

*G. M. Evans,*

*Bench Vise.*

No. 106,349.

*Patented Aug. 16. 1870*

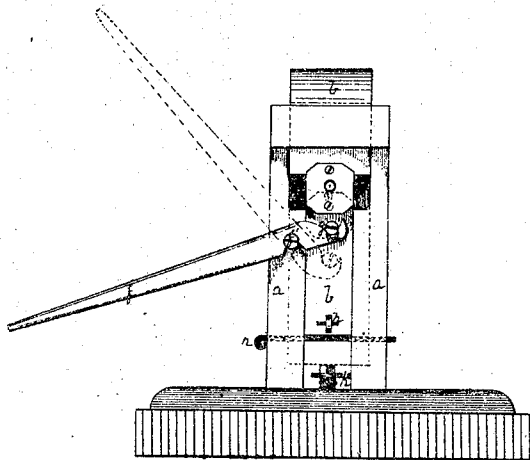


FIG. 4.

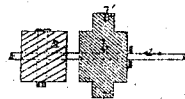
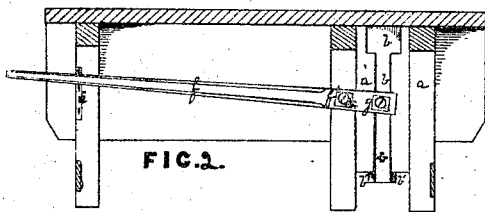


FIG. 3



**FIG. 2.**

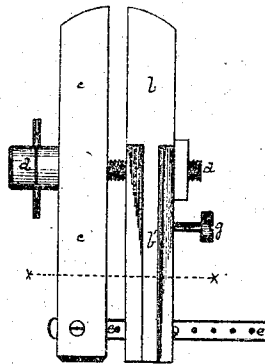


FIG. 1.

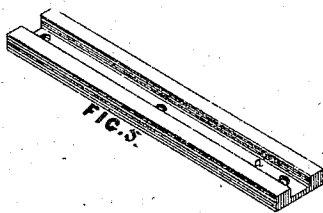
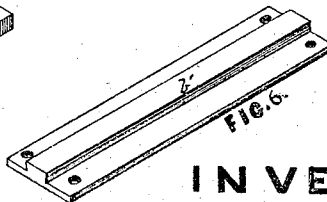


FIG. 5



**FIG. 6**

**WITNESSES.**

R. A. Wrenshall  
Thos. B. Keas

**I N V E N T O R.**

George McEvans  
by his attorney  
Baker & Christy

# UNITED STATES PATENT OFFICE.

GEORGE M. EVANS, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN BENCH-VISES.

Specification forming part of Letters Patent No. 106,349, dated August 16, 1870.

*To all whom it may concern:*

Be it known that I, GEORGE M. EVANS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Bench-Vises; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of my improved bench-vise, showing various devices for giving it a perpendicular movement. Fig. 2 is a side view of the same, attached to a work-bench, the perpendicular movement being imparted by a fixed lever; and Fig. 3 is a sectional view of the jaws of the vise through *xx*, Fig. 4. Fig. 4 is a detached view of the vise, and Figs. 5 and 6 show the tongue-and-groove joint taken apart.

My invention relates to such a construction of a bench-vise that thereby I am enabled to secure a perpendicular movement of the vise, which is so made that, by an arrangement of tongues and grooves, it will slide up and down raised and secured by means of a lever and pin, or by a set-screw placed under its lower end, and operating upward against it; and also, by means of slots or holes, the screw of the vise may be shifted up and down at pleasure.

To enable others skilled in the art to make and use my improvement, I will describe its construction and mode of operation.

In the drawings, *a* is the frame or standard in which the inner vise-jaw, *b*, is set, and in which it slides up and down, by means of the tongues *b'* *b'*, playing in grooves in the standards *a*.

Attached to the jaw *b*, by a vise-screw, *d*, of the ordinary construction, is another jaw, *c*. In the bench-vise of the description heretofore in use, this jaw *c* works against the face of the side of the bench, there being no movable inner jaw. The lower part of the jaw *c* is connected with the inner jaw, *b*, by a pin, *e*, which projects through a hole in the lower part of the jaw *b*. This connection is made so as to gage the vise-jaws equally throughout their length to the width of the board or piece of wood held between them. The jaws *b* and *c* are worked up and down in the standard *a* by means of a lever, *f*, which rests on a pin,

*f'*, in the side of the standard *a* as a fulcrum, and works against another pin or projection, *g*, on the back of the sliding inner jaw, *b*, so that when the long arm of the lever is pressed down it raises the sliding jaw *b* by the short arm pressing up against the pin *g*, the outer jaw being raised along with it. The pin *h*, which passes through the two uprights of the standard, Fig. 4, is for supporting the jaw *b* after it has been raised by the lever *f*. The pin *h* may be dispensed with by having the lever *f* loosely riveted or otherwise secured to the projections *g* and *f'*, and the long arm, when lowered to raise the jaws, gearing into the projections on the rack *i*, Fig. 2, so as to hold the jaws in their raised position.

Through the jaws *b* and *c* are a number of holes, as many as may be desired, for the purpose of shifting the position of the vise-screw *d*. By these arrangements I am enabled to raise or lower my vise quickly and easily, and also to use many of my tools with greater advantage than heretofore—as, for instance, the draw-knife—the trouble in this case having been that the handle comes in contact with the surface of the bench. With my improvement no such difficulty exists, for I raise the vise far enough above the surface of the bench to avoid it; also, in planing a board lying upon the bench, I do not have to work over the projecting top of the vise, (as has heretofore been the case,) for I lower it until its upper end is flush with or below the surface or top of the bench, when, for all purposes, it is completely out of my way. If, in planing the edge of a board, I work down to the top of the bench, I do not have to loosen my board from the vise and so raise it. I simply raise the vise itself by means of lever or screw, as the case may be. The vise may be attached to a bench, Fig. 2; or it may stand detached in a standard, as described, and shown in Fig. 4.

I can apply my invention to any old vise by loosening the old rigidly-attached inner jaw and putting in a tongue-and-groove joint and attaching a lever or screw thereto, whichever may be desired.

My vise, as shown in Fig. 1, is a portable one, and thus satisfies a want that has long been felt by carpenters, who cannot, without great difficulty, carry this very important tool with them as at present attached.

I do not limit myself to the exact form of tongue-and-groove slides shown, but wish to use any form heretofore in use.

Having thus described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

1. A bench-vise having jaws *b* and *c*, the inner jaw, *b*, of which is made loose, so that it may slide up and down by an arrangement of tongues *b'* *b'*, and grooves *a'* *a'* in a box or standard, *a*, substantially as and for the purposes described.

2. The jaws *b* *c*, vertically adjustable, in combination with a lever, *f*, fixed or removable at pleasure, substantially as described.

In testimony whereof I, the said GEORGE M. EVANS, have hereunto set my hand.

GEORGE M. EVANS.

Witnesses:

JOHN GLENN,

R. C. WRENSHALL.