

(No Model.)

J. E. BOEGEN.

MEANS FOR OPERATING SECTIONAL NUTS OF VISES.

No. 521,698.

Patented June 19, 1894.

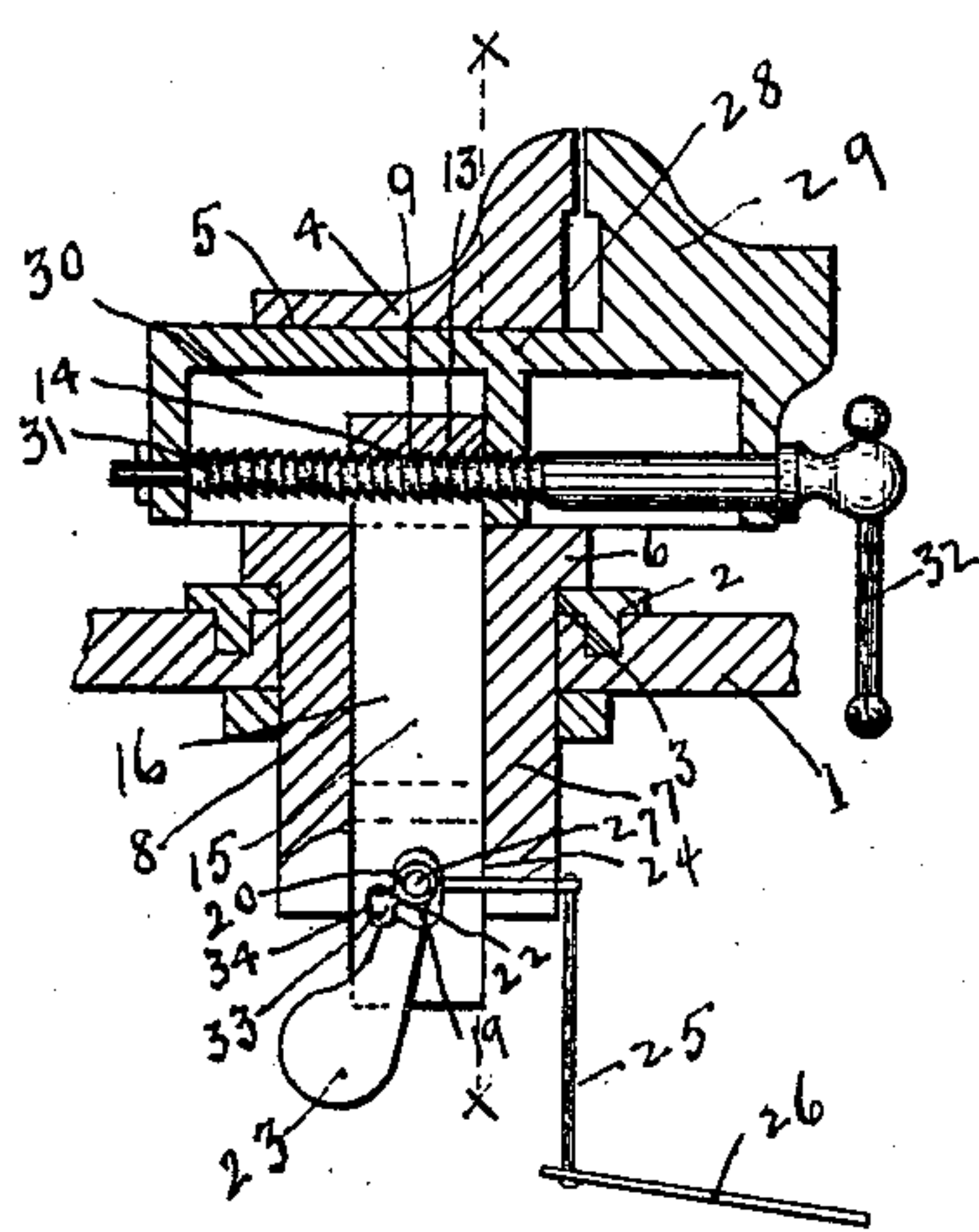


Fig. 1.

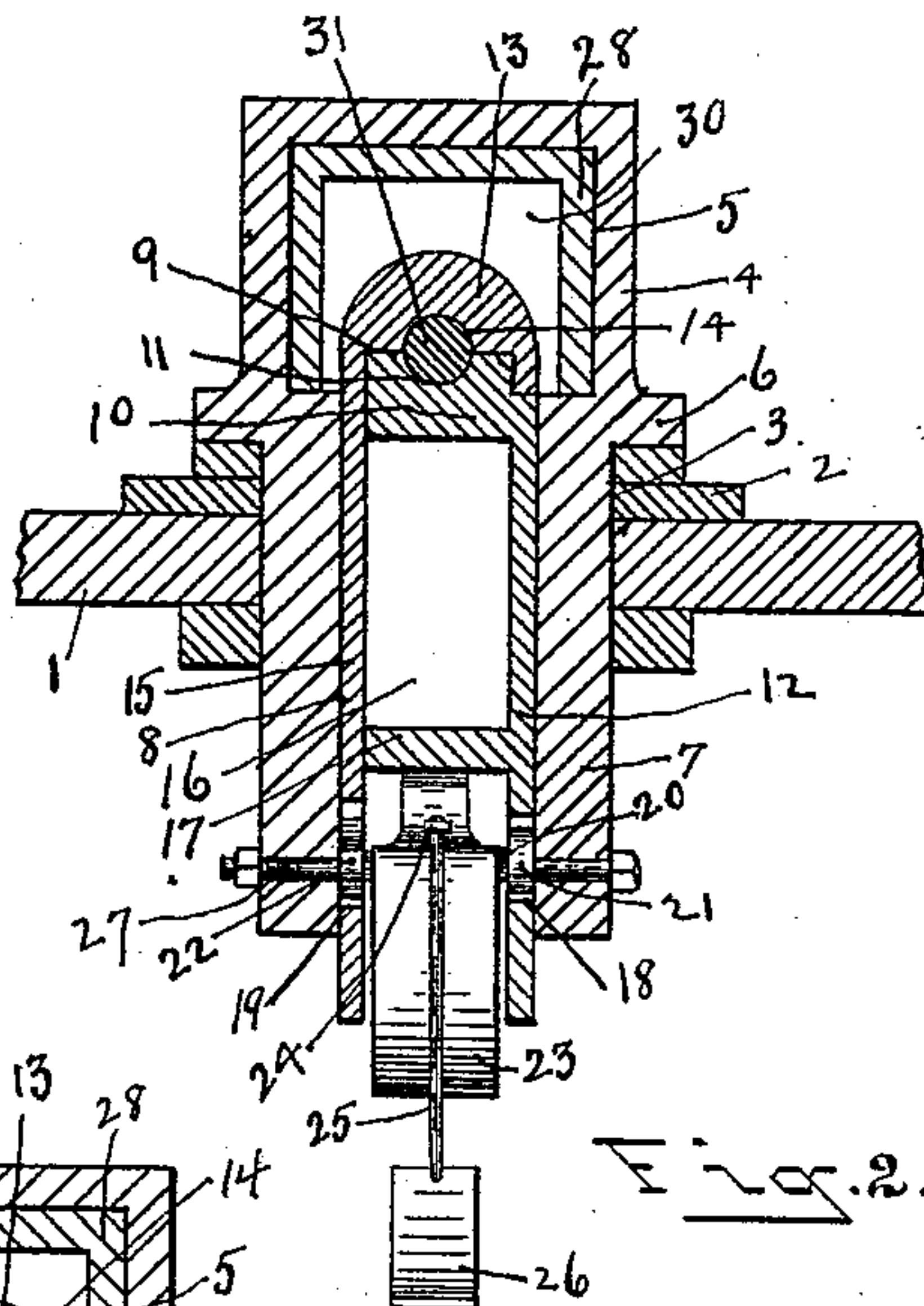


Fig. 2.

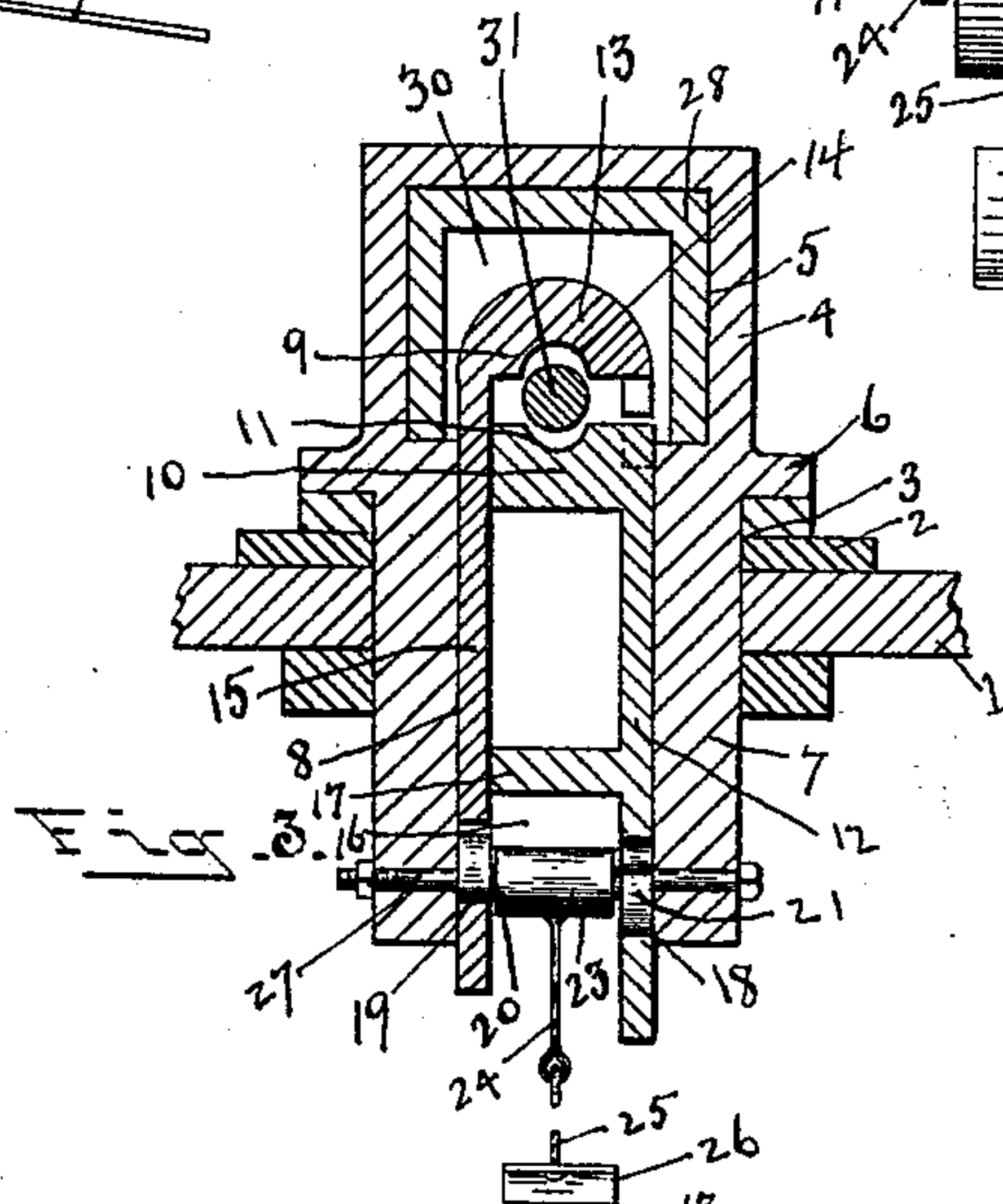


Fig. 3.

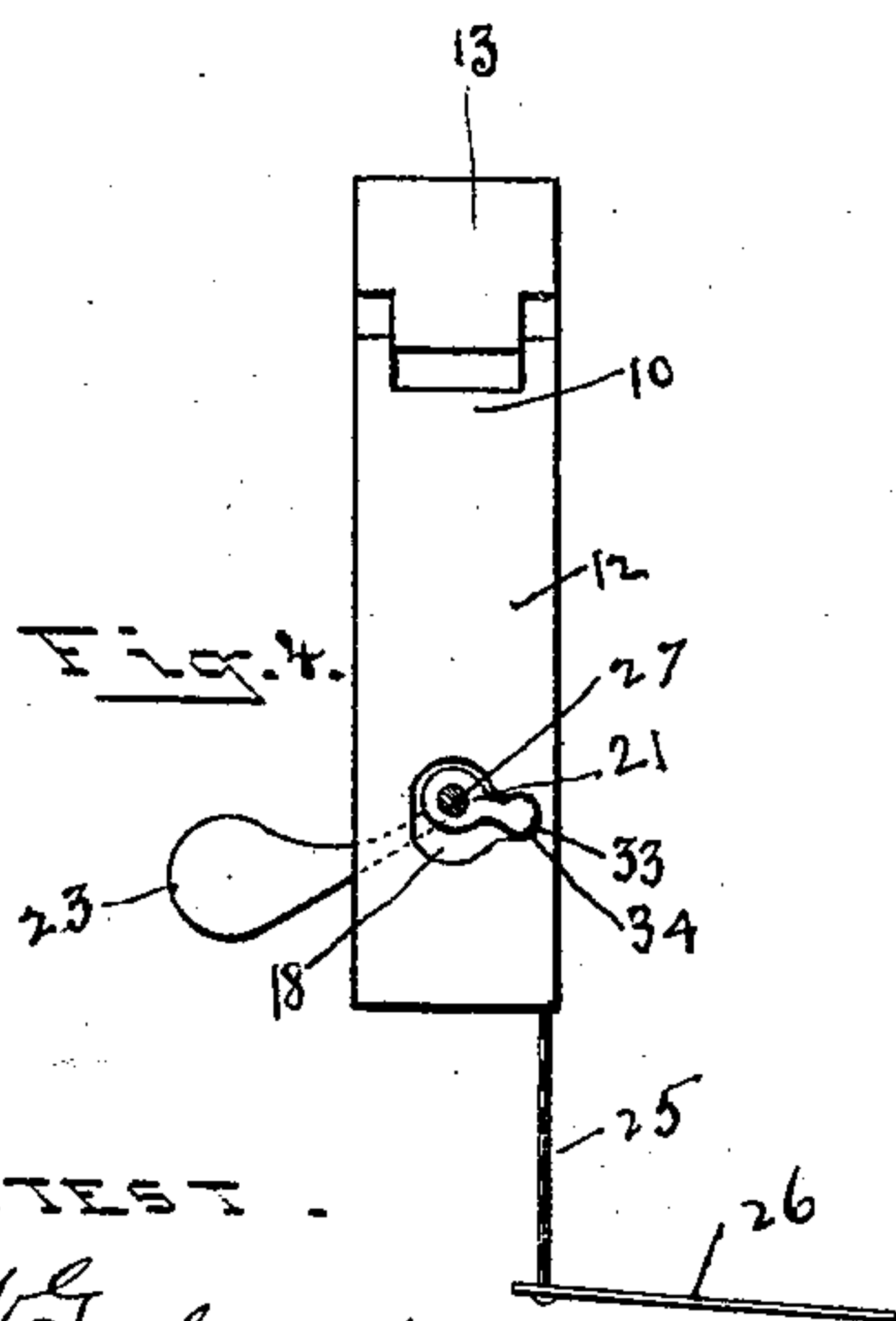


Fig. 4.

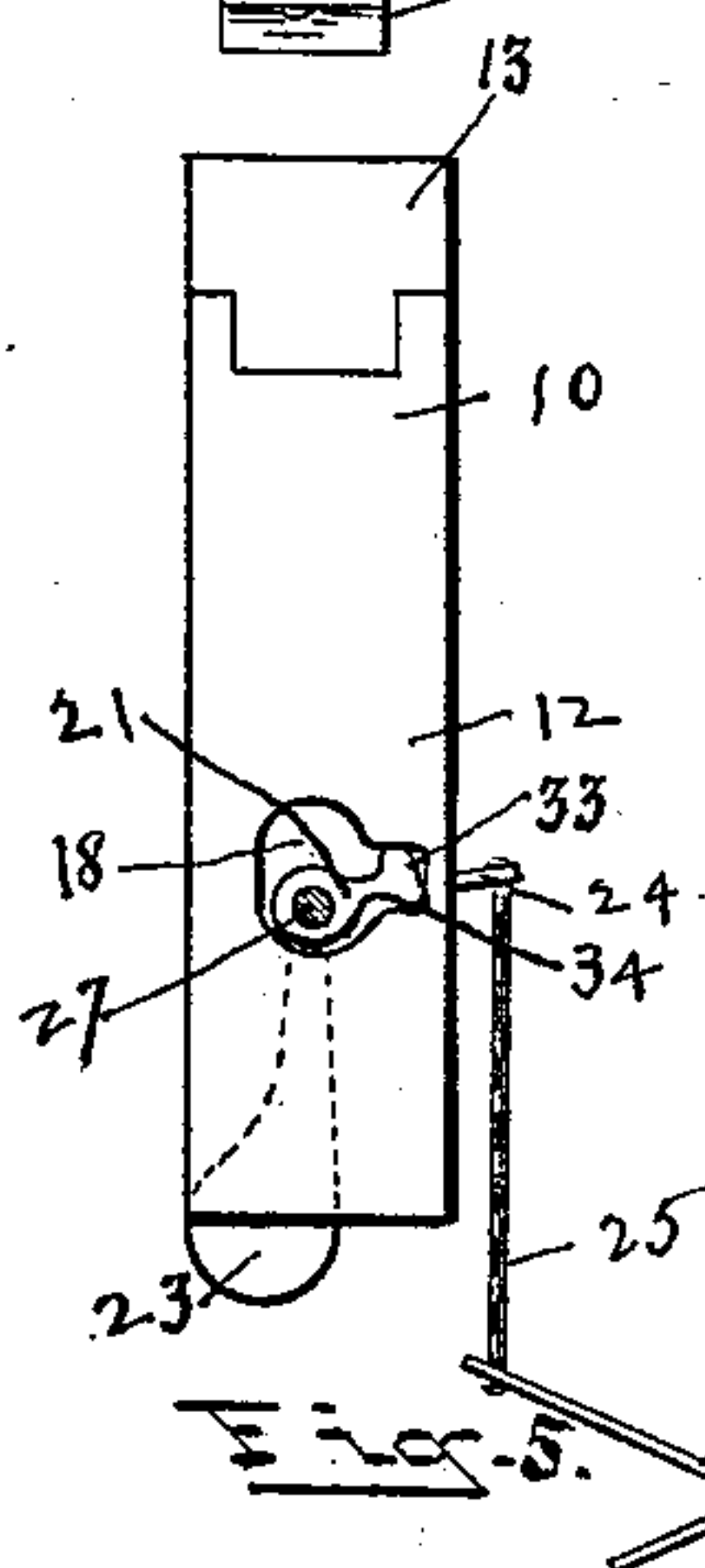


Fig. 5.

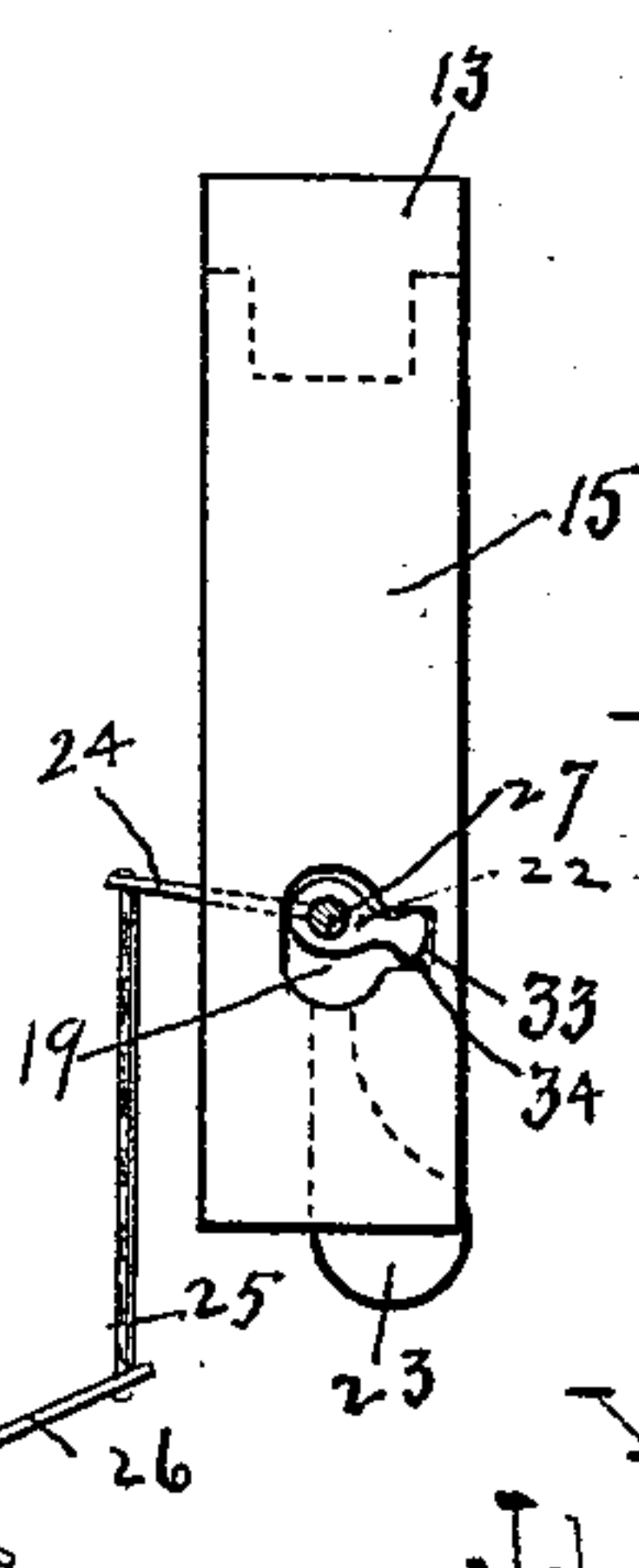


Fig. 6.

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MEANS FOR OPERATING SECTIONAL NUTS OF VISES.

SPECIFICATION forming part of Letters Patent No. 521,698, dated June 19, 1894.

Application filed March 19, 1894. Serial No. 504,230. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. BOEGEN, a citizen of the United States, residing at Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Means for Operating Sectional Nuts of Vises, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in means for operating sectional nuts of vises, composed of two sections, capable of opening or moving away from each other so as to disengage the screw therefrom to allow the screw to be quickly moved to and fro through the nut.

The objects of the invention are to provide a means for operating the sectional nut for vises, which will be easy of manipulation, cheap and durable in construction, and efficient and rapid in its operation.

The invention consists in the combination, arrangement and construction of the various parts and elements, which will be hereinafter more fully described, and which will also be specifically pointed out in the claim of this specification.

My invention is illustrated in the accompanying drawings, in which the same figures of reference will be found designating the same parts throughout the several views, and in which—

Figure 1, is a vertical central section of a vise containing my improvement. Fig. 2, is a transverse section of Fig. 1, taken at $x-x$ and showing the parts in position when the sectional nut is closed. Fig. 3, is the same showing the sectional nut opened. Fig. 4, is a front side view of a sectional nut opened, showing the cams for operating the same. Fig. 5, is the same showing the sectional nut closed. Fig. 6, is a rear view of the same, showing the nut-sections closed.

1, represents a work-bench upon which the vise is to be used, and 2, is a base plate secured to the surface of the bench, and provided with a central opening 3, which also extends through the bench.

4, is the rear stationary jaw which is provided in its middle portion with a transverse opening 5, preferably of a rectangular form,

and below this opening is provided a shoulder 6, which rests upon the base plate 2, while 7, is a cylindrical portion which extends through the opening 3. The portion 7, is provided with a longitudinal opening 8, of rectangular form, which extends to the opening 5, and in this opening is placed a sectional nut 9, composed of the section 10, having on its upper end a threaded recess 11, which composes the lower half of the nut, while a portion 12, extends downwardly through the opening 8.

13, is the upper nut section, and is provided on its under side with a threaded recess 14, which opposes the recess 11, so that the two form a threaded circular opening for the screw, and upon one side of the recess 14, the section is provided with a downwardly extending portion 15.

Between the lower portions of the parts 12, and 15, is a space 16, and a shoulder 17, is arranged to project into the space from the part 12.

18, is a transverse opening in the lower portion of the part 12, beneath the shoulder 17, and 19, is a similar opening in the part 15, located on a plane above the opening 18, and 20, is a hollow arm running transversely through the space 16, and provided on its outer end with the cam 21, resting in the opening 18, and on its opposite end with a similar cam 22, resting in the opening 19, at a right angle with the cam 21, the cams 21, and 22, being formed so that their outer faces 23, will fill the space 24, of the openings 18, and form a solid bearing for the portions 12, and 15, when the sectional nut is closed, by means of a weight 25, which is secured to the arm 20, and 26, is a lever secured to the said arm at a right angle with the weight 25, and to this lever is attached a suitable rod or chain 27, provided on its opposite or lower end with a foot-lever 28.

27, is a bolt passed through either side of the portion 7, and through the cam 21, the hollow arm 20, and the cam 22, holding the said arm, cams and weight in position, and upon which they are allowed to oscillate.

28, is a rectangular arm passed through the opening 5, in the stationary jaw, and is provided on its outer end with an upwardly extending movable jaw 29, and in the under

side of this arm is arranged an open chamber 30, into which the nut-sections extend, and 31, is a screw passed longitudinally through the arm and through the threaded opening 5 formed by the threaded recess in the nut-sections, the threads of the recess engaging with the threads of the screw when the nut sections are closed together, and upon the outer end of the screw is arranged a handle 32, for 10 revolving the screw in the ordinary manner.

By means of the handle 32, the vise screw may be operated in the ordinary way, but as a quick means of actuating the movable jaw to or from the stationary jaw, the operator 15 depresses the lever 26, by his foot, which oscillates the arm 20, and the cams 21, and 22, and raising the weight 23, and the cam 22, moves the section 13, and the portion 14, upwardly, and lowering the cam 21, allows the 20 section 10, and the threaded portion 11, to drop until both sections are free from engagement with the screw, and the movable jaw together with the arm and screw, may then be 25 wardly or inwardly, and then on the foot lever

being released, the parts return to their normal position by means of the weight 23, which firmly holds the nut-sections together by means of the cams, as before described.

Having described my invention, what I 30 claim as new, and desire to secure by Letters Patent, is—

In a means for operating the sectional nut of a vise, the combination of a vise having the nut-section 10, having the portion 12, and 35 the nut-section 13, having the portion 15, extending into the opening 8, and the opening 18, in the portion 12, and the opening 19, in the portion 15, the hollow arm 20, carrying the cams 21, and 22, operating in the open- 40 ings 18, and 19, and the weight secured to the hollow arm, and means for oscillating the said arm and cams, as described, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in 45 presence of two witnesses.

JOHN E. BOEGEN.

Witnesses:

G. P. THOMAS,
H. W. GARLAND.