(No Model.)

C. A. SALZMAN.

COMBINATION TOOL.

No. 574,764. Patented Jan. 5, 1897.

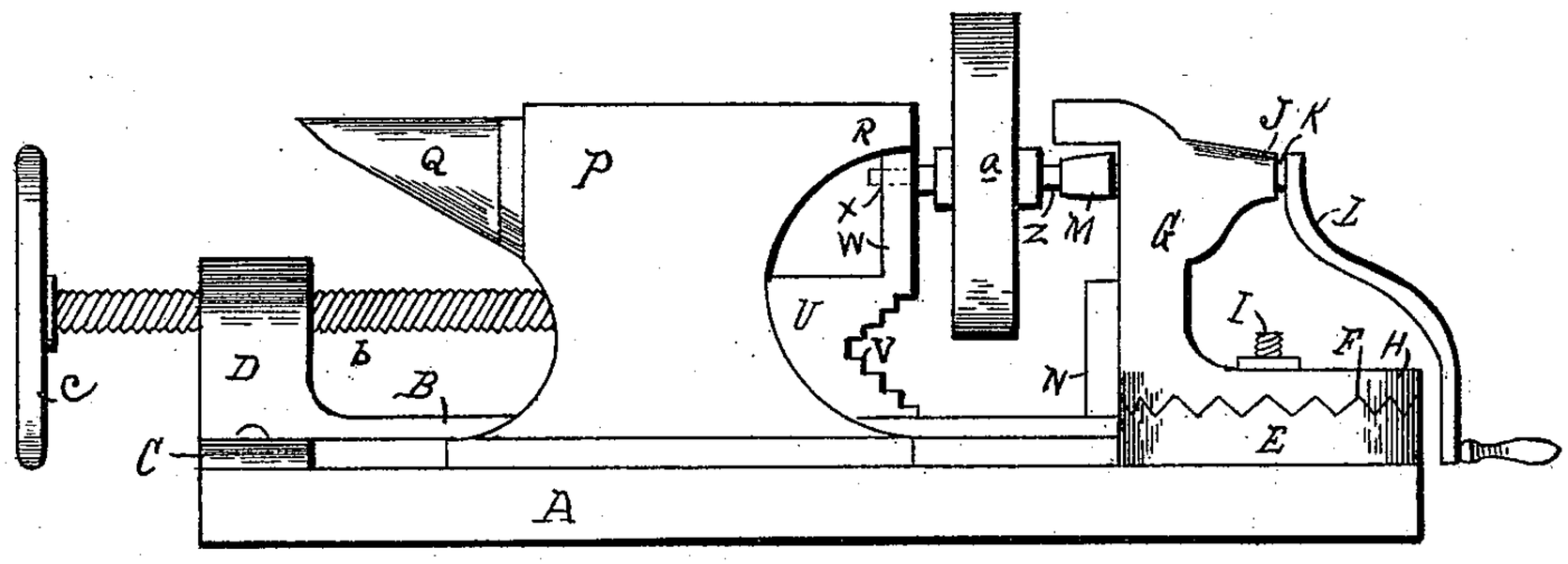

Fig 1.

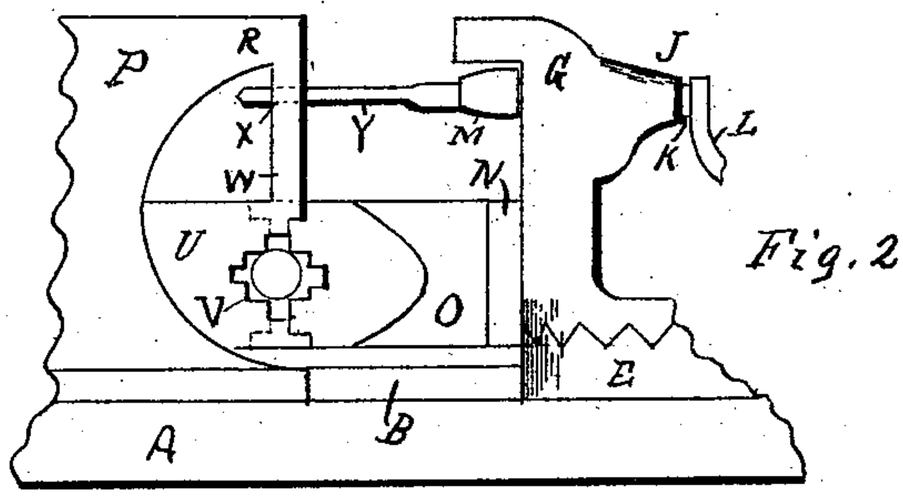

Fig. 2

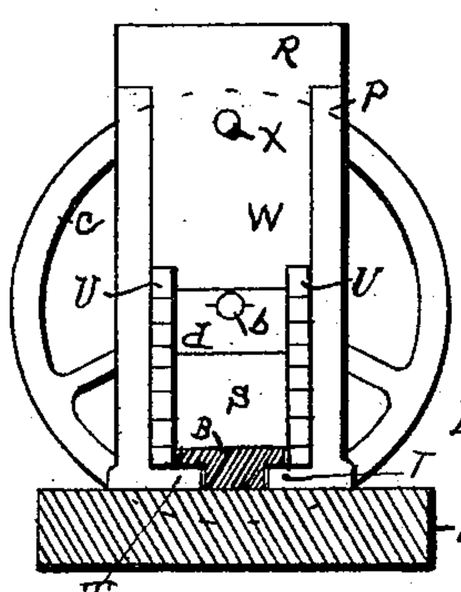

Fig 4

Fig 3

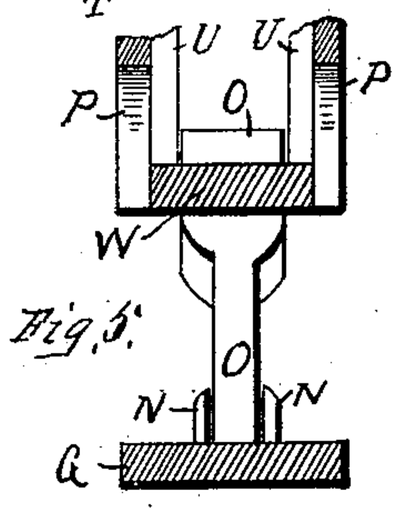

Fig. 5.

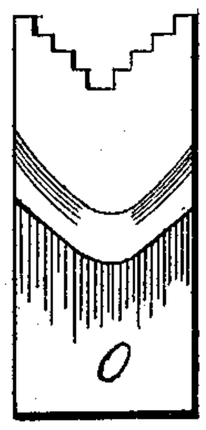

Fig. 6.

WITNESSES

C. A. Daggett

J. J. Richardson

INVENTOR.

Christian A. Salzman.

By Robert S. Carr Atty

UNITED STATES PATENT OFFICE.

CHRISTIAN A. SALZMAN, OF HAMILTON, OHIO, ASSIGNOR OF ONE-HALF TO JOHN A. ROBBINS, OF SAME PLACE.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 574,764, dated January 5, 1897.

Application filed July 3, 1896. Serial No. 597,992. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN ARTHUR SALZMAN, a citizen of the United States, residing at Hamilton, in the county of Butler and State of Ohio, have invented certain new and useful Improvements in Combination-Tools, of which the following is a specification.

My invention relates to combination-tools of that class suited to the use of farmers, mechanics, and others in making or repairing articles of metal, wood, or leather; and the object of my improvement consists in the details of construction and assemblage of the various parts for the purpose intended, as hereinafter fully described and claimed and as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my device with grindstone attachment; Fig. 2, a side elevation of parts, showing pipe-vise and drill attachment; Figs. 3, 4, 5, and 6, details of construction.

In the drawings, A represents the base, consisting of hard wood or other yielding material; B, the track of metal in the form of a T-rail in cross-section; C, flanges projecting laterally from the track near its front end for the passage of bolts that secure the front end of the track to the base; D, a boss raised above the front end of the track and containing a threaded opening parallel therewith; E, a circular flange terminating the rear end of the track and preferably formed integral therewith; F, radial teeth or serrations formed in the top surface of the circular flange; G, a vise-jaw formed with a circular flanged base H, that contains radial teeth or serrations on its under surface to register with the radial teeth on flange E of the track.

Bolt I, inserted through axial holes in flanges E and H, serves to clamp them together and to the base and to permit an adjustment of the vise-jaw to different horizontal angles with the track. Bearing J is formed in the body of the vise-jaw near its top, and spindle K is journaled therein. Crank L is secured to the outer end of the spindle, and socket M, formed in the enlarged inner end of the spindle, serves to receive and hold the shanks of drills or other tools. Parallel flanges N project from the inner vertical face of the body portion of the vise-jaw to form a vertical recess for the reception of the butt portion of the removable jaw O. Said jaw contains a toothed recess on its front end to grip the side of a pipe, rod, or other article.

Metal anvil P is formed with horn Q and heel R on respective ends. Its base is recessed to form a longitudinal opening S for the passage therethrough of track B. The bottoms of its respective sides terminate in inwardly-projecting ribs T, that movably engage with the sides of the track under the laterally-projecting top thereof. Jaws U are formed integral with the sides of the anvil and project parallel with each other from the heel end thereof. The extremities of said jaws contain notched or toothed recesses V, which slide on opposite sides of removable jaw O, and together with it form a complete vise to grip pipe, round iron, &c.

Drop apron or abutment W depends from the heel R of the anvil and is formed integral therewith and with the top of jaws U, which it spans and strengthens, and permits the entrance of removable jaw O thereunder. Opening X in the face of abutment W permits the entrance therein of the point of drill Y beyond any article or substance it has passed through. Said opening X serves also as a bearing wherein one end of spindle Z may be journaled, while the opposite end of said spindle is removably secured in socket M. Grindstone *a* is carried by spindle Z and actuated by crank L. Hand-screw *b*, provided with hand-wheel *c* on its outer extremity, is screw-threaded to engage with the threaded opening in boss D of the track. The inner extremity of the hand-screw is securely journaled in the front portion of the anvil to plate *d*, that spans the longitudinal opening therein and is formed integral with the sides thereof.

In assembling the parts the track is inserted edgewise through the longitudinal opening in the base of the anvil and between the sides thereof, then turned to proper position, and secured to base A. The hand-screw is then properly attached to the anvil and serves to move it more or less along the base to actuate

the jaws of the pipe-vise or cause the heel R of the anvil to serve as the complementary movable vise-jaw of fixed jaw G.

In operation the parts are assembled, as shown in Fig. 1, for the purpose of grinding tools or other articles. In this position the removable jaw O is removed from the vertical recess formed by flanges N to admit a grindstone of larger diameter. By removing the grindstone the heel of the anvil operates in relation to the top of vise-jaw G to form an efficient clamping-vise. In this position a boring drill or bit may be secured in socket M, as shown in Fig. 2, and turned by crank L, while articles to be drilled rest against abutment W and are fed to the drill by the approach of the anvil actuated by the hand-screw. The same movement of the anvil actuates the pipe-vise when removable jaw O is in position and the drill is removed from socket M.

By means of the flanges E and H the jaw G and with it the spindle K can be set at any angle to the jaw R and apron W, so that angular articles may be clamped between them or holes may be drilled at any angle by properly adjusting the flanges and securing them rigidly together.

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

1. The combination with a base, a track thereon, an anvil movable on the base and engaging with the track, said anvil being provided with a perforated apron, a hand-screw engaging with a boss on the track and with the anvil, of a vise-jaw adjustable to different horizontal angles in relation to the track, a drill-spindle journaled therein and provided with a socket in one end and a crank on the other, said spindle being in a line with the perforation in the apron and means to secure the vise-jaw immovably to the track.

2. The combination, with a base, provided with a track, of an anvil longitudinally movable thereupon, one end of which is provided with an apron and two jaws, a horizontally-adjustable jaw secured to the track, a spindle journaled in the adjustable jaw opposite the apron, and a removable jaw upon the adjustable jaw and opposite one of the jaws of the anvil, substantially as set forth.

3. The combination, with a base provided with a track, of an anvil longitudinally movable thereupon, one end of which is provided with a perforated apron and two jaws, of a horizontally-adjustable jaw upon the opposite end of the track, the inner face of which is provided with two parallel flanges, a spindle journaled in the adjustable jaw opposite the apron, and a removable jaw between the flanges, substantially as set forth.

4. The combination with a base, a track thereon a vise-jaw adjustably mounted on one end of the track, a drill-spindle journaled therein, of an anvil movable along the track on the base, an abutment depending from the heel of the anvil and formed integral therewith, a bearing formed in the abutment on the axial line of the spindle and a grindstone mounted on a journal adapted to engage with the spindle and with the bearing in the abutment.

5. The combination with a base, a track thereon, a vise-jaw adjustably secured to the track, an anvil movable on the base and along the track, a hand-screw engaging with the anvil and with the track, of pipe-vise jaws formed integral with the anvil and projecting parallel with each other from one end thereof and a pipe-vise jaw movable between said jaws formed on the anvil and removably engaging with the vise-jaw or bracket on the track.

CHRISTIAN A. SALZMAN.

Witnesses:
EVERT E. WILLIAMS,
R. S. CARR.