Nov. 13, 1923. 1,474,025

V. L. EMERSON

TOOL FOR POWER OPERATED RIVETING DEVICES OR HAMMERS

Filed Feb. 7, 1922

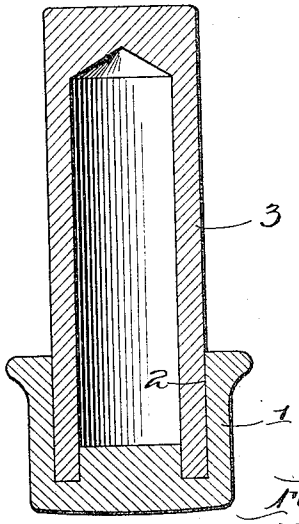


Fig. 1.

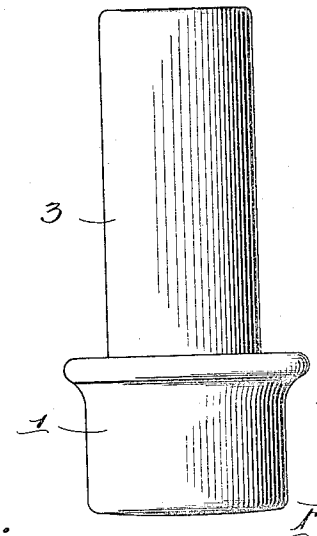


Fig. 2.

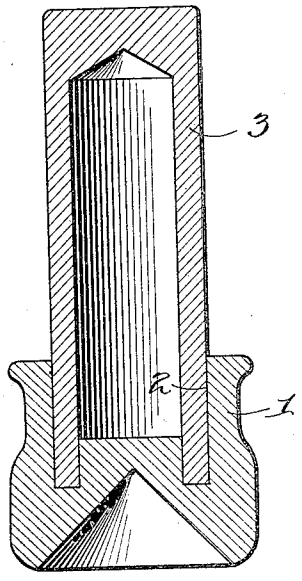


Fig. 3.

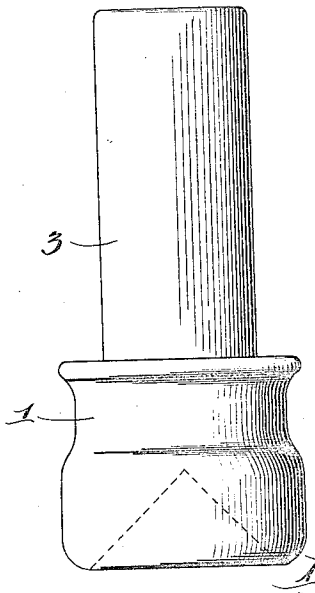


Fig. 4.

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Patented Nov. 13, 1923. 1,474,025

UNITED STATES PATENT OFFICE.

VICTOR LEE EMERSON, OF PHILADELPHIA, PENNSYLVANIA.

TOOL FOR POWER-OPERATED RIVETING DEVICES OR HAMMERS.

Application filed February 7, 1922. Serial No. 534,835.

To all whom it may concern:

Be it known that I, VICTOR LEE EMERSON, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Tools for Power-Operated Riveting Devices or Hammers, of which the following is a specification.

The present invention relates to an improvement in tools for power operated riveting devices or hammers. More particularly it relates to an improvement whereby the parts of such tools are so constructed as to avoid breakage due to the strains and stresses set up in the ordinary type of said tools in transmitting the blows from the operating element through the tool to the object operated on.

I have found that with the ordinary type of such tools their form and weight is such that in the process of overcoming their inherent inertia and transmitting the force of operating blow through the tool to the object operated on such severe strains and stresses are set up in the material of the tool as to cause a weakening of the same through physical changes of structure such as crystallization which results in a premature breakage.

An object of the invention is to proportion the weight, form and material of my improved tools so as to overcome the difficulties heretofore experienced, and produce a superior article having desirable qualities of lightness, long life and efficient operation.

Fig. 1 is a cross section of one embodiment of my invention comprising a hammer.

Fig. 2 is a side elevation of the same.

Fig. 3 is a cross section of an embodiment of my invention comprising a rivet set.

Fig. 4 is a side elevation of the same.

In the form illustrated in Figs. 1 and 2 the striking end of the tool is constructed to form a hammer as shown. In the form illustrated in Figs. 3 and 4, the striking end of the tool is cup shaped constituting a rivet set, as shown.

My improved tools are made of material having sufficient hardness to stand the blows to which they are subjected. If desired only those parts of the tool which come in direct contact with the operating element and rivet may be hardened to a sufficient extent to withstand the blows to which the tool is subjected at these points, the remainder being of softer and less brittle material. The striking member 1 is counterbored as shown at 2 for the reception of shank 3. The shank 3 is formed hollow as shown.

Another modification may consist in having the striking member 1 composed of a hardened material and the shank 3 of a softer material hardened at its outer end.

It will be seen that the construction herein disclosed does not possess the weight and inertia of the ordinary solid tool. With the ordinary construction of weighty parts the consequent effect of the inertia is such as to resist the blow of the operating element to such an extent as to seriously interfere with the transmission of a blow of proper intensity to the object operated on through the medium of the tool. The inertia also produces a slowness of action, due to the time interval necessary to overcome it. A cause of premature breakage in the ordinary tool arises from the constant shock caused by the impact of the tool against the operating element on the rebound from the object operated on, which at this time is moving toward the tool. These shocks are reduced to a minimum by my invention, thus avoiding their destructive effect which occurs in the ordinary type of tool.

I have found that under the severest usage that tools constructed according to my invention are capable of use for a much longer period of time than heretofore possible, and are capable of being operated with greater ease and rapidity.

Having described my invention what I claim is:

1. An article of the class described having a head adapted to form a striking member and provided with a recess therein, and a hollow member having one end thereof inserted and held within said recess and adapted to receive the blows of an operating element on its upper end.

2. An article of the class described having a head adapted to form a striking member and provided with a recess therein, a tubular member having an open end inserted and held in said recess and a closed upper end adapted to receive the blows of an operating element.

3. An article of the class described having

a head adapted to form a striking member of relatively hard material and a member of softer material projecting therefrom and hardened at its upper end on which it is adapted to receive the blows of an operating member.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 2nd day of February, 1922.

VICTOR LEE EMERSON.

Witnesses:
T. A. JONES,
RUSSELL W. SCHIMPF.