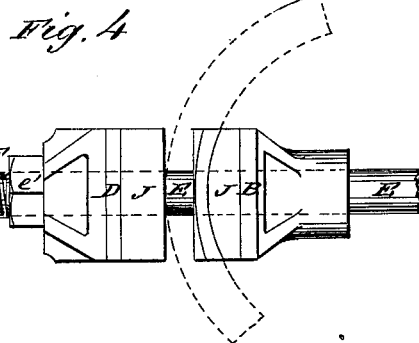
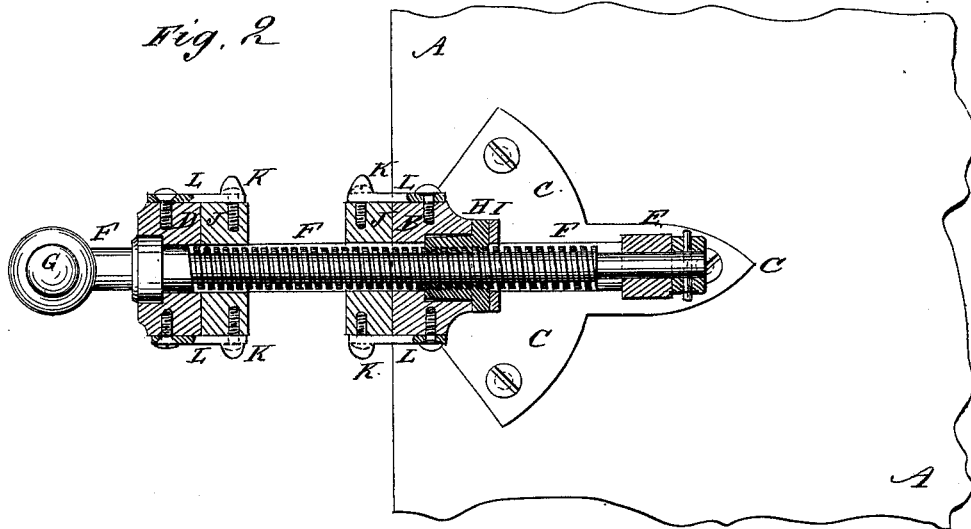
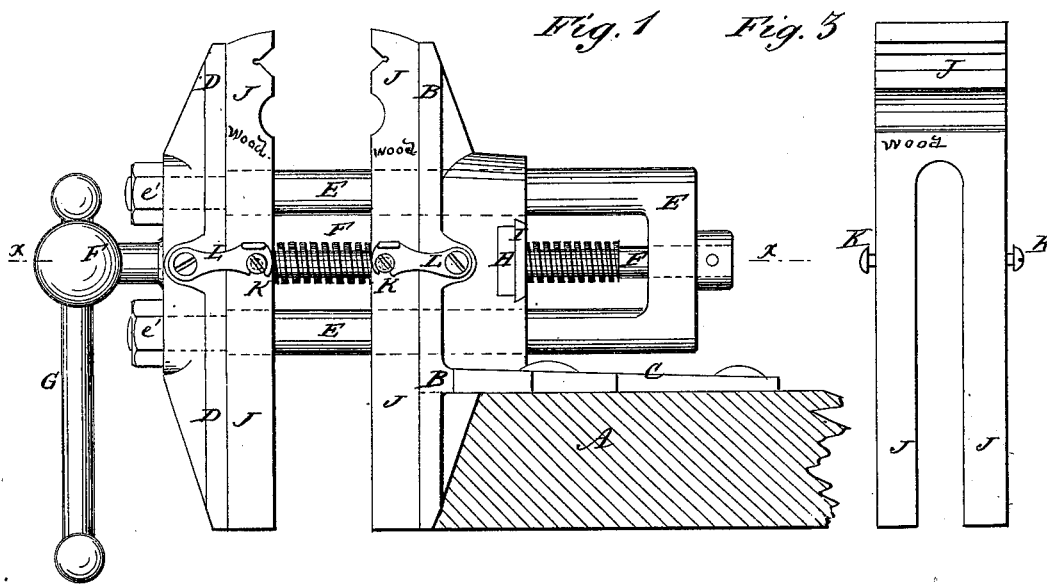


T. GRIMMITT.  
Bench-Vise.

No. 214,907.

Patented April 29, 1879.



WITNESSES:  
*C. Neveu*  
*C. Sedgwick*

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# UNITED STATES PATENT OFFICE.

THOMAS GRIMMITT, OF ROCKFORD, ILLINOIS.

## IMPROVEMENT IN BENCH-VISES.

Specification forming part of Letters Patent No. **214,907**, dated April 29, 1879; application filed November 21, 1878.

*To all whom it may concern:*

Be it known that I, THOMAS GRIMMITT, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Bench-Vises, of which the following is a specification.

Figure 1 is a side view of my improved vise. Fig. 2 is a horizontal section of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a face view of one of the detachable wooden jaws. Fig. 4 is a top view of the jaws.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved vise, which shall be so constructed that it may be readily adjusted for use for different kinds of work, and for holding work of different shapes, and which at the same time shall be simple in construction, strong and durable, not being liable to break or get out of order.

The invention will first be described in connection with the drawings, and then pointed out in the claim.

A represents the bench. B is the inner jaw, which has a plate, C, formed upon its rear side, with holes through it to receive the bolts by which it is secured to the bench A. D is the outer or movable jaw, which is made of the same general form as the inner jaw, B. E is a double or U-shaped slide, the arms of which pass through holes in the inner jaw, B, and through holes in the outer jaw, D, and their ends are secured to the said outer jaw, D, by nuts *e*, so that the said double slide E and the said outer jaw, D, may move together. By this construction the double slide E holds the outer jaw, D, at all times exactly parallel with the inner jaw, B.

F is the screw, through the outer end or head of which slides a lever-handle, G, in the usual way.

The screw F passes through a hole in the two jaws D B midway between the arms of the double slide E, and its forward end is swiveled to the said double slide E at the center of its bend. The screw F also passes through a nut, H, placed in a cross-notch in the rear side of the inner jaw, B, and secured

in place by a dovetailed plate, I, slid into the dovetailed outer part of the sides of the said notch.

If desired, the screw F need not be swiveled to the double slide E; but the former construction is preferred, as by that construction the forward jaw, D, will be moved in both directions by the said screw F.

The jaws B D are made double, as shown in Fig. 1, so that the plate C can be attached to the upper side of the top of the bench A, as shown in Figs. 1 and 2, for carriage and wagon work, and reversed and attached to the under side of the top of the bench for carpenters' and cabinet-makers' work, the lower jaws being made of such a length that when the vise is reversed the ends of the said jaws may be flush with the upper side of the top of the bench.

The double slide E and the screw F are made of such a length that detachable wooden jaws J may be interposed between the metal jaws B D.

The jaws J are slotted from their lower ends, as shown in Fig. 3, to adapt them to be slipped down over and withdrawn from the arms of the double slide E and the screw F.

The faces of the jaws J may be notched, as shown in Figs. 1 and 3, to hold rectangular work or round work, or, as shown in Fig. 4, to hold circular work, or as the form of the work to be held may require.

To the side edges of the wooden jaws J are attached screws or pins K, to receive hooks L, pivoted to the side edges of the metal jaws B D, to hold the said wooden jaws J securely in place when in use.

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

In a vise, the U-shaped slide E, rigidly fastened at the open end to the movable jaw D, in combination with the screw F, swiveled in the closed end of slide E, made fast to the movable jaw D, and working in a nut, H, of the stationary jaw B, as shown and described.

THOMAS GRIMMITT.

Witnesses:

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