

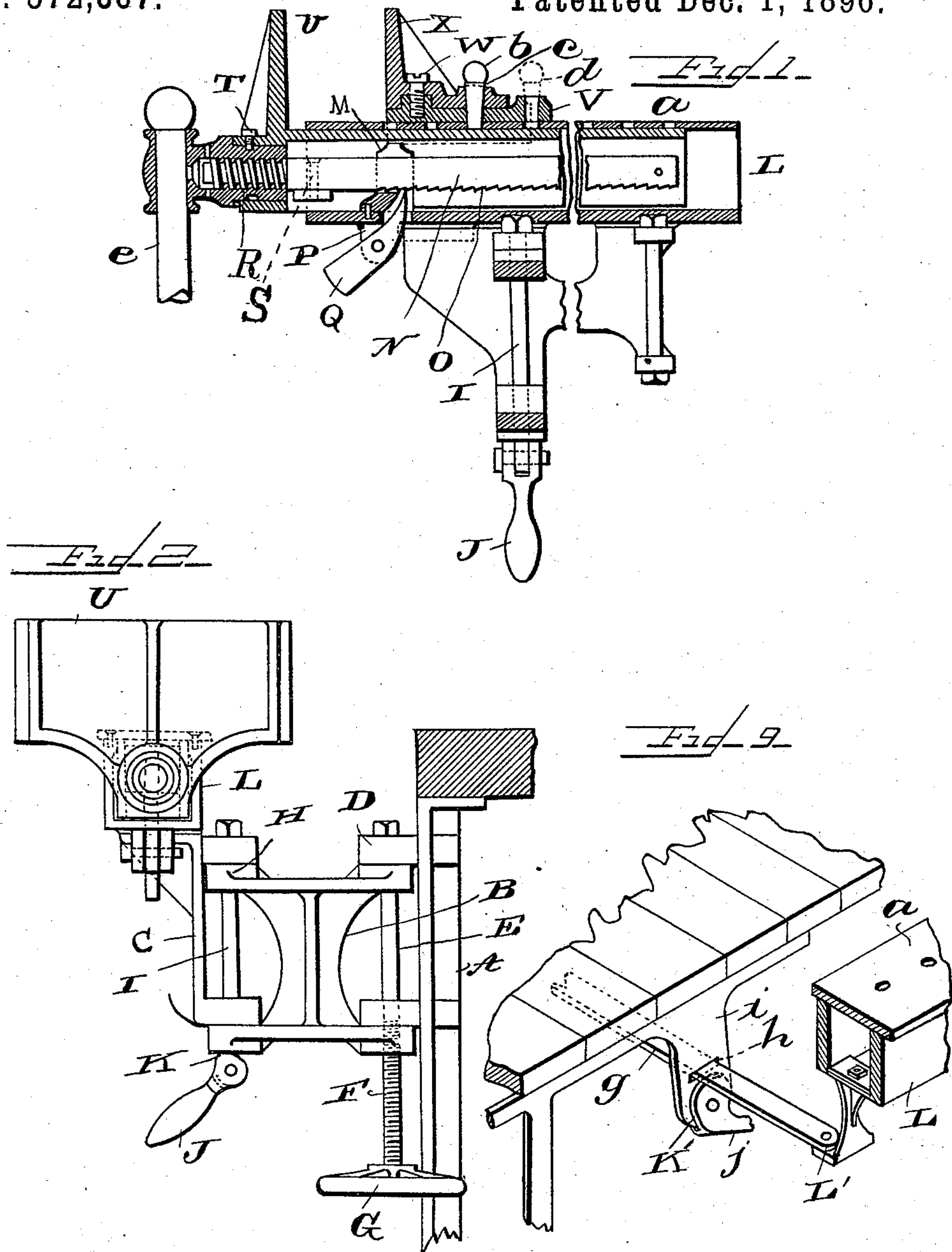
(No Model.)

2 Sheets—Sheet 1.

J. F. PARKER & C. M. BENNETT.  
BENCH VISE.

No. 572,367.

Patented Dec. 1, 1896.



Witnesses—

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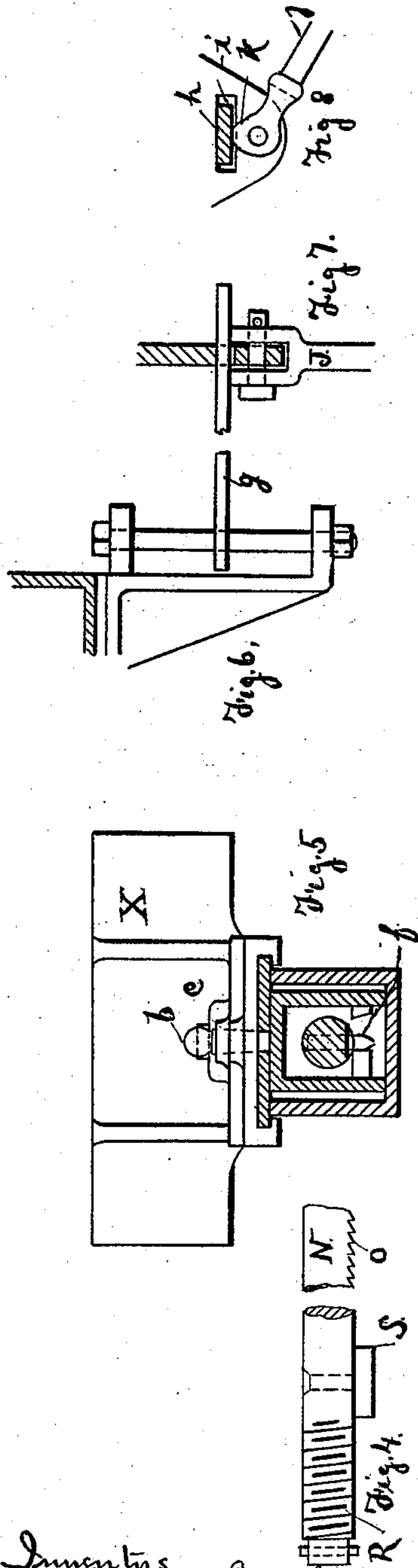
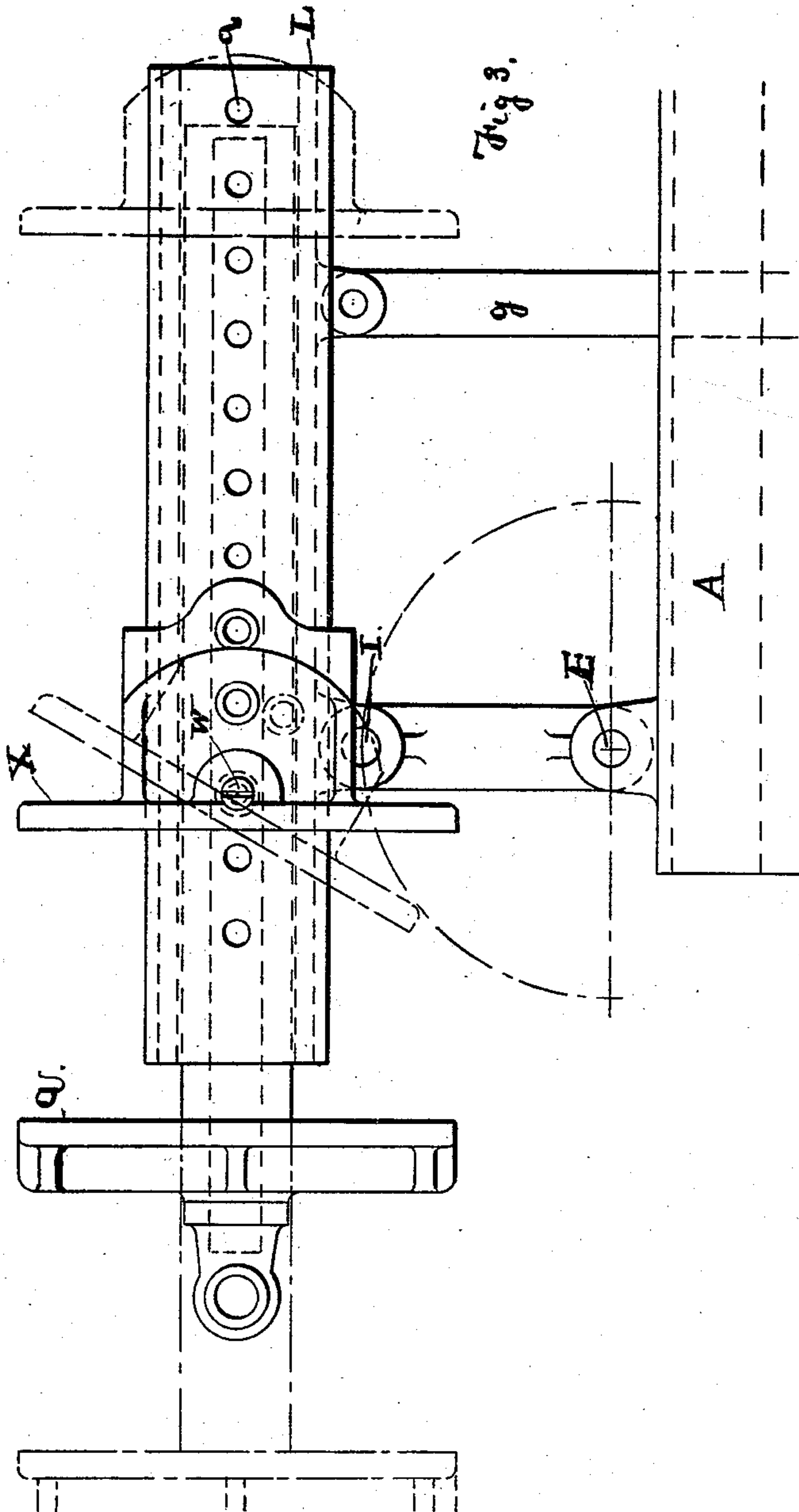
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# UNITED STATES PATENT OFFICE.

JOHN F. PARKER AND CALVIN M. BENNETT, OF PORTLAND, MAINE.

## BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 572,367, dated December 1, 1896.

Application filed October 23, 1895. Serial No. 566,651. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN F. PARKER and CALVIN M. BENNETT, citizens of the United States of America, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Bench-Vises; and we 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.

Our invention relates to improvements in bench-vises, and especially to that class of vises having two movable jaws, one of which is capable of being swiveled, so as to fit any desired bevel on the work to be inserted between the jaws.

It consists in a novel way of attaching the vise to the bench so that it may be swung in any desired position; of means for raising and lowering the same so that it may be higher or lower than the bench, as desired; novel means for locking the vise when it is in the desired position, and also in novel means of attaching, adjusting, and moving the clamping-jaws, and in certain other details of construction, which will be hereinafter more fully set forth and specifically claimed.

In the drawings herewith accompanying and forming a part of this application, Figure 1 is a vertical section of our improved device. Fig. 2 is an end elevation of the same. Fig. 3 is a top plan view of the same, dotted lines showing the adjustability of the clamping-faces. Figs. 4, 5, 6, 7, and 8 are detail views of the different parts used in the construction of the vise; and Fig. 9 is a perspective view with a part of the bed of the vise broken away, showing means used for holding the vise away from or close to the bench.

Same letters refer to like parts.

In said drawings, A represents a suitable bench, to which is pivotally attached, by a single or double yoke B, bracket C, which sustains the bed of the vise. Adapted to extend through sockets D in the yoke is a rod E, threaded, as at F, and having on its lower extremity a suitable handle or wheel G. Said rod E also extends through the sustaining-brackets of the vise, the lower extremity of which is provided with a threaded socket, so that when the handle is turned one way or

the other by the thread in the socket in the bracket engaging the thread on the rod E the vise-bracket is raised and lowered as desired. Adapted also to fit into sockets H in the yoke and vise-bracket is a rod I, having pivoted on its lower extremity a lever J, provided with a cam-surface K, by which, when the lever is brought into action and the cam-surface is forced against the bottom of the vise-bracket and yoke, the vise is held firmly, thereby preventing it from moving on the rod I.

Attached to the yoke B, as described, is a box L, which constitutes the bed of the vise. Said box is hollowed out and provided with a guide M to keep the rod N in position. Said rod N is provided on a portion of its circumference with ratchet-teeth O. Pivotally attached to the bed of the vise by means of an ear P is a pawl Q, adapted to engage the ratchet-teeth on the portion of the circumference on the rod N. The outer extremity of said rod N is provided with threads R. Said rod N is also provided with a stop S, as shown in Fig. 4. Attached to said rod at its threaded portion by means of the nut and screw T is a clamping-jaw U, which constitutes the outer clamping-jaw of the vise.

Pivotally attached to the plate V by means of the pin W is the other clamping-face X of the vise. In order to prevent this jaw from displacement when pressure is brought upon it, we provide the bed of the vise with sockets a and a pin b, which is inserted through the clamping-jaw and the plate upon which it is mounted into sockets a. In order to adjust the clamping-jaw X at an angle requisite to receive the work, the pin b is removed from its socket c in the clamping-jaw and the jaw is then adjusted at the proper angle, the pin b being inserted behind the plate, as shown at d in dotted lines in Fig. 1. In order to move the outer jaw U, the workman has only to turn the pivoted handle e a sufficient distance so as to throw the ratchet-teeth O out of engagement with the pawl Q—that is, until the stop S bears against the confining-wall of the vise-bed. Then the rod N may be pulled out or pushed in, as desired, and the handle turned so that the pawl may once more engage the ratchet-teeth. Then turn the handle e so as to tighten the thread. By this means the clamping-jaw is moved slightly



and the work is held firmly but rigidly in position. In order to prevent the rod N from turning completely around, we provide it with a stop S, as shown in Fig. 5, which allows it to turn a sufficient distance so that it may be forced out of engagement with the pawl and not allow it to turn farther.

Pivotally attached to the bed of the vise by means of the bolt L, as seen in Fig. 9, is a rod *g*, adapted to slide in the socket *h* in the ear *i*, attached to the bed of the bench. Pivotally attached to said ear *i* is a lever *j*, having a cam-surface *K'* thereon. It will be seen that when the cam-lever *j* is pressed down it will force the rod *g* against one of the edges in the ear *i* and hold it firmly in position, and that when the lever is loosened and the pressure removed from the rod *g* the vise may be moved toward or away from the bench, the rod *g* being allowed to slide in the socket *h* in the ear *i*. When the vise has been adjusted at a proper distance from the bench, the lever *j* is tightened and then the rod *g* is forced against the upper edge in the socket *h*, by means of which the bed of the vise is firmly held in position and prevented from moving away from or toward the bench.

The operation of our improved vise is as follows: When the workman wishes to insert any article between the clamping-jaws, especially if the end of the article is cut on any bevel, he first removes the pin, swings the jaw X at any desired angle, turns the handle *e* until the rod N and its ratchet-teeth are out of engagement with the pawl Q, pulls outwardly or pushes inwardly the jaw U, as the size and length of the articles require, inserts the pin *b*, as shown in dotted lines at *d* in Fig. 1, then forces the rod and clamping-jaw U inwardly until the clamping-jaw bears against the outer extremity of the work, turns the handle *e* so that the ratchet-teeth can be brought into engagement with the pawl, then turns the handle sufficiently to bring the clamping-surfaces firmly up against the articles, and the vise is ready for use. Should the work be of such a kind as to require the vise to be raised or lowered more than is ordinarily needed, the workman has only to turn the handle G on the rod E. This, owing to the threads on the rod engaging the threads in the socket of the vise-brackets, will enable the vise to be raised and lowered as the workman desires. Should the workman desire to approach the work from a different side instead of being compelled to loosen the clamping-jaw and remove the work from between them, he has only to loosen the cam-lever J and *j*, then swing the whole vise in whichever way he wishes it, the vise moving on the yokes B. The levers are then placed in position and the vise is rigidly held in position.

We do not wish to limit ourselves to the specific form described for attaching our vise to the bench or for holding it away from or close to the bench. Well-known mechanical equivalents can be used for accomplishing

the same result without materially altering or changing the invention.

Having thus described our invention and its use, we claim—

1. In a bench-vise the combination of two clamping-jaws one of which being adjustable at any angle, means for holding said clamping-jaws in position, means for pivotally attaching the same to a rigid object, means for raising and lowering the vise, means for swinging the vise and holding it in any desired position, substantially as and for the purposes set forth.

2. In a bench-vise the combination of a bed provided with sockets therein of two movable clamping-faces the one adapted to slide on said bed and adapted to be set at any angle the other mounted upon a rod threaded part way of its length and having on a portion of its circumference ratchet-teeth adapted to engage a pawl pivotally attached to the bed of the vise, means for throwing said ratchet-teeth and pawl out of engagement and means for moving said clamping-faces, substantially as and for the purposes set forth.

3. In a bench-vise in combination a bed two adjustable clamping-jaws one or more yokes pivotally attached to the vise and rigid object, a rod extending from the rear of the bed through a slotted plate attached to the rigid object, a cam-lever attached to said slotted plate and adapted to hold said rod rigidly in place, and means for raising and lowering the bed, substantially as and for the purposes set forth.

4. In a bench-vise in combination, a suitable bed provided with sockets, two adjustable clamping-faces moving on said bed, said bed being pivotally connected by means of a bracket and yoke to a suitable rigid object, an ear attached to the rigid object and having a slot therein, a rod pivotally attached to the bed of the vise and adapted to slide in the slot in said ear, and means for holding said rod rigidly in position, substantially as and for the purposes set forth.

5. In a vise the combination of a bed pivotally attached by means of yokes to a bench and adjustable clamping-surfaces adapted to move on said bed one of the clamping-surfaces adjustable by means of a rod threaded part way of its length the unthreaded portion being provided with ratchet-teeth on a part of its circumference, a pivoted pawl attached to said bed and adapted to engage the ratchet-teeth when in position, means for throwing said pawl and ratchet-teeth out of engagement, means for moving the clamping-jaws and holding the same in position, means for swinging the vise away from or toward the bench, means for locking it in any desired position, substantially as and for the purposes set forth.

6. In a bench-vise a suitable bed provided with sockets in combination with two adjustable clamping-faces the one pivotally mounted on a plate adapted to slide on said bed, a



pin to hold said plate and said jaw in position, a clamping-face moving on a rod threaded part way of its length, the unthreaded portion provided with ratchet-teeth on a part of  
5 its circumference, a pivoted pawl attached to the bed and adapted to engage the ratchet-teeth, means for throwing said ratchet-teeth and pawl out of engagement, means for moving said vise away from the bench and means

for raising and lowering the vise, substantially as and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN F. PARKER.

CALVIN M. BENNETT.

Witnesses:

NATHAN CLIFFORD,

E. B. GARDNER.