



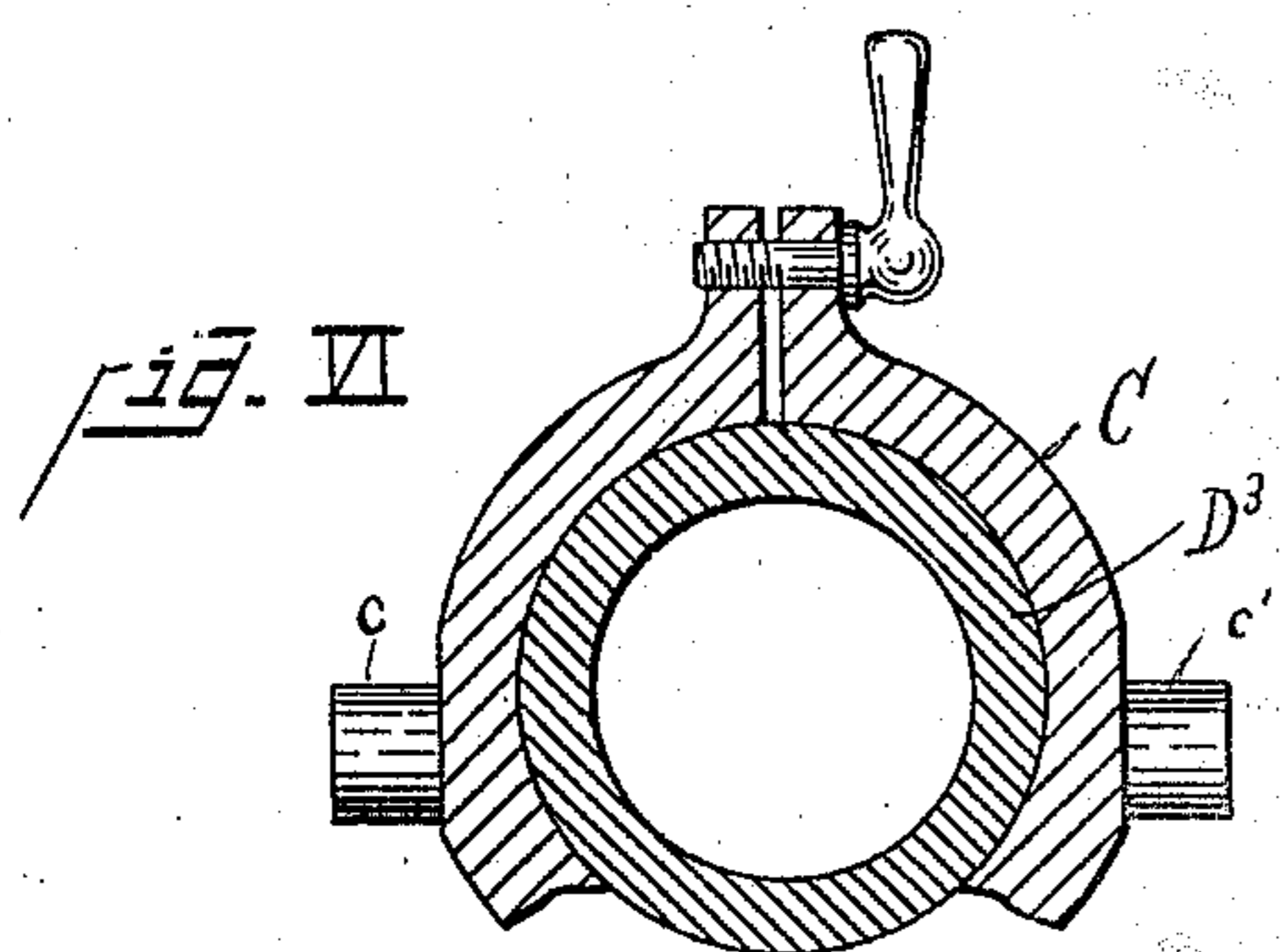
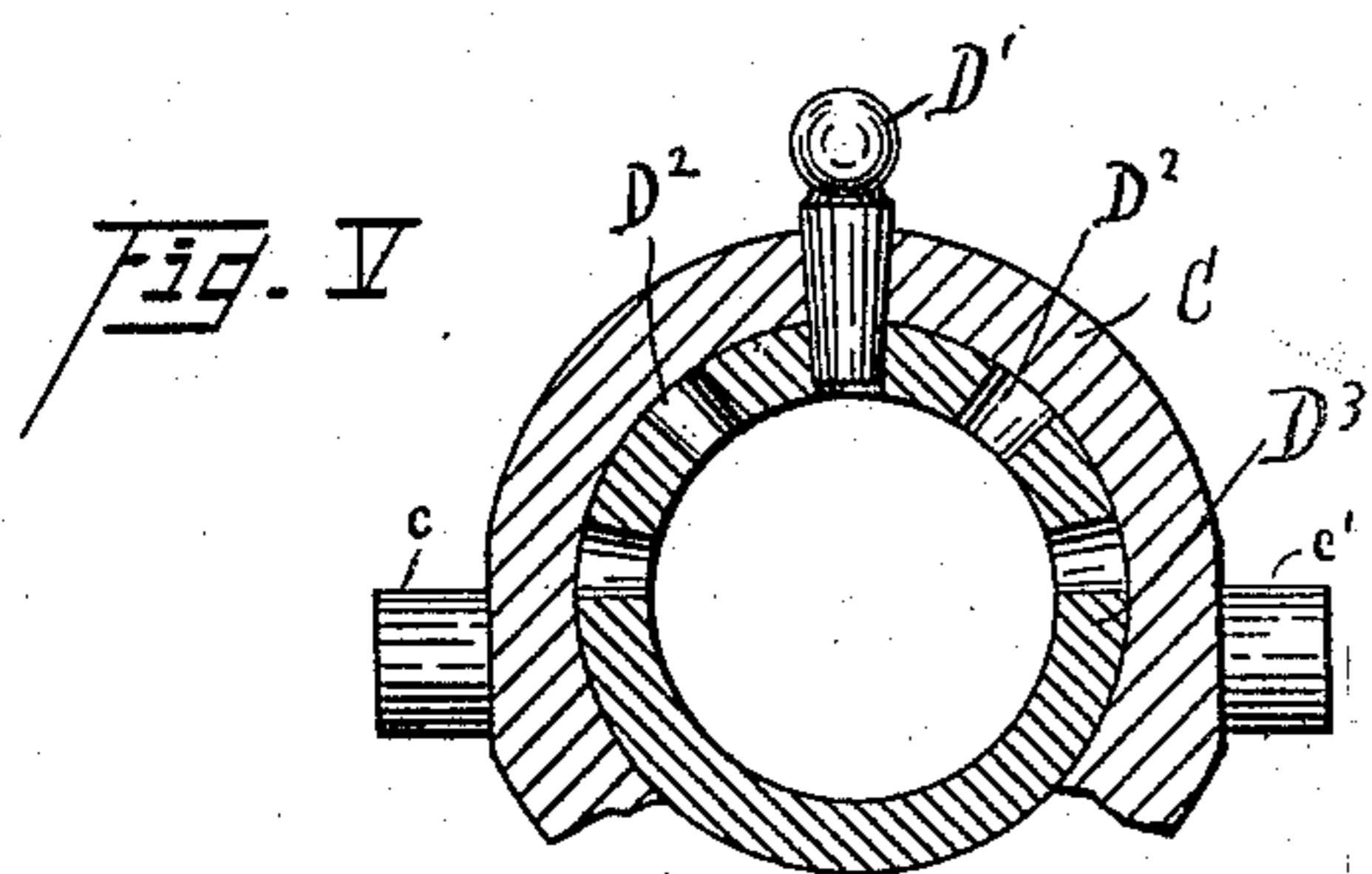
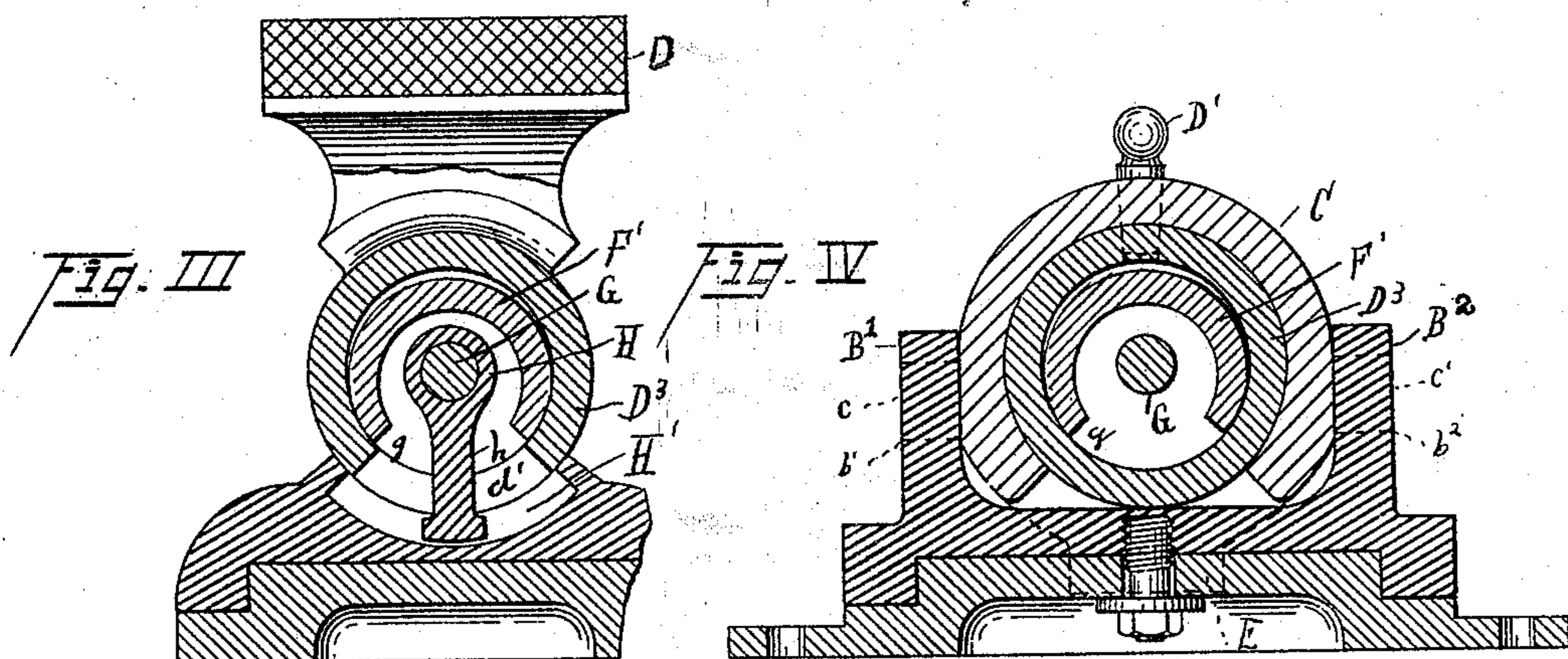
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(Application filed July 22, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

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WISE.

SPECIFICATION forming part of Letters Patent No. 717,422, dated December 30, 1902.

Application filed July 22, 1901. Serial No. 69,264. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB LEWIN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Vises; and I 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 pertains to make and use the same.

My invention relates to vises, and more especially such as are adapted to be secured to benches and are employed in connection with metal-working.

My invention consists in the peculiar construction and assemblage of different parts both in a horizontal and vertical direction.

My invention also consists in certain peculiarities of construction and assemblage of parts whereby when the vise is adjusted to the desired horizontal or vertical position the same may be locked in such position, all of which will be hereinafter fully set forth and claimed.

The object of my invention is to supply a vise which may be quickly and easily adjusted in a horizontal plane and locked in said adjusted position by means of tightening the work between the jaws of said vise and by means of the movement of the rear jaw and its connected parts when the work is tightened between the said jaws.

Another object of my invention is to provide a vise which may be rotated upon a vertical axis and also upon a horizontal axis, thus allowing the clamping portion of the vise to be presented at any desired angle horizontally or vertically and when so presented to be locked in said adjusted position.

In the drawings, Figure I is a view in side elevation illustrating a vise embodying my invention. Fig. II is a longitudinal vertical section taken through a vise as illustrated in Fig. I. Fig. III is a vertical cross-section taken through a vise constructed as illustrated in Figs. I and II and on line *xx*, Fig. I. Fig. IV is a vertical section taken through line *yy*, Figs. I and II. Fig. V is a segmental sectional view illustrating one method of locking the vise in its adjustment around its horizontal axis, and Fig. VI is a segmental sectional view illustrating a modification for accomplishing the same object.

A represents a base-plate which is adapted to form the lower member of a turn-table, upon which the vise will revolve around a vertical axis, and also is provided with means, such as lugs *a*, for securing the vise in place. The base-plate A is provided with an upwardly-turned portion A', which is preferably formed integral with said plate.

B represents the upper member of the turn-table, which is formed in the shape of a saddle-block, having ears B' B<sup>2</sup> at their respective sides. The ears B' B<sup>2</sup> act as pivotal bearings for a sleeve C. The lower face of the member B is recessed, so as to fit the projecting portion A' of the plate A, the fit between the parts being such as to allow of the member B being rotated around a vertical axis.

For the purpose of securing the plate A and the member B together I employ a bolt B<sup>3</sup>, which engages the upper member B and is pivotally secured in the lower member A. Also, if desired, I may extend down from the upper member B a boss B<sup>4</sup>, which fits into an orifice A<sup>2</sup> in the plate A. In this construction a washer *b* is employed for holding the parts together in connection with the screw B<sup>3</sup>.

C represents a sleeve which is provided with trunnions *c c'* at either side, said trunnions being journaled in bearings *b' b<sup>2</sup>*, formed in the ears B' B<sup>2</sup>, respectively. The trunnions *c c'* are located, preferably, somewhat to the rear of the center of the sleeve C and at a point beneath the horizontal center of said sleeve, the object of which will hereinafter appear.

Mounted in the sleeve C is the rear jaw D of the vise, the connection between the parts being such as to allow the said jaw and the forward jaw, which is also mounted within the journal of the rear jaw, to revolve within said sleeve on a horizontal axis. The stationary jaw and the movable jaw are so mounted as to enable the same to have sufficient play to allow the parts to rock. The jaw D is provided with a shoulder *d*, which abuts against the said sleeves C, and means, such as a pin D' and holes D<sup>2</sup>, located in the journal of the jaw D, or a clamp such as illustrated in Fig. VI of the drawings, may be employed for holding the jaws of the vise from rotating after being adjusted. Thus it will be seen that the jaw D and the sleeve C when

secured together are to all intents and purposes a solid structure and that the only object in thus constructing the parts and assembling them is for the purpose of allowing the jaws of the vise to be adjusted in relation to a horizontal axis. When such adjustment is not desired, these parts are made solid, thus making the trunnions  $c c'$  part of or connected directly to the rear jaw D.

Extending downward from the sleeve C (which, as hereinbefore stated, practically forms part of the rear jaw D) is a clamping finger or lug E. The construction or location of the finger or lug E is such that it forms one arm of a lever the fulcrum of which is the bearings  $b' b^2$  and trunnions  $c c'$  and the other arm being the rear jaw D at its clamping portion. Thus it will be seen that any purchase against the clamping portion of the jaw D will tend to rock the parts on the trunnions  $c c'$  and cause the finger or lug E to contact with the side of the projection  $A'$ , as at  $a'$ , (see Fig. II,) and will thus bind the parts A and B together and prevent them from horizontal movement in relation to each other.

The forward jaw F of the vise is mounted within the rear jaw D in any suitable manner, (preferably as shown,) so that the said jaw is adjustable to and from the said rear jaw D for the purpose of clamping the work, and any means may be employed for the purpose of said adjustment.

In the drawings I have illustrated the ordinary screw G as being attached to the jaw F and having a handle  $G'$  for the purpose of manipulating it, and in this connection I have employed a nut H, which coacts with the screw G, the said nut being provided with an arm  $h$ , which projects through a slot  $g$ , cut lengthwise in the barrel of the jaw F, and from thence passes through and into a slot  $d'$ , cut transversely through the barrel  $D^3$  of the jaw D. (See Figs. II and III.) From thence the arm  $h$  passes into the part B by means of an elongated slot  $H'$ , cut crosswise in said part. (See Fig. III.) Thus it will be seen that the said nut by its construction and by the construction of its cooperating parts will allow of the vise being adjusted around a horizontal axis to the extent of ninety degrees at either side and that the vise may be locked (see Figs. V and VI) at any predetermined angle.

In setting forth my invention I have shown and described what I consider to be the best construction for attaining the objects sought; but in doing so I do not wish to be limited to the construction shown or set forth nor to the details thereof, inasmuch as they can be modified in several features without departing from the invention.

What I claim is—

1. A vise of the type set forth, comprising two jaws with means for adjusting said jaws in relation to each other, means for permitting said jaws to be adjusted in a horizontal ro-

tary direction, rocking means incasing said jaws and actuated by the clamping thereof for locking the jaws against horizontal movement, means for permitting said jaws to have a vertical rotary movement, and means for locking said rocking means to the jaws, substantially as described. 70

2. A vise of the type set forth, comprising two jaws with means for adjusting said jaws in relation to each other, a base having a turntable thereon carrying the jaws whereby the latter may have a horizontal rotary movement, and means incasing the jaws and pivotally supported by the turn-table adapted for engagement with the base, said last-named means being actuated by the clamping of the jaws whereby the latter are secured against horizontal movement. 80

3. A vise of the type set forth, comprising two jaws with means for adjusting said jaws in relation to each other, means for permitting said jaws to have a horizontal rotary movement, locking means actuated by the clamping of the jaws for securing the same against horizontal rotary movement, means for allowing said jaws to have a vertical rotary movement, and means for locking said locking means to the jaws, substantially as described. 85

4. A vise of the type set forth, comprising two jaws with means for adjusting said jaws in relation to each other, means for permitting said jaws to have a horizontal rotary movement with means for locking the jaws against said movement, means for allowing said jaws to have a vertical rotary movement independent of the said locking means, and means carried by the locking means for securing the latter to the said jaws thereby locking the jaws against vertical rotary movement, substantially as described. 100

5. A vise of the type set forth, comprising two adjustable jaws, means for adjusting said jaws in relation to each other, means for allowing the said jaws to be adjusted in a vertical rotary direction, means to allow said vise to be adjusted in a horizontal rotary direction, means incasing said jaws and actuated by the clamping thereof for locking the vise against horizontal movement, and means carried by said last-named means for locking the jaws against vertical rotary movement, substantially as described. 105

6. A vise of the type set forth, comprising two jaws, means for adjusting one of said jaws in relation to the other means for allowing the jaws to be adjusted in a vertical rotary direction, means for allowing said jaws to be adjusted in a horizontal rotary plane and independent locking devices for locking the respective adjustment. 120

Signed at Cleveland, county of Cuyahoga, and State of Ohio, this 14th day of May, 1901. 130  
JACOB LEWIN.

Witnesses:

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