2 Sheets—Sheet 1.

M. T. HENSON & M. OSBORN.

Vises.

No. 196,578 **Patented Oct. 30, 1877.**

Fig. 1.

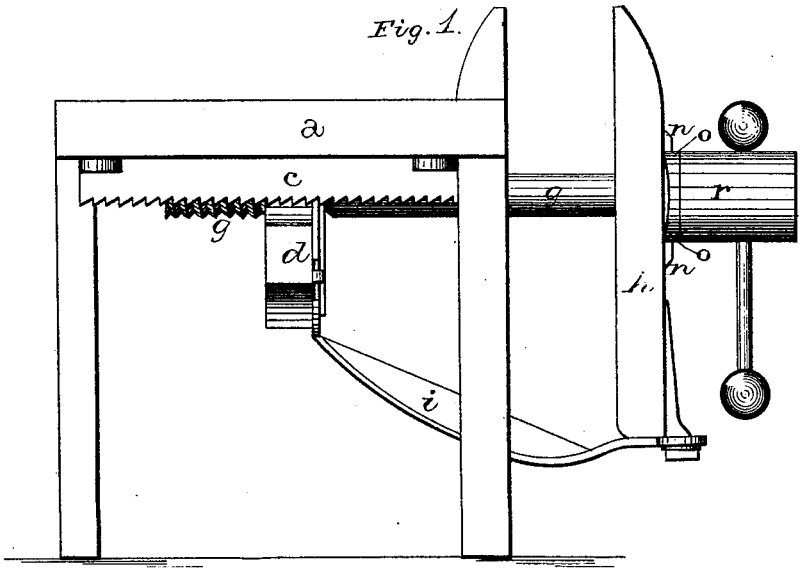
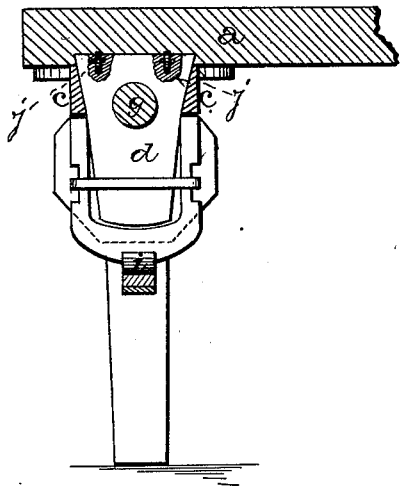


Fig. 2.



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2 Sheets—Sheet 2.

M. T. HENSON & M. OSBORN.

Vises.

No. 196,578 **Patented Oct. 30, 1877.**

Fig. 3.

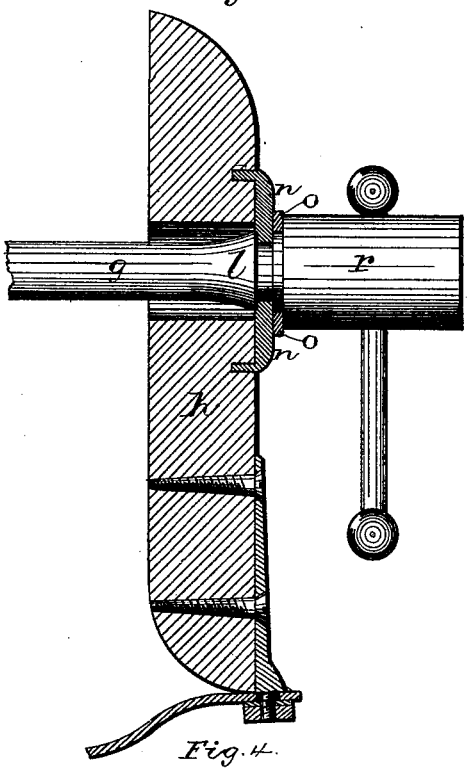
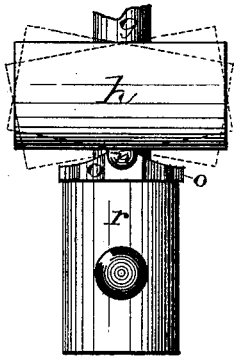


Fig. 4.



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UNITED STATES PATENT OFFICE.

MARVIN T. HENSON AND MARTIN OSBORN, OF PORT JEFFERSON, OHIO, ASSIGNORS OF ONE-THIRD THEIR RIGHT TO SQUIRE BAKER, OF SAME PLACE.

IMPROVEMENT IN VISES.

Specification forming part of Letters Patent No. **196,578**, dated October 30, 1877; application filed October 9, 1877.

To all whom it may concern:

Be it known that we, MARVIN T. HENSON and MARTIN OSBORN, of Port Jefferson, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Mechanics' 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in mechanics' vises; and it consists in the arrangement and combination of parts, that will be more fully described hereinafter, whereby the outer jaw can be rapidly drawn outward and pushed inward, so as to suit the size of any object that may be clamped in the vise, and whereby the screw is only turned after the jaw has been adjusted to the size of the article to be clamped, thereby saving the time and trouble of slowly moving the jaw in and out by means of the screw alone.

The accompanying drawings represent our invention.

a represents a table, of any suitable construction or design, to which the vise is secured. To the under side of the table, extending across it at right angles to its length, are the two ratchets *c*, the insides of which are beveled away at their upper edges, so as to form a dovetailed groove or way in which the nut *d* travels back and forth. These two ratchets are placed immediately in the rear of the inner jaw of the vise, and extend nearly the entire width of the table.

In order to enable the nut to run evenly and smoothly as it is being drawn outward by means of the screw *g*, the nut is provided with friction-rollers *j j* in its upper edge, as shown. The screw *g* is swiveled in the outer jaw, so that when the screw is drawn outward by means of the hand the jaw travels with it. Fastened to the lower end of the jaw *h* is the connecting-rod *i*, the rear upper end of which rod is forked, and has both of the prongs so shaped as to catch in the teeth of the ratchets, for the purpose of preventing the nut from being drawn any farther outward. This pronged end of the connecting-rod is notched upon each side, and passes through a staple in the side of the nut, whereby the rod can be adjusted up or down. When the end is moved upward the two prongs catch in the bar, and then the nut can be drawn no farther outward, and the outer jaw is then ready to be clamped against the article being held, by a slight turn of the screw. When the pronged ends of the connecting-rod are drawn downward, so as to no longer catch in the ratchets, the nut and outer jaw can be rapidly pushed in or out, at the will of the operator, so as to adjust the outer jaw to the size of the article being clamped without the trouble of having to work the jaw outward or inward by turning the screw.

In order to give the jaw *h* a lateral play, as shown in Fig. 4, and thus accommodate itself to different-shaped objects, as the screw is tightened, without any aid from the operator, the following construction is employed: Upon the screw, inside of the jaw, is made the enlargement *l*, which acts as a stop to prevent the jaw *h* from moving forward upon the screw. Secured to the outside of the jaw *h* are the iron bearings *n*, oval-shaped upon their outer sides, against which the metallic ring *o* bears. This ring is secured to the inner side of the enlargement *r* on the outer end of the screw, and has a vertical groove formed across its face to catch over the bearings *n*. As the inner sides of this ring *o* are cut away, as shown in Fig. 4, and as the jaw *h* turns freely at its lower end upon the rod *i*, it is evident that the jaw has a lateral play at each end, as shown in dotted lines. By means of this construction it is only necessary to tighten the screw, when the jaw will automatically adapt itself to the irregular shape of the article being clamped.

By the arrangement and combination of parts here shown and described, it will be seen that it is only necessary to give the screw a slight turn after the outer jaw has been pushed up, by hand, against the article being clamped, in order to tighten it with sufficient force, and

that it is never necessary to use the screw until after the jaw has been so adjusted. By this means a great deal of time and labor are saved to any person using the vise.

Our vise, as thus constructed, is not only self-adjusting, but a self-parallel vise. By fastening the connecting-rod to the lower end of the outer jaw, and then giving the upper end of the connecting-rod a slight vertical adjustment, as already described, it is only necessary to pull or force the upper end of the outer jaw outward, when the pronged end of the connecting-rod will catch in the ratchets, so as to lock the nut securely in position.

Having thus described our invention, we claim—

1. The combination of the bench *a*, ratchets *c*, having their inner sides beveled away, block *d*, having enlarged end provided with friction-rollers *j*, and screw *g*, with the rod *i* and jaw *h*, substantially as shown.

2. The screw *g*, provided with a stop, *l*, in combination with the bearings *n*, ring *o*, and jaw *h*, pivoted upon the rod *i*, substantially as specified.

In testimony that we claim the foregoing we have hereunto set our hands this 3d day of October, 1877.

MARVIN T. HENSON.
MARTIN OSBORN.

Witnesses:
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HOFFMAN M. AILES.