# J. Renshaw,

## Vise.

No. 46,822. Patented Mar. 14, 1865

Fig. 1.

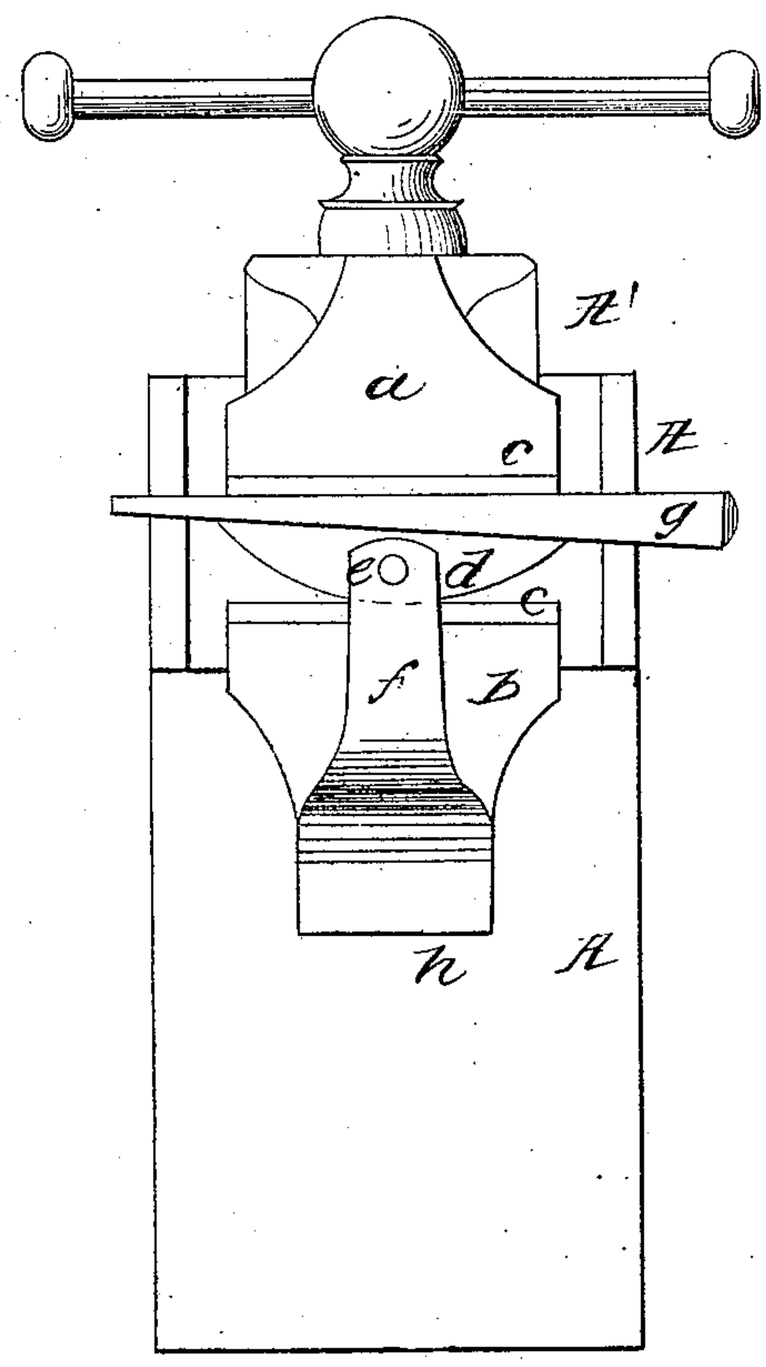
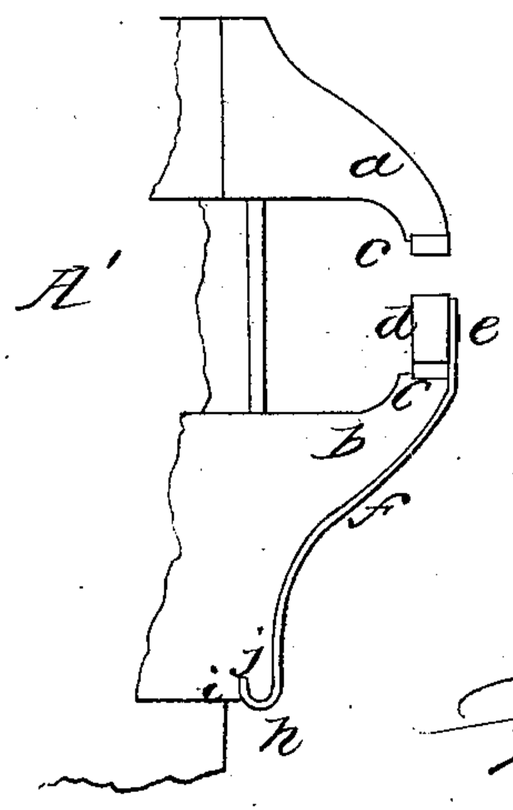



Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOSEPH RENSHAW, OF MICHIGAN CITY, INDIANA.

## IMPROVEMENT IN VISES.

Specification forming part of Letters Patent No. **46,822**, dated March 14, 1865.

*To all whom it may concern:*

Be it known that I, JOSEPH RENSHAW, of Michigan City, in the county of La Porte and State of Indiana, have invented a new and useful Improvement in Vises; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of a vise to which my improvement has been applied. Fig. 2 is a side view of the jaws, in which my improvement is also shown.

Similar letters of reference indicate corresponding parts.

This invention consists of a movable chop to be attached to the back jaw of a vise, by means of which any piece of work whose sides are tapering may be clamped therein with the utmost facility.

A represents a frame or bench to which the vise A′ is attached. In the illustration of my invention given in Fig. 1 the vise is intended to be shown as secured to the bench in a horizontal position; but my improvement can be applied just as well to a vise set vertically on its bench. The front jaw of the vise is designated by the letter *a*, and the back jaw by *b*. Each jaw is provided with the usual steel plate, whose opposing surfaces are corrugated. The back jaw curves downward as it recedes, and terminates in a bead, *j*, separated from the shank of the jaw by a groove, *i*, running parallel with said bead *j*. *d* is an adjustable chop, whose upper face is a plane surface, and whose lower face is an arc of a circle. The said chop may be more accuretely called a segment of a circle. Its curved side rests upon or against the face of the back jaw, and is held thereto by means of a spring-clamp, *f*, which is pivoted to it at the middle of its length, or in the line of its greatest diameter. The clamp *f* is made of sheet-steel or equivalent material, and is fitted close to the curved side of the jaw and held thereto by means of a hook, *h*, turned at its end along its entire breadth, and which fits over the bead *j*, as most clearly seen in Fig. 2. When the chop *d* is in place on the jaw, the vise is ready to receive work whose opposite sides are irregular or tapering, as is illustrated in Fig. 1, where a tapering piece of work, *g*, is clamped in the vise. The chop rocks against the face of the back jaw, moving about its pivot *e* when work of angular form is clamped in the vise, the spring holder or clamp *f* remaining in place during all changes of position of the chop *d*.

I do not claim, broadly, adjusting a curved chop to the jaws of a vise; but,

Having set forth my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

The adjustable movable vise-chop above described, consisting of the rocking-plate and the steel clamp or holder *f*, in combination with the bead *j* of the back jaw of the vise, substantially as above set forth.

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