J. E. Sinclair,

Vise.

No. 108840. Patented Nov. 1. 1870.

Fig. 1.

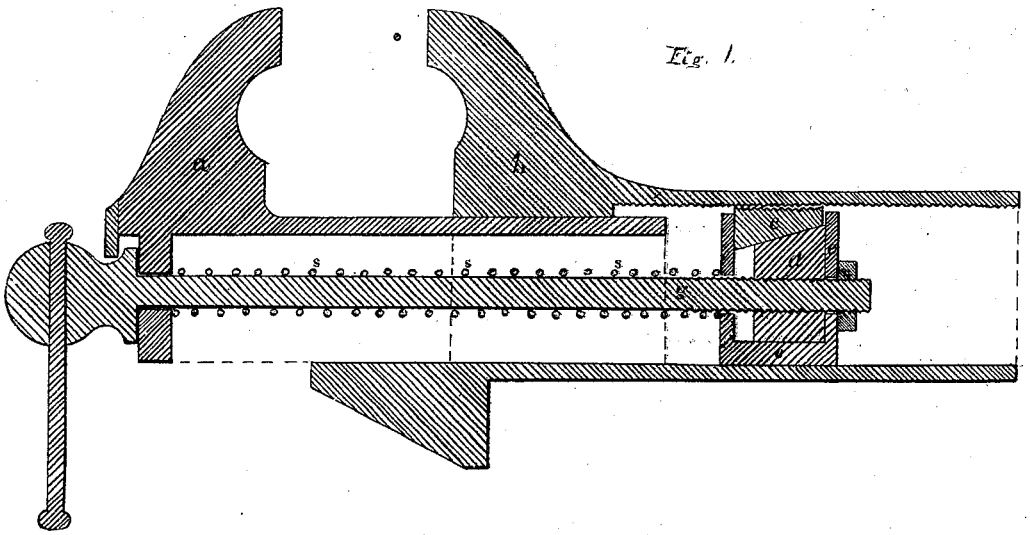


Fig. 2.

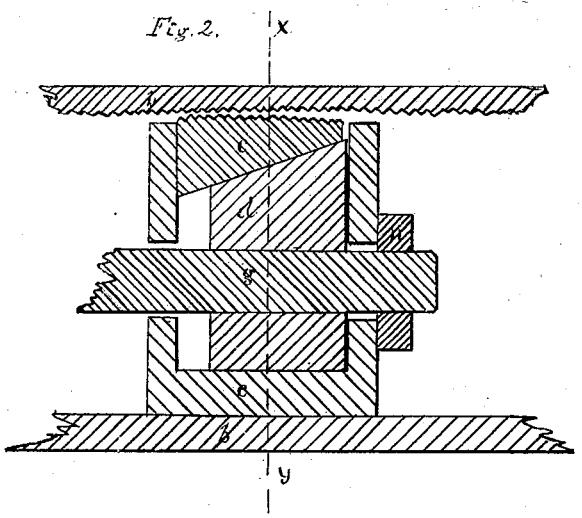
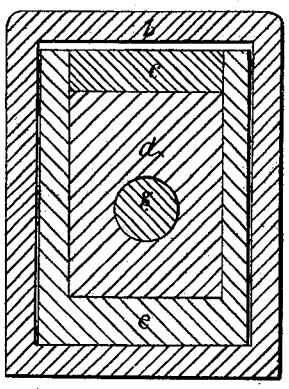


Fig. 3.



D. H. Andrews
Milton T. Higgins
} Witnesses.

John E. Sinclair
Inventor.

United States Patent Office.

JOHN E. SINCLAIR, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 108,840, dated November 1, 1870.

IMPROVEMENT IN VISES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN E. SINCLAIR, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain Improvements in the Vise used for Wood or Iron-Work.

My invention relates to the combination of a wedge-shaped nut on the screw of the vise, and another wedge-shaped piece of iron, both contained in a carriage, so attached to the movable jaw as to move with it when the parts are loosened, and so arranged as to firmly fix the carriage and its contained parts through the action of the screw.

Figure 1 is a vertical longitudinal section of the vise and the parts peculiar to my invention.

Figure 2 is a vertical section of the carriage and its contained parts.

Figure 3 is a vertical section at right angles to the section represented by fig. 2, and through the line *x y*.

b is the fixed jaw of the vise, with the casting prolonged backward, thus furnishing a casing in which the bar of the movable jaw, the screw, and the carriage *e*, with its contained parts, move, and which is furnished on the under side of its roof with teeth corresponding to those in the piece *c*.

a is the movable jaw.

e is a carriage, of cast-iron, which serves to keep the piece *c* in proper position relative to the nut *d*.

n is a nut, to prevent the spiral spring *s s s* or the action of the screw *g* from carrying the carriage beyond its proper position.

d is a wedge-shaped nut.

c is a wedge-shaped piece of cast-iron, with teeth on its upper surface.

As represented in the figure, the jaw *a* is free to move either out or in.

The vise is operated as follows, to wit:

After placing any body against the jaw *b*, and pushing the jaw *a* against it, a partial turn of the screw holds it fast, the parts in the carriage acting as follows: The first motion of the screw draws the nut *d* toward the head of the screw, which, from the action of the inclined surfaces between *d* and *c*, lifts the piece *c* until the teeth upon its upper surface engage with those on the under surface of the casing; continuing the motion of the screw the forward motion of the nut *d* is stopped by the reaction of the casing through the piece *c*, when the jaw *a* moves in upon the body, thus clamping it firmly between the two jaws.

The reverse action frees the body and the nut *d*, allowing the jaw *a* to be moved freely by a push or pull from the hand.

Claims.

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

1. The combination of the screw *g*, carriage *e*, nut *d*, piece *c*, and serrated casing of jaw *b*, substantially as set forth.

2. The combination of the screw *g*, carriage *e*, nut *d*, and piece *c*, substantially as set forth.

JOHN E. SINCLAIR.

Witnesses:

D. H. ANDREWS,

M. P. HIGGINS.