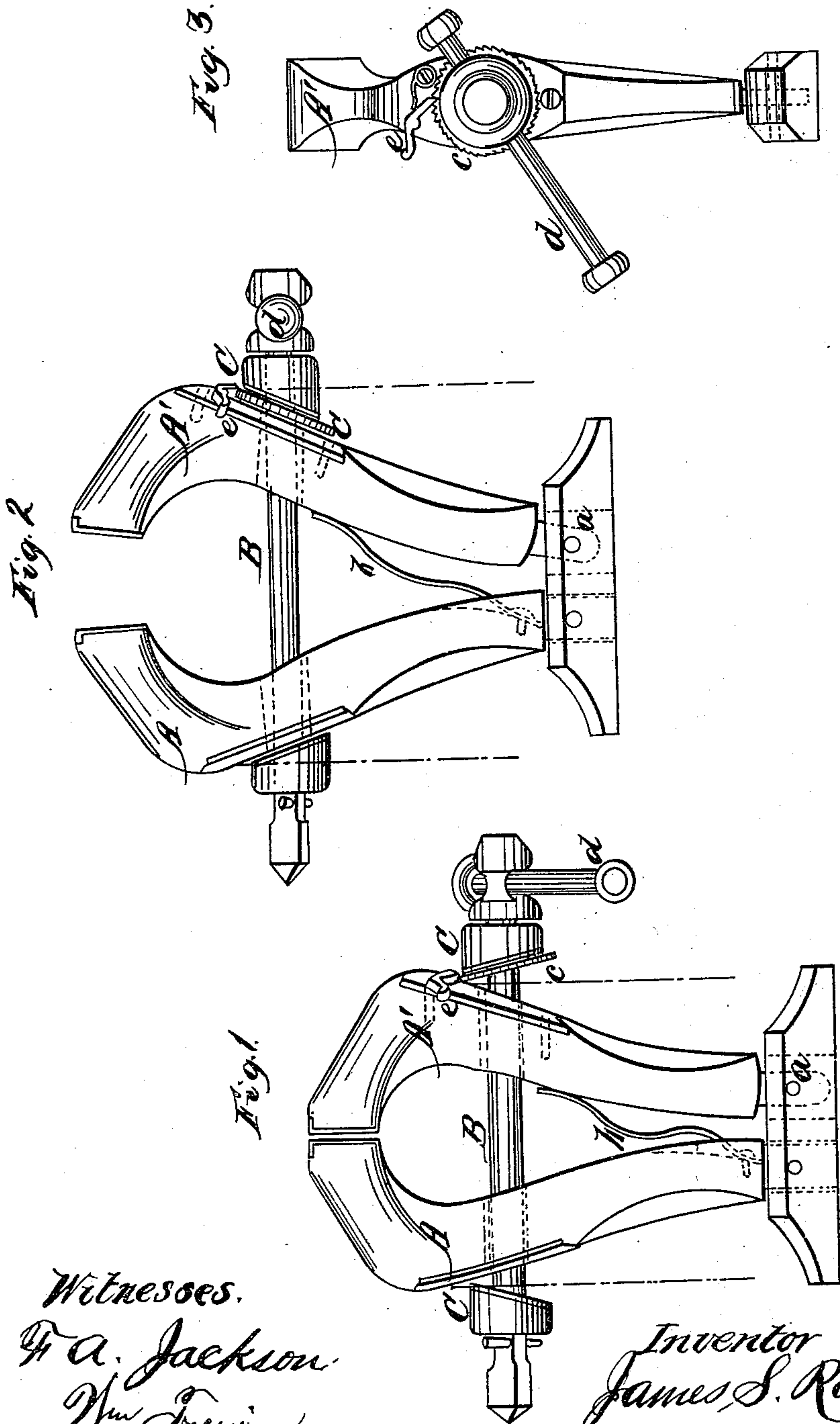


J. S. RALSTON.
VISE.

No. 61,457.

Patented Jan. 22, 1867.



Witnesses.
G. A. Jackson
Wm. Truwin

Inventor
James S. Ralston
Per Munn & Co
Attys.

United States Patent Office.

JAMES S. RALSTON, OF INDIANA, PENNSYLVANIA.

Letters Patent No. 61,457, dated January 22, 1867.

IMPROVEMENT IN VISES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES S. RALSTON, of Indiana, in the county of Indiana, and State of Pennsylvania, have invented a new and useful Improvement in Vises; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the vise of my invention closed.

Figure 2 is the same view, the vise being open.

Figure 3 is a front view of the same.

Similar letters of reference indicate like parts.

This invention relates to an improved plan of construction of a vise for blacksmiths, carpenters, or other mechanics, and consists in an arrangement for opening and closing the jaws of the vise by means of two eccentrics or cam disks placed outside of the jaws on a connecting and operating-rod. The cam disks lie with their faces flat against the sides of the jaws when they are open, and diverge from the jaws on the lower side when they are closed, the jaws being held in any position more or less open by means of a ratchet-wheel on the periphery of one of the disks of a spring-dog on the corresponding jaw. This improved vise may be made much cheaper than the common screw vise; it has a very firm and powerful grip in the jaws, and works quick in closing and opening them. The vise may be adapted to any kind of work, as a bench or hand vise.

A is the fixed jaw, and A' the movable jaw, pivoted at the lower end *a*, and moved outward by the spring *b*. B is a round coupling-rod passing through both jaws, on which rod outside of the jaws are fastened cam disks or cylindrical eccentrics C C, the faces of which are planes cut at an angle diagonally to the axis on which they turn with the rod B. The diagonal or inclined faces of the cam disks C C are made to correspond with and lie close against the outside of the jaws A and A' when they are open, but on turning the coupling-rod B by means of the ordinary vise handle *d* attached to the coupling-rod, the inside edges of the periphery of both the cam disks C C are brought to bear against the sides of the jaws A A' at one point on each, and the jaws will close rapidly as the cam disks turn while making half a revolution by reason of the bearing points of the eccentric or diagonal faces of the cam disks changing their relative position with lines at right angles to the axis of the rod B, and the cam disks themselves upon it, as shown by figs. 1 and 2. On the periphery of one of the cam disks C C is placed a ratchet-wheel, *e*, connected with a spring-dog, *e*, fastened to the side of the jaw for the purpose of holding the jaws A A' firmly at any point of extension, when the rod B is turned to secure any object between them. The vise may have the jaws extended by setting the cam disks on the coupling-rod further apart, and the foot of the movable jaw may be set out in the usual way.

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

In combination with the jaws A A' of a vise, the cam disks C C, placed on a coupling-rod B, for opening and closing the jaws to be held to their work by the ratchet-wheel *e*, and spring-dog *e*, constructed and operating substantially as herein described.

JAMES S. RALSTON.

Witnesses:

DAVID KEELEY,
DAVID PRATT.