

No. 748,048.

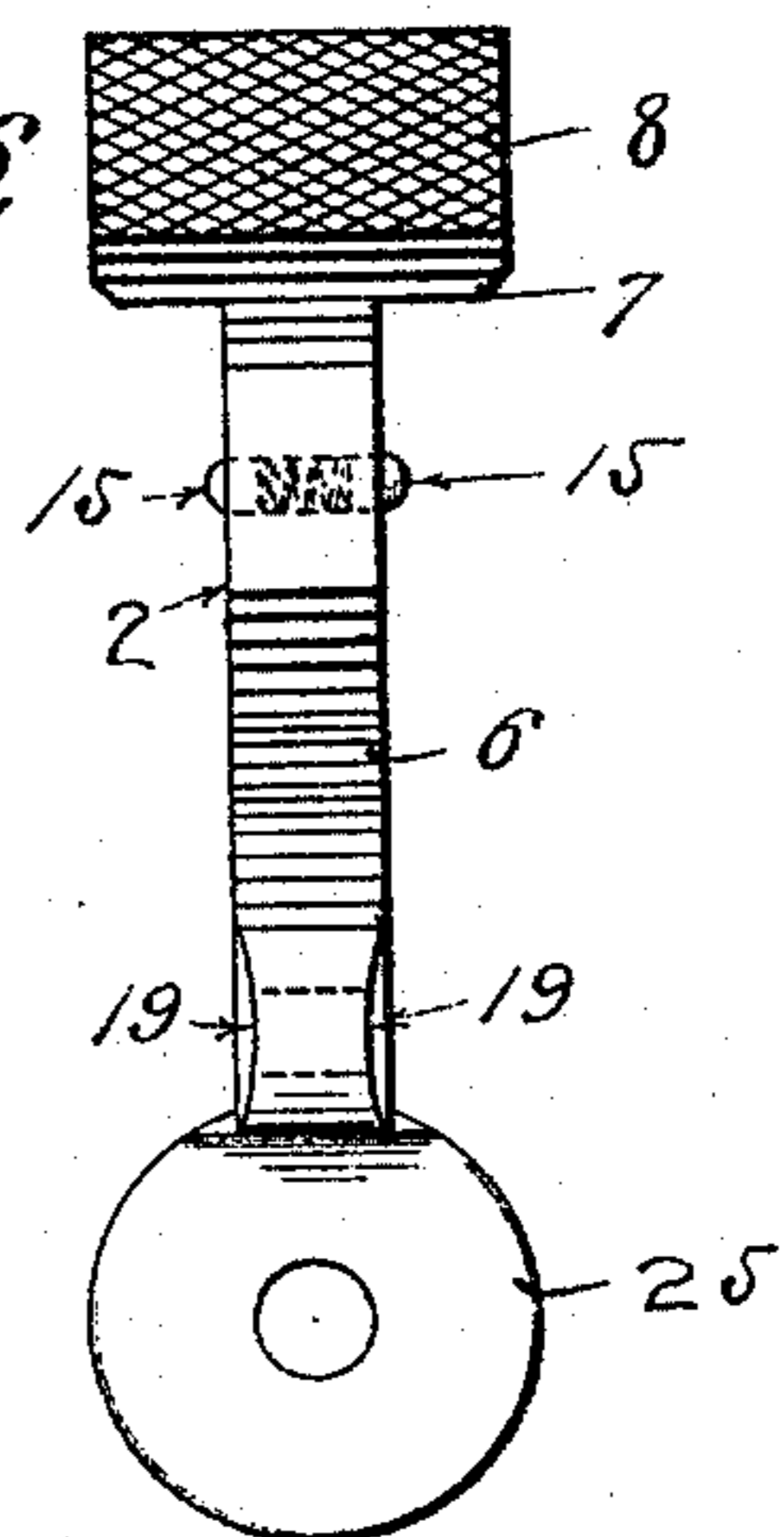
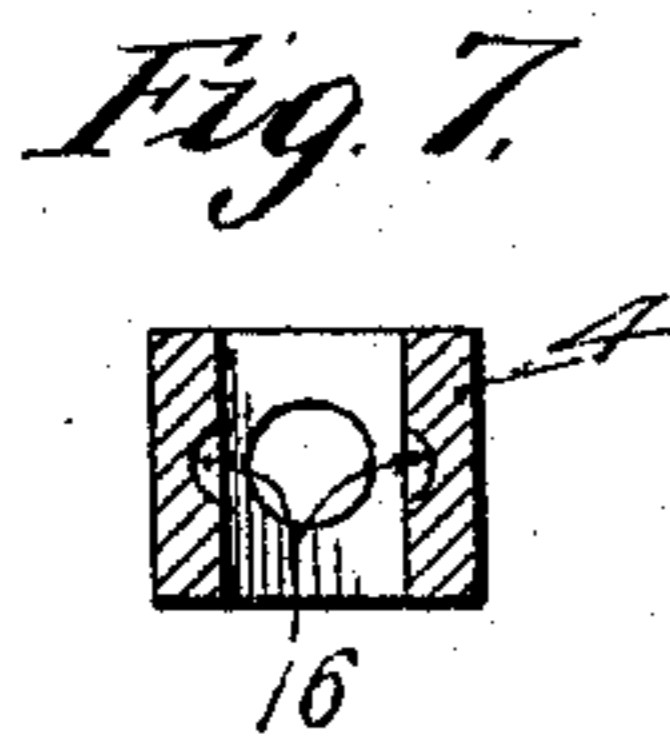
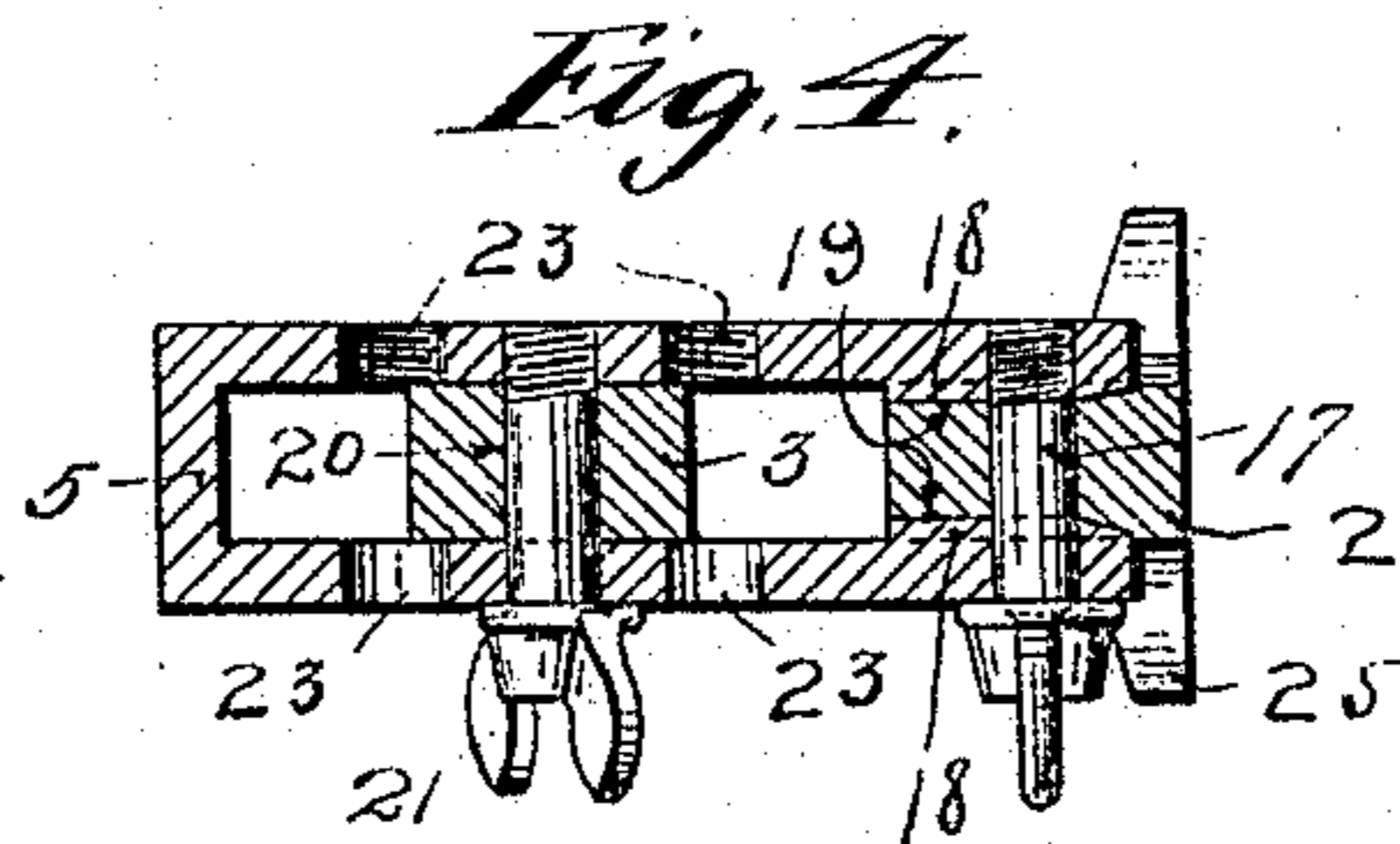
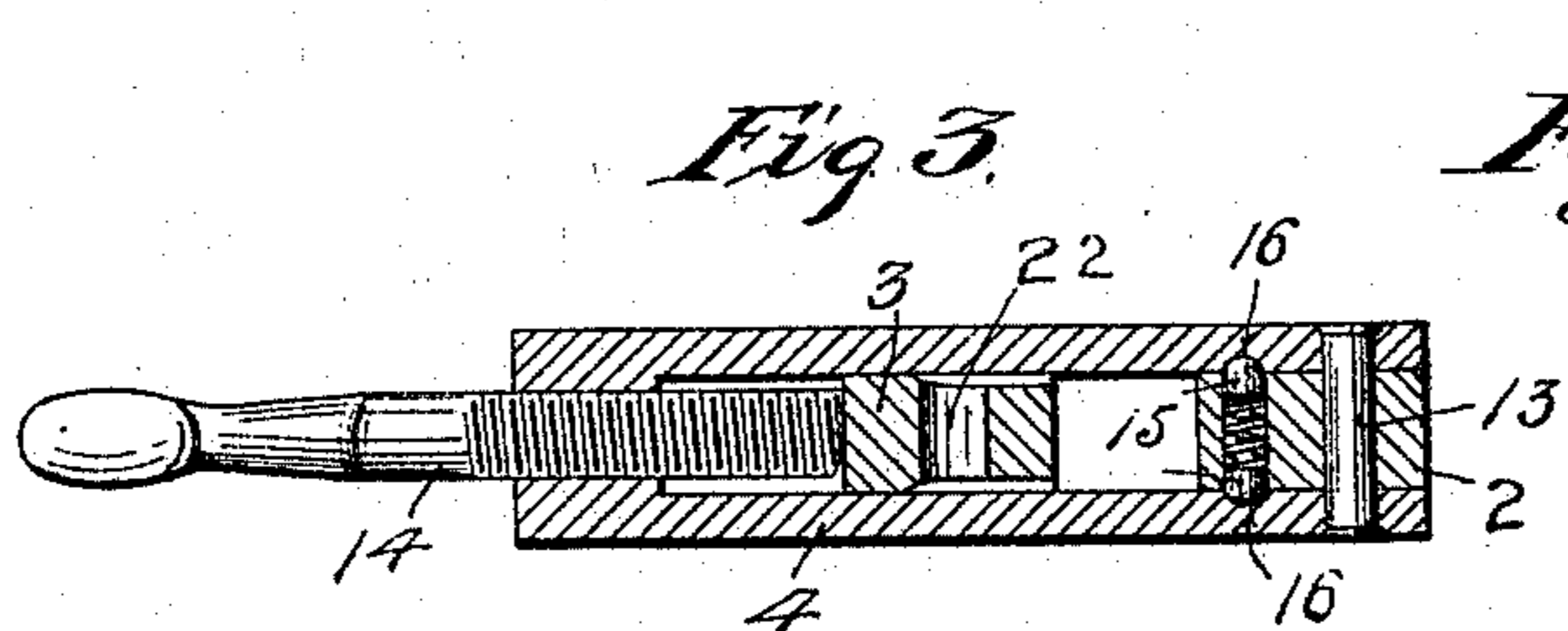
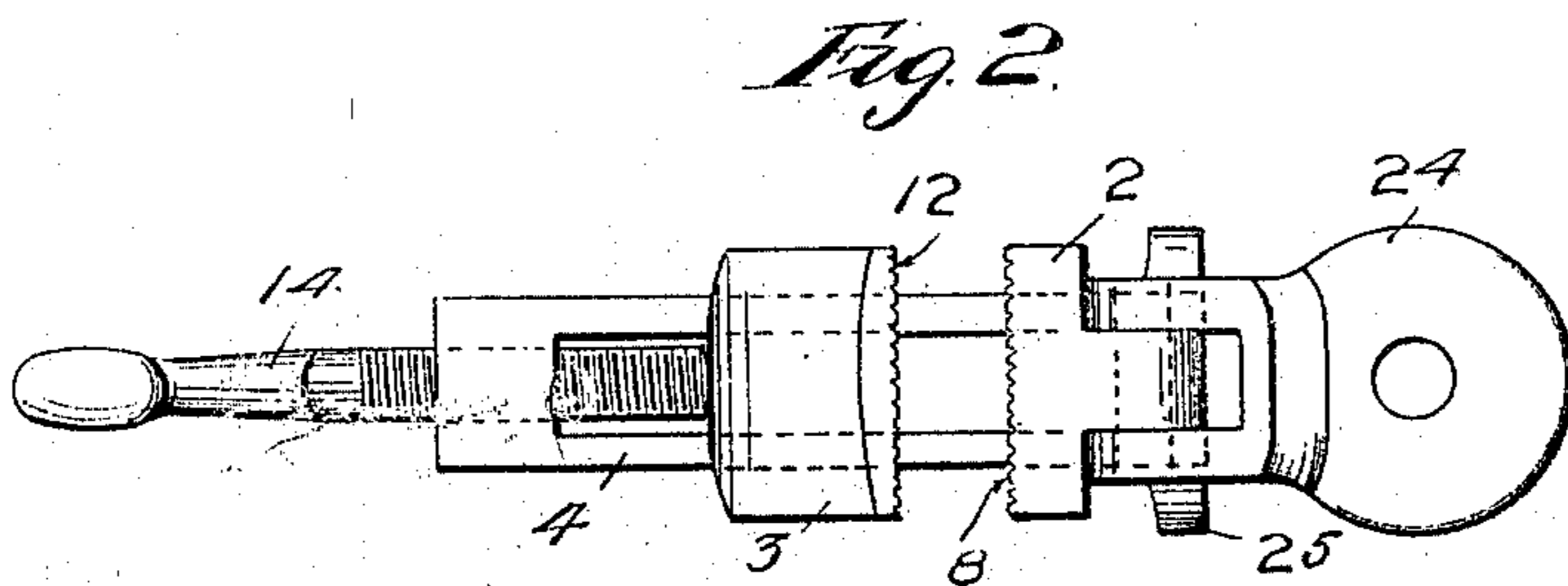
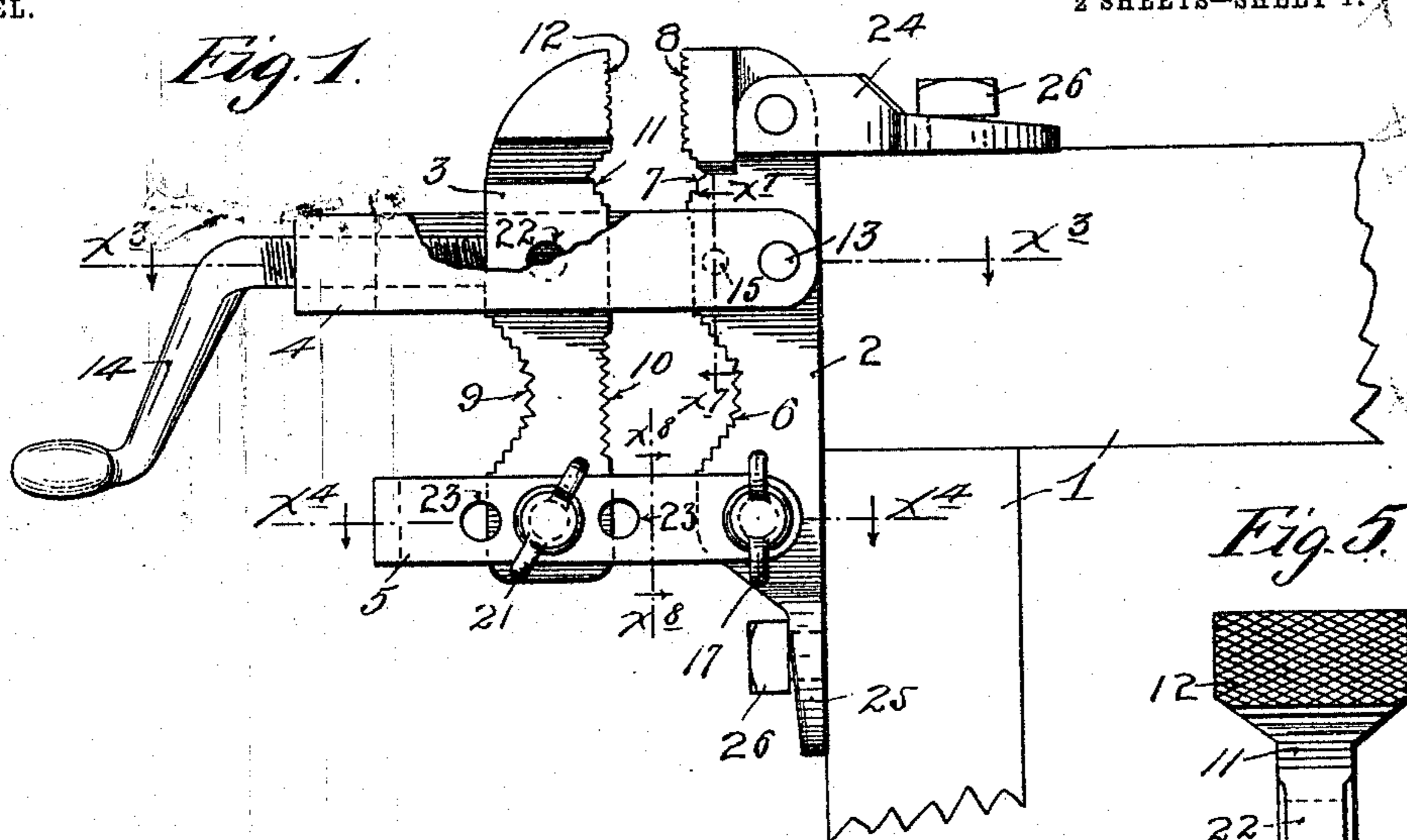
PATENTED DEC. 29, 1903.

M. D. COLT.
FOLDING VISE.

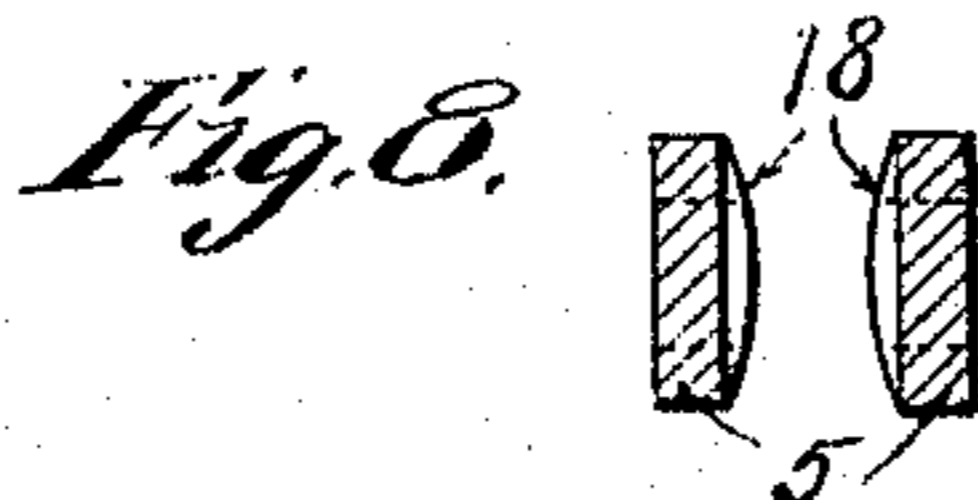
APPLICATION FILED JULY 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
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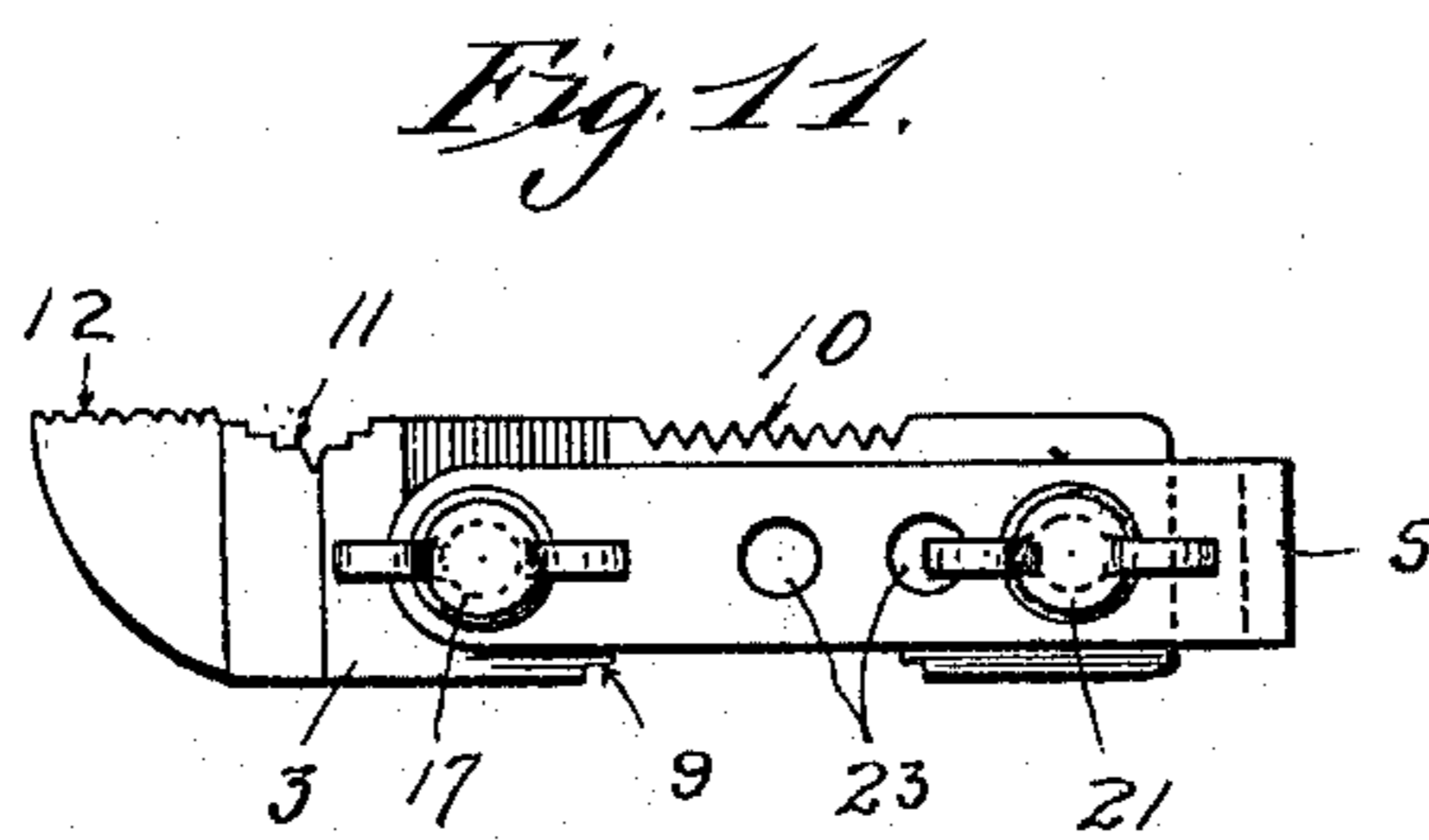
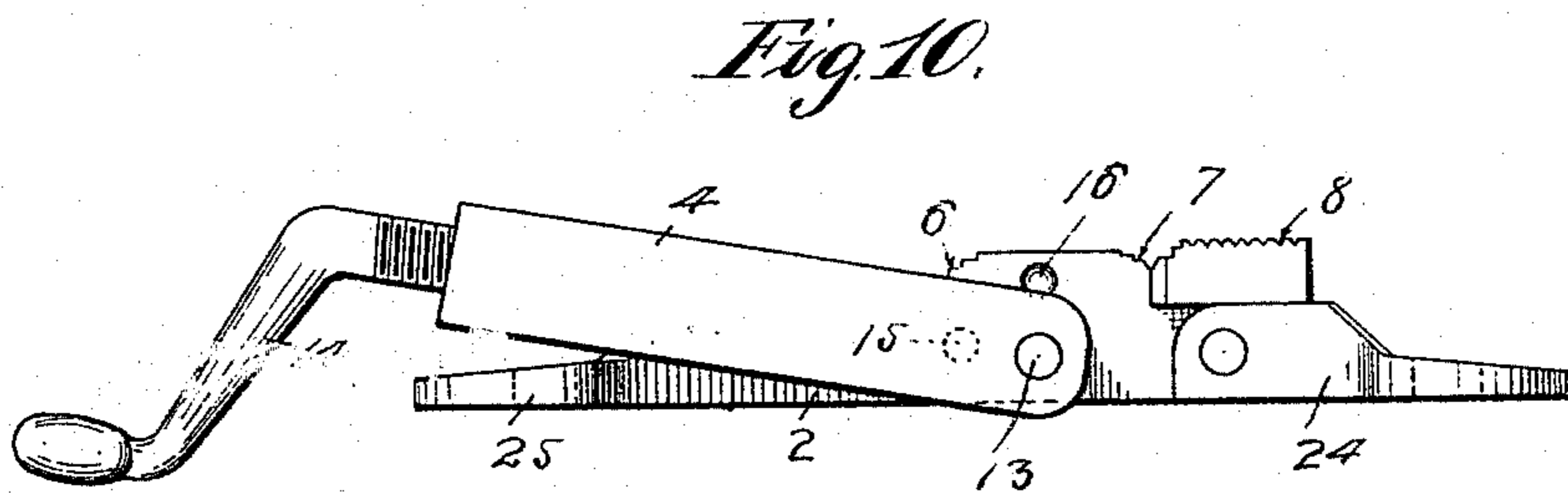
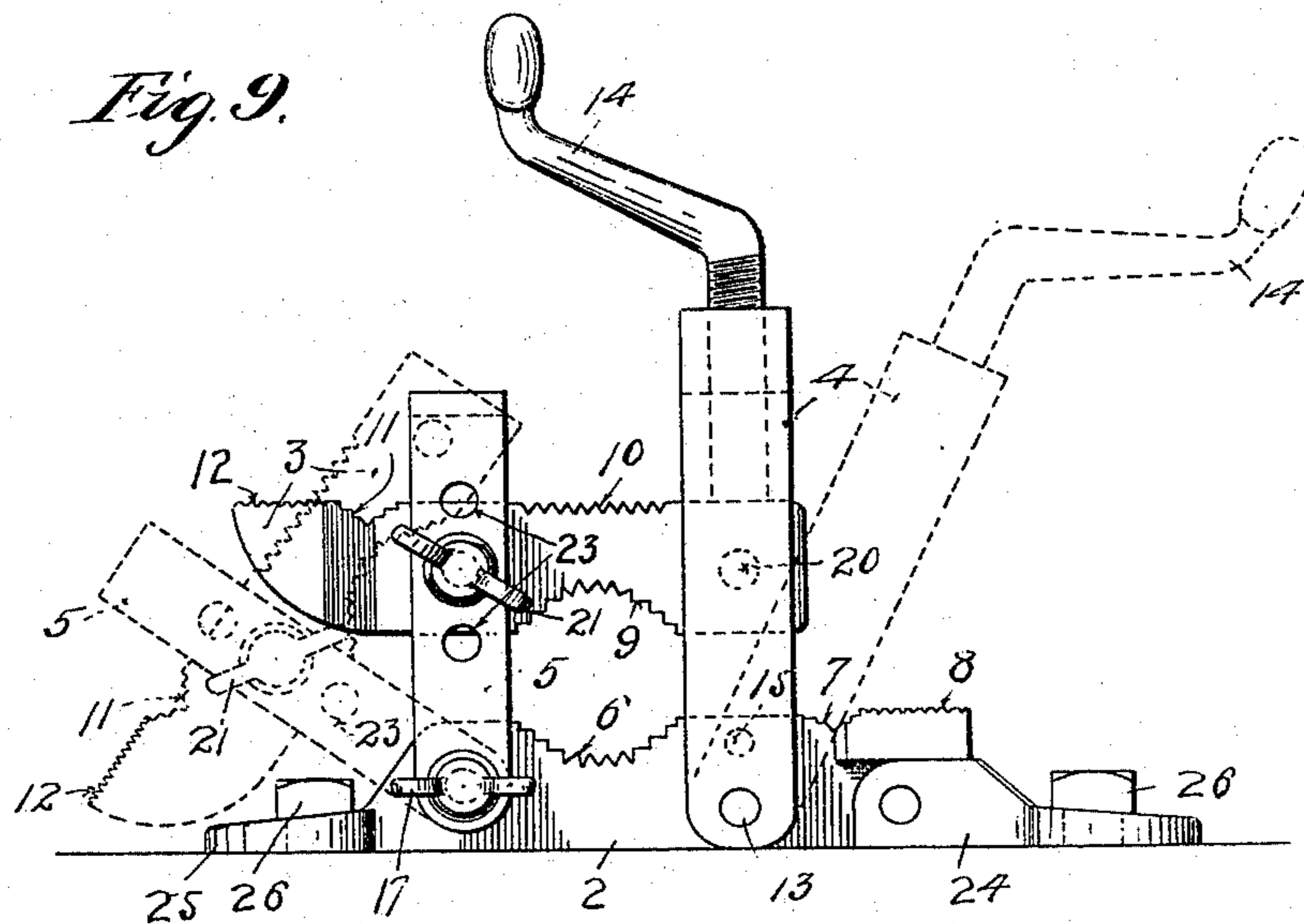
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2 SHEETS--SHEET 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

MITCHELL D. COLT, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO WARNER C. WESCOTT, OF MINNEAPOLIS, MINNESOTA.

FOLDING VISE.

SPECIFICATION forming part of Letters Patent No. 748,048, dated December 29, 1903.

Application filed July 13, 1903. Serial No. 165,208. (No model.)

To all whom it may concern:

Be it known that I, MITCHELL D. COLT, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Folding Vises; 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 has for its object to provide an improved vise especially adapted for use by plumbers, which vise while capable of a large range of work is comparatively light, very strong and durable, and is capable of being folded into very small space.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a view in side elevation showing the vise applied in working position on a bench. Fig. 2 is a plan view of the vise adjusted, as shown in Fig. 1, but removed from the bench. Fig. 3 is a horizontal section on the line $x^3 x^3$ of Fig. 1. Fig. 4 is a horizontal section on the line $x^4 x^4$ of Fig. 1. Fig. 5 is a detail in elevation looking at the inner face of the outer clamping-jaw of the vise. Fig. 6 is a detail in elevation looking at the face of the inner clamping-jaw of the vise. Fig. 7 is a vertical section through the upper coupling-link of the vise, taken on the line $x^7 x^7$ of Fig. 1. Fig. 8 is a section through the lower coupling-link of the vise, taken on the line $x^8 x^8$ of Fig. 1. Fig. 9 shows the complete vise in a different adjustment from that shown in Fig. 1; and Figs. 10 and 11 are detail views, in side elevation, showing the manner in which the parts of the vise are folded together for the purpose of packing them away or moving the same from place to place.

The numeral 1 indicates a portion of the bench or other suitable support for the vise, which bench is shown only in Fig. 1.

The vise is made up chiefly of a pair of

body jaws or members 2 and 3 and a pair of coupling-links 4 and 5. In this preferred form of the vise the jaw 2 is formed with a serrated circular notch 6, a serrated angular flattened notch 7, and a flat serrated clamping-surface 8. For cooperation with the clamping-notch 6 of the jaw 2 the vise-jaw 3 is formed with a similar serrated clamping-notch 9 on one edge and on its other edge with a flat serrated clamping-surface 10. The said jaw 3 is further provided with a serrated angular portion 11 for cooperation with the clamping-notch 7 and with a flat serrated clamping-surface 12 for cooperation with the clamping-surface 8 of said jaw 2.

The coupling-link 4 is bifurcated or formed with prongs, which embrace the jaw 3 and are pivotally connected at 13 to the jaw 2. The screw-threaded stem or crank 14 works through the free end of the coupling-link 4, projects between the prongs thereof, and impinges against the jaw 3 to force the same toward the jaw 2. To yieldingly hold the coupling-link 4 at approximately a right angle to the jaw 2, the said jaw is provided with outwardly-spring-pressed pins 15, the outer ends of which are rounded and adapted to engage depressions 16, formed in the jaws of the said coupling-links 4. These spring-pressed pins serve to yieldingly hold the coupling-link 4 in the operative position indicated, but permit the said link to be readily removed into an inoperative position when force is supplied thereto. The coupling-link 5 is also a bifurcated or pronged link which embraces the jaw 3 and is pivotally connected to the jaw 2, preferably, as shown, by means of a thumb-screw 17. The prongs of the link 5 are formed with convex cylindrical surfaces 18, that fit on correspondingly-formed recesses 19 on the jaw 2. (For the construction just described see particularly Figs. 4, 6, and 8.) The engagement of the surfaces 18 with the recesses 19 tends to hold the link 5 at a right angle to the jaw 2, and when the thumb-screw is tightened, so as to draw together or toward each other the prongs of the said link 5, said link will be positively held in such relative position. When, however, the thumb-screw is loosened, the link 5 may be turned into various positions—such, for instance, as shown

in Fig. 9. At one end the jaw 3 is provided with a perforation 20, through which may be passed a thumb-screw 21, and near its other end is provided with a similar perforation 22, through which the said screw 21 may also be passed. The thumb-screw 21 is adapted to be placed through any one of several pairs of perforations 23, formed in the jaws of the coupling-link 5, to hold the connected end of the jaw 3 the desired distance from the cooperating jaw 2.

The jaw 2, which is the relatively fixed jaw of the vise, is provided at its upper end with a pivoted foot or section 24 and at its other end it is provided with a fixed foot or lug 25. The said jaw 2 is adapted to be rigidly attached to the bench or other suitable support by means of a pair of lag-screws 26, which would be passed through perforations in the foot-sections 24 and 25 and are screwed into the bench or other wooden support. In Fig. 1 the vise is shown as attached in a vertical position, with its upper end projecting above the top of the bench, and hence the foot 24 is turned at a right angle to the body of the jaw 2. In this way the vise is very rigidly secured to the bench or support. In Fig. 9 the vise is shown as secured in a horizontal position, and hence the foot 24 is turned in a straight line with the body of the relatively fixed jaw 2.

As is evident, with the vise-jaws adjusted with respect to each other as shown in Fig. 1 the serrated clamping-surfaces 6, 7, and 8 of the jaw 2 stand in position for cooperation, respectively, with the serrated surfaces 10, 11, and 12 of the jaw 3. The jaws of the vise are, as already indicated, forced onto the work by screwing up the crank 14. With the jaws of the vise adjusted with respect to each other as shown in Fig. 9 the serrated clamping-surfaces 6 and 9 of the jaws 2 and 3 are positioned for cooperation for holding a large pipe or rod. In connection with the said adjustment shown in Fig. 9 it is important to note that by loosening the crank 14 from the jaw 3 and by loosening up the thumb-screw 17 it is possible to quickly and easily throw the coupling-link 4 toward the right and the coupling-link 5 and coupled jaw 3 toward the left, as indicated by dotted lines in said Fig. 9, and thereby make it possible to place a pipe in working position between the jaws of the vise or to remove the same from between the said jaws by lateral movements of the said pipe. Of course the particular adjustments of the vise-attaching foot 24 (shown in the Figs. 1 and 9) has nothing to do with the particular adjustments of the jaws of the vise with respect to each other.

When the parts of the vise are folded as shown in Figs. 10 and 11, it is separated into

two sections, one section consisting of the jaw 2, link 4, crank 14, and foot 24 and the other section consisting of the jaw 3 and link 5. These two sections occupy but little space and may be readily placed in a grip or small toolbox or even carried in the pockets. The vise is capable of a range and variety of work which makes the same a very satisfactory tool for plumbers' use and also for general use wherever a vise, and especially a portable vise, is desired.

The vise described is of course capable of modification within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States of America, is as follows:

1. A vise comprising a pair of jaws, a pair of bifurcated coupling-links pivotally connected to one of said jaws and embracing the other jaw, and a screw applied to one of the said coupling-links and impinging on the movable jaw, substantially as described.

2. A vise comprising a relatively fixed and a relatively movable jaw, a pair of coupling-links detachably connecting the said jaws, the removable jaw-section being reversible, and a screw applied to one of said links and impinging upon said movable jaw, substantially as described.

3. A vise comprising a pair of jaws, a pair of bifurcated links pivoted to one of said jaws and embracing the other jaw, a screw or bolt detachably and adjustably connecting the movable jaw to one of said links, and a screw applied to the other link and operating on the movable jaw, substantially as described.

4. A vise comprising a pair of jaws, a pair of bifurcated links pivoted to one of said jaws and embracing the other jaw, a screw applied to one of said links and acting on the movable jaw, the connection of the other link to the relatively fixed jaw being effected by a screw or bolt and by engaging concave and convex surfaces cooperating to normally hold the said link against pivotal movements, substantially as described.

5. A vise comprising a pair of jaws and a pair of coupling-links connecting the same, the relatively fixed member of said jaws being provided with a rigid and with a pivotally-adjustable anchoring-foot through which lag-screws or bolts may be passed to anchor the vise in working position on a suitable support, substantially as described.

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

MITCHELL D. COLT.

Witnesses:

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