J. F. HALL & E. P. COOK.

VISE.

No. 187,131. Patented Feb. 6, 1877.

Fig. 1.

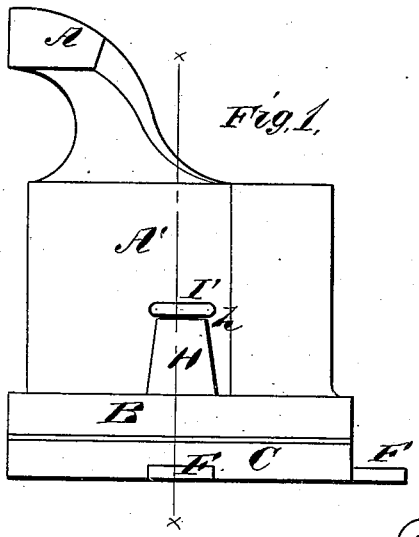


Fig. 2.

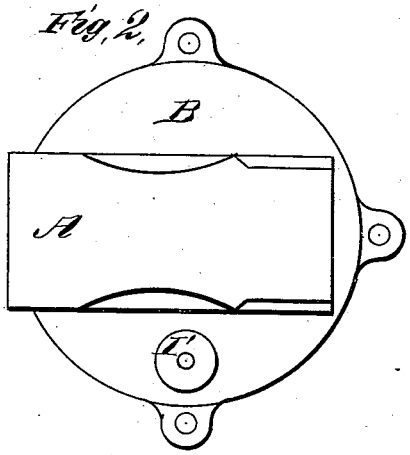


Fig. 3.

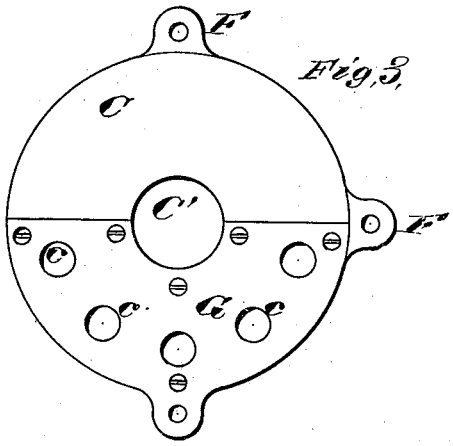


Fig. 4.

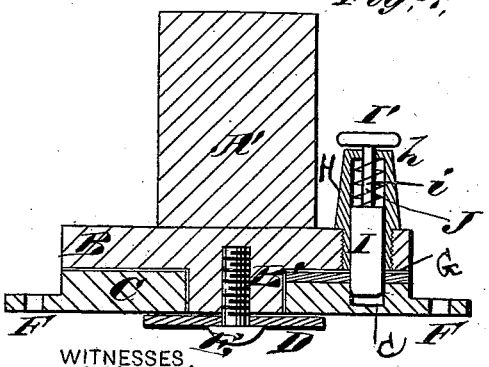
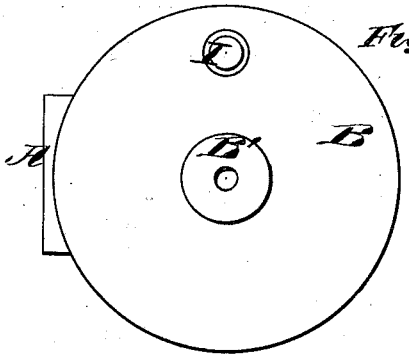


Fig. 5.



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IMPROVEMENT IN VISES.

Specification forming part of Letters Patent No. **187,131**, dated February 6, 1877; application filed September 16, 1876.

To all whom it may concern:

Be it known that we, JAMES F. HALL and ELBERT P. COOK, of Havana, in the county of Schuyler and State of New York, have invented a new and valuable Improvement in Bench-Vises; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of one jaw of a bench-vise, and Fig. 2 is a plan view of the same. Fig. 3 is a plan view of the lower plate detached, and Fig. 4 is a central vertical sectional view of one jaw of a bench-vise; and Fig. 5 is a bottom view of the upper plate detached.

The object of this invention is to provide means for adjusting bench-vises at various angles to carpenters', metal-workers', or other benches. We attain this object by employing a rotating disk or plate, which carries a spring-actuated rod, in combination with a similar fixed disk or plate, which is provided with a semicircular series of perforations, and is secured to the bench, all as hereinafter particularly set forth and claimed.

In the accompanying drawing, A designates the fixed jaw of a bench-vise, and A′ the base-block of said jaw. As ordinarily constructed, said base-block would be secured directly to the bench; but we secure said jaw to the top or outer side of a plate or disk, B, which is provided on its under side with a circular central hub or block, B′. Said hub is received and turns in a corresponding central perforation, C′, of a fixed lower plate, C. Said disks or plates B C are prevented from separating by means of a washer, D, which sets against the under side of plate C, and through which washer a fastening-screw, E, passes into hub B′ of disk or plate B. Lower plate C is fastened to the bench by means of bolts or screws passing through perforated lugs F F of said plate; and said upper plate B turns freely upon said under plate, as the plates or disks constituting the fifth-wheel of a wagon turn upon one another. In this way, while jaw A remains (as stated) fixed so far as concerns its position in relation to the other jaw of the vise, the inclination of the faces of the jaws of the vise to the edge of the bench can be varied at will.

The movable jaw of the vise is connected with the fixed jaw in the ordinary manner, and by means of a screw or otherwise is made to approach or recede from the fixed jaw as in the vises in common use, my improvements relating entirely to the fixed jaw.

It is necessary to have means for locking said vise in any position thus given to it. This locking we accomplish by means of the following devices: In the upper face of fixed disk C (that face against which disk B turns) we make a semicircular series of recesses, *c c*. The upper edges of said recesses are protected by a segmental metal shield, G, which is let into said fixed disk C, so as to be flush with the remainder of the surface of said disk. Said shield G is perforated to correspond with said series of recesses. In the upper rotating disk B there is a single perforation, in which is secured a tube or thimble, H, at right angles with the plane of said disk. The top of said tube is provided with a head, *h*. I designates a plunger-rod, which nearly fills said tube H, and reciprocates longitudinally therein, as hereinafter set forth. Said plunger-rod is provided with a diminished shank, *i*, which passes up through a perforation in said tube-head *h*, and is provided with a button or small disk, I′, on its outer extremity. The office of said button I′ is to limit the downward or inward play of said plunger-rod, and also to afford a convenient handle for withdrawing the same. J designates a helical spring, which surrounds shank *i*, and operates to depress plunger-rod I.

When disk B is turned the end of said plunger-rod slides over shield G until one of the recesses *c c* is reached. Spring J then forces said plunger-rod into said recess, thereby locking the device in the position which it then occupies. To change this position, said plunger-rod is withdrawn by means of button I′, and disk B is turned until plunger-rod I enters the recess, which locks the device in the position desired.

Instead of recesses, *c c* may be perforations

passing entirely through disk or plate C. Said disks or plates B C may be considerably varied in external shape, and numerous other changes may be made without departing from the spirit of my invention.

What we claim as new, and desire to secure by Letters Patent, is—

In the fixed jaw of a vise, the combination of the disk C, having recesses *c c*, with the rotating disk B, thimble H, plunger I, and spring J, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JAMES F. HALL.
ELBERT P. COOK.

Witnesses:
A. V. WHITTEMORE,
WM. A. CRONK.