

(No Model.)

W. JOHNSON.

WISE.

No. 277,570.

Patented May 15, 1883.

FIG 1

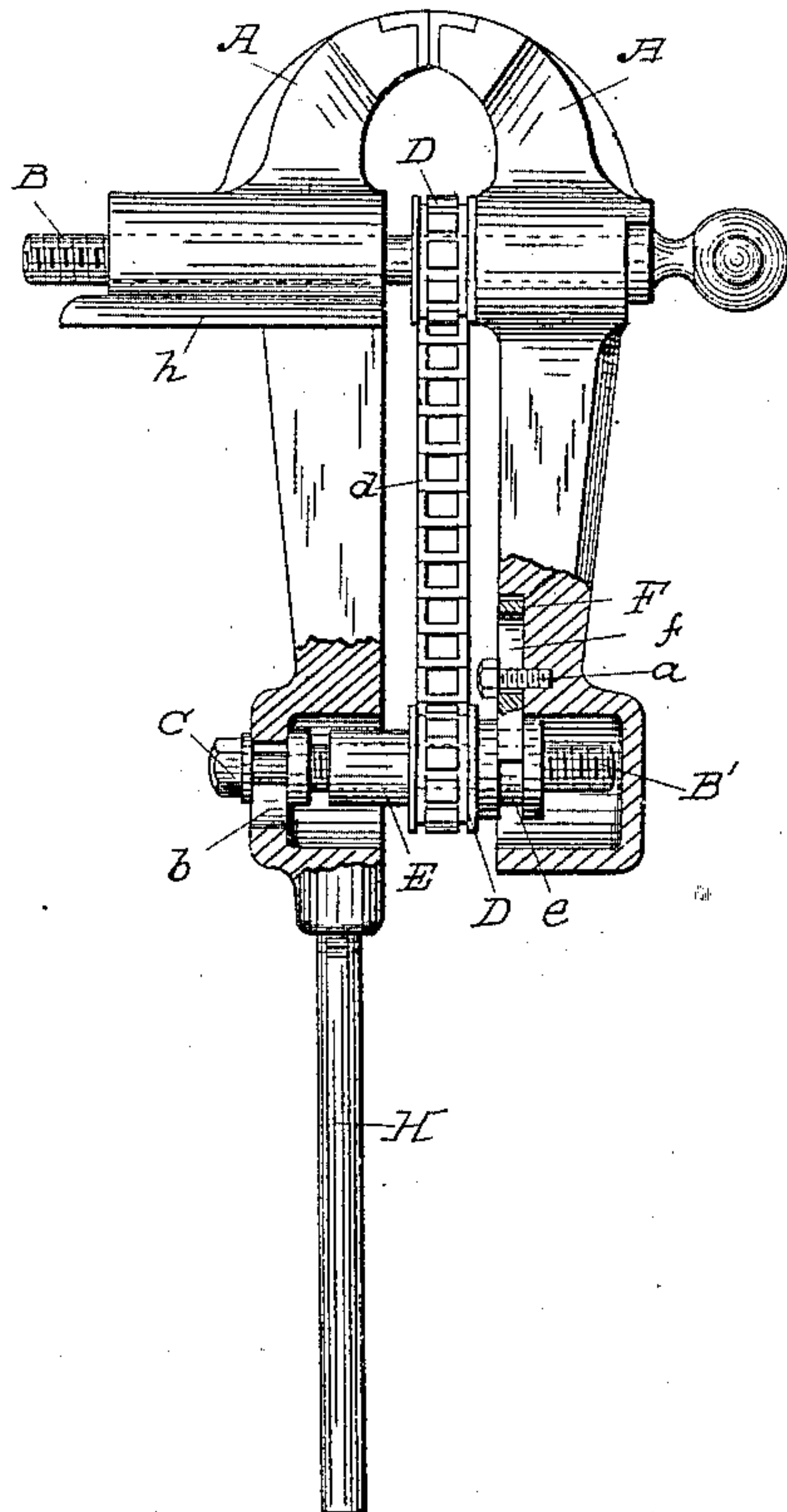


FIG 2

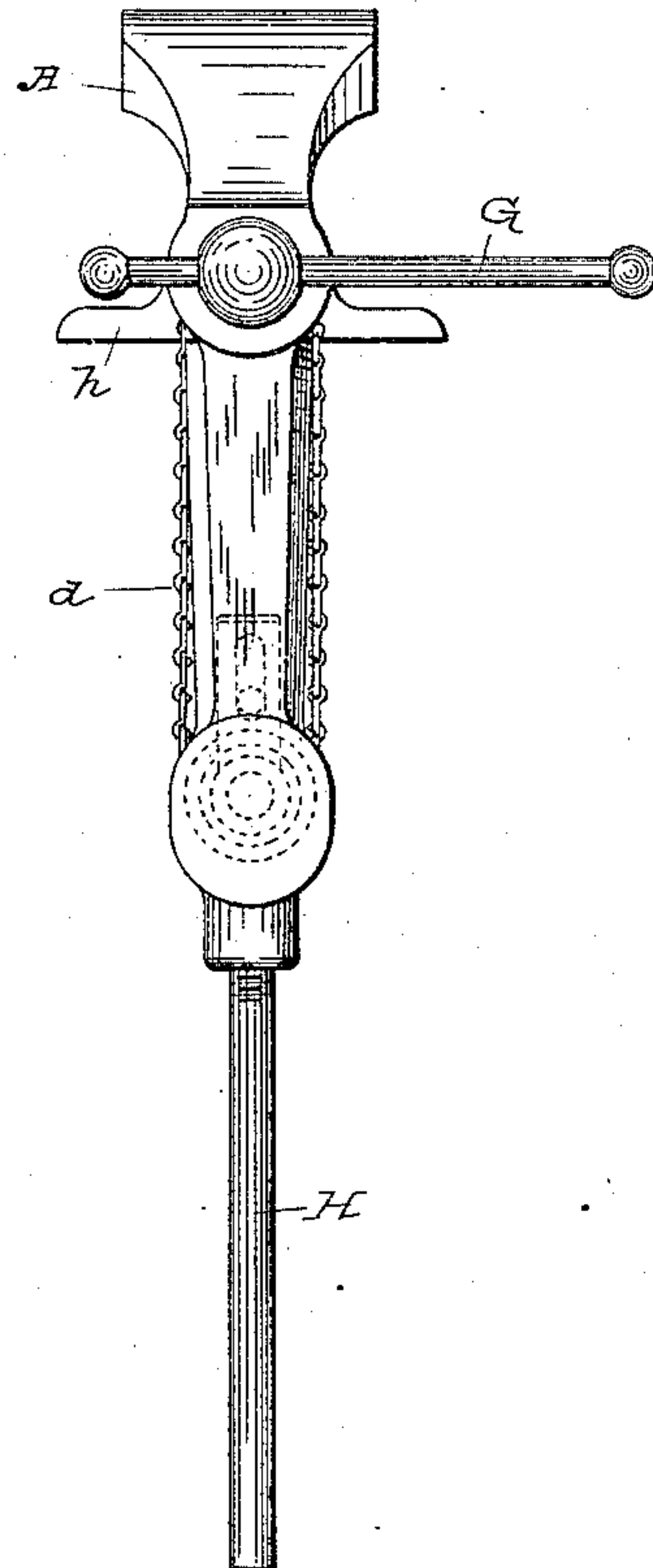


FIG 5

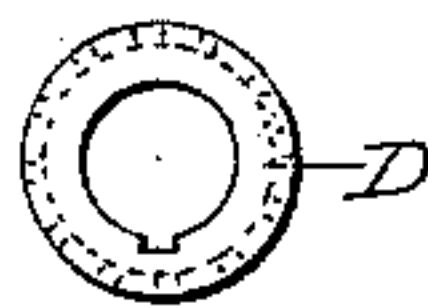


FIG 3

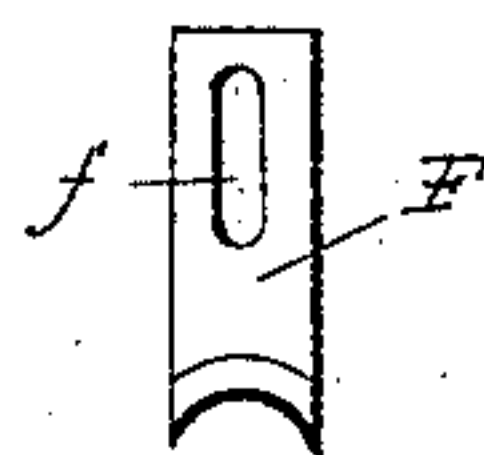
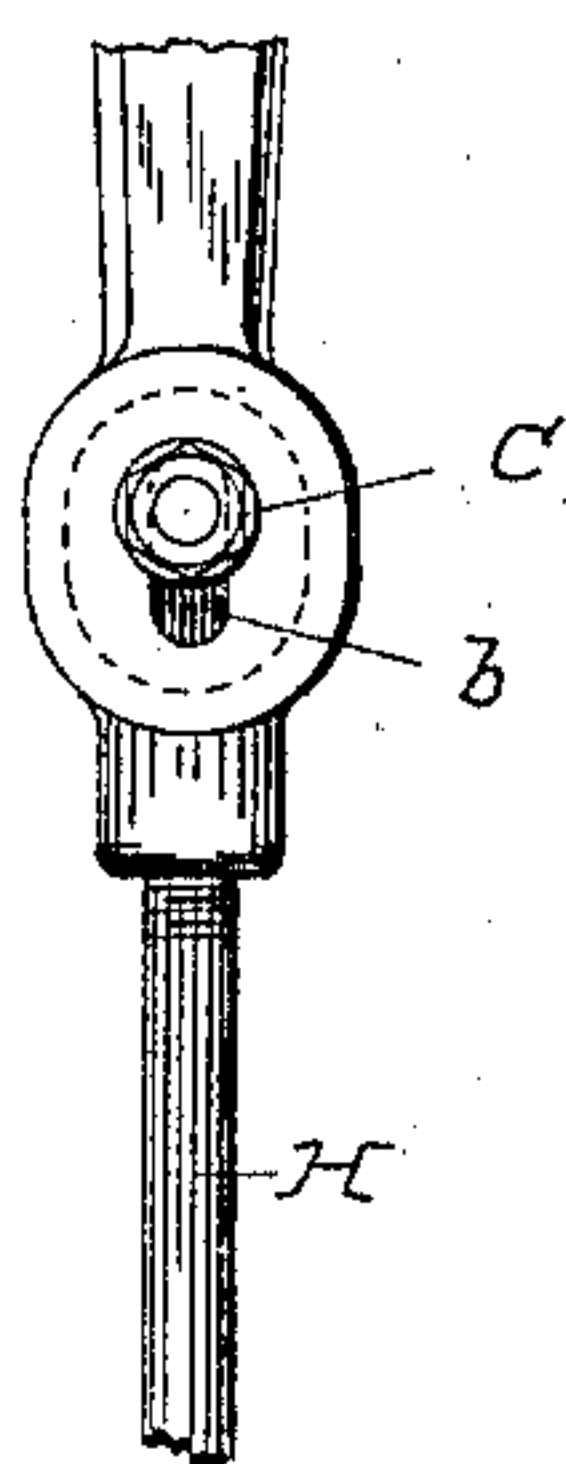


FIG 4



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM JOHNSON, OF LAMBERTVILLE, NEW JERSEY.

## WISE.

SPECIFICATION forming part of Letters Patent No. 277,570, dated May 15, 1883.

Application filed March 26, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM JOHNSON, a citizen of the United States, residing at Lambertville, in the county of Hunterdon and State of New Jersey, have invented certain new and useful Improvements in 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 the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in vises in which screws are used, in conjunction with the jaws to move the same parallel; and the objects of my invention are, first, to provide means by which the adjustments of the parts may be easily made and wear taken up; second, to make the lower screw adjustable; third, to rotate the nut on the lower screw; fourth, to provide for keeping the tops of the jaws at an even height; and I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a part sectional and part full view of the vise, when looking at it from the side. Fig. 2 is a full front view; Fig. 3, a front view of adjustment-plate; Fig. 4, a view in the rear of the lower half of back jaw; Fig. 5, a front view of the chain-wheel.

Similar letters refer to similar parts throughout the several views.

In the vise shown A A are the jaws; B and B', the upper and lower screws, the screw B' being connected to the lower arm of the rear jaw by nut C, and adapted to be moved up or down in slot *b*, as desired, when adjustment of the parts is necessary.

E is a nut fitted to screw B', and adapted to convey a movement to the lower arm of the front jaw A equal to the movement given by the upper screw to the upper part of the movable jaw A, the said movement being communicated through the means of plate F, secured to the lower part of movable jaw A and placed in groove *e*, formed on the nut E.

In the plate F is formed a slot, *f*, through which passes a bolt, *a*, to secure the plate in proper position.

To the nut E is securely attached a toothed

wheel, D, and to the upper screw, B, is secured a similar toothed wheel, both being connected by a linked chain, *d*.

Through the head of the upper screw, B, is passed a lever, G, for rotating the screw to open or close the jaws.

To the lower part of the jaw A is secured a rod, H, to support the weight of the vise, and a flange, *h*, at the upper part of same jaw for holding the vise up to a bench.

From the above description it is obvious that, when the upper screw is rotated to either open or close the jaws, the nut E on the lower screw is also rotated by means of the toothed wheels and chain, and, as the pitch of the screw-threads are equal in both the upper and lower screws, a movement equal in distance will be communicated to the movable jaw at the top and bottom part of the same, and the jaws will remain parallel at all points within the limits of the vise. Should the chain *d* at any time become too loose or too tight, it can be properly adjusted by moving the screw B' either up or down in the slot *b* and securing the same by nut C.

It will be observed that, as the lower screw is held immovable, it forms a support and guide for the movable jaw, and by the use of the slotted plate F, attached to the movable jaw, the jaws at the top may be kept at an even height by the adjustment of said plate.

In describing the above vise I do not limit myself to the exact construction shown, for it is evident that both upper and lower screws may be attached to the fixed jaw and held stationary, while the nut-boxes of both screws are revolved. Therefore

What I desire to claim and secure by Letters Patent is—

1. A vise having a fixed and a movable jaw, connected by two screws, one of which is secured to the fixed jaw and acts as a support for the movable jaw, as and for the purpose set forth.

2. A vise having a fixed and an adjustable screw connected by a chain, whereby the tension on chain may be adjusted, as and for the purpose set forth.

3. A vise having two screws, one of which is adjustably connected to the fixed jaw, as and for the purpose set forth.

4. A vise in which the jaws are operated



through the means of screws acting in fixed and movable nuts, as and for the purpose set forth.

5 5. A vise having fixed and movable screws, combined with fixed and movable nuts acted upon by a chain, as and for the purpose set forth.

10 6. A vise having two screws, one fixed and the other adjustable on the fixed jaw, to and from the fixed screw, a movable nut on the ad-

justable screw, and an adjustable bearing-plate on the movable jaw, as and for the purpose set forth.

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

WILLIAM JOHNSON.

Witnesses:

CHAS. W. BURIN,  
J. HAYHURST.