N. F. CONE.

Bench Vise.

No. 8,367. Patented Sept. 16, 1851.

Fig: 1.

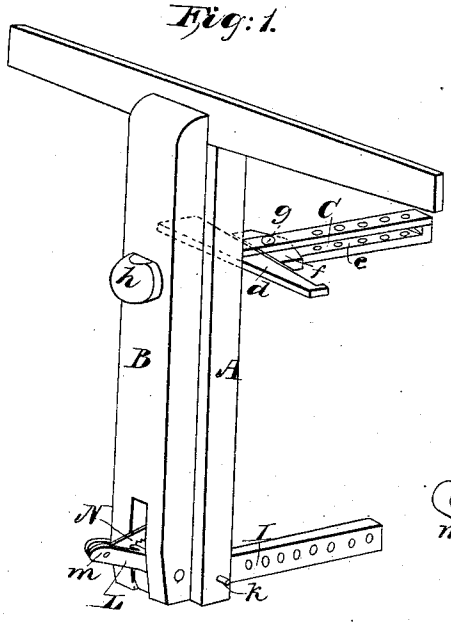
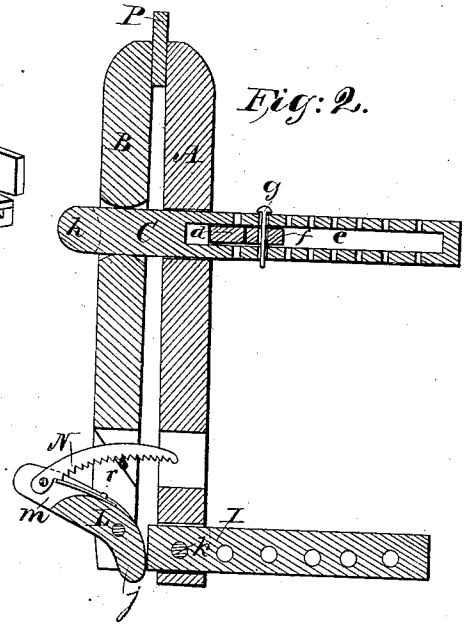


Fig: 2.



UNITED STATES PATENT OFFICE.

N. F. CONE, OF KINGSVILLE, OHIO.

BENCH-VISE.

Specification of Letters Patent No. 8,367, dated September 16, 1851.

To all whom it may concern:

Be it known that I, N. F. CONE, of Kingsville, in the county of Ashtabula and State of Ohio, have invented a new and useful Improvement in Bench-Vises, Particularly Applicable to Wheelwrights' and Joiners' Use; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents a view in perspective of one of my improved bench vises and Fig. 2 is a central vertical section of the same.

The vise as represented in the accompanying drawing consists of two jaws A, B, one of which (A) is fixed to the work bench. This fixed or stationary jaw is mortised to admit a square bar C, which supports the outer or movable jaw B, and whose shank is slotted as at *e*. This bar C is constructed to slide in the mortise in the fixed jaw and is prevented from being drawn outward by means of a wedge *d* which is passed through the slot in the bar, and between an adjustable stop *f* and the back of the stationary jaw. The stop *f* is inserted in the slot *e*, and is secured in any required position by means of a pin, *g*, which is passed through it and any pair of a series of holes in the bar. The bar C is formed with a head *h*, whose shoulders bear against the outer face of the movable jaw and prevent the latter from being drawn outward. The sides of the mortise in the movable jaw through which the bar C passes, are rounded as shown in section at Fig. 2 to enable the jaw to rock upon the bar when its lower extremity is forced outward, or when a tapering piece of lumber or other material is to be operated upon.

A mortise is formed in the lower extremity of the stationary jaw to admit a sliding bar I, which extends parallel with the upper bar C. This lower bar is perforated with a series of holes through which a pin *k* is passed to secure the bar, which prevents the lower extremity of the movable jaw from approaching the fixed jaw. The outer extremity of this bar forms the fulcrum or stationary point against which the heel *j* of a bent lever L bears. This bent lever is pivoted in a mortise made in the lower extremity of the movable jaw B; its shank *m* extends outward and has a saw toothed ratch-bar N pivoted to it; this ratch-bar extends inward over the foot lever L through mortises made in the two jaws A, B; it is pressed upward by means of a spring *o* which constantly presses against its lower edge near to its pivot, and a latch pin *r* is secured to the movable jaw in such a position beneath the ratch-bar that when the latter is forced downward its teeth will engage with the pin.

When a board or other article is to be gripped in this vise the jaws are adjusted by means of the pins in the bars C, I, to about the required distance apart to admit the article which is to be gripped; the toe of the lever L being at the same time raised. The board is now inserted between the jaws as at P, the wedge *d* is tightened if necessary, and the foot is applied to depress the toe of the lever L, the foot being slightly borne at the same time upon the upper edge of the ratch-bar N to depress its teeth upon the pin *r;* as the lever is forced down by the pressure of the foot its heel *j* bears against the end of the bar I, and the lower end of the movable jaw B is forced outward; as the upper bar C is fixed by the wedge *d*, the movable jaw turns upon the head *h* is a fulcrum, and its upper extremity is pressed forcibly against the board; as then the operator slackens the pressure upon the toe of the lever, the latter, tending to rise, forces that tooth of the ratch bar N which is engaged with the pin *r*, against it with sufficient force to prevent the ratch bar from rising under the action of the spring, and thus locks the movable jaw in contact with the board. When the board is to be unclamped the foot is again applied to the toe of the lever L, care being now taken not to press upon the ratch bar, and by a slight surge the lever is depressed sufficiently to relieve the ratch bar from pressure against the pin, when the spring instantly raises it, thus unlocking the lever whose toe then rises to release the article gripped between the jaws. If now another piece of about the same thickness is to be clamped in the vise, it is inserted between the jaws, the clamping is effected by simply pressing the foot simultaneously upon the toe of the lever and the upper edge of the ratch bar, while the unclamping is effected as before described. If articles of larger or smaller size are to be gripped the bars C and I are

correspondingly adjusted and the several manipulations before described are repeated.

What I claim as my invention and desire to secure by Letters Patent is—

The latch pin, the ratch-bar acted upon by a spring that constantly tends to disengage it from the latch pin, and the foot lever, with the movable jaw of a vise; these several parts being constructed, arranged, and operating, as herein set forth.

In testimony whereof I have hereunto subscribed my name.

N. F. CONE.

Witnesses:
E. M. WEBSTER,
ORLANDO LUCE.