D. F. BROWN, Sr.

Combined Vise, Wrench, and Pincher.

No. 203,701. Patented May 14, 1878.

Fig. 1

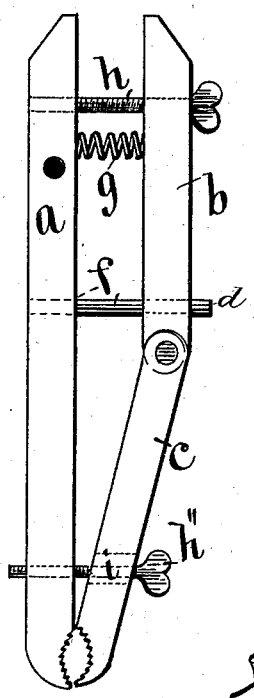


Fig. 2

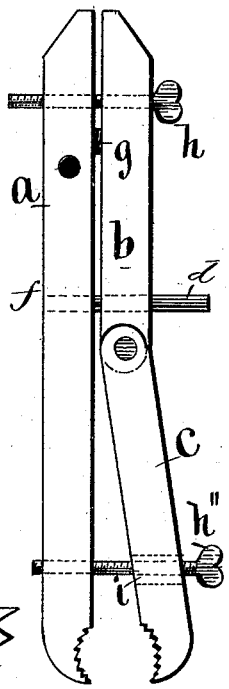
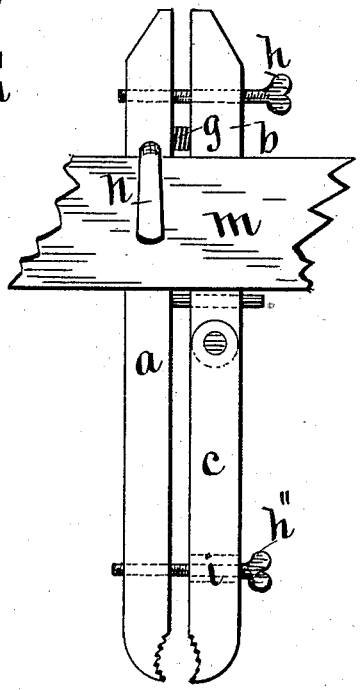


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE

DAVID F. BROWN, SR., OF NEWTON, IOWA, ASSIGNOR OF ONE-HALF HIS RIGHT TO PERRY ENGLE, OF SAME PLACE.

IMPROVEMENT IN COMBINED VISE, WRENCH, AND PINCHERS.

Specification forming part of Letters Patent No. **203,701**, dated May 14, 1878; application filed April 1, 1878.

To all whom it may concern:

Be it known that I, DAVID F. BROWN, Sr., of Newton, in the county of Jasper and State of Iowa, have invented a Combined Vise, Wrench, and Pinchers, of which the following is a specification:

My invention is a new hand tool adapted to be carried about and used alternately as a vise, a wrench, and a pinchers for the various purposes for which the three separate tools are commonly used, as hereinafter fully set forth.

Figure 1 of my drawing is a longitudinal side view, illustrating the construction of my invention and its operation as a hand-vise.

a is a four-sided straight metal bar, preferably made of wrought-iron. It may vary in size, as desired. It has an angular steel jaw-form top end and a curved pincher-jaw at its lower end.

b c is a bar corresponding in size and form with the bar *a*. It has a hinge-joint in its longitudinal center. To prevent it from binding against the object to which the tool is clamped fast as a vise, I make the movable jointed bar one-eighth of an inch thinner than the rigid bar *a*.

d is a dowel-pin and guide, rigidly fixed to the lower portion of the part *b*, and is designed to enter a corresponding perforation, *f*, in the straight and rigid bar *a*, as indicated by dotted lines.

g is a spring, secured between the two parallel mating portions of the vise, in any suitable way, to retain them apart when not held together by the operating-screw.

h is an operating-screw, passed horizontally through the top portions of the parallel mating parts of the vise *a b*. The perforations through which the screw *h* passes are threaded and form female screws, adapted to receive the male screw *h*.

h'' is an operating-screw, passing through a slot in the lower end of the hinged pincher-jaw *c*, and into a female screw in the rigid mating pincher-jaw formed on the lower end of the straight bar *a*. By means of the slot *i* in the hinged pincher-jaw *c* the hinged vise-jaw *b* is always allowed to move parallel with its mate *a*, even when the pincher-jaws are closed.

The tool thus illustrated is adapted for all the common uses of a hand-vise. By adjusting the jaws to fit a nut it can also be advantageously used as a wrench where it can be revolved or partly revolved around the axis of the bolt upon which the nut is to be operated.

The operating-screws *h* and *h''* may be rigidly fixed to the rigid bar *a*, and have thumb-nuts on their free ends; or they may have angular heads, adapting them to be operated by means of a key, common wrench, or spanner.

Fig. 2 illustrates my tool adjusted and applied as a pinchers, as required to hold a bolt or any other object that can be clamped between its curved and serrated jaws. The slot *i* in the hinged jaw *c* allows the hinged jaw to assume various angles relative to the mating jaw, which is rigid.

Fig. 3 illustrates my tool secured as a vise to a fixed object.

m represents a fence-board or similar fixed and stationary object, adapted to hold my tool in a rigid manner while being used as a stationary vise. *n* is a screw or clamping device of elbow form, the screw end of which enters a threaded perforation formed in the side face and upper portion of the rigid bar *a*.

By hanging the complete tool on the top edge of the fence-board, and then pressing it laterally sufficient to make the hook engage the board while the complete tool is revolved around the pivot formed by the screw, the said screw is caused to pass deeper into or farther through the bar, and thus cause the hook or elbow to clamp the fence-board and hold the vise firmly thereto, to be operated upon in the same manner that stationary vises are used for various mechanical purposes.

I am aware that there is no novelty in the elbow-form screw *n*, and that clamping devices having screws have been combined with a portable vise.

My combination of the device *n* with my combined vise, wrench, and pinchers is novel, and is advantageous in forming a stationary vise.

I claim—

As a new article of manufacture, the hand tool composed of the bar *a*, having the perforation *f* and jaws at its ends, the hinged or jointed bar *b c*, having the dowel-pin *d* and jaws at its ends, the spring *g*, and the operating-screws *h* and *h''*, substantially as shown and described, to be alternately operated as a vise, a wrench, and a pinchers.

DAVID F. BROWN, SR.

Witnesses:

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