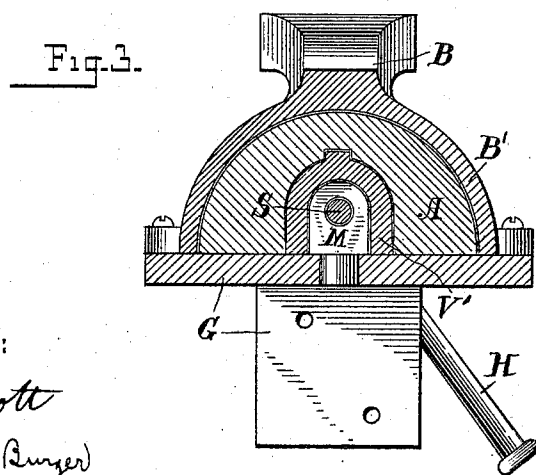
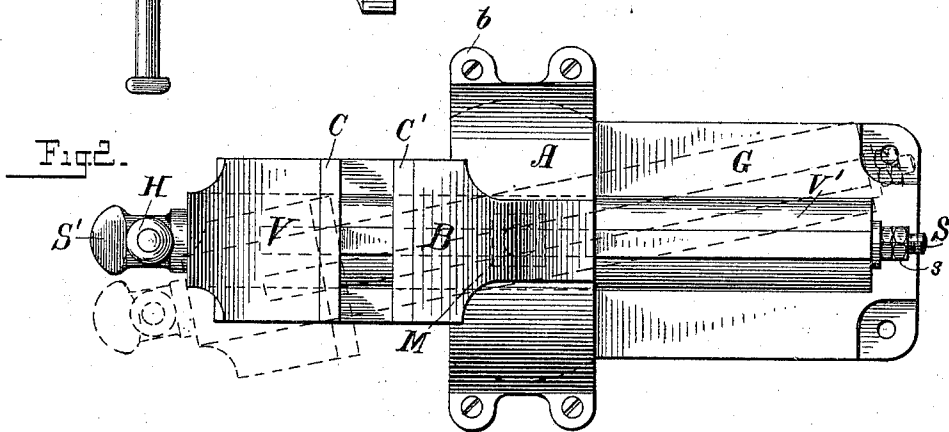
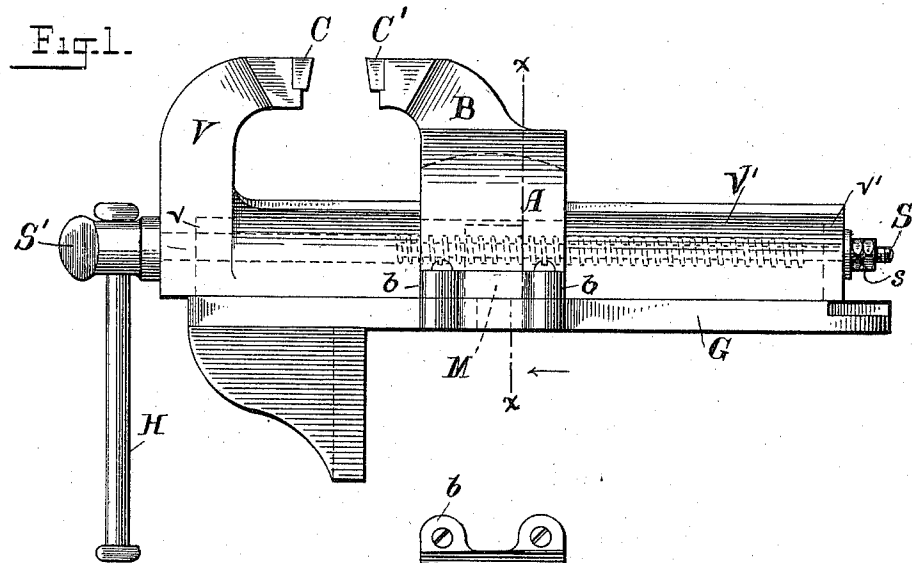


(No Model.)

A. ECKERT.
VISE.

No. 577,845.

Patented Mar. 2, 1897.



WITNESSES:

B. M. Scott
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UNITED STATES PATENT OFFICE.

ALEXANDER ECKERT, OF NYACK, NEW YORK.

WISE.

SPECIFICATION forming part of Letters Patent No. 577,845, dated March 2, 1897.

Application filed December 4, 1896. Serial No. 614,458. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER ECKERT, a citizen of the German Empire, residing at Nyack, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Vises; and I 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 appertains to make and use the same.

My invention relates to smiths' and other vises; and its novelty consists in the construction, arrangement, and adaptation of the parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

The object of my invention is to provide means for giving a limited lateral movement to the movable jaw, whereby the vise may be employed for gripping objects the sides of which are not parallel, and thereby preventing their slipping and disengagement.

The invention in its details is illustrated in the accompanying drawings, in which—
Figure 1 is a side elevation showing concealed parts in dotted lines. Fig. 2 is a top plan view, also showing concealed parts in dotted lines; and Fig. 3 is a side elevation of the stationary jaw and partial section on the plane of the line $x x$ in Fig. 1.

Referring to the drawings, in which similar letters of reference indicate like parts in all of the figures, V is the movable jaw of the vise, provided with a gripping-plate C in the usual manner and at its lower end terminating in a horizontal sleeve V', made somewhat in the shape of an arch and provided with two flanges v and v' , one at each end, through which passes the actuating-screw S.

B is the stationary jaw, provided with a gripping-plate C'. It extends downward over the sleeve V' of the movable jaw, and the side walls of this extension form a hemispherical shell B', which is provided with fins or plates b and any suitable means for securing it to a bench or table G. Located within the shell B' is a supplementary hemispherical filling-shell A, which embraces the sleeve V' of the movable jaw on each side, leaving only sufficient room between them to permit of the easy reciprocal motion of said sleeve. This filling-shell is truncated in front and rear, so

that it does not come down closely over the sleeve in those directions. Fitting closely underneath the sleeve V' is a movable nut M, rotatably secured to the bench or table G by any suitable means, and which is tapped to engage with the threads upon the actuating-screw S. The screw S terminates in an apertured ball S' at its front end, provided with a handle H in the usual manner, and at its rear end is secured to the flange v' by means of the nut s.

The operation of my improved vise is as follows: If an object with parallel sides, for instance, a cube, is placed between the jaws and the movable jaw is caused to approach the stationary one in the usual manner by rotating the screw S, the gripping-plates C and C' hold the cube firmly, and the action of the implement is the same as usual. Suppose, however, that that side of the cube nearest the movable jaw be cut off at an acute angle, so that its horizontal section will assume a trapezoidal form, then as the jaws are brought together the pressure will cause the movable jaw to swing around, turning upon the nut M as a center, the filling-shell A preventing any tendency on the part of the sleeve of the movable jaw to move upward and holding it safely in place while permitting its lateral motion. As the vertical axis of the nut passes through the center of the sphere of which the shell A is a sector they turn simultaneously, bearing against the under surface of the shell B' of the stationary jaw. This rotation cannot be continued safely beyond an angle of thirty-five degrees, as, if permitted beyond that limit, the object to be grasped would slip. It is not necessary that the shell B' or the filling-shell A should be spherical. They may be made from a cone or a cylinder having a vertical axis without departing from the principles of my invention.

Having described my invention, what I claim as new is—

1. In a vise, the combination with the stationary jaw, the sleeve of the movable jaw and means for rotating the latter, of a filling-shell placed between the sleeve and the stationary jaw, and adapted to turn upon the same axis as the said sleeve.

2. In a vise, the combination with the stationary jaw and a rotatable nut, through which

passes the actuating-screw of the movable jaw, of a filling-shell placed intermediate the walls of the stationary jaw and the rotatable nut and adapted to turn upon the same axis
5 as the rotatable nut.

3. In a vise, the combination with the stationary jaw and sleeve and actuating-screw of the movable jaw of a rotatable nut adapted to receive the actuating-screw, and a filling-
10 shell placed intermediate the sleeve and the

stationary jaw and adapted to turn with the former.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALEXANDER ECKERT.

Witnesses:

WILLIAM L. ECKERT,
HERMAN MEYER.