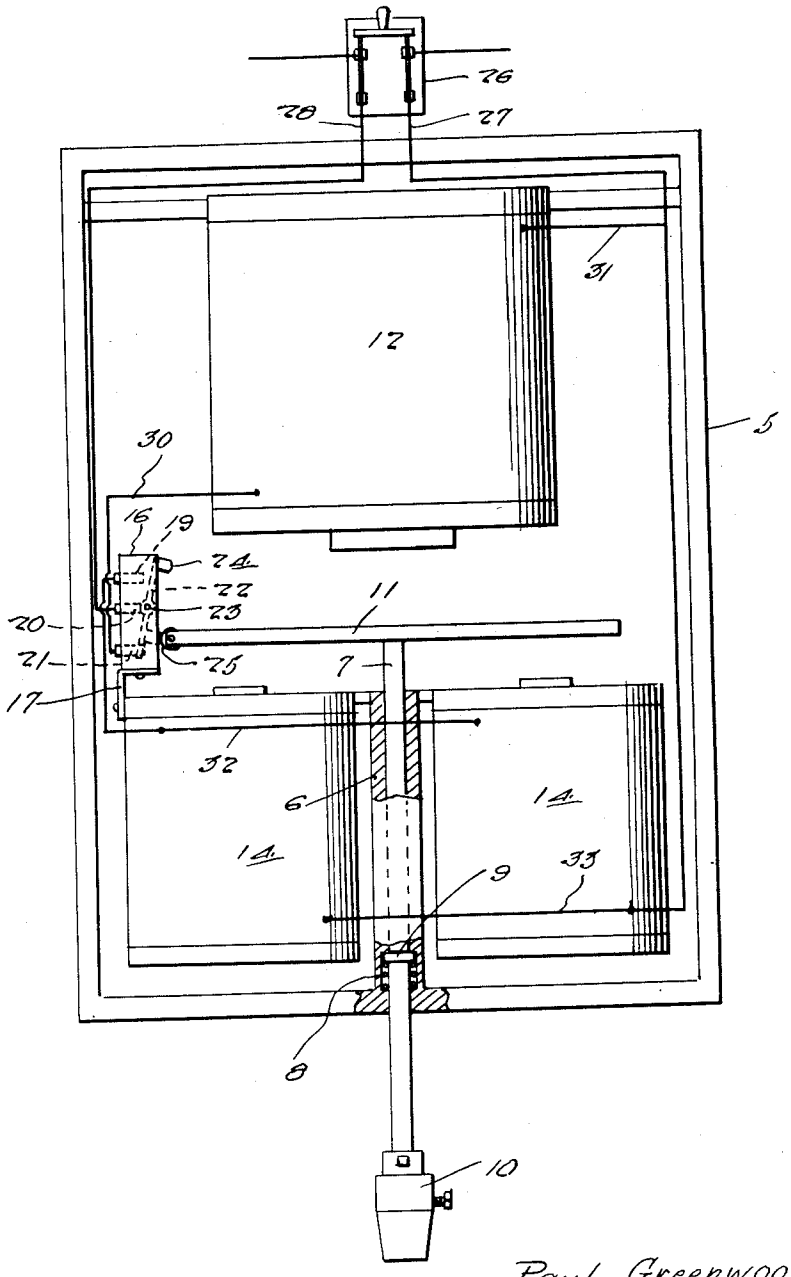
March 5, 1929. P. GREENWOOD 1,703,997

ELECTRIC RIVETING HAMMER AND DRILL

Filed April 27, 1927



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Patented Mar. 5, 1929. 1,703,997

UNITED STATES PATENT OFFICE.

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ELECTRIC RIVETING HAMMER AND DRILL.

Application filed April 27, 1927. Serial No. 187,083.

The present invention relates to an electric riveting hammer and drill and has for its prime object to provide an armature member slidably mounted in a frame and electro-magnets associated therewith whereby the armature may be vibrated for reciprocating a tool such as a hammer or drill.

Another very important object of the invention resides in the provision of a structure as just indicated in combination with an automatically controlled switch structure for properly energizing the magnet to attain the desired reciprocation of the armature and the tool.

A still further important object of the invention resides in the provision of a device of this nature which is simple in its construction, inexpensive to manufacture, thoroughly efficient and reliable in its operation, and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:

The figure is a sectional elevation of the device embodying the features of this invention.

Referring to the drawing in detail it will be seen that the numeral 5 denotes a rectangular frame. Rising from the lower end of the frame is a tube 6 in which is slidably mounted a bar 7 held normally in an upward position by a spring 8 in the tubular member abutting a shoulder 9 on the rod. Suitable tool engaging socket means or the like 10 is mounted on the lower end of the rod 7. An armature 11 is mounted on the upper end thereof. An electro-magnet 12 is mounted in the upper end of the frame in any suitable manner. A pair of electro-magnets 14 are mounted in the lower portion of the frame one to each side of the tubular member 6 in any suitable manner and the armature 11 is disposed between electro-magnets 14 and the electro-magnet 12. A switch box 16 is mounted on a bracket 17 fixed to one electro-magnet 14 to be disposed adjacent one side of the frame 5 and has fixed contacts 19, 20 and 21 therein. A member 22 is pivotally mounted intermediate its ends as at 23 in the switch box 15 and is electrically engaged with contact 20 and adapted to engage either contact 19 and contact 21. Projections 24 are formed on the member 22 to be engaged by a roller 25 on the armature 11. A master switch is shown at 26 and has wires 27 and 28 leading therefrom. The current will flow through the wire 28, contact 20, switch member 22, contact 21, through wire 30, electro-magnet 12, through wire 31 to wire 27 thus energizing electro-magnet 12 to raise the armature and when the armature is raised the roller 25 will hit the upper projection 24 to swing the switch member 22 to engage the contact 19 so that the current from the wire 28 will no longer flow through the electro-magnet 12, but will flow through contact 19, and wire 32 through the electro-magnets 14 and return through wire 33 which merges into wire 27, thus energizing electro-magnets 14 to pull down quickly on the armature 11. Thus it will be seen that the rod 7 and the tool socket 10 may be reciprocated for operating a hammer, drill, or the like.

It is thought that the construction, operation, utility, and advantages of this invention will now be quite apparent to those skilled in this art without a more detailed description thereof. The present embodiment of the invention has been disclosed in detail merely by way of example since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description. It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:—

An electric riveting and drilling apparatus comprising a frame, an electro-magnet in one end of the frame, a pair of electro-magnets in the other end of the frame, a tubular guide in said other end of the frame and projecting between the pair of electro-magnets, a circuit maker and breaker on one

side of the frame in circuit with the electromagnets, a rod slidable through the guide, an armature across the inner end of the rod and extending between the first mentioned magnet and said pair of magnets, and having a roller on one end engageable with the circuit closer and breaker to operate the same so as to properly energize the electromagnets to cause reciprocation of the armature and rod, and spring means in the guide, urging the rod in a direction to move the armature from said pair of magnets.

In testimony whereof I affix my signature.

PAUL GREENWOOD.