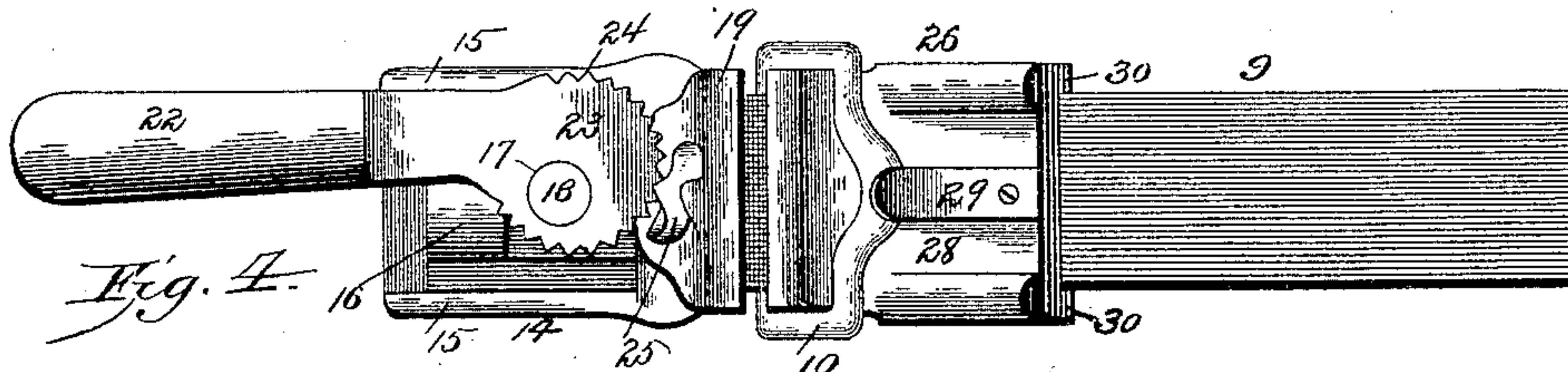
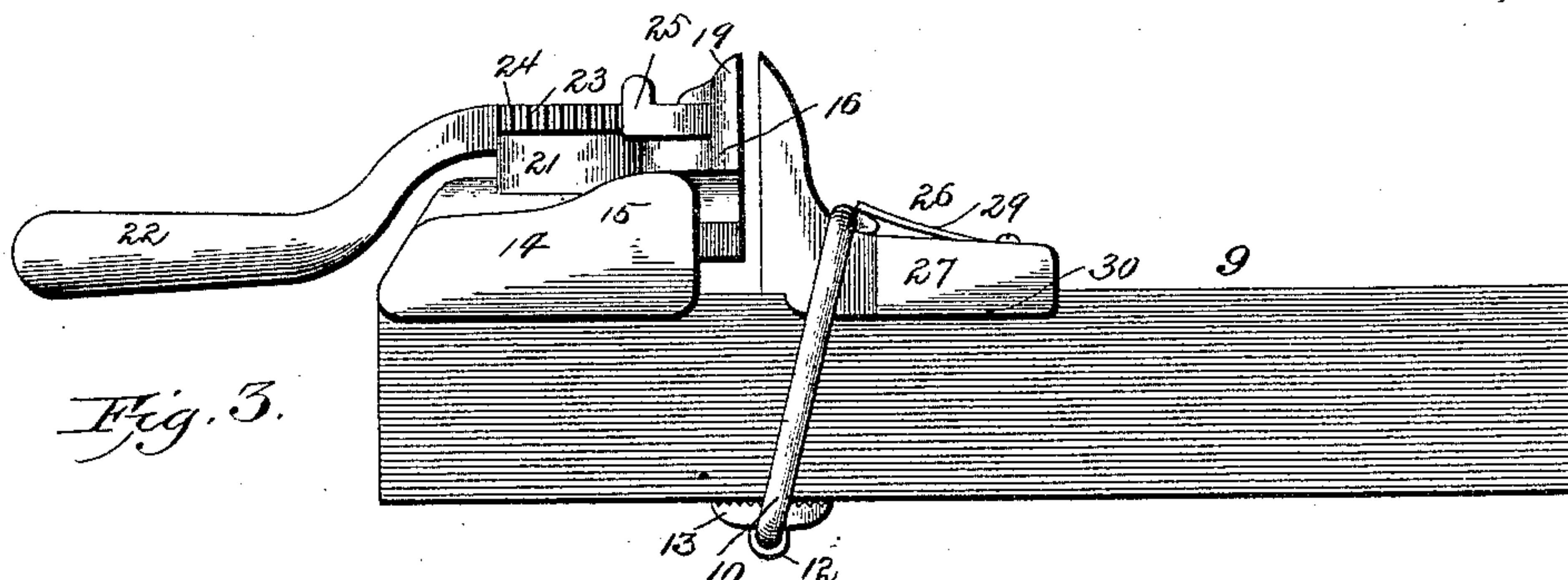
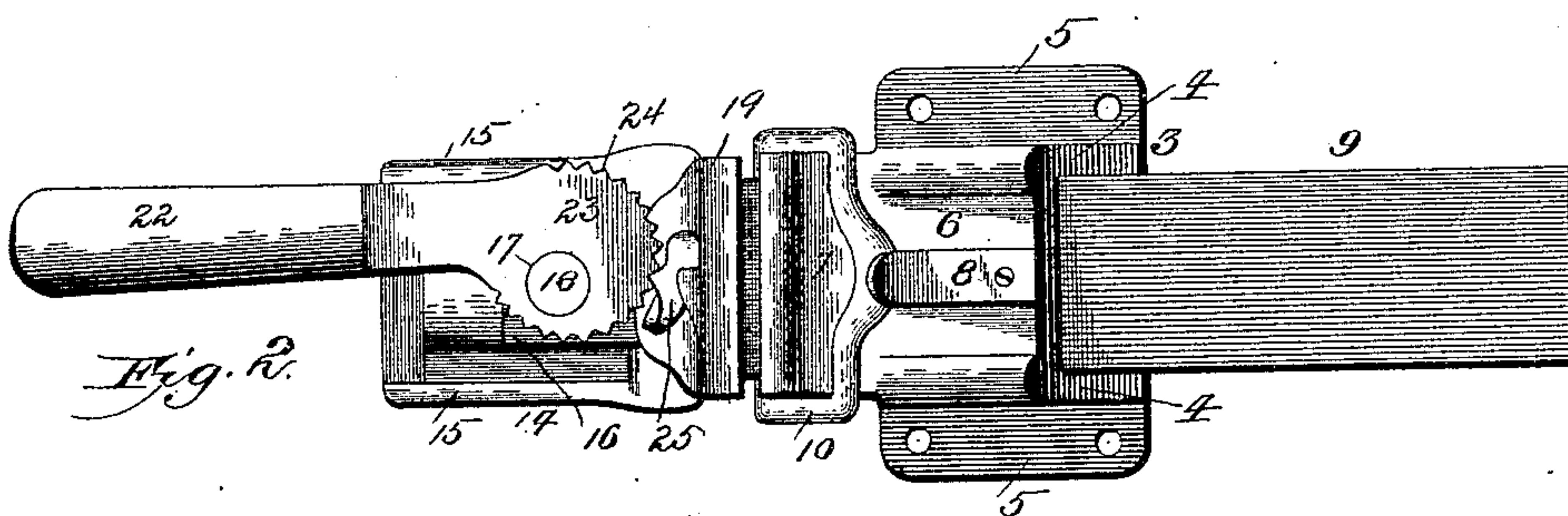
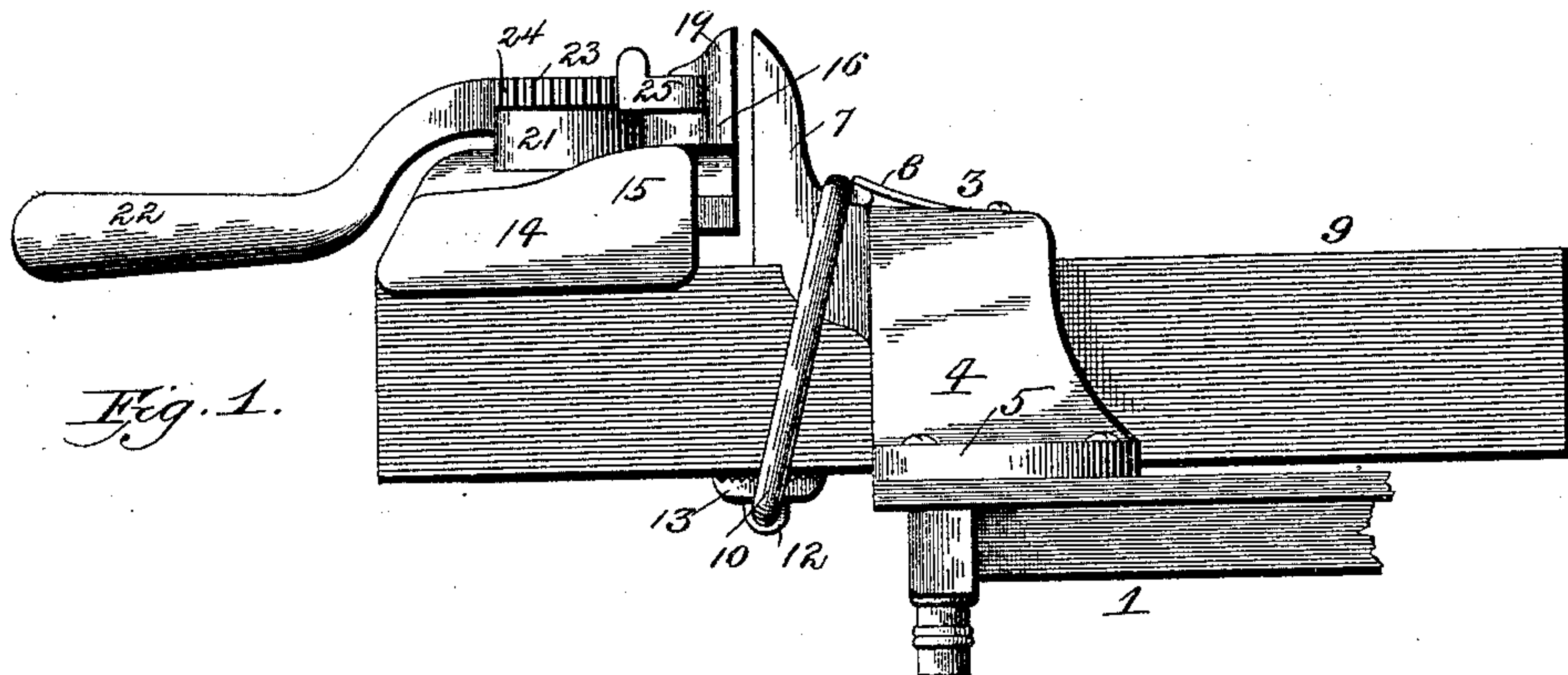


(No Model.)

C. H. GATCHELL.
VISE OR CLAMP.

No. 452,639.

Patented May 19, 1891.



WITNESSES:

F. L. Curand.
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UNITED STATES PATENT OFFICE.

CHARLES H. GATCHELL, OF FREDERICTON, CANADA, ASSIGNOR OF ONE-HALF TO ALBERT JAMES GREGORY, OF SAME PLACE.

VICE OR CLAMP.

SPECIFICATION forming part of Letters Patent No. 452,639, dated May 19, 1891.

Application filed January 27, 1891. Serial No. 379,273. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. GATCHELL, a citizen of the United States, and a resident of Fredericton, in the Province of New Brunswick, Dominion of Canada, have invented certain new and useful Improvements in Vises or Clamps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in vises or clamps, principally designed for woodworkers' use, for clamping and holding pieces of wood or other articles to be operated upon.

The object of the invention is to provide simple and economical means for the above purpose, whereby the device may be used, in connection with an ordinary carpenter's bench, as a bench-vise or as a portable or hand clamp, as may be desired.

The invention consists in the novel features of construction and new combination of parts hereinafter fully described and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of the device when employed as a bench-vise. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation of the device when employed as a hand-clamp. Fig. 4 is a plan view of the same.

In the said drawings, the reference-numeral 1 designates a portion of an ordinary carpenter's bench, to which is secured, by means of screws or otherwise, a jaw 3, which I term the "bench-jaw." This jaw consists of the vertical walls 4, having outwardly-projecting flanges 5, with apertures therein for the securing-screws, a transverse portion 6, and an upwardly-projecting portion 7, the latter forming the jaw proper, against which the article to be held abuts. The transverse portion is provided with a flat spring 8. When the jaw is secured to the bench, there is a square or rectangular opening formed, in which is inserted the adjustable and removable beam 9.

The numeral 10 designates a square or rectangular link or stirrup, which embraces the beam and also passes around the jaw 3 at the

junction of the projecting portion 7 with the transverse portion 6. There is secured to the lower transverse portions of the stirrup, by means of loops or eyes 12, a corrugated plate 13, which rests against the lower side of the beam. The free end of spring 8 rests upon an offset 8^a on the upper transverse portions of the stirrup and presses it against the jaw 3. At the opposite end of the beam is secured a fixed block 14, having upwardly-projecting flanges 15 at each side, which form ways for the sliding jaw 16, having a central slot 17, through which passes a pin 18, securely fixed to the block, and the upwardly-projecting portions 19 and the lug 20. The portion 19 is also provided with a lug 20.

Pivoted on the pin 18 is an eccentric 21, provided with an operating-handle 22, having an eccentric-head 23, which is securely fixed to the eccentric 21. This head, upon its periphery, is provided with a series of ratchet-teeth 24, with which is adapted to engage a pawl 25, pivoted to the lug 20, so as to hold the sliding jaw in place when forced toward the bench-jaw by means of the eccentric.

The numeral 26 designates the supplemental, or what I term the "clamp," jaw, to be employed when this device is used as a hand clamp. This jaw consists of a vertical portion 27, a horizontal portion 28, having a spring 29, and with a downwardly-depending flange 30 on each side.

The operation is as follows: The jaw 3 is secured to the bench by means of screws or otherwise, and the stirrup is placed over it, as shown, with the crank-like offset under the free end of spring pressing back the stirrup to a perpendicular position, or as far as it will go, which will allow the beam to be readily inserted in the space between the jaw and bench. By now releasing the link or stirrup the spring will cause that part under the beam to press the corrugated plate closely against the lower side of the beam, and thus securely hold the same in place and prevent it from slipping. To adjust or remove the beam, the link or stirrup is pressed back, (a sharp blow being given to the outer end of the beam, if it sticks,) when the beam can be suitably adjusted or entirely removed, as desired. When the beam is properly adjusted, the article to

be clamped is inserted between the bench-jaw and sliding jaw, and the eccentric on the pin on the fixed block is actuated by means of its handle, which will cause said jaw to be forced forward and the article securely clamped and held, the pawl engaging with the ratchet-teeth on the lever-head, preventing any backward movement of the eccentric and jaw.

When it is desired to use the device as a hand-clamp, the beam is detached from the bench-vise and the supplemental jaw is employed, the same being connected to the beam by means of the stirrup in a similar manner to that before described.

Having thus described my invention, what I claim is—

1. The combination, with a bench-jaw, of an adjustable and removable beam provided with a sliding jaw, the stirrup embracing the bench-jaw and the beam, and the corrugated plate interposed between the beam and the lower part of the stirrup, substantially as described.

2. The combination, with the bench-jaw, of the adjustable and removable beam provided with a sliding jaw, the stirrup embracing the bench-jaw and the beam and having an off-

set at its upper part, the spring secured to the bench-jaw, bearing upon said offset, and the corrugated plate interposed between the beam and the lower part of the stirrup, substantially as described.

3. The combination, with the bench-jaw and the stirrup, of the adjustable and removable beam, the fixed block secured to said beam, the sliding jaw having lugs at each end working in ways in said block and having a central slot, the pin fixed to said block, the eccentric pivoted on said pin, the handle and head having ratchet-teeth thereon, and the pawl pivoted to one of said lugs, substantially as described.

4. The combination, with the beam provided with a sliding jaw, of the interchangeable bench and clamp jaws and the stirrups for connecting them with said beam, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

CHARLES H. GATCHELL.

Witnesses:

J. C. DOHERTY,

A. W. MACHUM.