

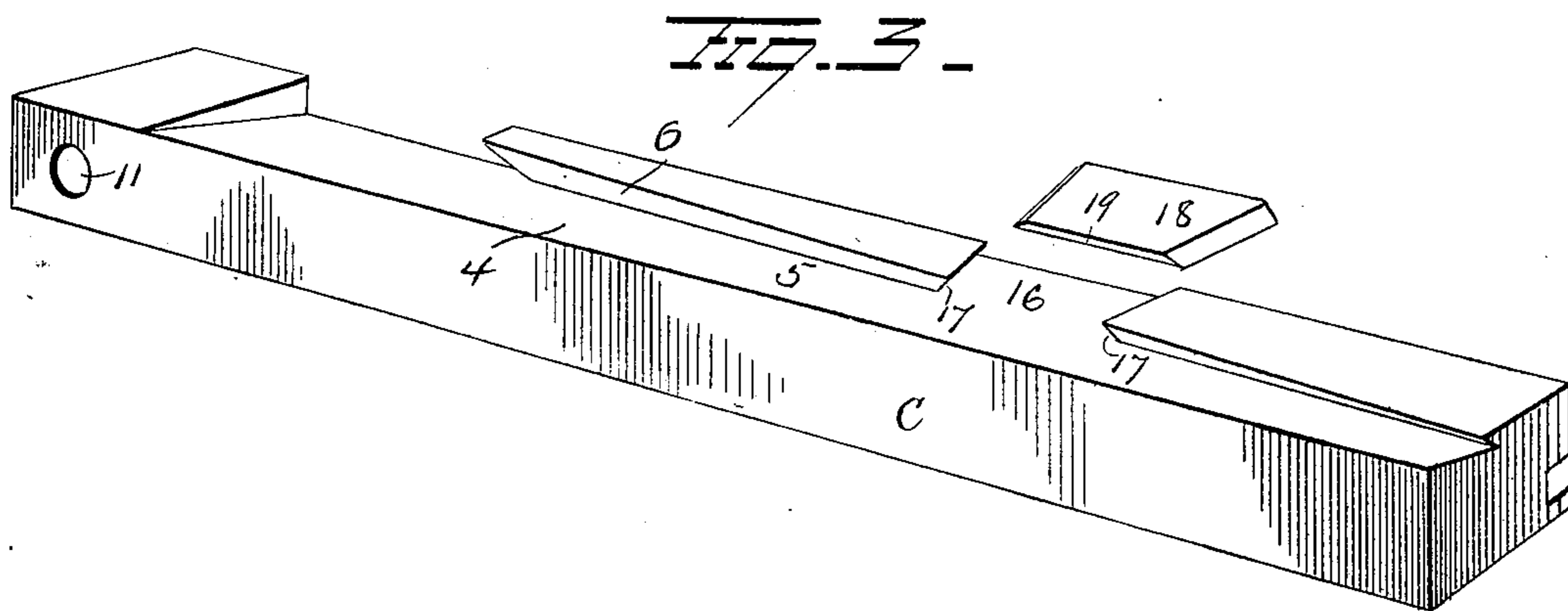
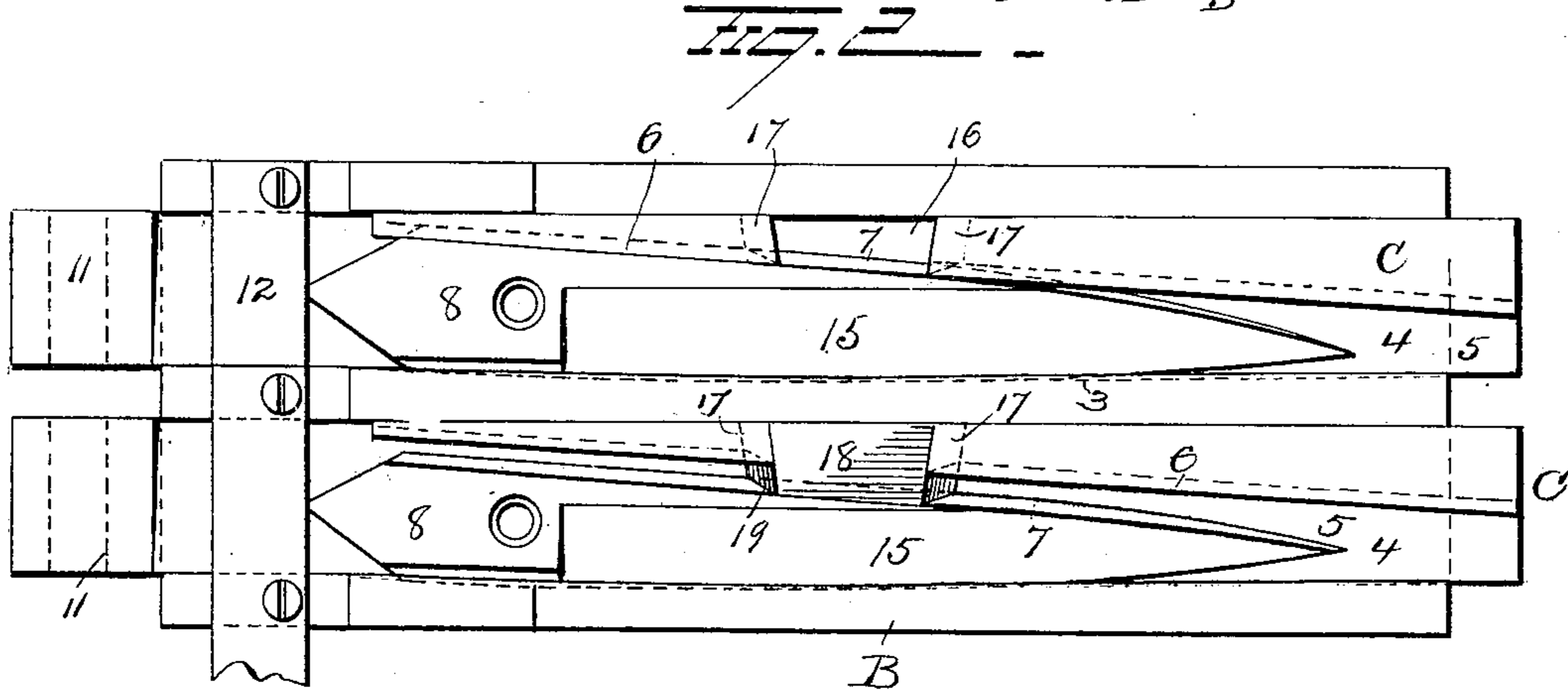
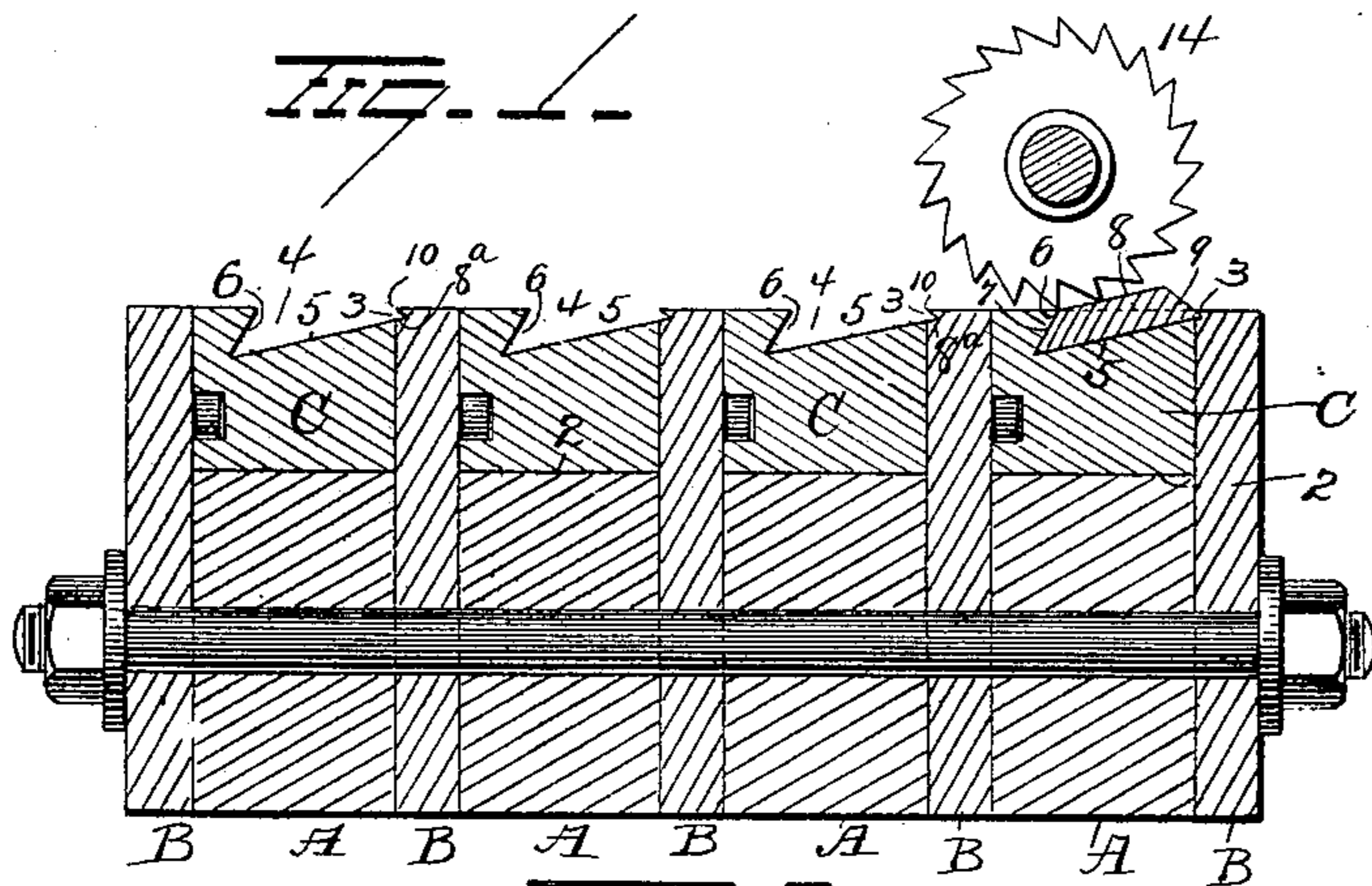
No. 631,163.

Patented Aug. 15, 1899.

W. C. HEIMERDINGER.
APPARATUS FOR MAKING SHEARS.

(Application filed May 26, 1899.)

No Model.)



WITNESSES

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APPARATUS FOR MAKING SHEARS.

SPECIFICATION forming part of Letters Patent No. 631,163, dated August 15, 1899.

Application filed May 26, 1899. Serial No. 718,367. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. HEIMERDINGER, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Apparatus for Making Shears; 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.

My invention relates to apparatus for making shears, and more particularly to means for holding the blank from which a shear-blade is made, the object of the invention being to provide means whereby a blank can be securely held during the operation of milling the broad beveled face.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional view of an apparatus embodying my invention. Fig. 2 is a plan view of two holders. Fig. 3 is a perspective view.

In the construction of shear-blades they are beveled at opposite edges, and one face is beveled approximately from the top of one beveled edge to the base of the opposite beveled edge. It has heretofore been the custom to thus shape the blade by forging; but I have found that by milling the blank to form the beveled edges and beveled face much time and labor are saved and the resultant blade is far superior in every quality to the forged blade.

The purpose of my present invention is to provide means for holding the blank (after the edges shall have been beveled) while being operated upon by a milling-machine for forming the broad beveled face.

A represents a series of steel blocks spaced apart for the reception of a series of steel plates B between them, said blocks and plates being rigidly secured together by means of stout bolts 1, having threaded ends for the reception of nuts. The plates project above the upper faces of the blades to form channels 2 for the reception of bars C, and the inner face of each plate B (except the plate at one end of the series) is made near its upper

edge with a groove 3, (V-shaped in cross-section,) and the bar C is made in its top face with a diagonal groove 4, the base 5 of which is made beveled transversely of the bar, and the single wall 6 of said groove is made beveled to conform to the beveled edge 7 of the blank 8. The inclination of the beveled base 5 of groove 4 represents the reverse of angle which it is desired to make the broad beveled face of the blade, and said beveled base 5 of the groove may be in line with the lower face 8^a of the groove 3 in the plate B, or approximately so. The beveled edge 9 of the blank rests in the groove 3, and the wall 10 of said groove represents the form and thickness of the cutting edge of the proposed blade. The edge of the blank and the finished blade being curved, the inner face of the plate B, in which the groove 3 is located, is preferably made slightly curved to conform as near as possible to the curvature of the edge of the blank or blade.

The bar C (which may be properly termed a "wedge-bar") is first drawn or slid back by means of a suitable tool made to engage a hole 11 in one end of said bar, so that the blank can be placed in position thereon. The butt-end of the blank will be made to abut against a stop or gage 12, and the wedge-bar C will then be driven forward, thus causing the blank to be disposed in an inclined position and to be securely clamped between the beveled wall 6 of the wedge-bar and the walls of the V-shaped groove 3 in the plate B. The blank thus securely held will be passed under a milling-cutter 14, by means of which the metal of the blank which projects above the plane of the wedge-bar and the upper edges of the plates C will be removed, as indicated by the dotted line in Fig. 1, thereby forming the broad beveled face 15 of the blade.

As shear-blades differ more or less in shape (some being made more tapering than others,) it is desirable to provide means whereby the wedge-bar can be made to accommodate and securely clamp any of the various shapes of blades. For this reason the wedge-bar is made with a transverse tapering groove or socket 16, having inclined walls 17, and in this groove or socket a block 18 is inserted, said block being made tapering longitudinally

to conform to the taper of the groove or socket and be limited in its movement when inserted and also having dovetail or beveled sides to engage the beveled walls of the groove or
 5 socket, and thus prevent possibility of upward displacement of said block, backward movement of the latter being prevented by abutment against the adjacent plate B. The forward end of the block 18 will be beveled,
 10 as at 19, to receive the rear beveled edge of the blank.

I have above described the details of a holder for one blade-blank; but it will be understood that a wedge-bar will be disposed in
 15 each channel and that a large number of holders may be assembled in a single structure and passed successively under a single milling-cutter.

My improvements are simple in construction, but are important in the manufacture of shear-blades by milling the steel blanks.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its
 25 scope, and hence I do not wish to limit myself to the precise details herein set forth.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

30 1. A clamp consisting of a channeled base having a groove in one inner wall, and a locking-bar having a seat for a blank said seat being beveled transversely of the bar, and a beveled wall or shoulder disposed at one edge of
 35 said seat and at an angle to the axis of said locking-bar.

2. A clamp consisting of a channeled base having an angular groove in one inner wall

at or near the upper edge thereof, a locking-bar movable longitudinally in the channel of
 40 said base, said locking-bar having a diagonal groove, beveled transversely to form a beveled seat for a blank and having a beveled wall or shoulder at one edge of said beveled seat.

45 3. A clamp consisting of a channeled base having a groove in one inner wall near the upper edge thereof, a locking-bar movable in said channeled base, said locking-bar having a groove communicating with the groove in
 50 the wall of the channel of the base, said groove having its base beveled transversely and having its wall disposed diagonally of the bar, said bar having a transverse, tapering, dovetail socket and a removable block taper-
 55 ing longitudinally and dovetail in cross-section to enter said transverse socket in the bar and project beyond the diagonal wall of the groove in said bar, the forward or inner end of said block being beveled.

60 4. The combination with a base having a series of channels therein, and wedge devices in each channel for clamping a blank each wedge device having a transversely-beveled seat for the blank so as to expose the upper
 65 surface thereof in an inclined position to a milling-cutter adapted to remove a protruding portion of said inclined blank.

In testimony whereof I have signed this specification in the presence of two subscrib-
 70 ing witnesses.

WILLIAM C. HEIMERDINGER.

Witnesses:

R. S. FERGUSON,
 C. S. DRURY.