

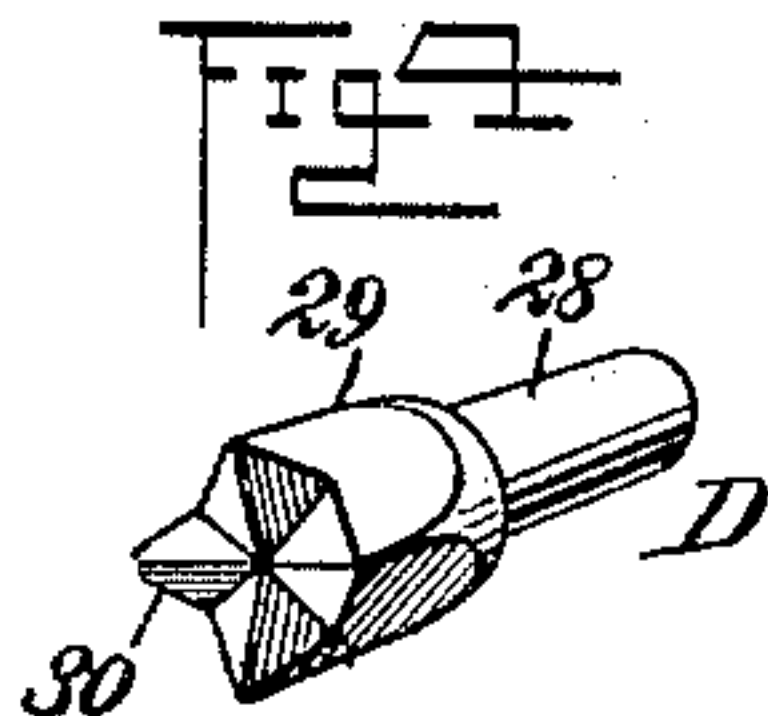
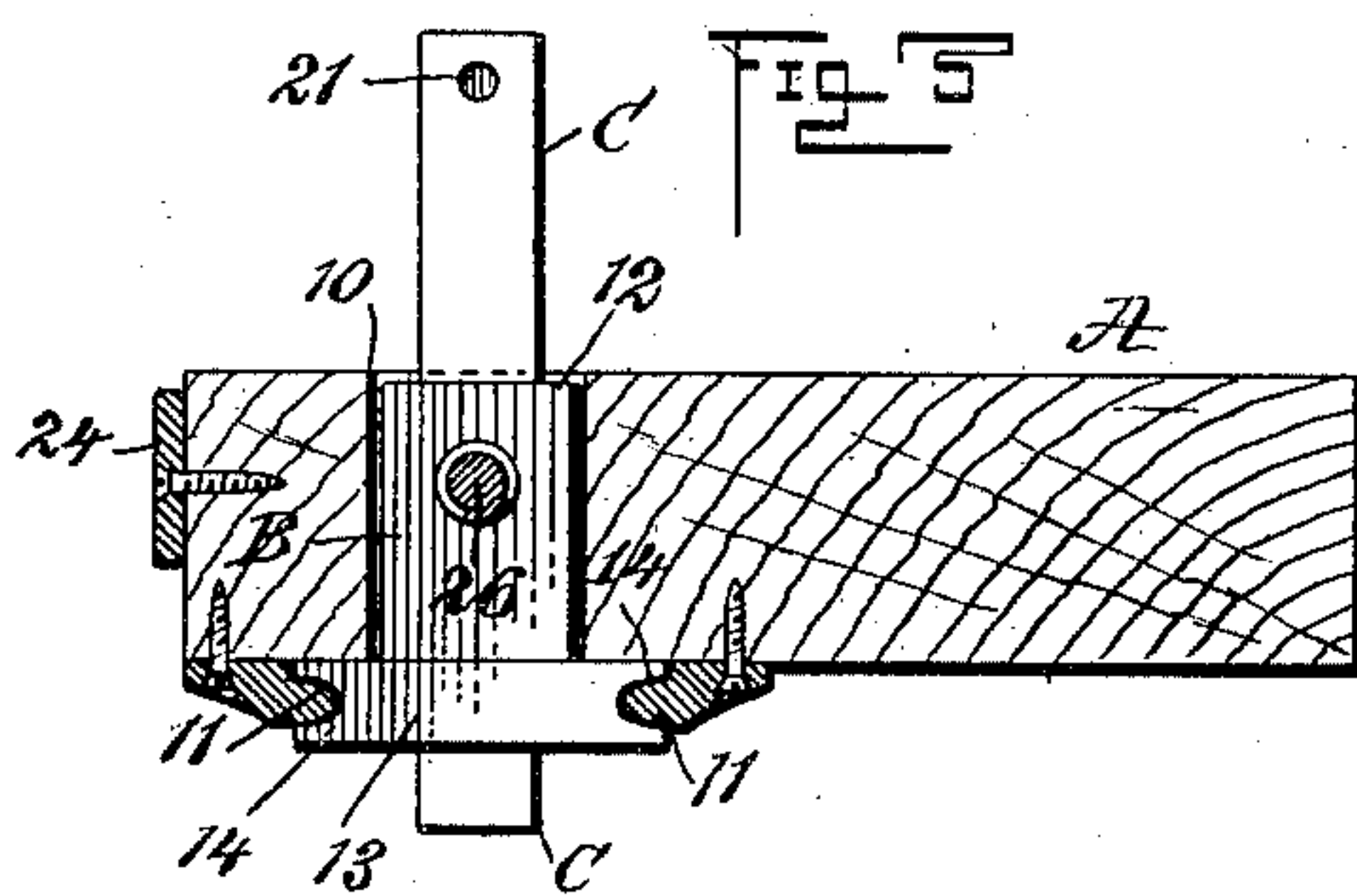
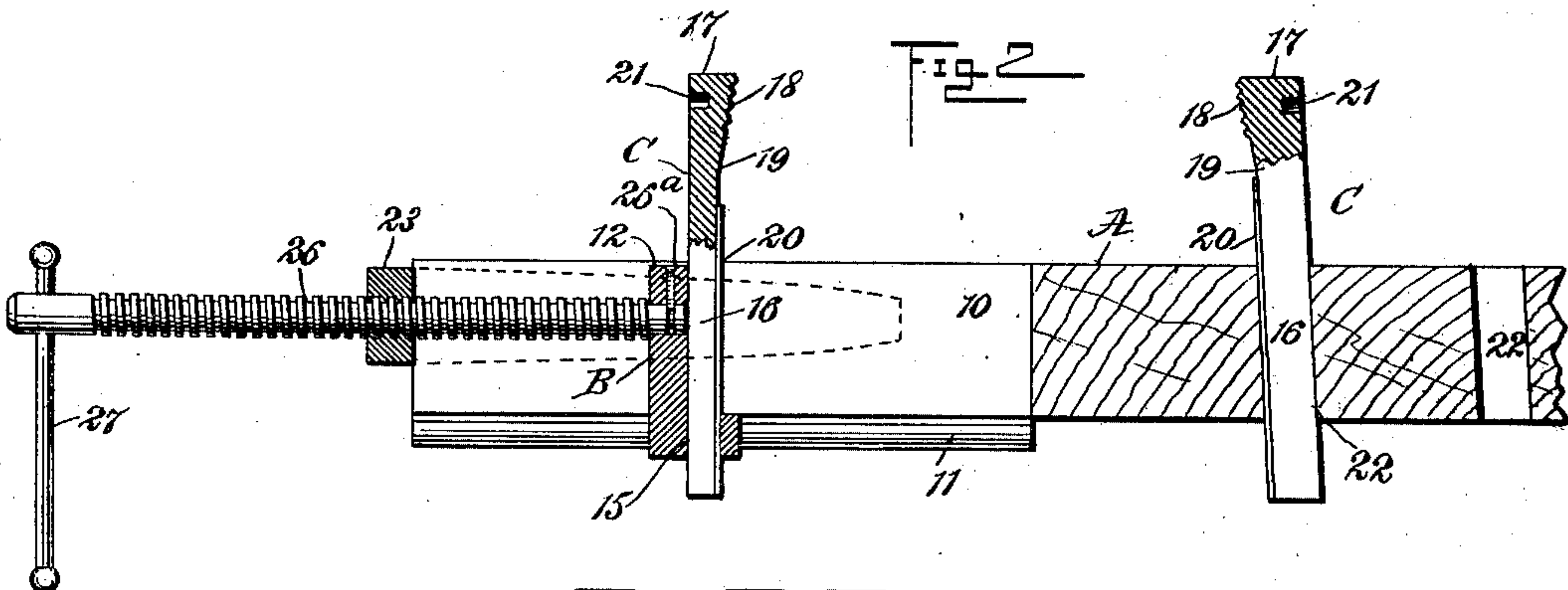
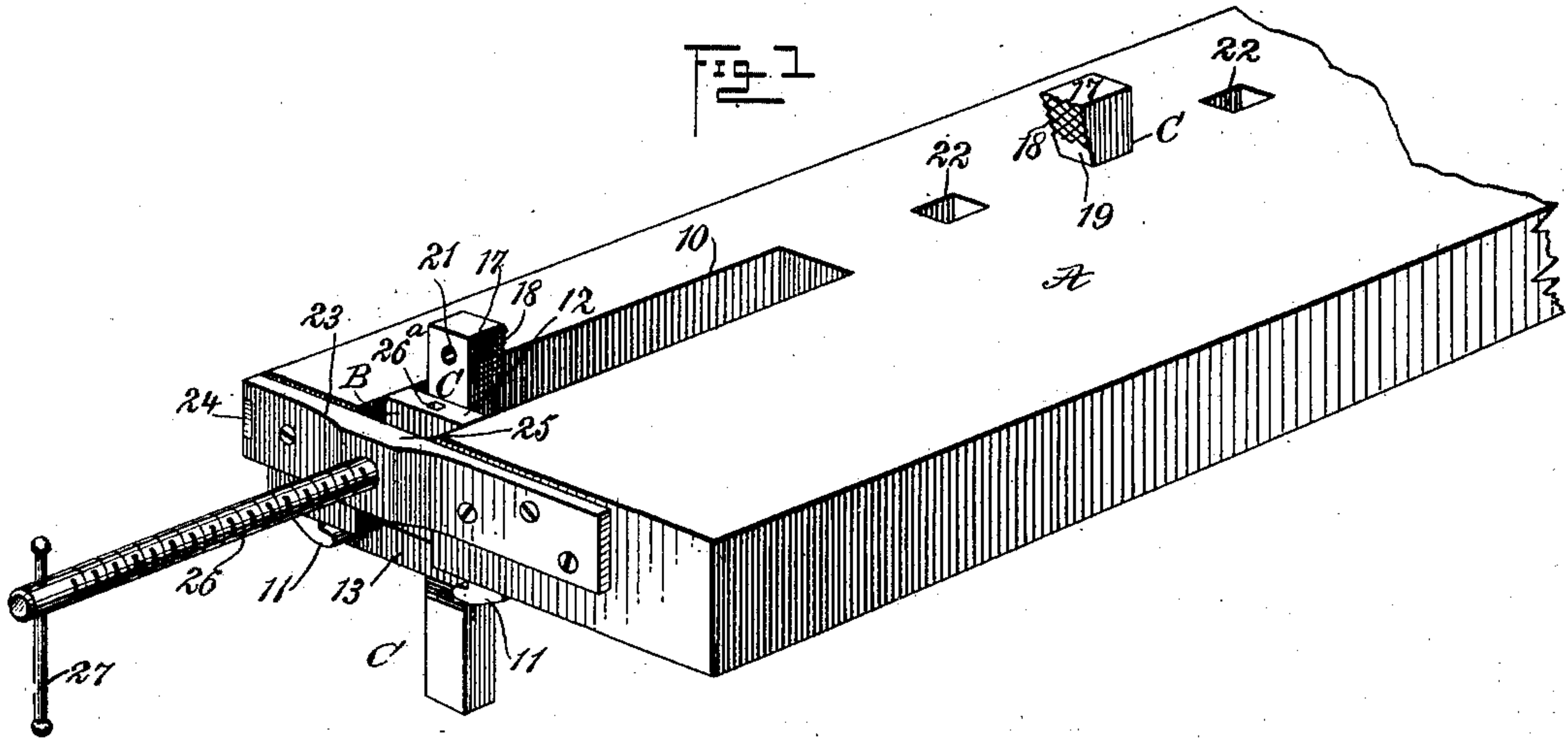
No. 703,312.

Patented June 24, 1902.

V. F. SIMOLA.  
BENCH CLAMP.

(Application filed Mar. 5, 1902.)

(No Model.)



WITNESSES:

*John C. Hines*  
*John C. Hines*

INVENTOR

*Victor F. Simola*

BY *M. W. Hines*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

VICTOR F. SIMOLA, OF BERGENFIELD, NEW JERSEY.

## BENCH-CLAMP.

SPECIFICATION forming part of Letters Patent No. 703,312, dated June 24, 1902.

Application filed March 5, 1902. Serial No. 96,776. (No model.)

*To all whom it may concern:*

Be it known that I, VICTOR F. SIMOLA, a citizen of the United States, and a resident of Bergenfield, in the county of Bergen and State of New Jersey, have invented a new and Improved Carpenter's-Bench Clamp, of which the following is a full, clear, and exact description.

My invention relates to clamps for carpenters' benches; and the purpose of the invention is to provide a simple, durable, and economic form of clamp attachable to any carpenter's bench and to so construct the clamp that curved or straight articles may be firmly gripped and held in position to be worked upon and so that articles may be held above the bench or turned in their supports, as required.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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 figures.

Figure 1 is a perspective view of one end of a carpenter's bench and an improved clamp applied thereto. Fig. 2 is a vertical longitudinal section through that portion of the bench illustrated in Fig. 1, showing the jaw elevated to receive a curved article. Fig. 3 is a transverse section through the bench and clamp, and Fig. 4 is a detail perspective view of the clutch-pin or centering-point adapted to turn in a jaw of the clamp.

In the form of the device shown in Figs. 1, 2, 3, and 4 the parts are made of metal, and application is made to an end and side of a bench A of any approved construction, which bench at one end near one side is provided with a longitudinal opening 10, extending from the top to the bottom of the bench, and upon the under face of the bench adjacent to each side of the opening 10 an angular track 11 is firmly secured. A head-block B is carried by the tracks, and a portion of the head-block has movement in the opening 10. This head-block is of angular construction, comprising a vertical member 12, (shown best in Fig. 3,) which is of such dimensions that it may move loosely in the opening 10, and a

bottom horizontal member 13, wider than the vertical member 12 and adapted to engage with the bottom face of the bench A. Said horizontal member 13 is provided with grooves 14 in its side edges to receive the inner side portions of the tracks 11, as is also best shown in Fig. 3. An opening 15 is produced in the horizontal member 13 of the head-block, preferably at its central portion, at the rear of the head-block, as is shown in Fig. 2. This opening 15 receives the lower portion or shank 16 of a jaw C, which jaw comprises the shank 16 mentioned and a head 17 of greater thickness than the shank, which head at one side of the jaw is provided with an inclined toothed surface 18, and the corresponding surface 19 of the shank is curved where it connects with the said toothed portion 18. Just below the curvature 19 in the shank 16 of the jaw the upper end of a spring 20 is secured, which spring extends down to the lower end of the shank, and the shank and spring are adapted to enter the aperture 15 in the head-block, being held therein against turning by reason of their shape, the opening 15 being of rectangular form and the shank of the jaw rectangular in cross-section. The construction of the jaw C is completed by forming a horizontal, preferably circular, opening 21 in the side of the head 17 opposite that provided with the teeth 18. The shank of the jaw may be raised and lowered in the head-block, so as to carry the head of the jaw some distance above the upper face of the bench or down far enough to bring the toothed portion of the jaw quite close to the upper face of the bench, as is shown in Fig. 1. The bench A at the rear of the opening 10 therein is provided with series of rectangular apertures 22, extending through from top to bottom. These apertures 22 are in longitudinal alignment with the opening 10 and are inclined, their upper ends being nearer the slotted end of the bench than their lower ends. These apertures 22 are adapted to receive the shank-section of a jaw a duplicate of that heretofore described and shown carried by the head-block B. When the two jaws are employed and said jaws are carried downward, so that their toothed surfaces 18, which face each other, are brought quite close to the upper face of the bench, the jaws are adapted



to hold and clamp straight articles; but when curved articles are to be held the heads of the jaws are carried up some distance above the upper face of the bench, as is shown in Fig. 2, exposing the entire length of their curved sections 19.

A frame is employed in connection with the head-block, which frame consists of an end bar 23, secured to the end of the bench having the opening 10 therein, and this end bar crosses said opening, as is illustrated in Fig. 1, and a side bar 24, secured longitudinally to the side portion of the bench and having preferably a tongue-and-groove connection with the end bar 23, which latter is provided with a central thickened section 25, and in said section a threaded aperture is produced. A screw 26 is passed through the threaded aperture in the end bar 23, and the inner end of said screw 26 is swiveled or held to turn in the vertical member 12 of the head-block B, preferably by passing a pin or screw 26<sup>a</sup> through the upper edge of the head-block into the groove in the screw, as is shown in Fig. 2, and said screw 26 is turned through the medium of a vice-handle 27 at its outer end. Thus it will be observed by turning the screw 26 the head-block is moved in the opening 10, carrying the jaw C, fitted in the head-block, to or from the corresponding jaw, which is adjustably placed in the bench.

In order that an article held by the clamp may be turned while it is held, clutch-pins D (shown particularly in Fig. 4) are used in connection with the jaws C, and when these clutch-pins are employed the sides of the jaws having the apertures 21 therein are made to face inward or face each other. Each clutch-pin consists of a shank 28, which is round in cross-section, and an enlarged head 29, provided with spurs 30 to engage with the end of the article to be held, said spurs being preferably in the stellated arrangement shown in the said Fig. 4.

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

1. A clamp for carpenters' benches, consisting of a frame adapted for attachment to a bench, a screw held to travel in the frame, a head-block having a suitable connection with the screw, guides for the head-block, a jaw removably carried by the head-block, a tension device carried by the jaw, acting to hold the jaw in the head-block, and a clutch-pin removably and rotatably mounted in the head portion of the said jaw, as and for the purpose specified.

2. A clamp for carpenters' benches, consisting of a frame adapted for attachment to an end of a bench, tracks adapted for attachment to the bottom of the bench, an angular head-block, the lower horizontal mem-

ber whereof is adapted to travel on the tracks and is provided with an aperture, a screw passed through a threaded aperture in the frame and having swivel connection with the vertical portion of the head-block, and a jaw comprising a head having an inclined toothed side surface, a shank, the surface of which shank just below the toothed surface of the head is curved, and a spring attached at one end to the shank, its other end being free, which shank and spring are adapted to enter the aperture in the head-block, substantially as set forth.

3. The combination with a carpenter's bench having a longitudinal opening in one end and a series of apertures in longitudinal alinement with the said opening, which apertures incline from the bottom upward in direction of the end of the bench having the opening therein, angular tracks secured to the bottom of the bench, parallel with and adjacent to the side walls of the opening at the end of the bench, and a bar attached to the end of the bench, crossing the opening therein, of an angular head-block the vertical member whereof is free to slide in said opening in the bench, the horizontal member being provided with a rectangular aperture, a screw passed through the threaded aperture in said end bar, being connected with the vertical member of the head-block and free to turn therein, and a jaw consisting of a straight shank having an attached spring, the spring and shank being adapted to enter the aperture in the horizontal member of the head-block, and a head-section continuous with the shank but of greater transverse width than the shank, which head-section is provided with a horizontal aperture in one face and having an inclined toothed surface at its opposite face, the shank being provided at the toothed side of the jaw with a curved surface just below the teeth of the jaw, and a clutch-pin consisting of a shank adapted to enter the aperture in the jaw and turn therein, and a toothed head integral with the shank, as and for the purpose set forth.

4. In bench-clamps, the combination with a jaw, consisting of a shank and a head, the head having teeth at one side and an aperture at the opposite side, of a clutch-pin consisting of a shank adapted to turn loosely in the aperture in the jaw, and a head having points formed thereon, adapted to enter an article to be held by the jaw, for the purpose set forth.

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

VICTOR F. SIMOLA.

Witnesses:

J. FRED. ACKER,  
JNO. M. RITTER.