

H. E. LAU.
RIVET HOLDER.
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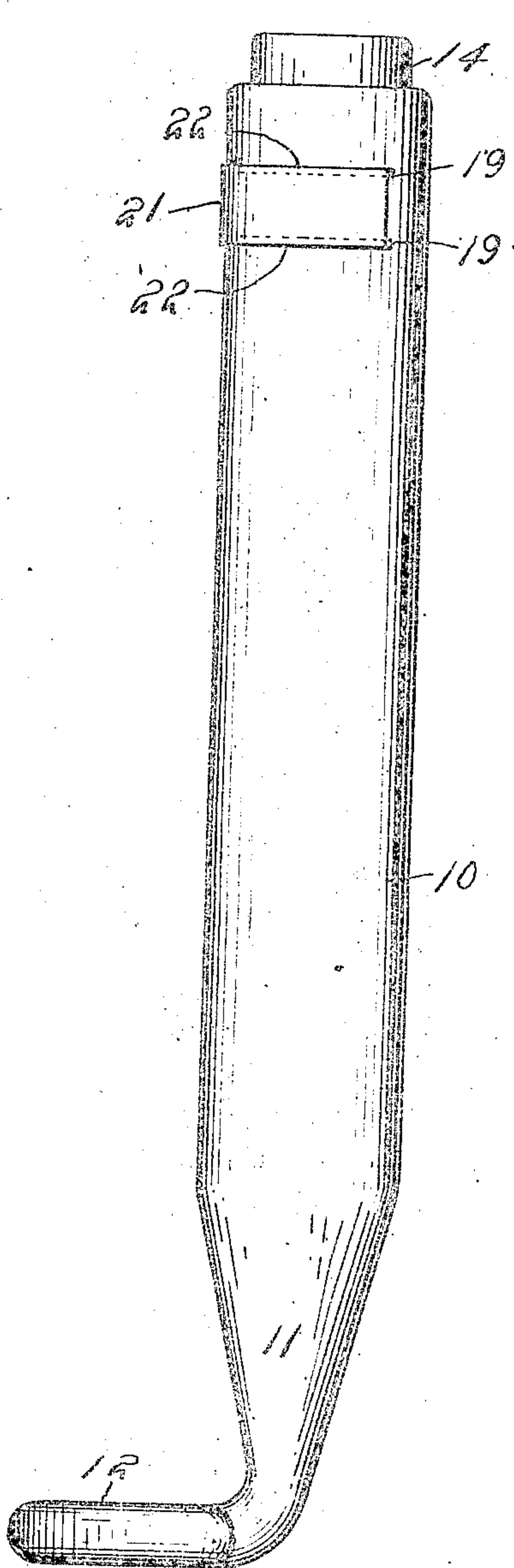


Fig. 1.

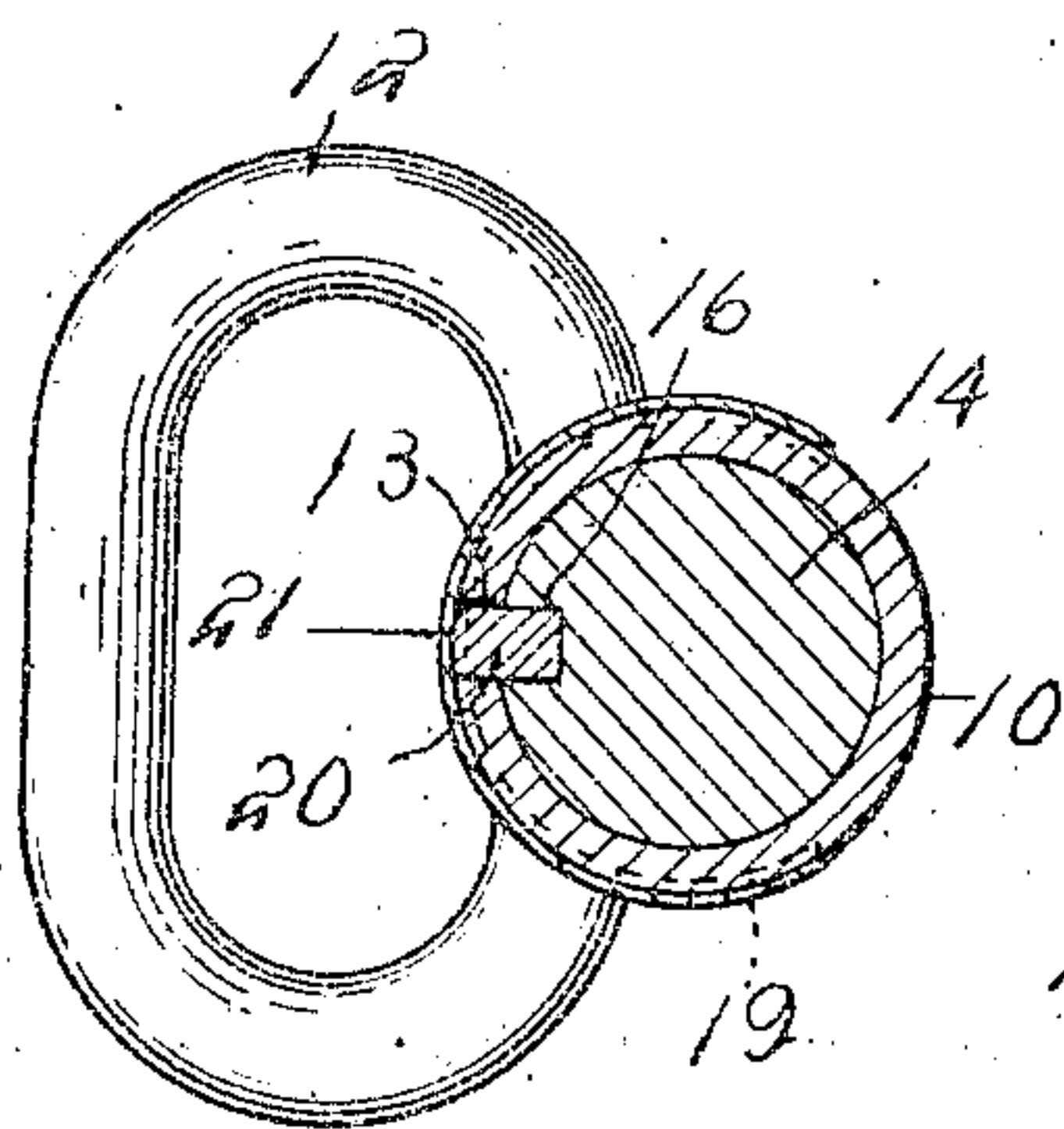


Fig. 3.

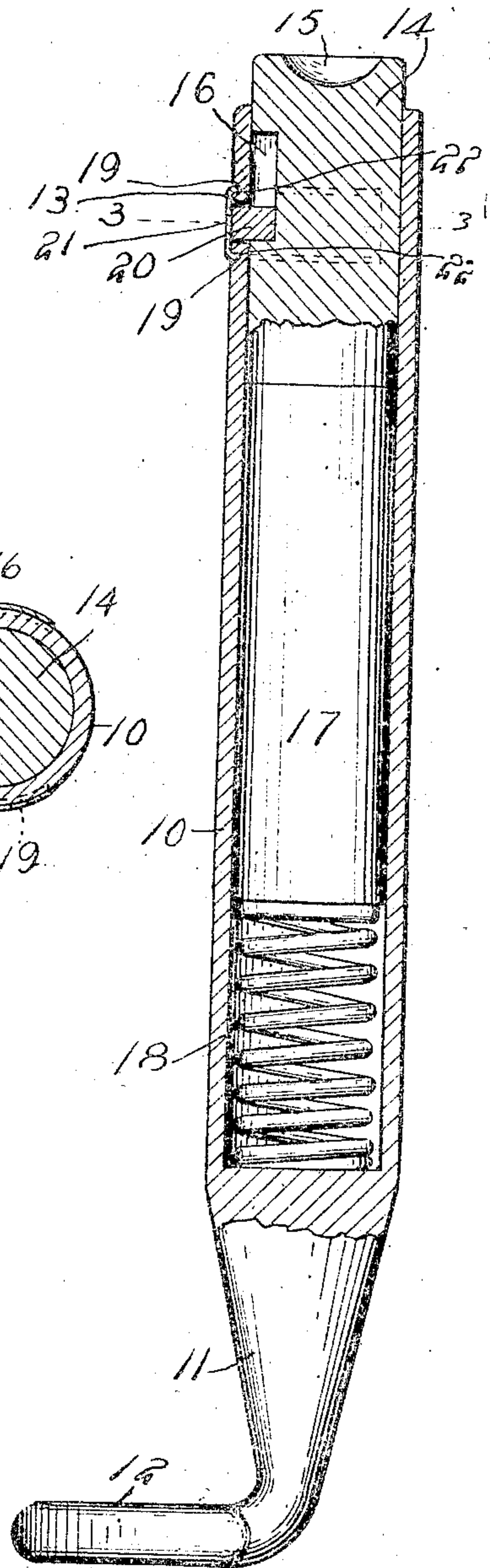


Fig. 2.

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UNITED STATES PATENT OFFICE.

HENRY E. LAU, OF POTTSTOWN, PENNSYLVANIA.

RIVET-HOLDER.

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To all whom it may concern:

Be it known that I, HENRY E. LAU, a citizen of the United States, residing at Pottstown, in the county of Montgomery, State of Pennsylvania, have invented certain new and useful Improvements in Rivet-Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to rivet holders, and commonly known as "dolly bars" employed for holding against the heads of rivets, and more particularly in connection with automatic riveters such as the various forms of pneumatic riveters used in boiler shops, bridge building, and in the various steel structures or buildings, and has for one of its objects to simplify and improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a simply constructed device whereby the annoyance and concussion produced in the dolly bar by the operation of the riveter are obviated and the action and operation improved.

With these and other objects in view the invention consists in a stock formed with a tubular portion and a solid portion, the tubular portion open at one end and the solid portion reduced at one end and terminating in a handle loop extending laterally at right angles to the longitudinal axis of the stock, a die movably disposed in the open end of the tubular portion of the stock, a hammer movable within the casing and engaged by the die, and a spring between the inner end of the hammer and the solid portion of the stock.

The invention further consists in a stock formed with a longitudinal tubular portion open at one end and a solid tapering portion with a handle loop extending laterally from the smaller end thereof and at right angles to the stock, a latch carried by the tubular portion of the stock and operating through the same, a die movable in the tubular portion of the stock and with a longitudinal slot engaged by the latch, a hammer within the tubular portion and engaged by the die, and a spring between the hammer and the solid portion of the stock.

The invention further consists in certain

novel features of construction as hereafter shown and described, and then specifically pointed out in the claims, and in the drawings illustrating the preferred embodiment of the invention, Figure 1 is a side elevation of the improved device. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse section on the line 3--3 of Fig. 2.

In the operation of heading rivets, particularly when heading rivets with pneumatic riveters, the blows upon the rivet produce heavy jars against the bar which is held against the rivet head, resulting in driving the bar away from the rivet head at each blow, and in many cases the hammer of the riveter strikes the second blow before the bar can be brought back against the rivet, the consequence being that the rivet will "back" slightly after the rivet is "blocked." The result is that the riveting is incomplete and does not hold the members firmly, and the strain caused by this action is injurious to the operator who holds the rivet bar. The heavy jars thus produced also result frequently in damage to the handles and valves in the pneumatic riveters.

To obviate the injurious action above noted is the principal object of the present invention, the improved device operating to effectually prevent heavy jars between the riveter and the holding bar.

The improved implement comprises a stock formed with a tubular portion 10 and a solid portion 11, the solid portion tapering inwardly at one end and provided with a laterally extending handle loop 12, the handle loop disposed at right angles to the axial line of the stock, as shown. The tubular portion 10 is open at its outer end, and provided with a transverse aperture 13 and movably disposed in the outer end of the portion 10 is a die member 14 having a countersink or cavity 15 in its head and with a longitudinal slot 16 in one side opposite the aperture 13, as shown. Disposed within the tubular portion 10 and bearing against the inner end of the die 14 is a hammer member 17, and located within the tubular portion 11 of the stock is a relatively heavy spring 18, the spring thus bearing at the ends between the hammer 17 and the solid portion 11. Formed in the outer face of the stock at each side of the aperture 13 are channels or seats 19, the seats extending for more

than one-half of the distance around the stock. Fitting through the aperture and into the slot 16 is a latch member 20 constituting a lock or latch whereby the die member is prevented from being removed from the stock, while at the same time free to move longitudinally thereof within the range of the slot, as hereafter explained. Fitting over the stock externally of the latch member 20 is a spring clip 21 having flanges 22 at the edges fitting into the seats 19, the clip extending around the stock more than one-half thereof, so that when disposed in position around the stock with the flanges or ribs within the recesses, the clip will be retained in position by its own resiliency, as will be obvious. By this arrangement it will be obvious that the die 14 will be maintained yieldably in its outward position by the spring and prevented from removal by the latch 20, while at the same time the slot 16 will permit longitudinal movement of the die and hammer against the pressure of the spring 18, when the rivet is actuated. By this simple arrangement when a rivet either hot or cold is to be inserted the die 15 is placed against the head of the rivet and held firmly in place by the operator who grasps the body of the stock with one hand and the handle loop 12 with the other hand. The jars of the blows imparted to the rivet are absorbed by the spring 18 and not communicated to the hands of the operator. When the rapid blows are imparted to the rivet the die 14 will yield slightly and force the hammer 17 against the spring 18, the quick reaction of the spring bringing the hammer and the die back to their former positions before the riveter mechanism imparts the second blow, the result being that all looseness of the rivets is effectually obviated, and all rivets perfectly and uniformly finished. The countersink 15 fitting over the head of the rivet enables the die to be held in position thereon with greater ease and certainty, and likewise assists materially in forming the head when applied to hot rivets.

The fatigue incident to the operation of an implement thus described is very much reduced as the spring absorbs the heavy jars and the double action of the spring maintains the rivet head firmly in position

and effectually prevents it from "backing" or loosening.

The device is simple in construction, can be inexpensively manufactured and of any required size or of any suitable material, but will preferably be constructed from steel and the members 10—11—12 preferably forged in one single piece.

What is claimed is:—

1. A device of the class described comprising a tubular stock having an aperture through one side, a hammer spring supported within said stock, a die bearing upon said hammer and slidable in said stock and provided with a longitudinal slot opposite the opening in the stock, a latch operating through the aperture of said stock and into the slot of said die, and detachable means for maintaining said latch in position.

2. A device of the class described comprising a tubular stock having an aperture through one side, a hammer spring supported within said stock, a die bearing upon said hammer and slidable in said stock and provided with a longitudinal slot opposite the opening in the stock, a latch operating through the aperture of said stock and into the slot of said die, and yieldable means detachably engaging said stock and maintaining said latch in position.

3. A device of the class described comprising a tubular stock having an aperture through one side and segmental channels in the stock at the opposite sides of the aperture thereof, a hammer spring supported within said stock, a die bearing upon said hammer and slidable in said stock and provided with a longitudinal slot opposite the opening in the stock, a latch operating through the aperture of said stock and into the slot of said die, and a resilient member bearing around said stock and against said latch and with inwardly directed ribs engaging in said channels and maintained in position thereby.

In testimony whereof, I affix my signature, in presence of two witnesses.

HENRY E. LAU.

Witnesses:

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