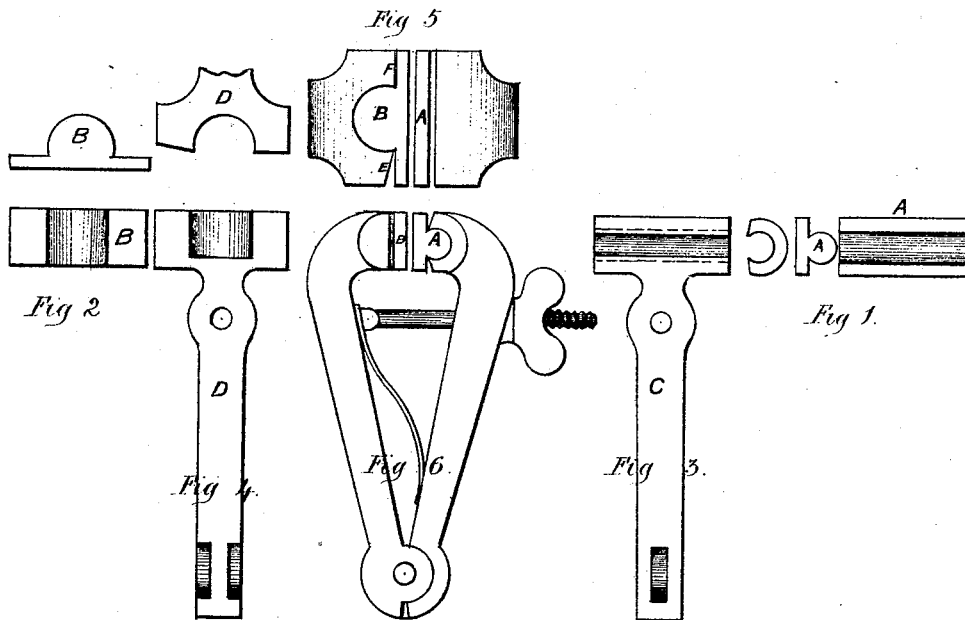


J. Findlay,

Nise.

No. 109121.

Patented Nov. 2. 1870.



Inventor

James Findlay
by his attorneys
Ridout & Howard.

Witnesses.

Claud. Cayley.
Donald Campbell

UNITED STATES PATENT OFFICE.

JAMES FINDLAY, OF TORONTO, CANADA, ASSIGNOR TO HIMSELF AND
WILLIAM SMELLIE, OF SAME PLACE.

IMPROVEMENT IN VISES.

Specification forming part of Letters Patent No. **109,121**, dated November 8, 1870.

I, JAMES FINDLAY, of the city of Toronto, in the county of York, Province of Ontario, and Dominion of Canada, have invented a certain Improvement in Vises, of which the following is a specification:

Nature and Objects of the Invention.

My invention is an improvement in vises; and consists in affixing to them adjustable jaws, in order that beveled work may be held more securely, the said adjustable jaws adapting themselves to the bevel, as I will describe further on.

Description of the Accompanying Drawing.

The drawing represents an ordinary hand-vise with my adjustable jaws, though they may be applied to any description of vise. Figures 1 and 2 (marked in drawing A and B) show the adjustable jaws detached, both end and face views; Figs. 3 and 4 (marked in drawing C and D) show the forceps of the vise as prepared for the adjustable jaws, end and face views. Fig. V is a plan of vise with adjustable jaws attached. Fig. VI is a side elevation of vise with adjustable jaws attached.

General Description.

I make the adjustable jaws A and B of either iron or steel, and shape them as represented by drawing. The forceps, or, in other words, the head of the vise, must, of course,

have grooves cut in them to correspond with the adjustable jaw intended for each head—*i. e.*, A cut to fit C, and B to fit D. Each jaw, A and B, fits into its appointed place, and, if found necessary, may be held there by small steel pins inserted in a suitable manner.

By referring to Fig. V, it will be seen that one side of the forcep or vise-head is beveled at E. The object of this is to permit the adjustable jaw B to adapt itself to a wedge-shaped piece of work when held across the vise, the thick part of the wedge being at the same side of the vise, as E. A parallel piece of work may be held equally as well, the opposite side of the vise F not being beveled.

In Fig. VI it will be seen that the forcep on vise-head B is beveled at the top and bottom edges. This is done in order to permit the jaw to adapt itself to a piece of work which is thicker at one end than the other.

I do not claim all forms of adjustable jaws for vises; but

I do claim as my invention—

The peculiar construction of the jaws A B and their application to the forceps or vise-jaws C D, substantially as herein set forth and shown.

City of Toronto, August 6, 1870.

JAMES FINDLAY.

Witnesses:

DONALD C. RIDOUT,
WILLIAM SMELLIE.