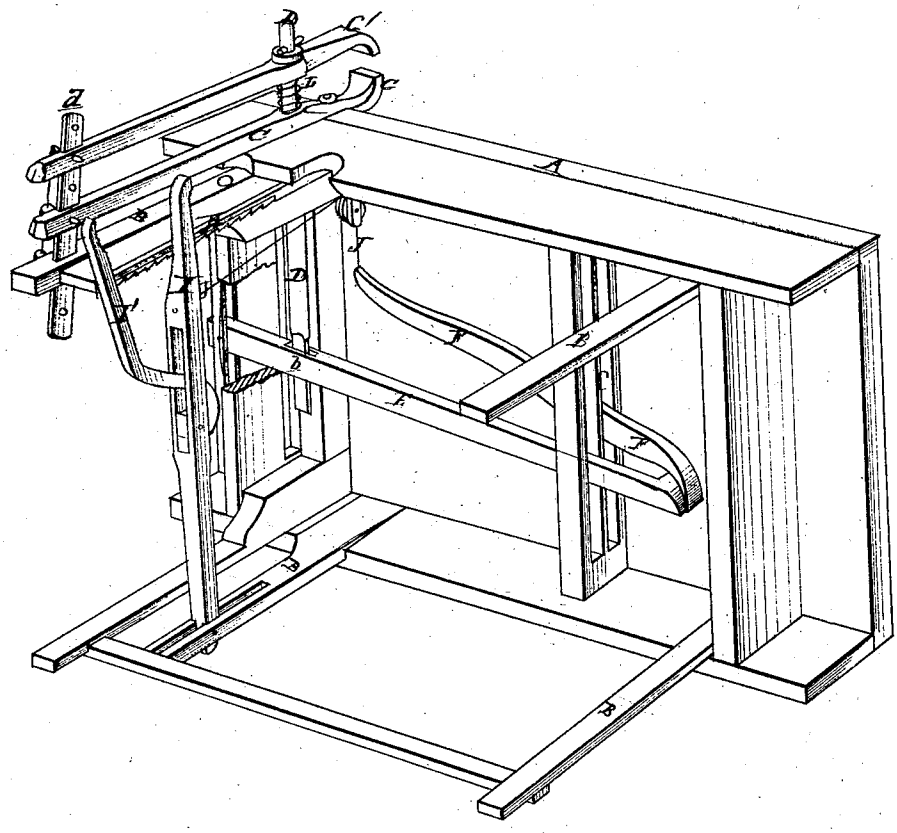
I. & T. Byrd. Jr.,

Vise.

No. 110,198. Patented Dec. 20. 1870.



Attest

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ISAIAH BYRD AND TURNER BYRD, JR., OF CALVIN TOWNSHIP, MICHIGAN.

Letters Patent No. 110,198, dated December 20, 1870; antedated December 9, 1870.

IMPROVEMENT IN VISES.

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

To whom it may concern:

Be it known that we, ISAIAH BYRD and TURNER BYRD, Jr., of Calvin Township, in the county of Cass and State of Michigan, have invented a new and useful Improvement in Means for Operating Vises; and we do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification.

The nature of our invention relates to an improvement in devices for operating vises, and consists in a peculiar construction and arrangement of levers and a treadle in the frame-work of a bench, in such a manner that great force may be instantly exerted on the movable jaw of a vise, and as quickly released.

In the drawing, which is a perspective view of a work-bench lying on its side, taken from the under side, and showing my improvement attached—

A represents the table of a work-bench mounted on legs B.

C represents a stationary jaw of a smith's vise securely attached to the bench, and

C', the movable jaw, which is connected to the stationary jaw by a bar, *a*, passing through a mortise in the lower end of each, and secured therein by proper pins. The bar is perforated at intervals to allow the movable leg to be adjusted to or from the other.

D is a spindle attached to the loose jaw, passing through the other and the leg of the bench, and pivoted at the other end to a lever, E, at *b*; said lever being pivoted to a cross-bar under the front end of the table.

F is another lever, the short arm of which impinges at the end of the long arm of the lever E.

It is pivoted in a slotted cross-bar, G, under the table, which serves as a guide for both levers.

H is a ratchet-standard, depending from the table in proximity to the vise.

With the ratchet engages a treadle, I, pivoted in the back part of the table-frame.

A cord, J, is attached to the long arm of the lever F, led over a pulley, K, at the top of the ratchet-standard, and has its other end attached to the treadle.

L is a spiral spring coiled about the spindle between the jaws, to throw them apart when not in use.

It will readily be seen that the combination of the levers with the treadle enables the operator to bring great power to bear on the movable jaw of the vise, which will hold the article placed therein so long as the treadle engages with the ratchet.

When a bulky or thick article is to be held in the vise, requiring the jaws to be drawn far apart, the treadle will be drawn up under the table above the ratchet.

In order in such a case to bring the treadle into use, we attach thereto a hand-lever, I', curved as shown, and pivoted in a slot therein, and in rear of its fulcrum, which is also placed in the slot, so that, when the treadle proper is under the table, the curved lever I' may be pressed down by hand into engagement with the ratchet.

For wood-workers, the vise-jaws may be removed and replaced by a single wooden movable jaw pivoted to the corner leg of the bench, and operated in the manner described.

Unless great power is required, all or nearly all the parts may be of wood, and in any case, should a part be broken, it may be readily and cheaply replaced.

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

1. The treadle I, when provided with a supplementary lever, I', pivoted thereto, and operating in the manner described and for the purpose set forth.

2. The construction and arrangement of the treadle I, rope J, levers E and F, and spindle D, with relation to each other and the ratchet H, and any suitable vise, as and for the purpose set forth.

ISAIAH BYRD.
TURNER BYRD, JR.

Witnesses:
JAMES HYBERT,
PHINEAS GREGGON.