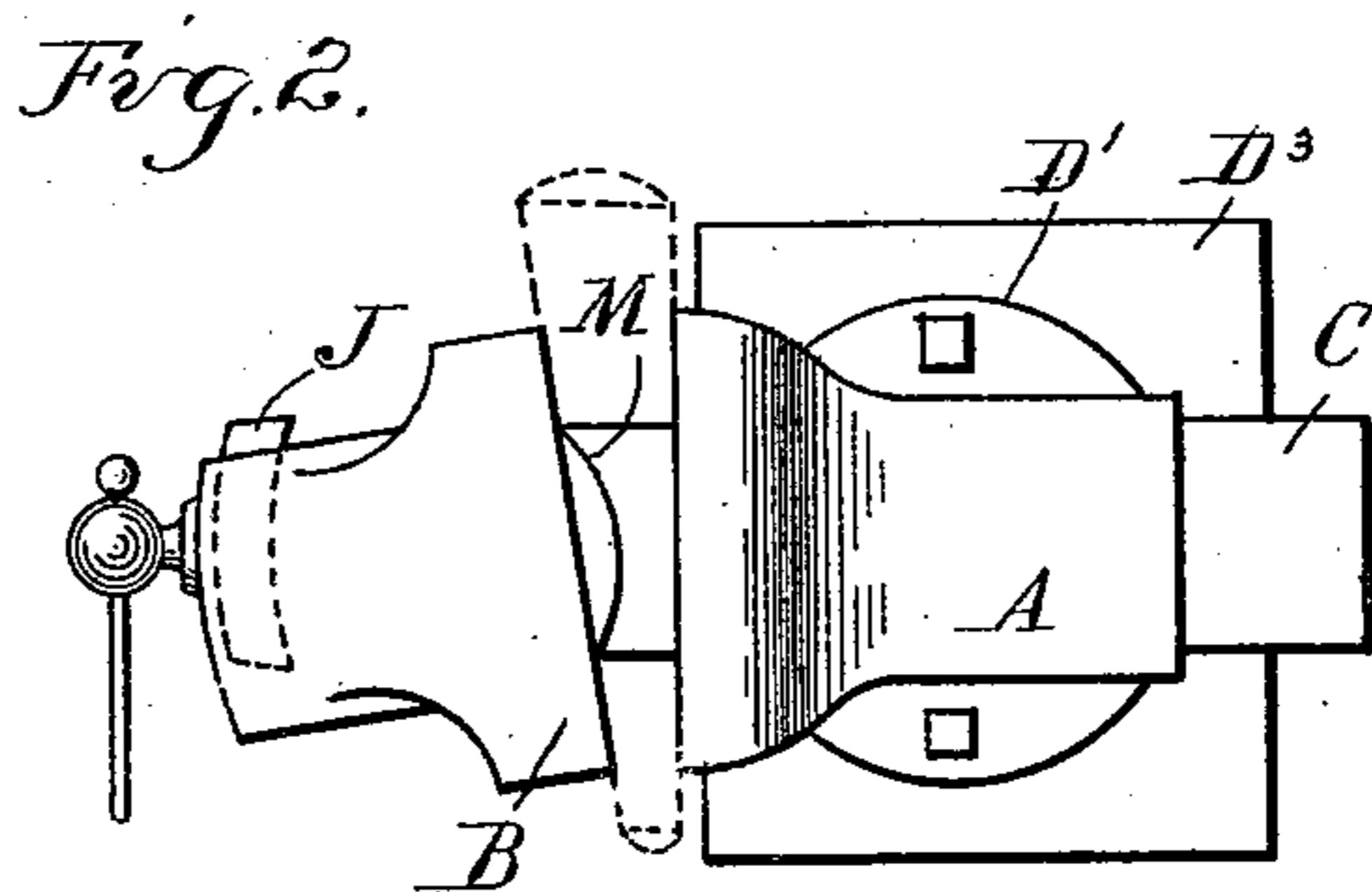
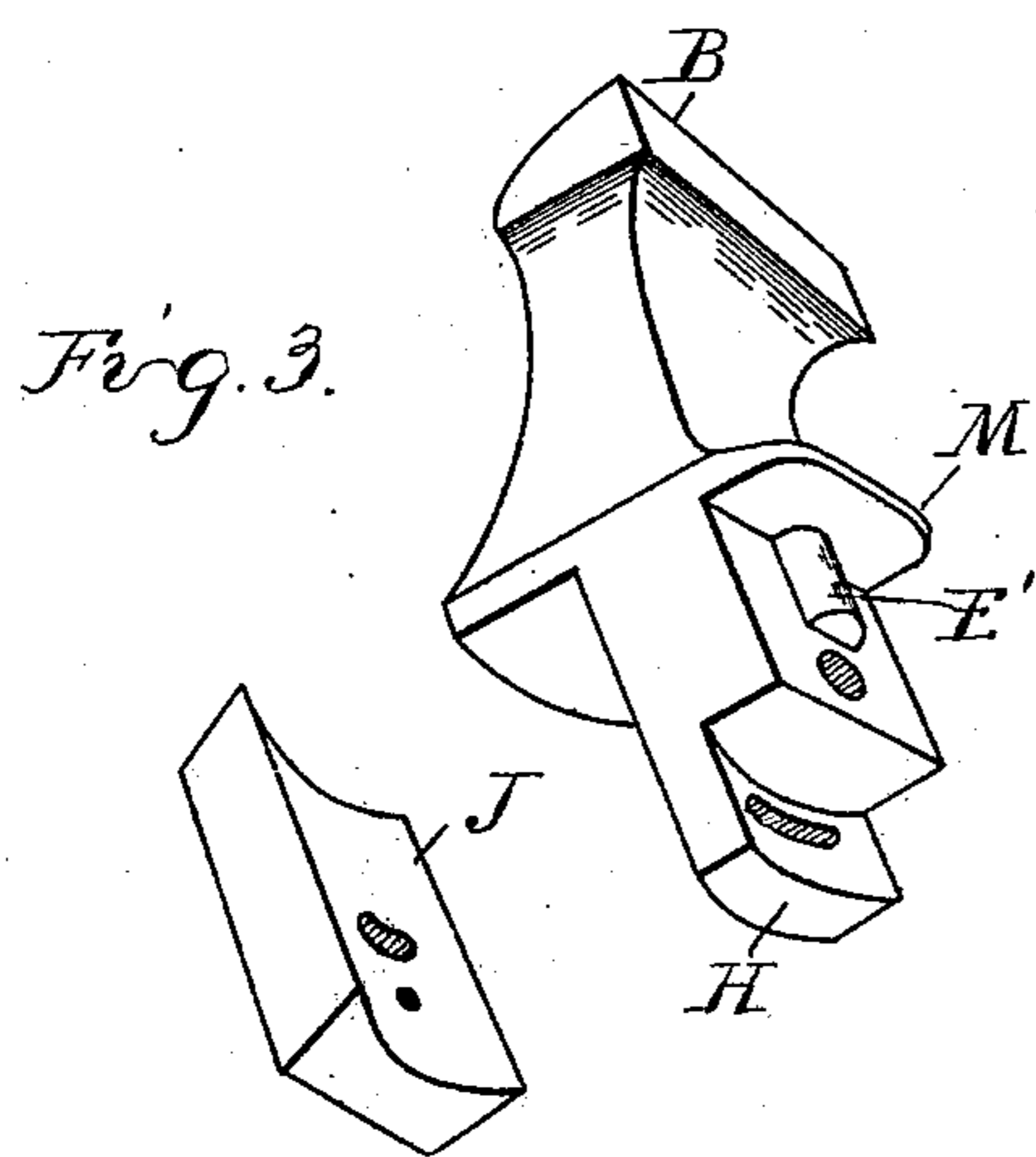
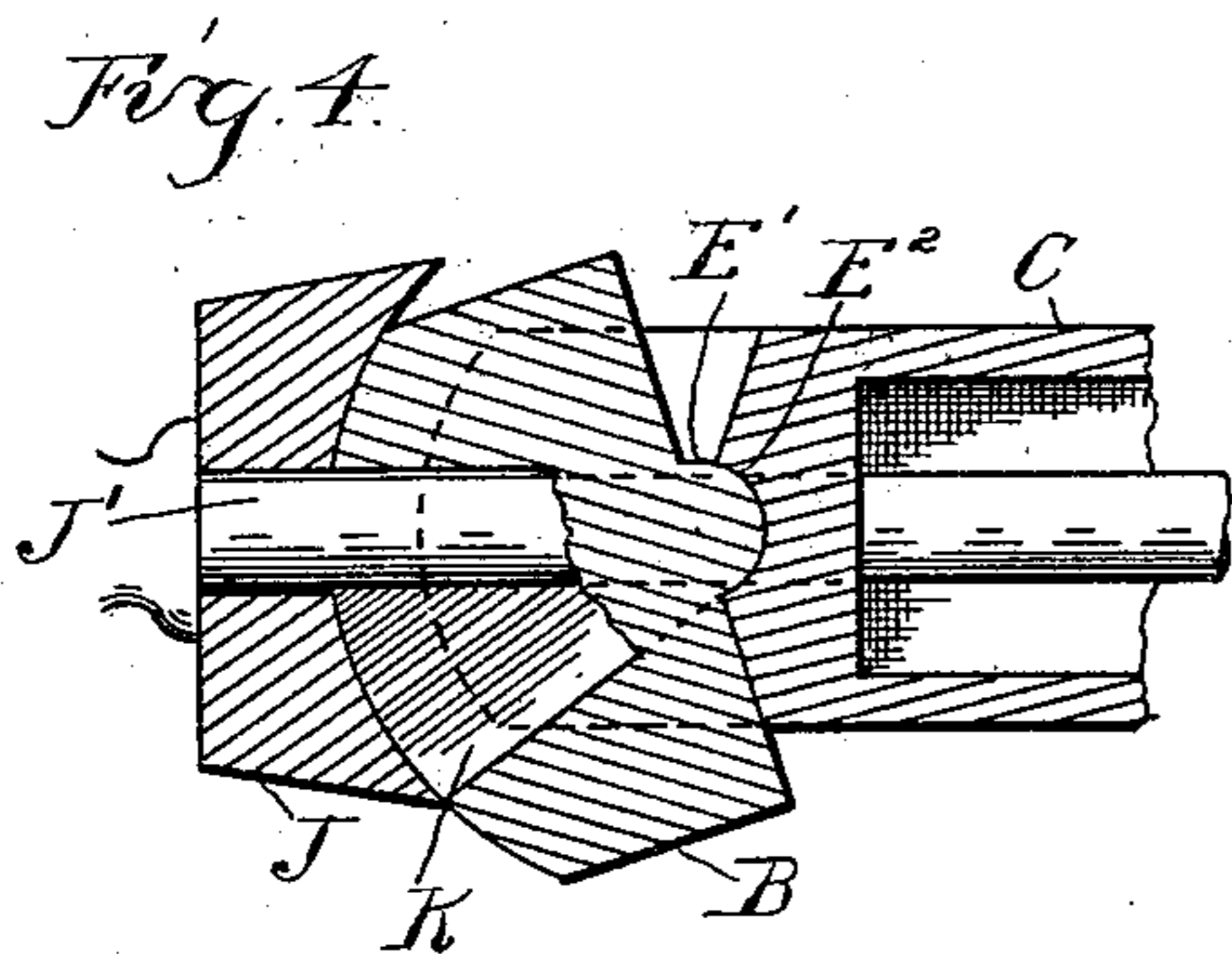


2 Sheets—Sheet 1.

No. 542,244.

Patented July 9, 1895.



Witnesses  
L. J. Wittermore.  
A. F. Barthel.

Inventor  
Clare Ernst  
By. *W. H. Magnet* *Attys.*

(No Model.)

2 Sheets—Sheet 2.

C. ERNST.  
VISE.

No. 542,244.

Patented July 9, 1895.

Fig. 7.

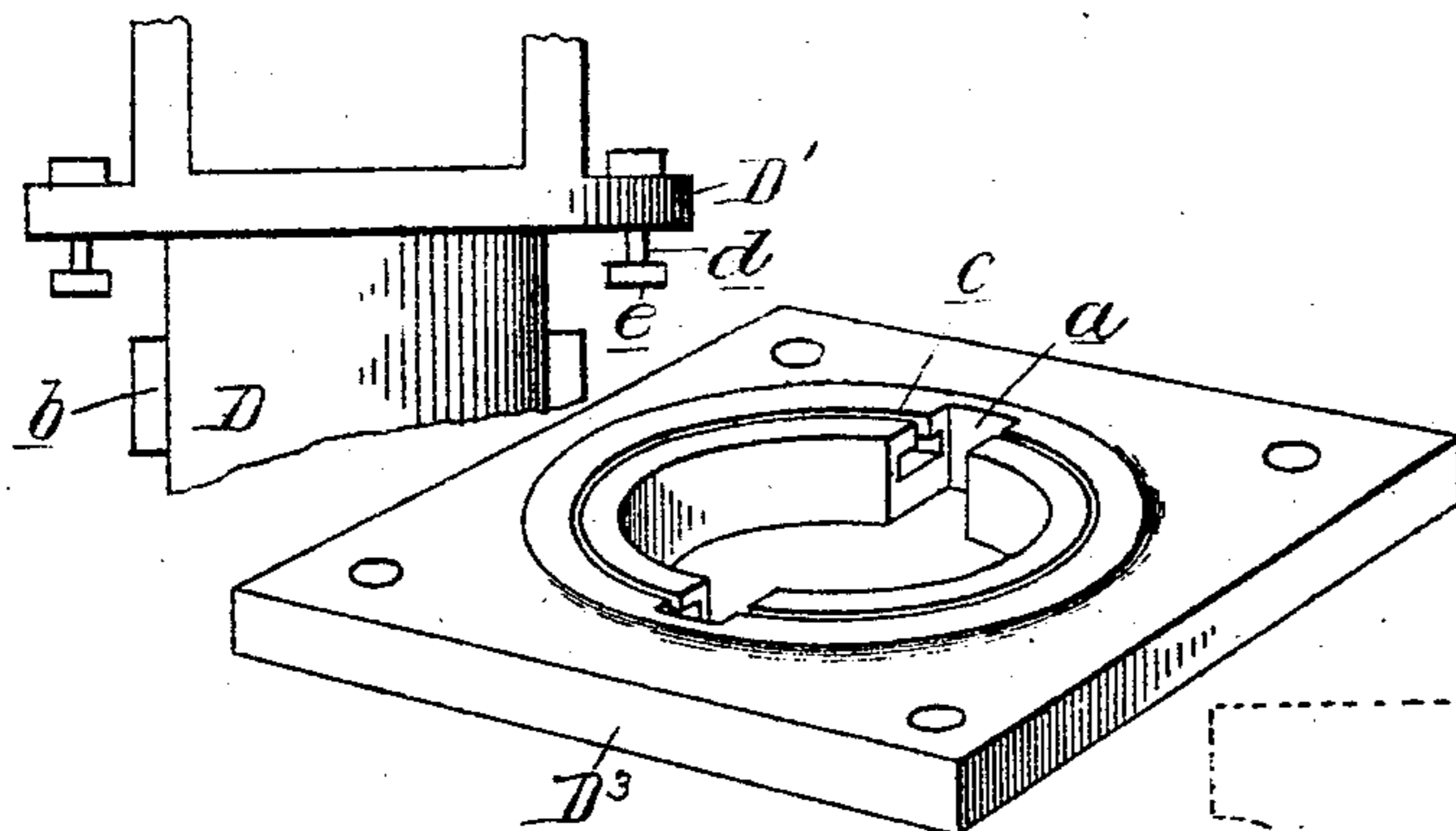


Fig. 5.

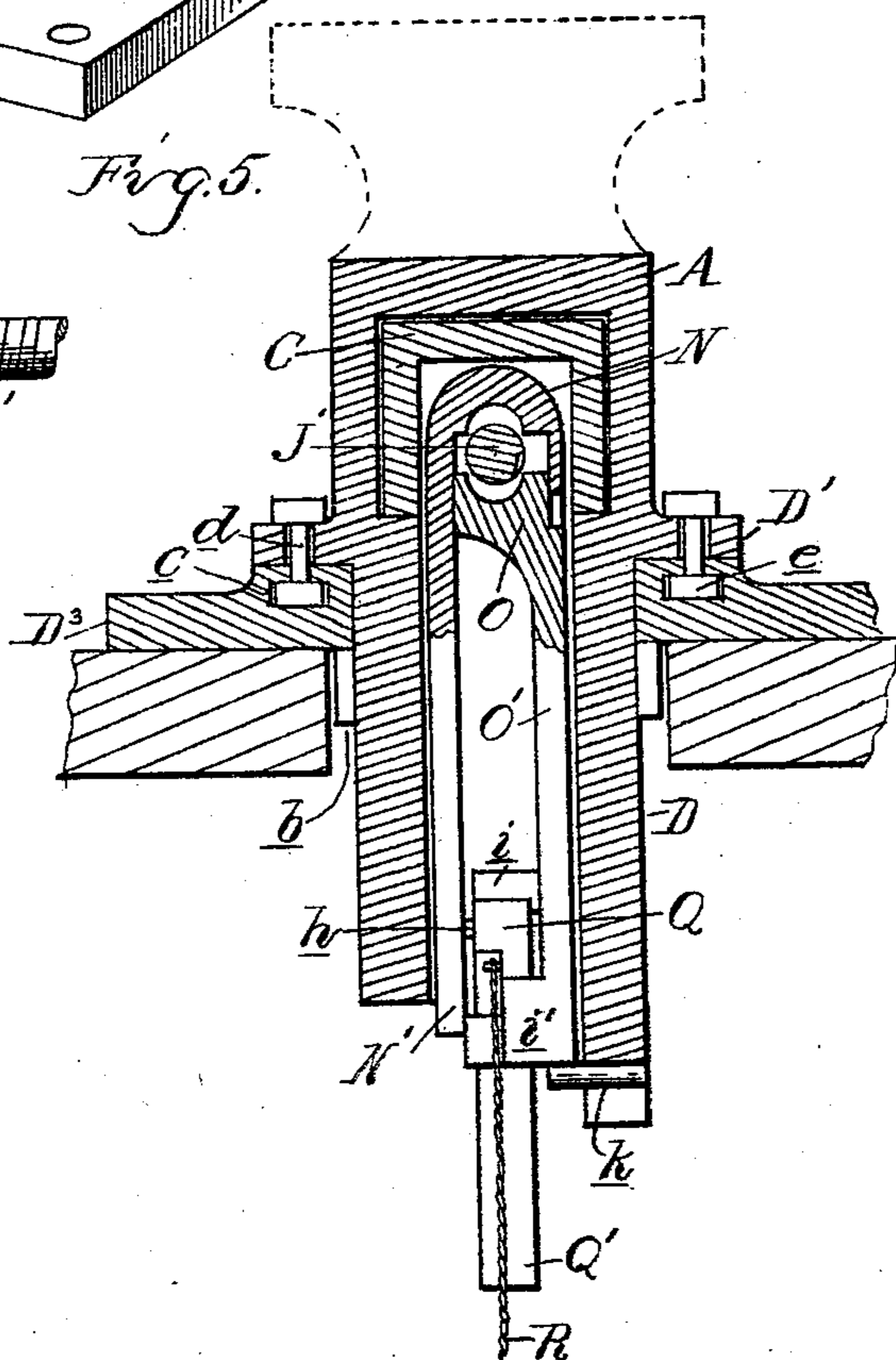
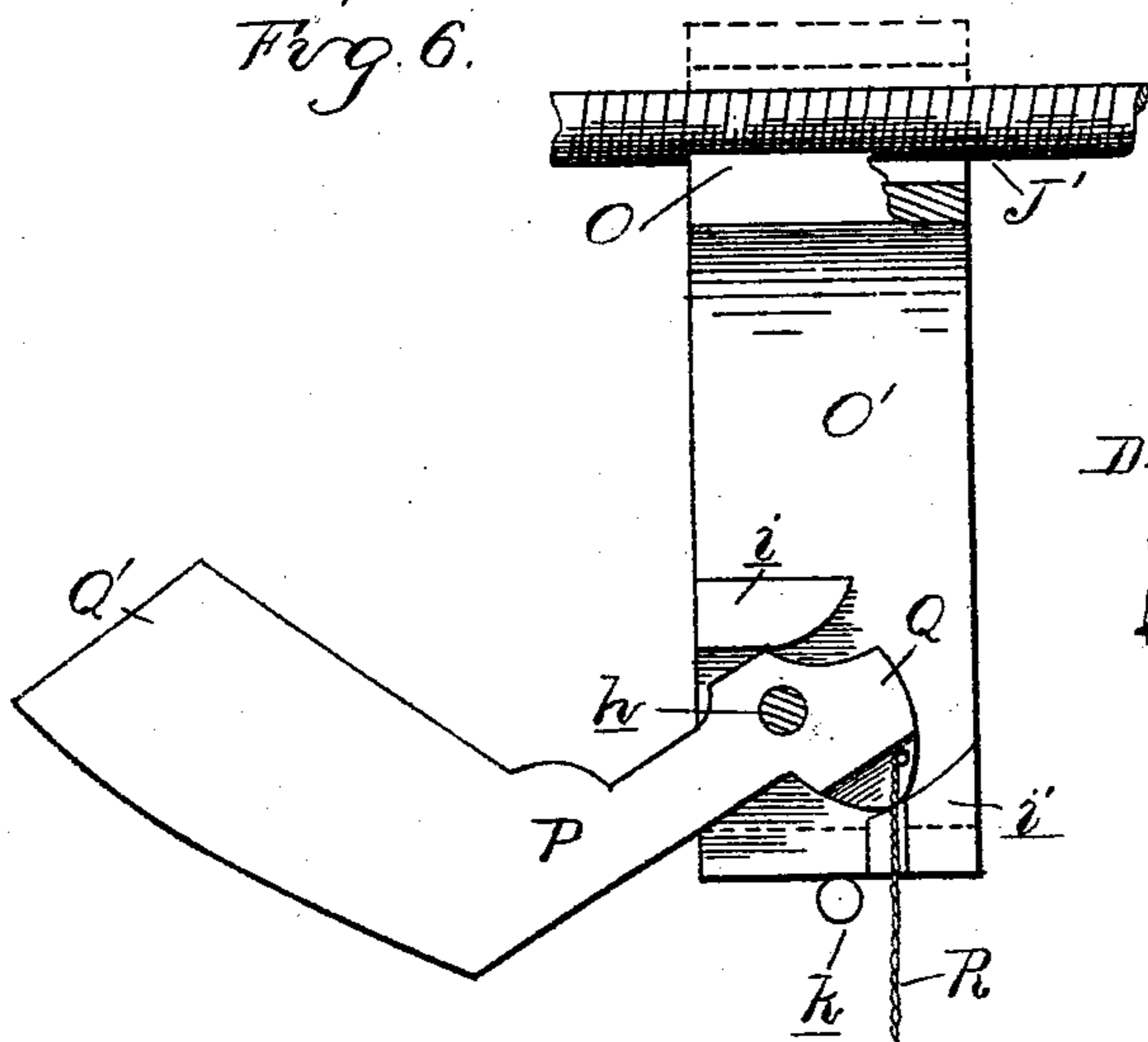


Fig. 6.



Witnesses  
L. J. Whittemore  
O. F. Barthel.

Inventor  
Clare Ernst  
By *M. E. Mager* Atty.

# UNITED STATES PATENT OFFICE

CLARE ERNST, OF BAY CITY, MICHIGAN.

## WISE.

SPECIFICATION forming part of Letters Patent No. 542,244, dated July 9, 1895.

Application filed September 11, 1894. Serial No. 522,708. (No model.)

*To all whom it may concern:*

Be it known that I, CLARE ERNST, a citizen of the United States, residing at Bay City, in the county of Bay and State of Michigan, have  
5 invented certain new and useful Improvements in Vises, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the construction  
10 of a vise of that type in which the nut in the stationary jaw is separable to be disengaged from the screw to permit of the quick adjustment of the jaws to or from each other; and the invention consists particularly in the pe-  
15 culiar construction of the actuating devices for such nut-sections; further, in the peculiar construction of the swivel-support for the vise, and, further, in the peculiar construction of the swivel-support for the movable jaw,  
20 and in the construction, arrangement, and combination of the various parts, all as more fully hereinafter described, and shown in the accompanying drawings.

Figure 1 is a vertical central longitudinal  
25 section through a vise embodying my invention. Fig. 2 is a top plan view thereof, showing the movable jaw secured at an angle to the stationary jaw. Fig. 3 is a perspective view of the movable jaw and the swivel clamp-  
30 ing plate or nut. Fig. 4 is a horizontal section on line *x x*, Fig. 1. Fig. 5 is a vertical section on line *y y*, Fig. 1. Fig. 6 is an elevation of the lower nut-section, showing the operating-lever and in dotted lines the posi-  
35 tion of the upper nut-section when the sections are separated. Fig. 7 is a perspective view of the bed-plate and the swivel-post of the stationary jaw, showing the manner of detachably and adjustably engaging that jaw  
40 in the plate.

A is the stationary jaw, and B the movable jaw, of a vise. The stationary jaw has a transverse guideway, in which is slidingly secured the tubular arm C of the movable jaw.

45 D is a tubular post on the lower side of the stationary jaw, having the flange D', which rests upon the bed-plate D<sup>2</sup>, which may be secured to the usual bench, the post being swiveled upon this flange in a central tubular  
50 aperture in the bed-plate.

The bed-plate is provided with engaging

notches *a* and the post is provided with lugs *b*, adapted to enter these notches and to lock the post (and vise) to the bed-plate by a partial rotation in the manner plainly illustrated  
55 in Figs. 1 and 7.

Around the edge of the bed-plate in its upper face is formed the T-shaped slot *c*, in which the heads of clamping-bolts *d* engage. These bolts pass through the flange D' and  
60 are provided with suitable clamping-nuts *e* above the flange, by means of which construction the vise may be held at any desired angle to the bench or bed-plate.

The forward end of the arm C is provided  
65 at its lower edge with the forwardly-extending plate E, upon which rests the jaw B. The jaw is provided with a semicylindrical boss E', engaging a grooved or curved bearing E<sup>2</sup> on the forward face of the arm C. The forward  
70 face of the plate F is of segmental circular configuration, and H is a depending lip for the jaw, having its inner face of corresponding shape to fit the face of the plate and about which it is adapted to turn.  
75

I is a clamping screw or bolt engaging a screw-threaded bearing in the plate, passing through a segmental slot in the lip and through an aperture in the curved clamping  
80 plate or nut J, which bears against the outer face of the jaw B, which is correspondingly curved.

K is a fan-shaped aperture through the jaw B, through which the screw J' passes, passing, also, through an aperture through the  
85 plate J and swiveled in the rear end of the arm C, as plainly illustrated in Fig. 1.

It will be evident from the description of the parts last described that by loosening the bolt I the jaw B may be turned at any de-  
90 sired angle to the stationary jaw—as, for instance, as shown in Fig. 2—and then clamped in its adjusted position by tightening the bolt I.

M is a lip on the jaw B, engaging over the  
95 top of the arm C to prevent dust, dirt, or shavings from entering the swivel-joint on which the jaw B turns.

N is the upper section of the nut, having the leg N', and O is the lower nut-section,  
100 having the leg O', these legs depending into the post, separated from each other a suffi-

cient distance to permit of the actuating-lever P being arranged and operating between. This lever has a cam-head Q and a weighted offset Q' at its lower end. It is pivoted on the pin h in the leg N' of the upper nut-section and its cam-head is located between two opposite cam-lugs i i' on the inner face of the leg of the lower nut-section.

K is a stop-pin located a short distance below the lower end of the leg of the lower nut-section in the closed position of the parts. (Shown in Fig. 1.)

R is a cord connected to the outer end of the cam-head, by means of which the lever and cam may be rocked about its pivot to open and close the nut-sections in the following manner: The parts being as shown in Fig. 1, the weight Q' will act to hold the cam-head directly beneath the cam-lug i and lock the two nut-sections tightly upon the screw. When the operator draws upon the cord R, he rocks the lever about its pivotal point h, withdrawing the cam from beneath the lug i, and at the same time the under face of the cam-head strikes the lug i' and forces the lower nut-section down until it strikes the stop-pin k, when further movement of the lever will cause the lever to fulcrum on the lug i' and lift its pivotal point, thereby raising the upper nut-section free from the screw, thus permitting the screw to be shifted horizontally without engagement of the screw in the nut.

It is evident that when the nut engages the screw by turning the screw the movable jaw will be caused to approach or recede from the stationary jaw in the usual manner of operating vises.

Thus it will be seen that this vise comprises a separable screw-nut with means of opening it to admit of quick adjustment of the movable jaw, a swiveled movable jaw, and a swiveled post for supporting the entire vise.

What I claim as my invention is—

1. In a vise, the combination of a bed-plate, a post swiveled thereon, a stationary jaw on the post, a horizontal arm slidingly engaging in a transverse aperture in the stationary jaw, the movable jaw swiveled on the end of said arm, and the set screw passing through

the arm and swiveled jaw substantially as described.

2. In a vise, the combination of a bed-plate, a post swiveled thereon, a flange on the post resting on the plate, lugs on the post adapted to enter notches in the plate and to be locked beneath the same by a partial rotation, and bolts on the post, entering undercut grooves in the plate, to lock the post in its adjusted position, substantially as described.

3. In a vise, the combination of the stationary jaw, having a transverse aperture, an arm sliding therein, a screw in the arm, the plate E at the forward end of the arm, the movable jaw supported on the plate and having a swivel joint connection with the forward end of the arm, a clamping bolt on the arm passing through a segmental slot in the jaw, and a clamping plate or nut on the outer face of the jaw, with which said bolt engages, and in which the screw is journaled substantially as described.

4. In a vise, the combination of the stationary jaw having a transverse aperture, an arm sliding therein, the plate E at the forward end of the arm, the movable jaw supported on this plate, a fan shaped slot through the jaw the screw in the arm, passing through the fan shaped slot in the movable jaw, a clamping plate or nut supporting the outer end of the screw, and securing devices for clamping the jaw between the arm C and the clamping plate in its adjusted position, substantially as described.

5. In a vise, the combination of the tubular post carrying the stationary and movable jaws, the screw therethrough, the upper and lower nut sections engaging the screw, the separated legs on the nut sections depending into the post, the lugs i i' on the leg of the lower section the lever pivoted to the inside of the leg of the upper section between the lugs, and the cam head on the lever, substantially as described.

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

CLARE ERNST.

Witnesses:

LENA F. SCHRAMM,  
EDWARD A. TEROUGA.