A. H. Brainard,

Vise.

No. 45,693. Patented Jan. 3, 1865.

Fig: 1.

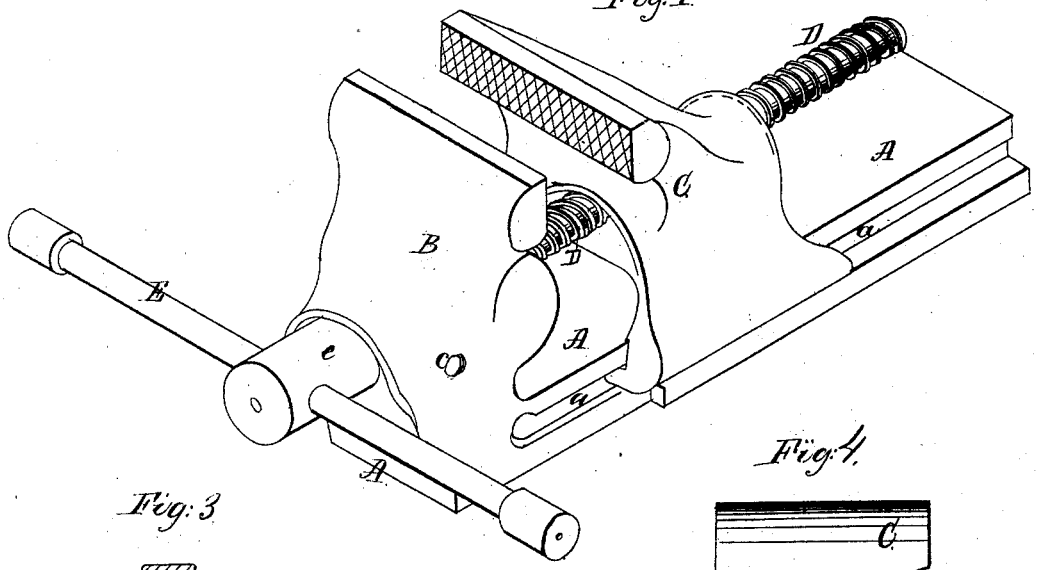


Fig: 3.

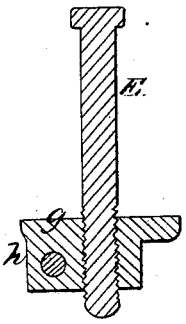


Fig: 4.

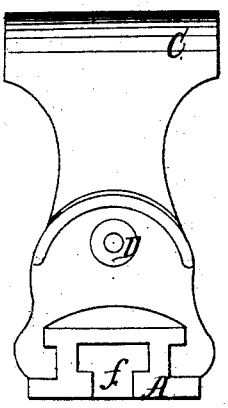
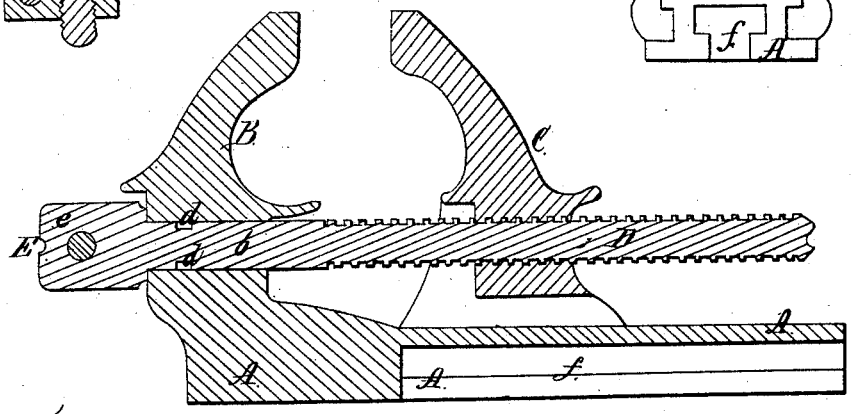


Fig: 2.



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UNITED STATES PATENT OFFICE.

AMOS H. BRAINARD, OF DORCHESTER, MASSACHUSETTS.

IMPROVED VISE.

Specification forming part of Letters Patent No. **45,693**, dated January 3, 1865.

To all whom it may concern:

Be it known that I, AMOS H. BRAINARD, of Dorchester, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Vises, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved vise. Fig. 2 is a vertical longitudinal section through the center of the same. Fig. 3 is a section through the bolt by which it is secured to the bench. Fig. 4 represents a rear end elevation of the vise.

My improvements relate to that class of vise used on the bench and commonly termed the "parallel vise."

The object of my invention is to produce a portable vise of simple construction, in which both jaws or their base rest upon the bench, thereby giving a firm support to the work while being operated upon, and a vise which may readily be swung around upon the bench to accommodate various kinds of work, and which also may be transferred with the work therein to the platen of a planing or drilling machine; and my invention consists in making the base or bed plate of a vise with grooves both upon the inside and outside, the inner grooves forming a support for the head of a bolt which secures the vise in position, and on which it traverses, the outer grooves forming guides and supports for the tongues of the movable jaw.

To enable others skilled in the art to understand and use my invention, I will now proceed to describe the manner in which I have carried it out.

In the said drawings the base plate A and front jaw, B, are cast in one piece, which is secured to the bench, and the rear jaw, C, slides in grooves *a* in the sides of the base-plate, and has a female screw cut in it for the reception of the screw-shaft D. The front jaw, B, is bored out smooth for the reception of the portion *b*, Fig. 2, of the shaft to turn in, which is prevented from having a longitudinal motion therein by means of the screw *c*, which passes through the jaw and into an annular groove, *d*, in the shaft. Through the head *e* of the screw-shaft is bored a circular hole for the lever E, which is grasped by the hand in operating the vise. A longitudinal slot, *f*, is made in the under side of the base-plate for the head of the screw-bolt F to slide in, so that the center upon which the vise swivels may be readily changed as required, and a hole being made in the bench for the bolt to pass through, the nut *g* is turned by means of a rod, *h*, which passes through a hole on one side, as seen in Fig. 3, by which means the vise is securely held in the desired position.

Among the various uses to which my improved vise is applicable I will proceed to enumerate the following:

As both jaws are over the bench, the work held between them is supported more firmly and in a more convenient position than where one jaw comes outside the bench, and much of the jarring is thereby avoided. This is particularly the case when the piece of work is of considerable length.

If the bench be low, or if it is of the ordinary height, and the operator be tall, the vise may be raised readily by putting a block underneath it, a bolt of sufficient length being used to secure it to the bench. The vise may be swung around and adjusted to any desired position on the bench, and secured by tightening the nut *g*, which is operated by a rod, *h*. This rod may remain permanently in place, and thus be always at hand to turn the nut, which is not the case with a wrench. The feature of the vise swinging around renders it useful when a long piece is to be filed, for it may extend diagonally over the bench, so as not to interfere with other workmen at the same bench. Resting as it does upon a smooth base, it may be readily removed with the work in it and placed in a drilling or planing machine.

In vises as ordinarily constructed, with the front jaw movable and projecting over the bench, it is necessary, when a car-wheel is to be "key-seated," to prop up the wheel on the outside by blocks on the floor; but by my improved arrangement the wheel may rest upon the bench, it being only required to push the vise farther on the bench, so as to retain the work in a position parallel to the front while this operation is being performed

It may, in common with most vises, be drawn out over the edge of the bench when it is required to work upon an upright bar.

It will also be seen that my improved vis

admits of the jaws being separated to receive a large piece of work without in the least weakening their hold upon it.

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

1. Constructing the bed-plate of the stationary jaw with grooves both upon the outside and inside, the outer grooves receiving the tongues of the movable jaw, which is thus guided and supported, the inner groove receiving and affording a firm hold for a bolt, which secures the vise in position and also allows it to revolve upon a changeable center or to slide to and fro, substantially as described.

The nut *g*, substantially as described.

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