J. KANOWNIK.

COMBINED DRILLING AND RIVETING MACHINE.

APPLICATION FILED JUNE 20, 1921.

1,432,397. Patented Oct. 17, 1922.

Fig. 1.

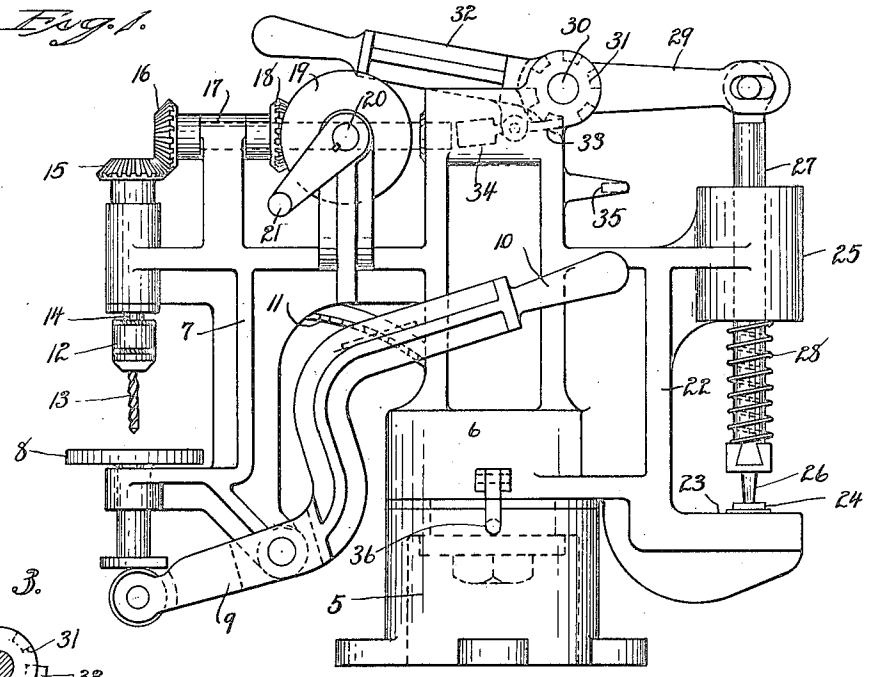


Fig. 3.

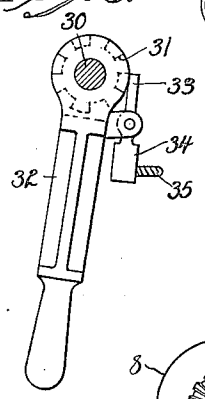
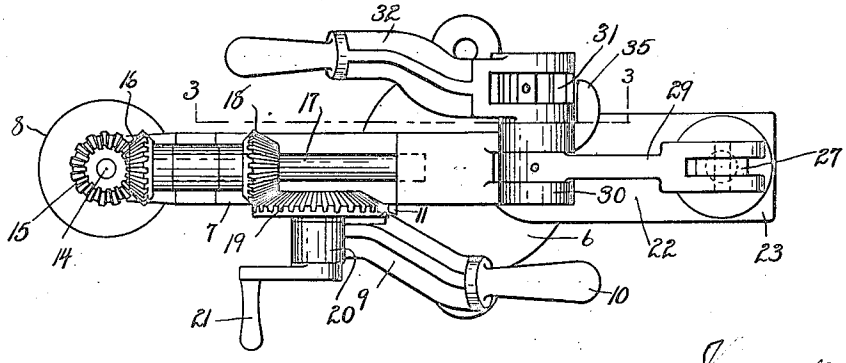


Fig. 2.



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Patented Oct. 17, 1922.

1,432,397

UNITED STATES PATENT OFFICE.

JOSEPH KANOWNIK, OF MERIDEN, CONNECTICUT.

COMBINED DRILLING AND RIVETING MACHINE.

Application filed June 20, 1921. Serial No. 478,782.

To all whom it may concern:

Be it known that I, JOSEPH KANOWNIK, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Combined Drilling and Riveting Machines; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application and represent, in—

Fig. 1 a side view of a combined drilling and riveting machine constructed in accordance with my invention.

Fig. 2 a top or plan view of the same.

Fig. 3 a side view of a handle for the spring-hammer, illustrating means for releasing the hammer.

This invention relates to improvement in combined drilling and riveting machines. In repair work, such, for instance, as in automobile repair shops it is frequently necessary to drill a hole for the reception of a rivet, or to drill out a rivet which has already been set and which it is necessary to remove for the purpose of inserting a new rivet. These operations have generally been performed by the use of a breast drill and an ordinary hammer for upsetting the rivet.

The object of this invention is to combine a drilling mechanism and a riveting mechanism in the same head and mount that head so that either mechanism may be turned to convenient position for operation, and the invention consists in the construction and arrangement of parts as will be hereinafter described and particularly recited in the claims.

In carrying out my invention, I employ a base 5 adapted to be secured to a suitable bench or other support. Mounted upon the top of the base and free to rotate thereon is a head 6, this head, including an arm 7, forming a support for a vertically-movable table 8 adapted to be lifted by a pivotally-mounted cam-lever 9 provided with an operating handle 10, by the movement of which the table may be raised and lowered.

As herein shown, the arm 7 also carries a rack 11 with which one edge of the handle 10 may engage, so as to lock the handle in any position of adjustment. The arm 7 also provides support for a chuck 12, which may carry a drill 13, the chuck-spindle 14 being provided at its upper end with a beveled-gear 15 meshing with a beveled-gear 16 on a horizontal shaft 17, which shaft is provided at its opposite end with a beveled gear 18 meshing with a beveled-gear 19 on a crank-shaft 20, to which a crank-handle 21 is connected, and by which the drill 13 may be turned.

The head also comprises an arm 22 forming a table 23 for an anvil 24 and a guide 25 for a vertically-movable hammer 26, at the lower end of a hammer-spindle 27, which is forced downward by a spring 28. The upper end of the hammer-spindle is engaged by a forked lever 29 pinned to a shaft 30, to which is also pinned a ratchet 31. Loosely mounted on the shaft 30 is a handle 32 carrying a pawl 33, the lower end 34 of which is adapted to engage with a tripping-finger 35 projecting outward from the arm 22, so that, when the handle 32 is moved downward, it will raise the hammer-spindle 27 and the hammer 26 a predetermined distance and until the end 34 of the pawl engages the tripping finger 35, so that the continued downward movement of the handle will lift the pawl 33 out of engagement with the ratchet 31 and allow the hammer-spindle 27 to suddenly drop under the pressure of the spring 28 and force the hammer 26 upon the rivet, which is resting upon the anvil 24.

To hold the head 6 against rotation upon the base 5, I mount a latch 36 on the head 6 to engage with suitable stops on opposite sides of the base, so that the head may be turned and locked at two positions of adjustment.

For drilling, the head will be turned so as to present the drill-mechanism in proper position for operation, and the drilling operation may be performed in a convenient manner. The latch 36 is then released, and the head turned half around, so as to present the riveting-mechanism in a convenient position for operation, and when so turned the head will again be locked to the base.

I thus provide, in a very simple manner, a drilling mechanism and a riveting mechanism, both mounted in the same head and upon a single base.

I claim:—

1. A combined drilling and riveting ma-

chine, comprising a base, a head pivotally mounted upon the top of the base and adapted to be turned thereon, said head comprising arms on opposite sides, one of the arms supporting a vertically-movable table and a vertically-arranged drill and means for turning said drill, the other arm providing a support for an anvil and guide for a vertically-movable spring-hammer, and means for lifting and releasing said hammer.

2. A combined drilling and riveting machine, comprising a base, a head pivotally mounted upon the top of the base and adapted to be turned thereon, said head comprising arms on opposite sides, one of the arms supporting a vertically-movable table and a vertically-arranged drill and means for turning said drill, the other arm providing a support for an anvil and guide for a vertically-movable spring-hammer, and means for lifting and releasing said hammer, including a pawl and ratchet, and a tripping-finger for said pawl.

3. A combined drilling and riveting machine, comprising a base, a head mounted upon the top thereof and adapted to be turned thereon, said head comprising two arms, one arm supporting a vertically-movable table and a vertically-arranged drill, and a pivotal handle adapted to lift said table, means for turning said drill, the other arm providing support for an anvil and a guide for a vertically-movable spring-hammer, and means for lifting said hammer and suddenly releasing the same.

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

JOSEPH KANOWNIK.

Witnesses:

MALCOLM P. NICHOLS,

FREDERIC C. EARLE.