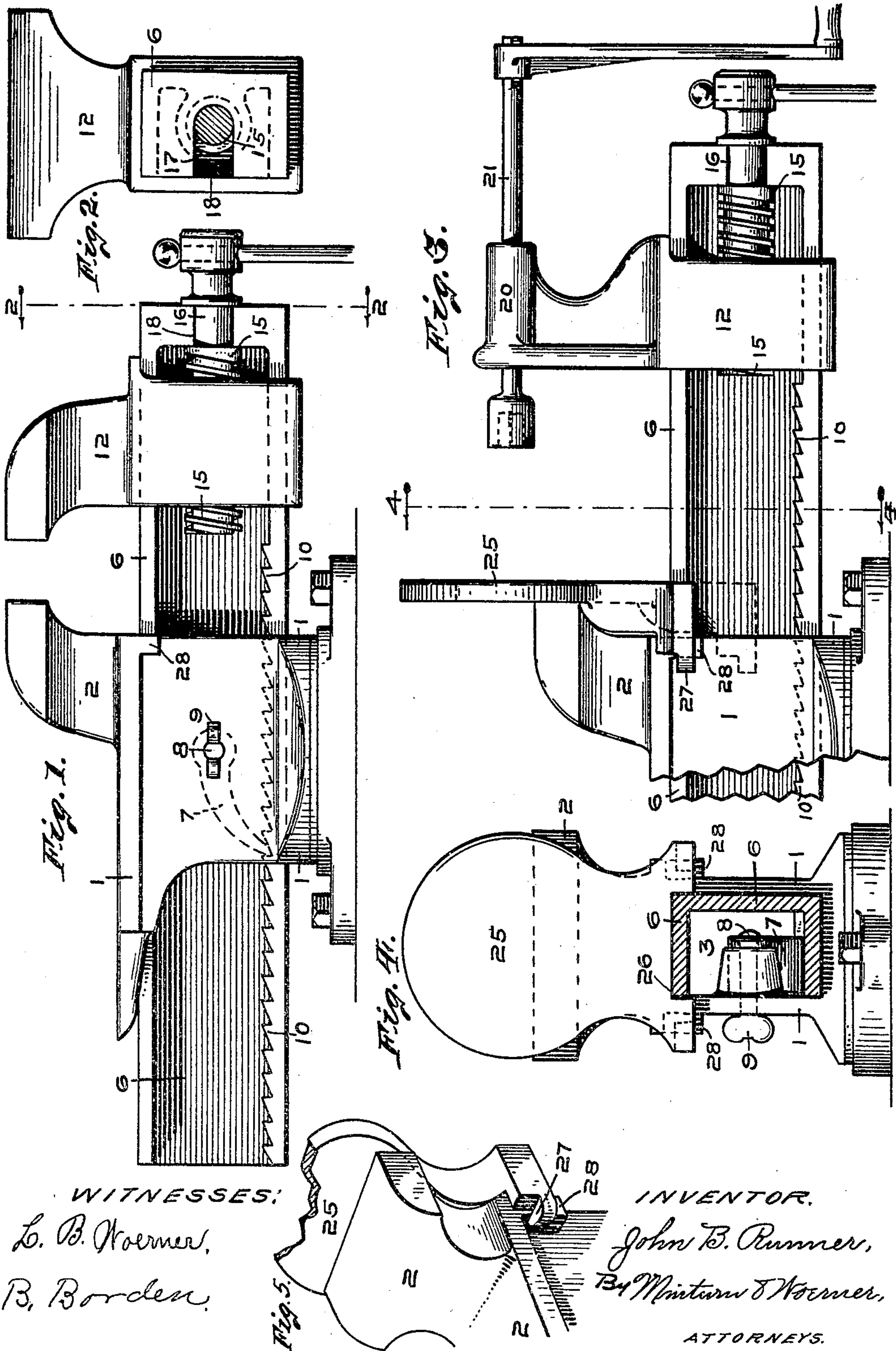


No. 824,264.

PATENTED JUNE 26, 1906.

J. B. RUNNER.
COMBINATION TOOL.

APPLICATION FILED JAN. 10, 1905. RENEWED DEC. 14, 1905.



WITNESSES:
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INVENTOR.
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UNITED STATES PATENT OFFICE.

JOHN B. RUNNER, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE HOOSIER JACK AND COMBINATION TOOL COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF INDIANA.

COMBINATION-TOOL.

No. 824,264.

Specification of Letters Patent.

Patented June , 1906.

Application filed January 10, 1905. Renewed December 14, 1905. Serial No. 291,787.

To all whom it may concern:

Be it known that I, JOHN B. RUNNER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Combination-Tools, of which the following is a specification.

This invention relates to a combination-tool which is particularly applicable to be used as a vise or drill; and the object of the invention is to provide a tool the jaws of which may be instantly adjusted to and from each other in order to conform to the width of material to be clamped.

The object consists, further, in the production of a tool the jaws of which may be moved to or from each other by means of a screw, so that a finer adjustment may be had after the initial or adjusting movement of the jaws.

A tool of the above-mentioned character embodying the several parts whereby the advantages sought are attained will first be more particularly described in the annexed specification and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar numerals of reference indicate similar parts, Figure 1 is a side elevation of my combination-tool, showing the same converted into a vise. Fig. 2 is an end elevation of the construction shown in Fig. 1, except that the screw-shaft for moving the jaws is in section, as seen from the dotted line 2 2 in Fig. 1. Fig. 3 is a fragmentary detail view, in side elevation, of my combination-tool converted into a drill or boring device. Fig. 4 is a cross-section of the construction shown in Fig. 3 as seen from the dotted line 4 4 in said latter figure. Fig. 5 is a fragmentary detail perspective view of the rear of the jaw of the tool, showing the manner in which the bed-plate of the boring device is secured to said jaw.

In the drawings, 1 is the body or housing of the combination-tool, which is provided at the top with an integrally-formed jaw 2. The housing 1 is provided with a longitudinal aperture 3, which receives and forms a guide for an adjustable channel-bar 6. The housing 1 is provided on the interior surface of the aperture 3 with a pawl 7, which is pivotally

secured to the internal wall of the housing 1 by means of a bolt 8, the latter being provided on the exterior of the housing 1 with wings 9, by which the pawl 7 may be operated. The adjustable channel-bar 6 is provided on its interior lower flange with rack-teeth 10, which engage with the pawl 7 in the housing, so that the bar may be readily moved backward, in which case the pawl 7 rides over the teeth. It will be readily seen, however, that after the channel-bar 6 has been moved backward it cannot be moved forward until the pawl 7 has been disengaged from the teeth 10 by means of the wing-bolt 9. The adjustable channel-bar 6 carries the front jaw 12 of the vise, and it will be seen by the above description of the adjustability of said channel-bar that when said bar has been drawn forward the greater part of its length it may be instantly moved backward toward the jaw 2 when desired to clamp a piece of material of narrow dimension. The jaw 12 has longitudinal and independent movement of the channel-bar 6, and the former is moved along the latter by means of the screw-shaft 15, which engages a screw-threaded boss 17, (see Fig. 2,) formed integrally with the channel-bar 6. The screw-shaft 15 is provided with an annular groove 16, that engages with a slot 18, formed in the forward end of the channel-bar 6. By means of the groove 16 resting in the slot 18 the shaft is prevented from moving in a longitudinal direction. The screw-shaft 15, however, is free to rotatory movement and is provided with any suitable means for rotating same. By means of this construction the jaw 12 can be tightly moved against the material to be clamped by means of the rotatability of the screw-shaft 15, which movement of the jaw compensates for the differences that may exist between the end of the pawl 7 and the succeeding tooth 10 of the rack when the channel-bar 6 is moved, so that the jaws will contact the material to be clamped. The jaw 12 can be readily removed from the channel-bar 6 by rotating the screw-shaft 15 in the direction that will run said jaw off the end of said screw-shaft. The parts in this position enable the screw-shaft 15 to be lifted out of the slot 18 in the channel-bar 6, and by raising the pawl 7 the channel-bar may be removed from the hous-

ing, after which the jaw may be slipped off the rear end of said bar.

In Fig. 3 of the drawings I have shown a modified construction of the jaw 12, which may be readily placed on the channel-bar 6 when desired. This jaw is provided with a hollow spindle 20, which forms a bearing and guide for the drill-stock 21, having a socketed end to receive a drill. In this connection it is desirable to have a bed-plate to form a rest for the material to be drilled, and to accomplish this end I provide the bed-plate 25 with a notch 26, that conforms to the width of the channel-bar 6. As shown in Fig. 5 of the drawings, the bed-plate 25 is provided with a hook 27 at each side, which engages with the ribs 28, formed integrally with the housing 1. To place the bed-plate 25 in position, it is necessary to remove the channel-bar 6 from the housing 1, when the bed-plate 25 is placed against the jaw 2 in a position so that the hooks 27 will stand beneath the ribs 28, said position being shown by the dotted lines in Fig. 3, when said bed-plate is moved upward into position so that the hooks 27 will pass behind the ribs 28. The channel-bar 6 is reinserted into the aperture 3 in the housing 1, which prevents the bed-plate 25 from moving downward and disengaging the hooks 27 from the ribs 28, and it will be seen that so long as said channel-bar 6 is in position the bed-plate 25 cannot be removed. Thus it will be seen that I have combined

several features that produce results requiring but few parts, which are simple in construction and compactly nested together.

Having thus fully described my said invention, what I desire to secure by Letters Patent is—

1. A combination-tool comprising a housing provided with an aperture, a channeled rack-bar engaging said aperture, an integral wall formed in the forward end of said channeled rack-bar to provide a head for said bar, a notch in said head, a movable jaw on said channeled rack-bar, and a rotatable and removable means engaging both the notch and the head of said channeled bar and the movable jaw, to move said jaw independently of said channeled rack-bar.

2. A combination-tool comprising a housing provided with an aperture, a rack-bar engaging said aperture, means on the housing to limit the movement of said rack-bar, a jaw movably mounted on the rack-bar, means rotatably mounted on the rack-bar to move the jaw independently of said bar, and a slot in the rack-bar to receive the rotatable means.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 31st day of December, A. D. 1904.

JOHN B. RUNNER. [L. S.]

Witnesses:

F. W. WOERNER,
BLANCHE BORDEN.