

(No Model.)

J. HOWIE.  
Angle Vise.

No. 243,262.

Patented June 21, 1881.

Fig. 1.

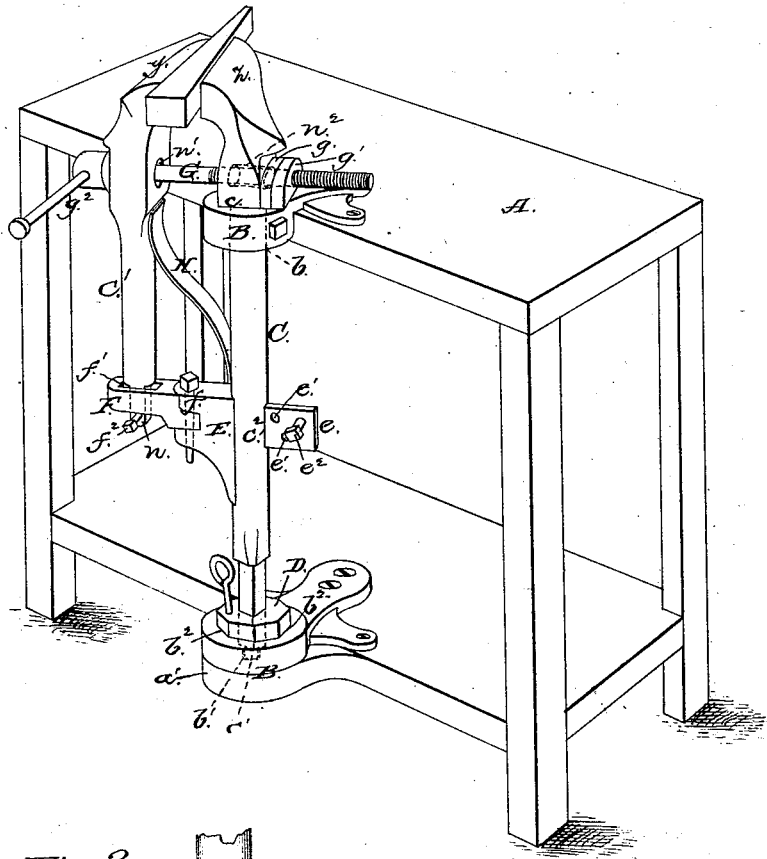
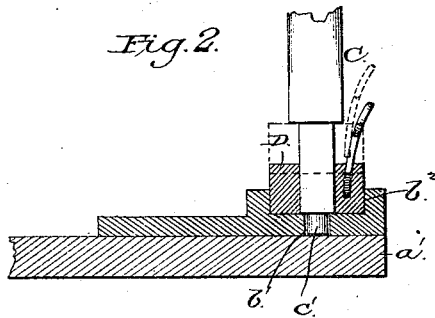


Fig. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JAMES HOWIE, OF COLUMBIA, SOUTH CAROLINA.

## ANGLE-VISE.

SPECIFICATION forming part of Letters Patent No. 243,262, dated June 21, 1881.

Application filed April 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES HOWIE, a citizen of the United States, residing at Columbia, in the county of Richland and State of South Carolina, have invented certain new and useful Improvements in Angle-Vises; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of a device embodying my improvements, and Fig. 2 is a sectional detail view.

This invention has relation to angle-vises; and it consists in the improved features of construction and combination hereinafter fully described, and particularly pointed out in the claim.

In the annexed drawings, A is a table or frame to which the device is to be applied.

B is an eye secured to the top of the frame, and B' another at the bottom, both having the round openings  $b$   $b'$ , the latter having an angular seat,  $b^2$ , above and around its opening  $b'$ .

C is the main or rigid jaw, passing through eye B, above which it has shoulders  $c$ , and its lower end,  $c'$ , resting in opening  $b'$ , and on an offset,  $a'$ , of the frame. Sleeved upon the bottom of this jaw C, above eye B', is a nut, D, fitting the seat  $b^2$ , said nut moving lengthwise on the jaw but turning with it when raised out of its seat. About mid-length this jaw has the slot  $c^2$  transverse the plane of the face of the head  $z$ .

E is a bracket, having a tang,  $e$ , by which it is held adjustably in slot  $c^2$  by holes  $e'$  and pin  $e^2$ . To the outer end of this bracket is secured the arm F by joint  $f$ , said arm having a vertical slot,  $f'$ .

C' is the movable jaw. The lower end,  $n$ , of its stem is reduced and fits in slot  $f'$ , having a key,  $f^2$ , below the arm F. In the lower part of head  $y$  of this jaw is a hole,  $n'$ , registering with a hole in head  $z$  of jaw C', but larger.

G is the bolt for holding the two jaws together. This bolt passes through holes  $n'$   $n^2$ , fitting the latter, but smaller than the former. This bolt is screw-threaded, and passes at its inner end through a washer,  $g$ , and nut  $g'$ , which are kept from turning by a straight side. The bolt has a handle,  $g^2$ , and as it is turned moves the jaw C' in or allows it to be thrown out by the usual spring, H.

By making the hole  $n'$  in jaw C' larger than the bolt G, said jaw has play on the bolt and can be turned to form any angled opening with the other jaw, so that either straight or angled work can be put in the vise.

The construction at the bottom of the vise permits it to be swung at different angles to bring the work into convenient positions.

For better manipulation the nut may be provided with a handle.

The slot in arm F permits the jaw C' to be swung so as to form a vertical angle with jaw C, and the enlargement of hole  $n$  to form a horizontal angle, so as to hold work of various angles in various positions. The degree of the vertical angle can be increased by adjusting the bracket E on the jaw C.

I claim—

In an angle-vise, the combination, with the jaw C, of the vertically-adjustable nut D at its lower end, seated in the eye B', substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HOWIE.

Witnesses:

JOHN ALEXANDER,  
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