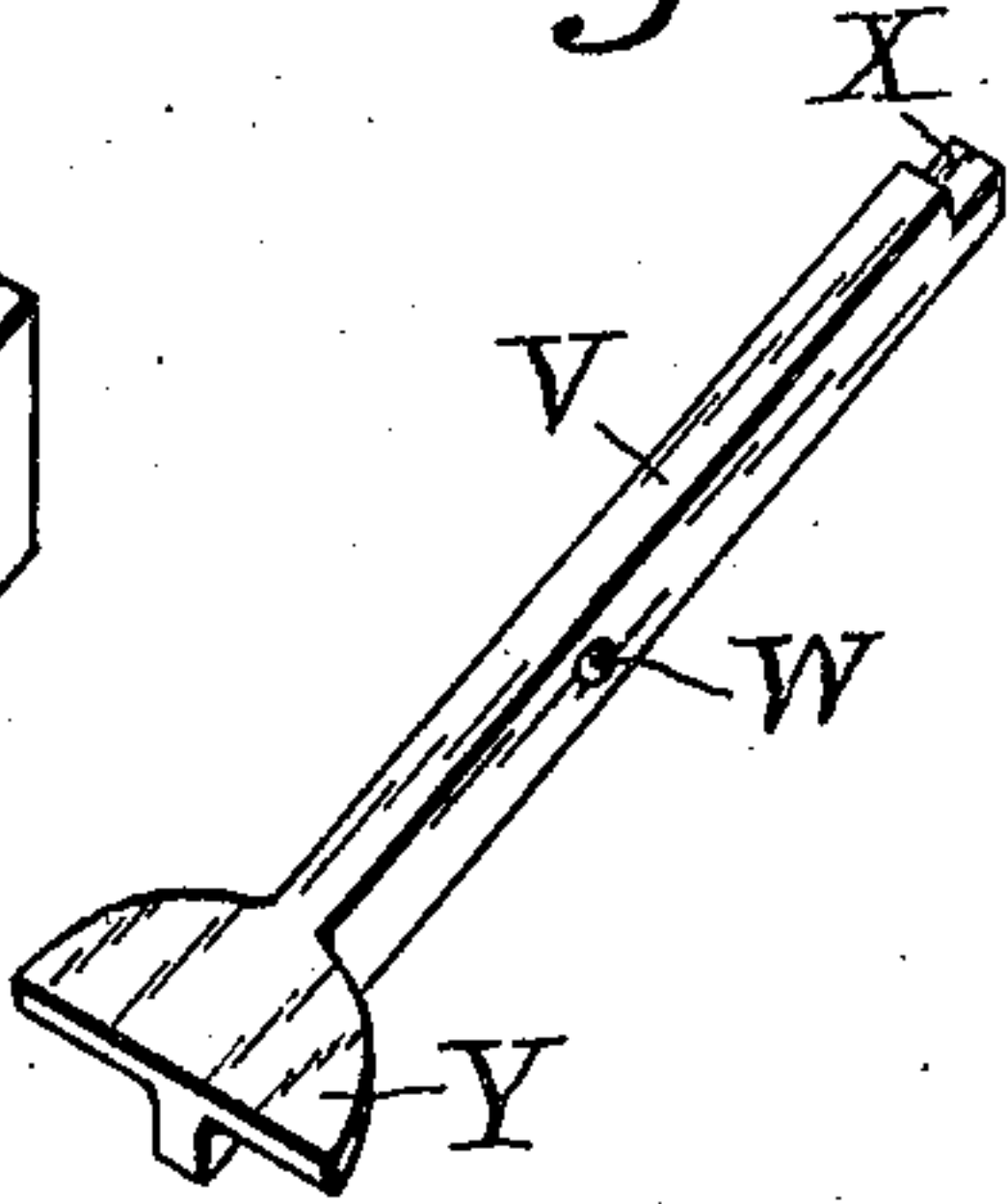
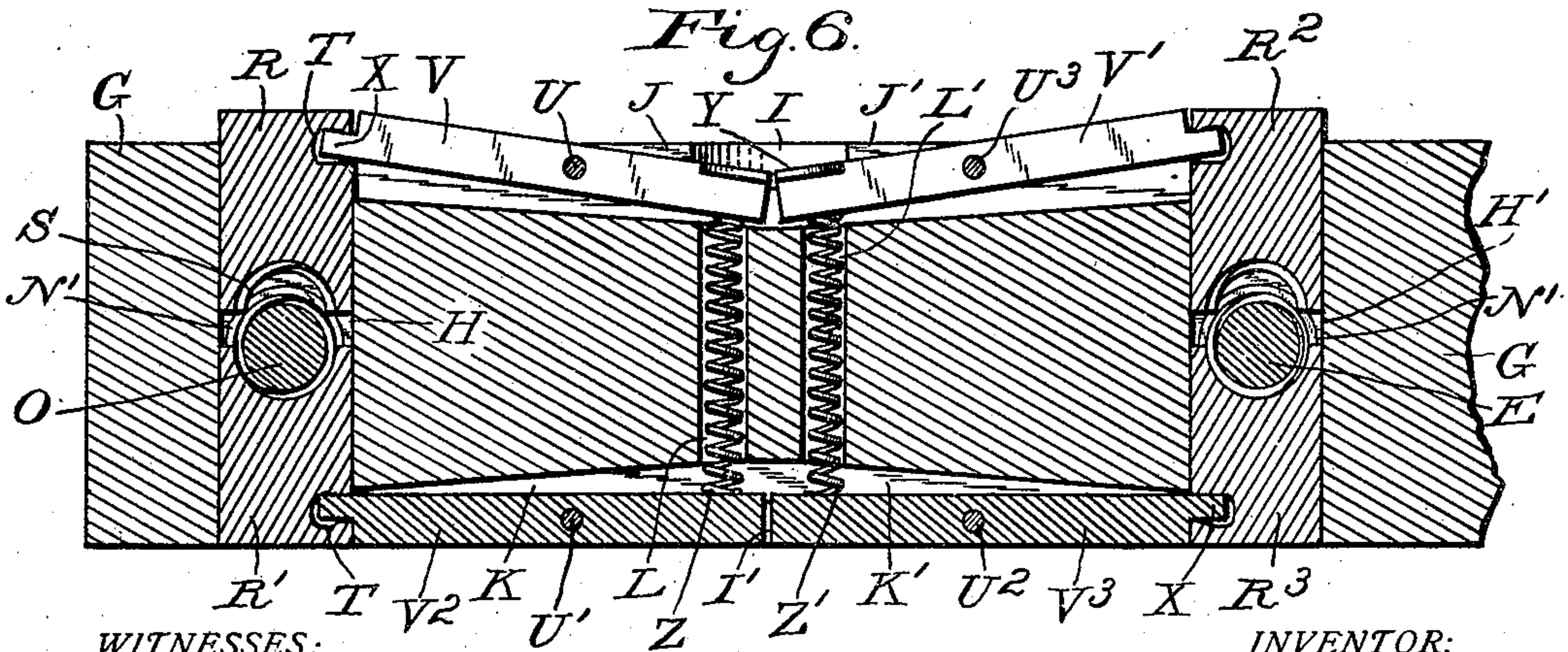


Fig. 6.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY F. HOLTMANN, OF INDIANAPOLIS, INDIANA.

## JOINER'S HAND-CLAMP.

No. 877,426.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed December 29, 1906. Serial No. 349,951.

*To all whom it may concern:*

Be it known that I, HENRY F. HOLTMANN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Joiners' Hand-Clamps; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to screw clamps commonly used by mechanics for clamping various kinds of work together, the invention having reference particularly to improvements in clamps of this character for enabling the jaws to be moved with respect to one another in a rapid manner independently of the screw motions for rapid adjustment of the clamp.

The object of the invention is to provide an improved clamp of the rapid-action type which may be adapted to be constructed of relatively few parts at the minimum cost and which will be durable and economical in use.

With the above-mentioned and minor objects in view, the invention consists in a joiner's hand clamp comprising a novel construction and arrangement of nuts for engagement with the hand screws of the clamp, and in novel forms of apparatus for releasing the nuts from the screws.

The invention consists also in the novel parts and combinations and arrangements thereof as hereinafter particularly described and claimed.

Referring to the drawings, Figure 1 is a perspective view of the improved clamp; Fig. 2, a fragmentary transverse sectional view through the jaws at the rear screw; Fig. 3, a perspective view of one of the half-nuts; Fig. 4, a perspective view of one of the levers for operating and controlling the half-nuts; Fig. 5, a fragmentary transverse sectional view of the shoulder jaw at the fore screw; and Fig. 6, a fragmentary longitudinal sectional view of the screw jaw constructed in accordance with the present invention.

Similar reference characters in the different figures of the drawings designate corresponding elements or features of construction.

The improved clamp comprises a shoulder jaw A, in the rear end of which is a socket

provided with a bushing B in the working face of the jaw, and a screw C is inserted in the jaw and through the wall of the bushing. The middle portion of the jaw has a hole D therein to receive the fore screw E that has a handle F shouldered against one side of the jaw, the screw being provided with a washer *a* at the inner side of the jaw and a stop pin *b* for holding the screw in the jaw.

The screw jaw G is movable relatively to the other jaw and is shaped in a similar manner thereto externally, and is provided with two guide ways H and H' extending transversely through the jaw, one near the middle portion and the other one near the rear end portion thereof. In two opposite sides of the jaw midway between the guide ways are recesses I and I', and grooves J and J' extend from one recess to the guide ways respectively, grooves K and K' extending from the other recess to the guide ways. A pair of guide ways L and L' extend through the jaw from one of the recesses to the other one. The jaw G has also guide openings M and N provided with bushings M' and N' communicating with the above-mentioned guide ways to receive the screws, the rear screw O extending into the bushing B and having a groove P in the end portion thereof to receive the inner end of the screw C for retaining the screw in connection with the shoulder jaw, the screw being provided with a handle Q. Preferably the screws E and O are composed of metal with the ratchet type of threads. Two half-nuts R and R' are arranged in the guide way H, and two half-nuts R<sup>2</sup> and R<sup>3</sup> are arranged in the guide way H', the inner ends of the half-nuts of each pair being normally in engagement and the outer ends being flush with the surfaces of the jaw, the inner ends of the half-nuts having screw threads S as may be understood to engage the threads of the screws E and O. Each half-nut has a recess T in a corner near the outer end thereof to receive its operating lever. The jaw G is provided also with four pivots U, U', U<sup>2</sup>, U<sup>3</sup> extending through the grooves above-mentioned, and four levers V, V', V<sup>2</sup>, V<sup>3</sup> each having a pivot hole W are mounted on the pivots in the grooves, the levers normally being flush with the outer surfaces of the jaw. Each lever has a finger X at one end thereof that extends into the recess T of a half-nut for its control, and the opposite end of each lever has a finger piece Y that is arranged in the recess I or I'. A



coiled spring Z extends through the guide way L with one end thereof in engagement with the lever V and the opposite end thereof in engagement with the lever V<sup>2</sup>, and a similar spring Z' extends through the guideway L' in engagement with the levers V' and V<sup>3</sup>.

In practical use the clamp may be used in the ordinary manner and when it is desired to shift the jaw G rapidly along the screws E and O, the operator may with a thumb and finger press upon the finger pieces Y of the operating levers and simultaneously operate the four levers and thereby withdraw the half-nuts from the operating screws, permitting the movement of the jaw, then by releasing the levers it is clear that the springs Z and Z' will force the half-nuts into engagement with screws. In Fig. 6 the levers and half-nuts at one side of the jaw are illustrated as being in the necessary positions to release the screws, the opposite half-nuts being in engagement with the screws.

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

1. A joiner's clamp comprising a shoulder jaw, a screw jaw having a guide opening through the rear end thereof to receive a screw and having also a guideway there-through at a right angle to the guide opening, two opposite sides of the jaw having each a recess therein and having also a groove therein extending from the recess to

the guideway, a rear screw in the guide opening to engage the shoulder jaw, a pair of half-nuts in the guideway normally engaging the screw at opposite sides thereof, a pair of levers pivoted in the grooves in engagement with the half-nuts and extending into the recesses, a spring between the free ends of the levers, and means connecting the fore ends of the jaws adjustably together.

2. A joiner's clamp comprising a shoulder jaw, a screw jaw having two guide openings therethrough to receive screws and having also two guideways therethrough each at a right angle to a guide opening, two opposite sides of the screw jaw having each a recess therein midway between the two guideways and having also two grooves therein extending from the recess to the guideways, screws in the openings and connected with the shoulder jaw, half-nuts in the guideways normally engaging the screws, levers pivoted in the grooves in engagement with the half-nuts and having finger-pieces on ends thereof movable in the recesses, and springs for holding the half-nuts to the screws.

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

HENRY F. HOLTMANN.

Witnesses:

E. T. SILVIUS,  
W. A. GREYER.