No. 652,674. Patented June 26, 1900.

P. J. HARRAH.

COMBINED VISE AND DRILL.

(Application filed Dec. 16, 1899.)

(No Model.)

Fig. 1.

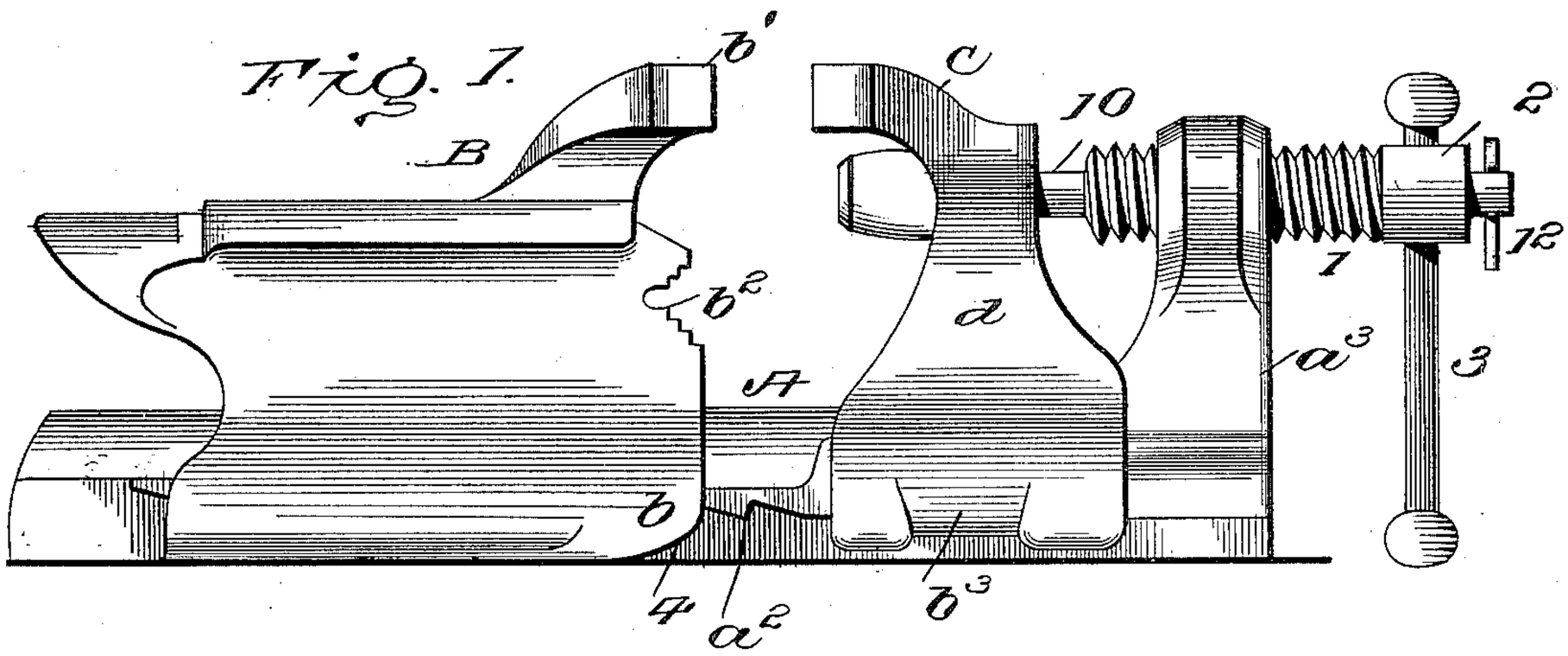


Fig. 2.

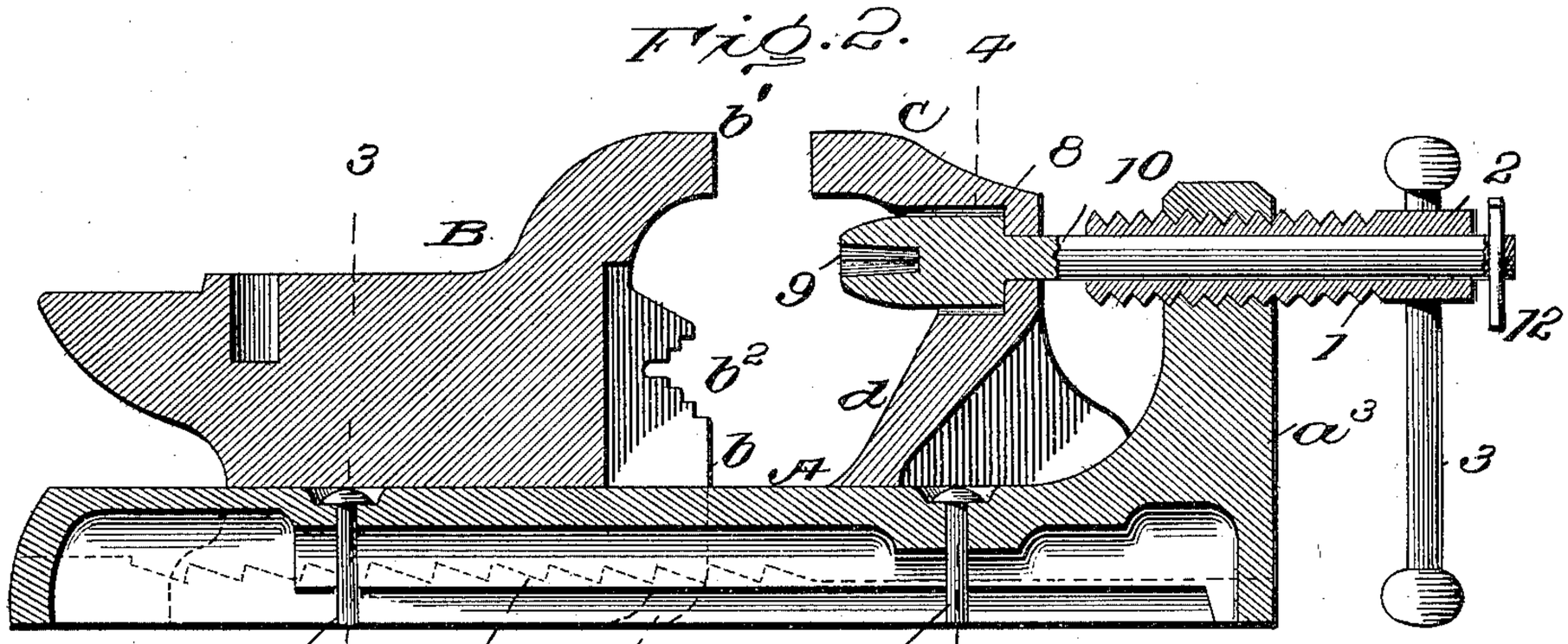


Fig. 3.

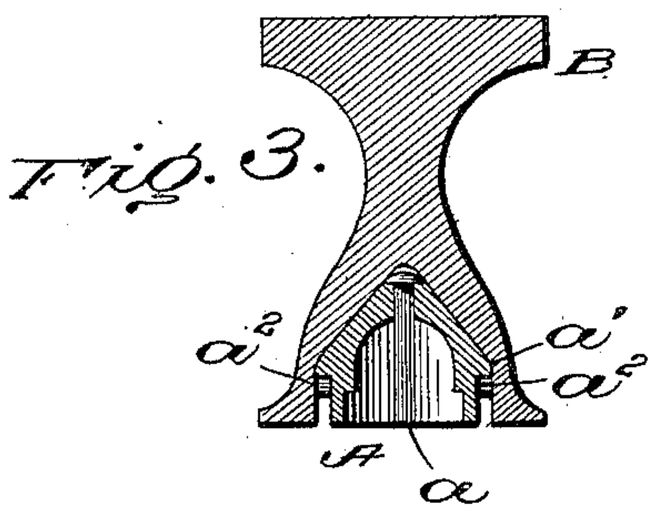


Fig. 4.

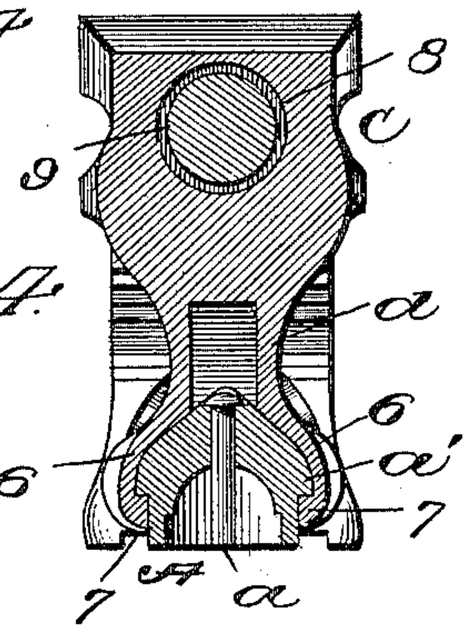
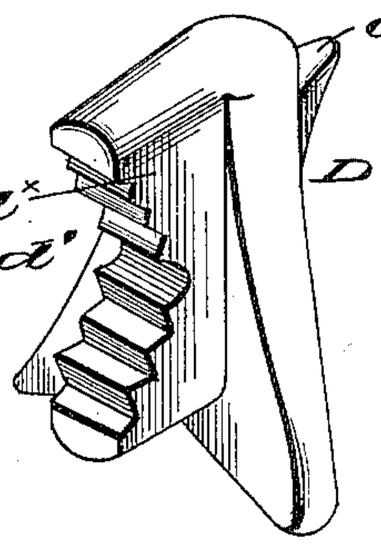


Fig. 5.



Witnesses:

Inventor

Philip J. Harrah,

by Victor J. Evans & Co.

Attorney

UNITED STATES PATENT OFFICE.

PHILIP J. HARRAH, OF BLOOMFIELD, INDIANA.

COMBINED VISE AND DRILL.

SPECIFICATION forming part of Letters Patent No. 652,674, dated June 26, 1900.

Application filed December 16, 1899. Serial No. 740,577. (No model.)

To all whom it may concern:

Be it known that I, PHILIP J. HARRAH, of Bloomfield, in the county of Greene and State of Indiana, have invented certain new and useful Improvements in a Combined Vise and Drill; 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.

This invention contemplates certain new and useful improvements in combined vises and drills.

The primary object of the invention is to so construct, combine, and arrange the parts that their adjustment may be readily and easily accomplished.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a transverse sectional view on line 3 3, Fig. 2. Fig. 4 is a similar view on line 4 4, Fig. 2. Fig. 5 shows a detachable device in connection with the movable jaw.

Referring to the drawings, A designates a bar which is designed to be held to a suitable bed or support by screws a, passed through vertical holes in the bar. The upper part of this bar is of inverted-V shape and its sides have overhanging flanges a', formed with teeth a^2. From one end of the bar projects a vertical post a^3, having a threaded hole therein in which works a hollow screw-rod 1, having on its outer end a head 2, formed with a hole to accommodate a projecting rod 3. By means of this rod the screw may be easily turned.

B designates an anvil formed, in its bottom, with an inverted-V opening to accommodate bar A. The divergent sides b of this anvil are rounded at their forward corners 4 and on their inner surfaces have two opposed teeth 5, which when the anvil is in a horizontal position engage the teeth a^2. To adjust the anvil on bar A, it is only necessary to tilt it on its curved corners 4, when it may be moved back and forth without engagement between its teeth and those of the rack-bar. At this end of the anvil is formed the jaw b' of a vise and also a V-shaped jaw b^2, having teeth or corrugations.

C is a sliding jaw formed on the upper end of a standard d, which latter at its lower end conforms to the top of bar A and has inward projections 6, which hug the smooth or untoothed portions 7 of the side flanges a'. In this standard is formed a recess 8, which accommodates the socket 9 of a spindle 10, passed longitudinally through screw-rod 1. The outer end of this spindle projects beyond the end of the screw-rod to receive a crank-handle 12. The jaw C is moved toward or away from the jaw b' of the anvil by the turning of the screw-rod, the latter pressing against the standard d when the jaw C is moved inward, and the socket bears against the inner end of the recess when the jaw C is moved outward.

In drilling a suitable tool is placed within the socket 9, the anvil being first adjusted. Thereupon the crank-handle 12 is ready to effect the necessary drilling. This being accomplished, the drill is withdrawn and the screw-rod rotated in a reverse direction to withdraw the jaw C. When it is desired to grip within the vise a round article, such as a pipe or shaft, a plate D, having its lower end forked to conform to the top of bar A, is placed upon the latter adjacent to jaw C. On the face of this plate is a projection $d^\times$, having a V-recess d', formed with teeth or corrugations corresponding to those in the end of the anvil. From the back of plate D projects a rib d^2, which fits beneath the socket 9. Hence by adjusting jaw C toward the anvil a pipe or shaft will be gripped between the V-jaw of the anvil and the V-jaw of the plate D.

From what has been said it will be seen that I have produced a simple device of this character for use on farms and for wheelwrighting and that by making the rack-bar stationary the two parts composing the vise may be easily adjusted toward and away from each other, that the anvil may be moved in or out simply by tilting it on its forward ends, and that the sliding jaw will be moved toward or away from the jaw of the anvil by the revolution of the screw-rod.

I claim as my invention—

1. The combination with a stationary bar having overhanging side edges, provided

throughout a portion of their length with rack-teeth, the remaining portions of said edges being smooth, of a sliding jaw fitted on said bar and having the lower ends of its sides engaging the smooth portions of said overhanging edges, means for moving said sliding jaw back and forth on said stationary bar, and an anvil movably fitted on said stationary bar and having its lower inner end curved and provided with teeth designed to engage the toothed portions of said stationary bar, as set forth.

2. The combination with a stationary bar having overhanging side edges, provided throughout a portion of their length with rack-teeth, the remaining portions of said edges being smooth, of a sliding jaw fitted on said bar and having the lower ends of its sides engaging the smooth portions of said overhanging edges, means for moving said sliding jaw back and forth on said stationary bar, and an anvil movably fitted on said stationary bar and having its lower inner end curved and provided with teeth designed to engage the toothed portions of said stationary bar, a post projecting perpendicularly from said stationary bar and having a screw-threaded opening therein, means supported by said post for operating said sliding jaw, and a removable plate designed to fit on said stationary bar and bear against said sliding jaw, such plate having a corrugated recess in its outer face, as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PHILIP J. HARRAH.

Witnesses:

OTTO F. HEROLD,

WILL B. MADDOCK.