

No. 631,151.

Patented Aug. 15, 1899.

C. B. CAMPBELL.
QUICK ACTION VISE.

(Application filed Feb. 10, 1899.)

(No Model.)

Fig. 1.

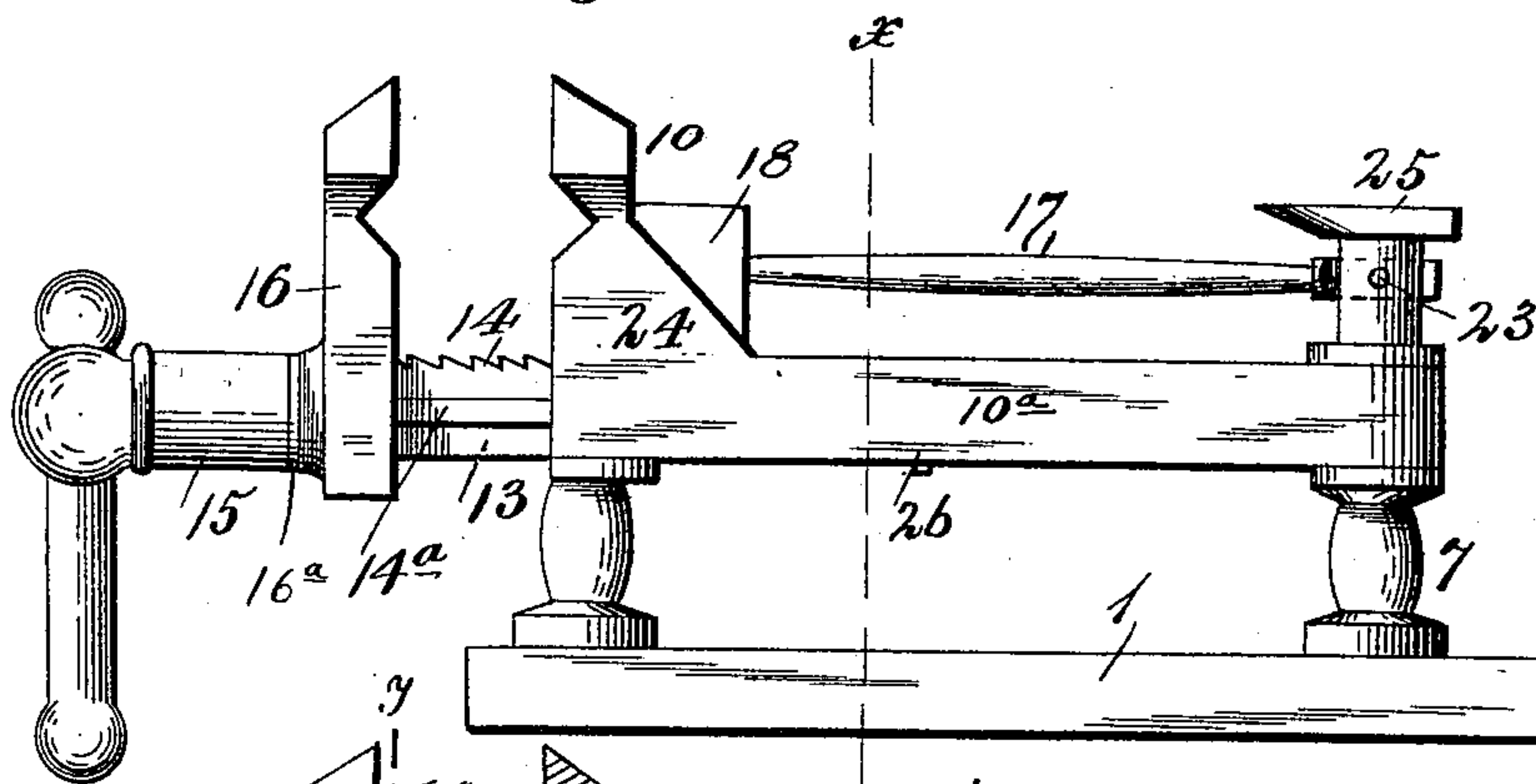


Fig. 2.

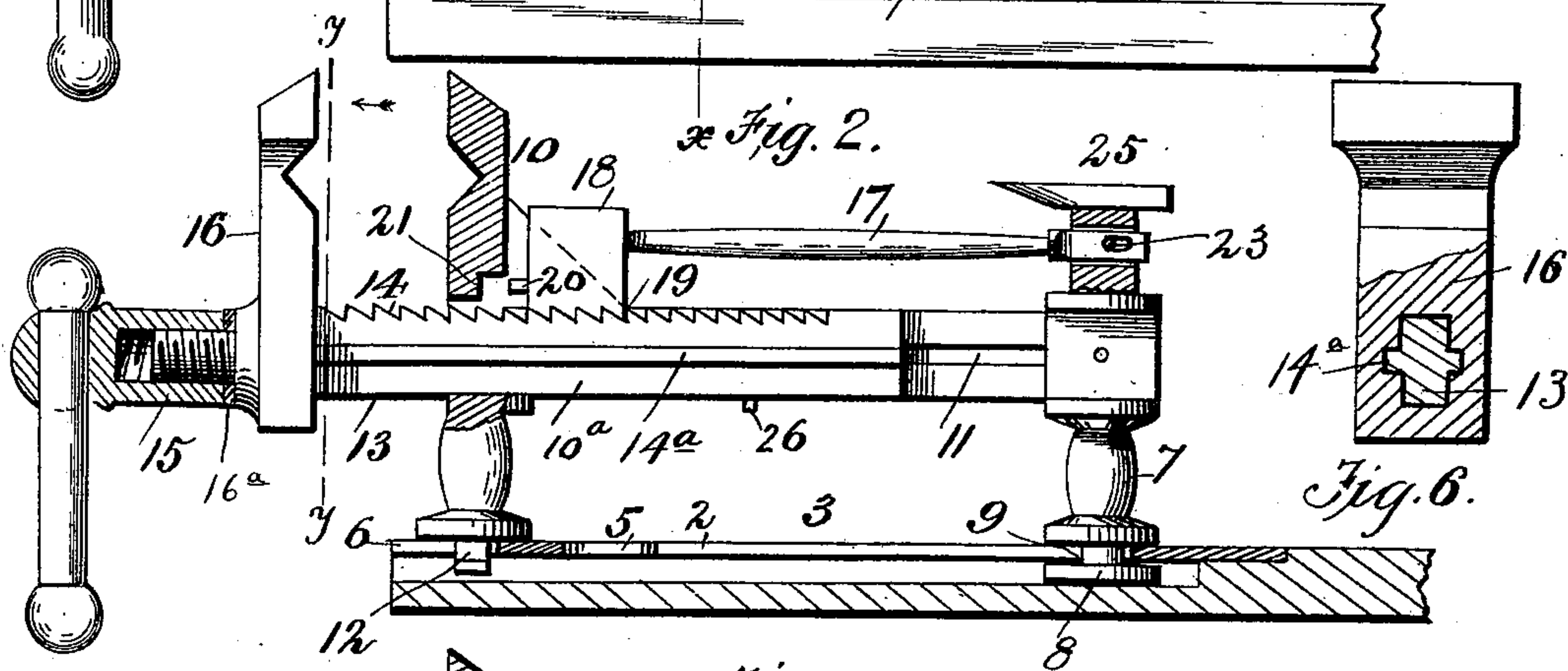


Fig. 6.

Fig. 3.

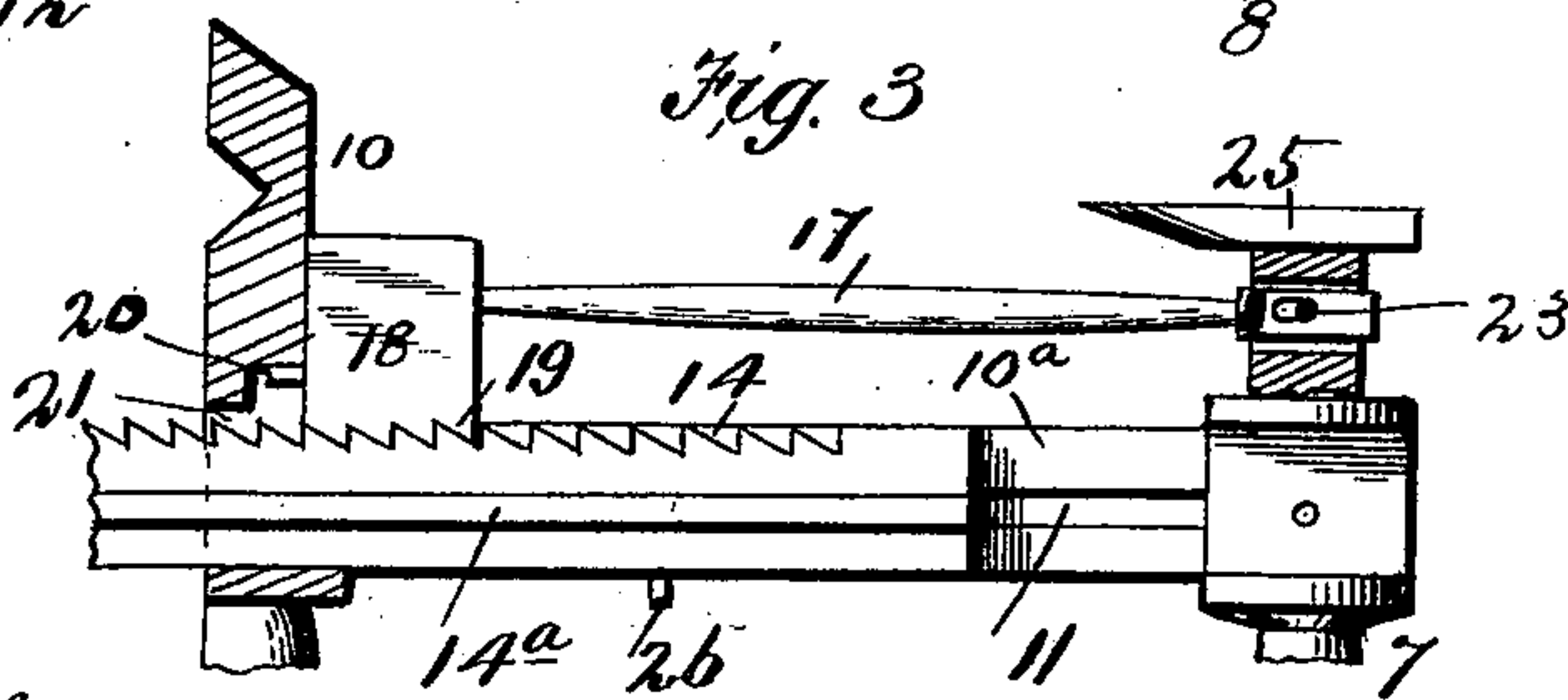


Fig. 5.

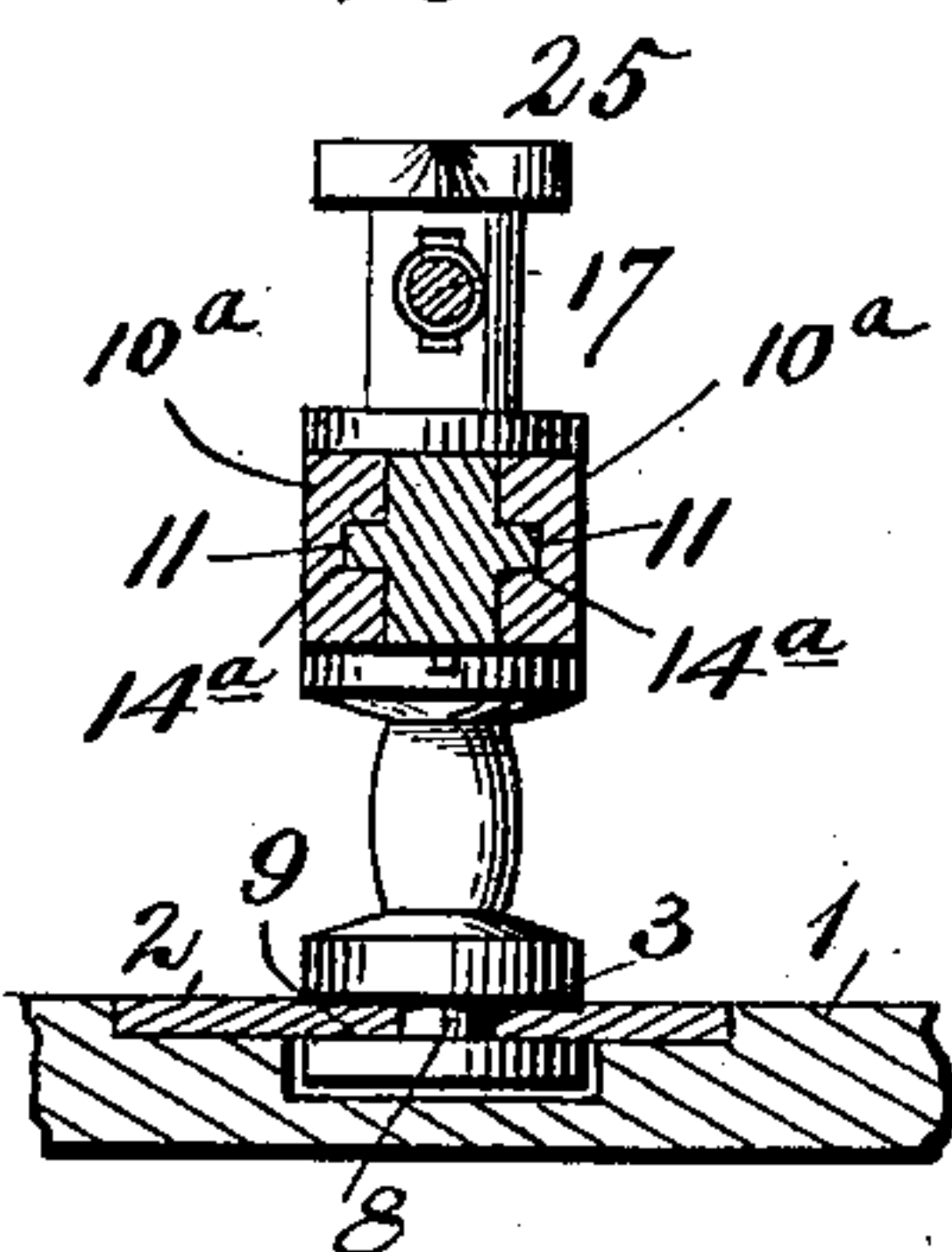
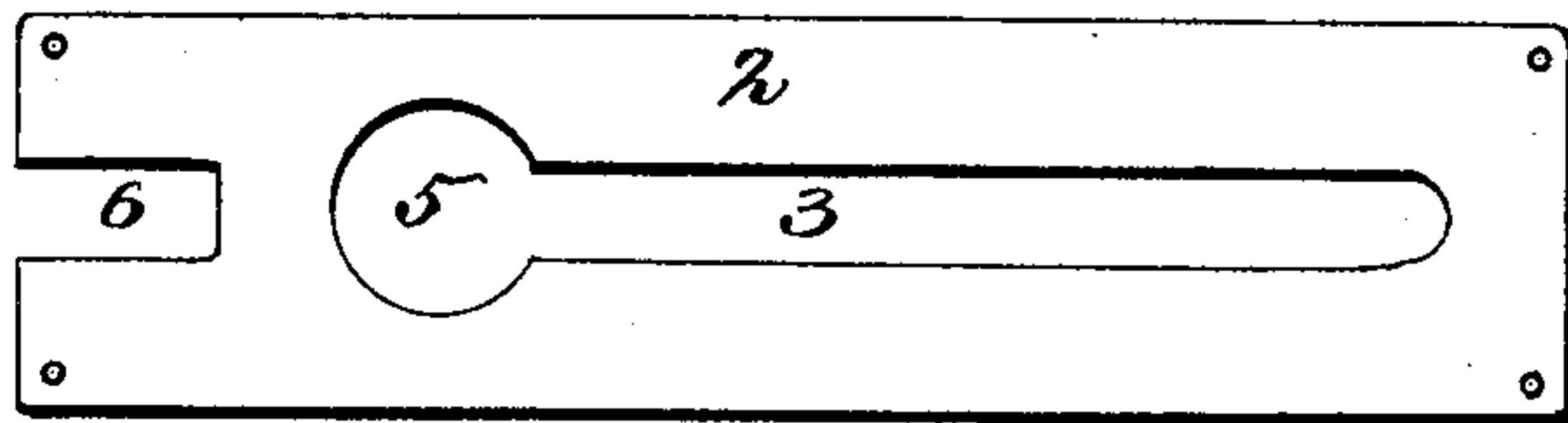


Fig. 4.



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UNITED STATES PATENT OFFICE.

CYDNOR B. CAMPBELL, OF GLOUSTER, OHIO, ASSIGNOR OF ONE-HALF TO
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QUICK-ACTION VISE.

SPECIFICATION forming part of Letters Patent No. 631,151, dated August 15, 1899.

Application filed February 10, 1899. Serial No. 705,184. (No model.)

To all whom it may concern:

Be it known that I, CYDNOR B. CAMPBELL, a citizen of the United States, residing at Gloucester, in the county of Athens and State of Ohio, have invented new and useful Improvements in Quick-Action Vises, of which the following is a specification.

My invention relates to that class or description of quick-action vises which comprise in their structure a stationary jaw and a slidable or movable jaw carried by a rack-bar and provided with a pivoted dog for holding the sliding jaw in place when an article is clamped between the jaws; and its object is to provide improved means for holding the dog in engagement with the rack-bar and disengaging it therefrom, so as to enable the rack-bar to be moved in or out.

It is also an object to provide improved means for securing the vise to its plate or other support whereby it may be swung out of the way or altogether removed from said support when desired.

The invention consists in the novel construction and combination of parts herein-after fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a vise constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a similar view showing the pivoted dog in engagement with the rack-bar and held against disengagement therefrom by the lug on its front end engaging with a recess in the stationary jaw. Fig. 4 is a plan view of the supporting-plate, the vise being removed. Fig. 5 is a cross-section on the line *x x*, Fig. 1. Fig. 6 is a detail sectional view on the line *y y*, Fig. 2, looking in the direction of the arrows.

In the said drawings the reference-numeral 1 designates a bench or other object, to which is secured a supporting-plate 2, seated in a recess therein. This plate is formed intermediate its ends with a longitudinal slot 3, having a circular opening or hole 5 at the front end somewhat larger than the slot. The said plate at the front end is formed with a recess 6.

The numeral 7 designates a post, the lower

end of which is formed with a head 8, having a peripheral groove 9 therein with which the edges of the slot 3 engage and which hold the post in place in the slot.

The numeral 10 designates the stationary jaw connected with said post by two horizontal bars 10^a, with a space therebetween, which bars are provided with a longitudinal groove 11 in their inner sides, forming a way for a rack-bar, hereinafter described. This jaw is provided with a grooved head 12 similar to head 8, which engages with the recess 6 in the front end of the plate 2 and prevents the jaw and bars from swinging sidewise.

The numeral 13 designates a sliding rack-bar passing through a hole or opening in the stationary jaw and provided on its upper side with rack-teeth 14 and on opposite sides with longitudinal ribs 14^a, engaging with the grooves 11. The outer end of this rack-bar is screw-threaded, with which engages a correspondingly-threaded swivel 15. Carried by said rack-bar and movable thereon is the sliding jaw 16, and interposed between this jaw and the swivel is a washer or collar 16^a. This jaw is formed with a recess through which the rack-bar 13 passes. Pivoted to the upper end of the post 7 is a rod 17, the front end of which is provided with a dog 18, having teeth 19, adapted to engage with the teeth of the rack-bar. The lower front end of this dog is formed with a lug 20, which is adapted to engage with a countersunk recess 21 in the stationary jaw. The said rod at the rear end is provided with an elongated hole, through which the pivot-pin 23 passes, the object of which is to permit the rod to have a limited horizontal movement, so that the lug 20 can be engaged with and disengaged from the recess 21. At the inner ends the said side bars are formed with approximately triangular extensions 24, which form guides for the dog 18. The post 7 at its upper end is provided with an anvil 25.

The numeral 26 designates a pin on the under side of the rack-bar to limit the outward movement of the latter by coming in contact with the stationary jaw.

In practice the swivel is given a turn or two backward, and the movable or sliding dog is

moved outward a short distance, and the dog
 is thrown out of engagement with the rack-
 bar. The latter is now pulled outward a dis-
 tance sufficient to allow the article to be
 5 clamped between the jaws to be inserted in
 place. The dog is then lowered into engage-
 ment with the rack-bar, and the sliding jaw
 is then tightened by turning the swivel. This
 will cause the said sliding jaw to be forced
 10 tightly against the article and at the same
 time the rack-bar to be pulled outwardly
 slightly, carrying with it the rod and dog, so
 the lug 20 of the latter will engage with the
 recess or slot 21 and its disengagement with
 15 the rack-bar be prevented. To remove the
 article from the jaws, the swivel is turned
 backward, so as to loosen the sliding jaw, so
 that it can be moved forward or outward.
 The rack-bar can now be moved backward,
 20 the teeth of the dog riding over the teeth of
 the same to adjust the device for a different-
 sized article. At the same time the rod and
 dog will be moved backward a sufficient dis-
 tance for the lug 20 to clear the recess 21.
 25 By now raising the dogs out of engagement
 with the rack-bar the latter can be pulled
 outwardly to adjust the device for a larger
 article.

To swing the vise out of the way when de-
 30 sired, the post and stationary jaw are pulled
 outward, so that the lower end of the latter
 is disengaged from the recess in the front of
 the plate 2. The vise can now be swung side-
 wise, the post serving as a pivot. To remove
 35 the vise from the plate, it is pulled outward
 until the head at the lower end of the post
 comes into coincidence with the hole at the
 front end of the slot in the plate, when the
 post can be disengaged by lifting it out
 40 through the said hole.

Having thus fully described my invention,
 what I claim is—

1. In a vise, the combination with the post,
 the stationary jaw connected therewith hav-
 45 ing an opening therethrough, the sliding rack-
 bar, the sliding jaw thereon and the screw-
 swivel, of the rod pivotally connected with
 said post provided with a dog at the front end

adapted to engage with said rack-bar, sub-
 stantially as described.

2. In a vise, the combination with the post,
 the horizontal bars secured thereto, the sta-
 tionary jaw secured to said bars and formed
 with an opening, the screw-threaded sliding
 rack-bar, the screw-swivel at the front of said
 55 rack-bar, and the sliding jaw carried by said
 rack-bar, of the rod having an elongated hole
 in its rear end, the pivot-pin passing there-
 through and through the post, and the dog at
 the front end of said rod having teeth in its
 60 under side and provided with a lug adapted
 to engage with a recess in the stationary jaw,
 substantially as described.

3. In a vise, the combination with the post,
 the horizontal bars secured thereto provided
 65 with longitudinal grooves in their inner sides,
 the stationary jaw secured to said bars and
 formed with a recess in one side, and an open-
 ing intermediate its ends, and the sliding rack-
 bar formed with longitudinal ribs, the stop-
 pin secured to said bar, the sliding jaw and
 the screw-swivel, of the rod having an elon-
 gated hole in its rear end, the pivot-pin pass-
 ing therethrough and through the post and
 the dog having teeth in its under side and
 75 provided with a lug engaging with the recess
 in the stationary jaw, substantially as de-
 scribed.

4. The combination with the plate having
 a horizontal slot therein with an intersecting
 80 hole at the front end, and said plate formed
 with a recess or slot at the front end, of the
 post having a head at the lower end formed
 with a peripheral groove, the stationary jaw
 having a similar head adapted to engage with
 85 said recess in the front of the plate, the sliding
 jaw, the rack-bar, and the pivoted rod pro-
 vided with a dog at the front end, substan-
 tially as described.

In testimony whereof I have hereunto set
 my hand in presence of two subscribing wit-
 nesses.

CYDNOR B. CAMPBELL.

Witnesses:

JAMES M. AMOS,
 KATE AMOS.