No. 832,481. PATENTED OCT. 2, 1906.

W. E. HUBBY.

PNEUMATIC RIVETER.

APPLICATION FILED SEPT. 9, 1905.

Fig. 1.

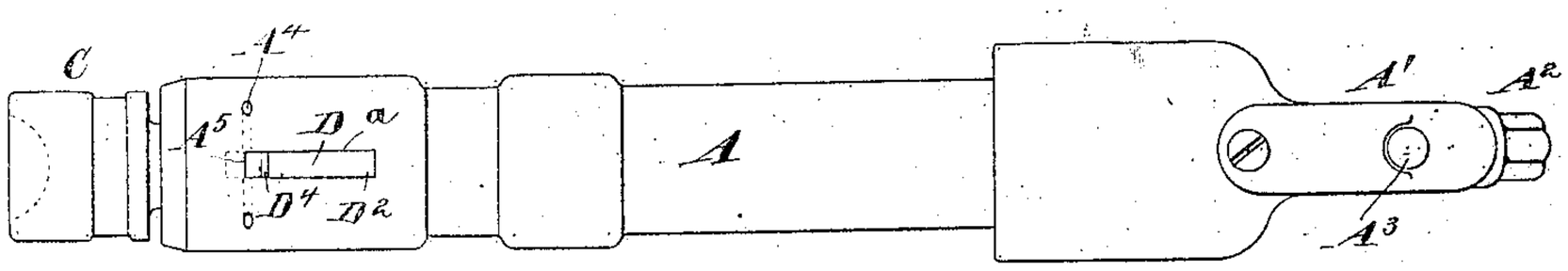


Fig. 2.

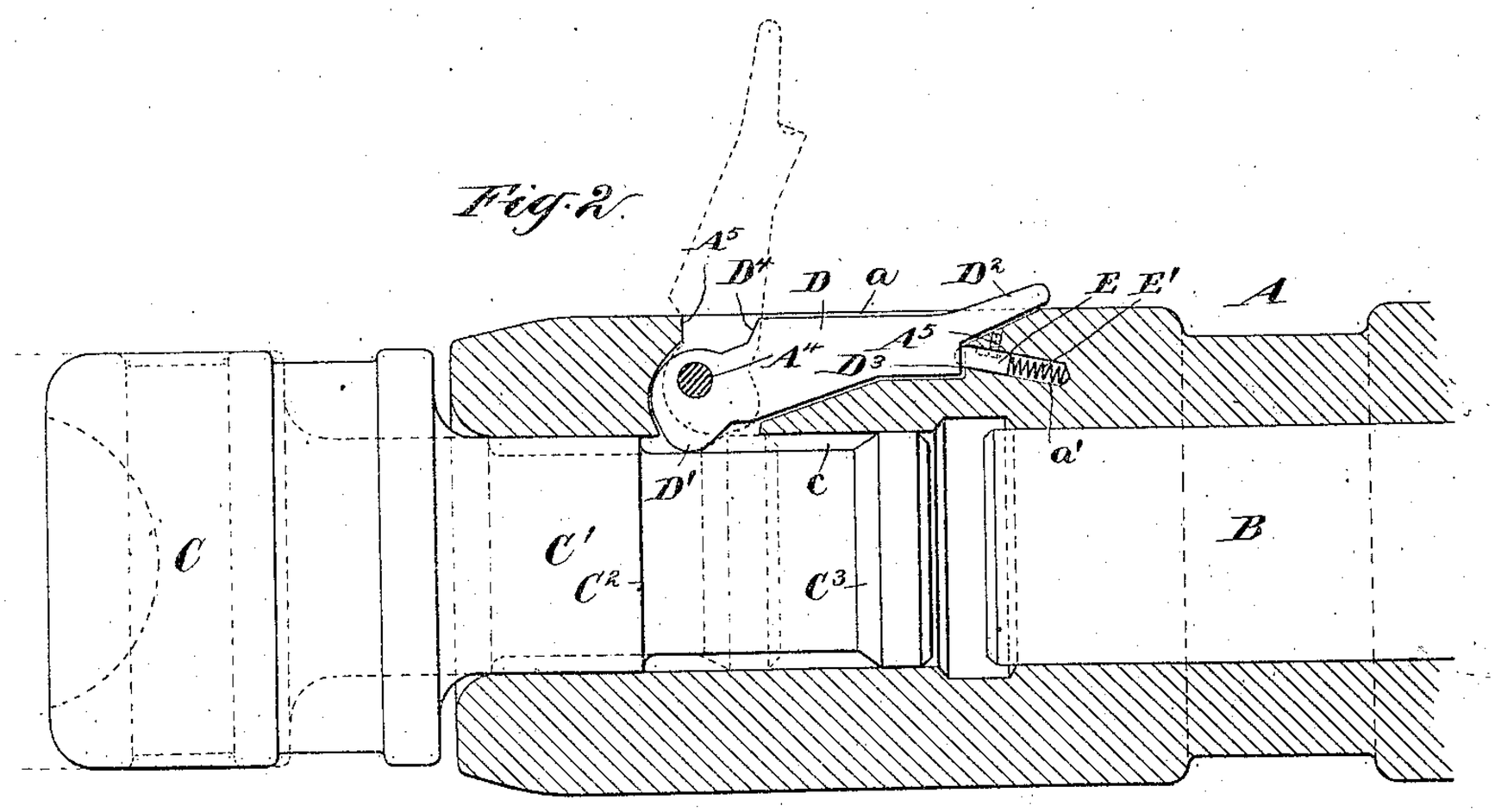
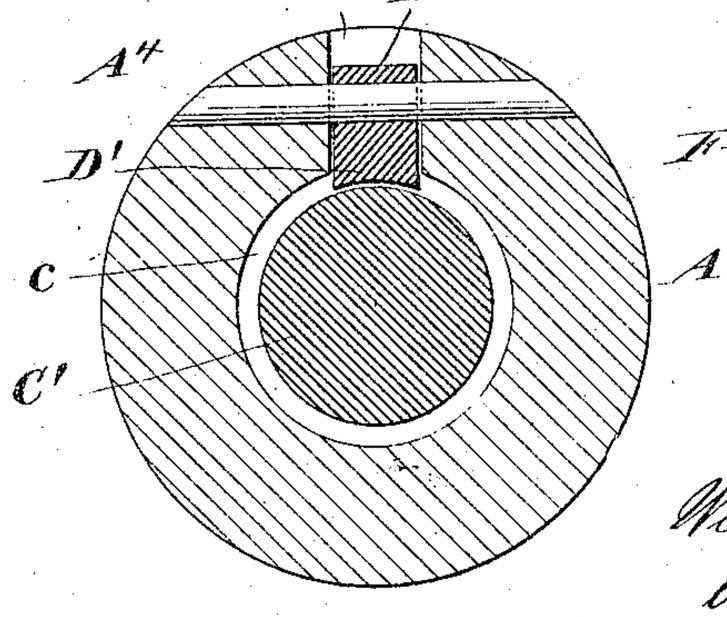


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PNEUMATIC RIVETER.

No. 832,481. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed September 9, 1905. Serial No. 277,711.

To all whom it may concern:

Be it known that I, WILLIAM E. HUBBY, a citizen of the United States, residing in the city of New York, in the borough of Queens, county of Queens, and State of New York, have invented a certain new and useful Improvement in Pneumatic Riveters, of which the following is a specification.

The invention is in that class of riveting-machines in which the button-set is subjected to the blows of a hammer or plunger reciprocated by compressed air, and relates particularly to means for preventing the accidental removal of the button-set from the cylinder of the riveter.

The object of the invention is to provide a lock which will engage the button-set and while permitting the required movements hold it reliably in place in the cylinder and allow it to be easily removed and another substituted when desired.

The invention consists in certain novel features and details of construction by which the above objects are attained, to be hereinafter described.

The accompanying drawings form a part of this specification and show a preferred form of the invention.

Figure 1 is a plan view of a riveter equipped with my invention. Fig. 2 is a longitudinal section, partly in elevation, on a larger scale, showing the forward end of the riveter and the locking means. Fig. 3 is a corresponding cross-section on the line 3 3 in Fig. 2.

Similar letters of reference indicate the same parts in all the figures where they appear.

A is the cylinder of a riveter, which may be of any ordinary or approved type, having a handle A′, air-inlet A^2, and push-button A^3, controlling the admission of air to the valves and cylinder, all of which may be as usual, and having a hammer B, adapted to be reciprocated in the cylinder and deliver its blows upon a button-set C. The latter has the usual head, in which is a hemispherical cavity for shaping the button on a rivet, and a body C′ of smaller diameter matching the bore of the cylinder A and received therein.

It is obviously necessary to provide means which while allowing the button-set to move axially to a limited extent and also to revolve in the cylinder will hold it engaged with the latter and prevent its accidental escape and possible loss therefrom. The lock employed is in the form of a lever lying in a longitudinal slot *a* in the cylinder, fulcrumed on a pin A^4, extending transversely of the slot, and having an arm D^2 extending outside the cylinder sufficiently to permit the lock to be turned thereby. A nose D′ projects inwardly from the lock at approximately a right angle thereto and in the closed position lies in an annular groove *c*, provided in the body C′ of the button-set between the shoulders or offsets C^2 C^3, and by thus engaging the button-set prevents its removal from the cylinder until the locking-lever D is raised and the nose D′ withdrawn from the interior of the cylinder and out of the groove *c*. The lock is held closed by a spring-latch comprising a bolt E, lying in a hole *a′*, drilled in the metal of the cylinder, acted upon by a spring E′ behind it tending to thrust the bolt forward, the movement being limited by a screw A^5 set in the cylinder and projecting into a groove in the bolt. The forward end of the bolt is rounded and is received in a correspondingly-shaped recess or cavity formed in a plane portion D^3 of the locking-lever at the junction therewith of the arm D^2. The bolt automatically engages the cavity and holds the lock closed; but the latter may be easily released by the application of sufficient force beneath the arm D^2. Thus conditioned the button-set may move the length of the groove *c* or until the shoulder C^3 strikes the nose D′ and arrests the movement in that direction. This shoulder is inclined at an angle or otherwise shaped to insure that the point of contact shall be near the end of the nose, so that the impact shall tend by reason of the leverage to hold the lock in the closed position.

The main portion of the back of the lock lies parallel with the surface of the cylinder and flush with or a little below such surface and is provided with a shoulder D^4, arranged to strike the end A^5 of the slot *a*, and thus limit the movement of the lock in the act of opening, as shown in dotted lines in Fig. 2, in which position the nose is wholly withdrawn and the button-set released.

As the lock in the closed condition projects but little and at one point only, it does

not interfere with the positioning or operation of the riveter in confined situations and is not likely to be accidentally released.

The invention may be applied to any of the ordinary forms of riveters the only changes required being the milling and drilling operations necessary to permit the introduction of the lock and its latch and the production of the shallow groove in the body of the button-set.

Modifications may be made in the forms and proportions of the parts and the latter may be differently located. Other holding means may be substituted for the latch shown.

I claim—

1. In a riveter having a cylinder, a locking-lever operated from the exterior of said cylinder and extending into the interior thereof, a locking device for said lever mounted within the wall of said cylinder, and a button-set loosely mounted in said cylinder and constructed to be engaged by said locking-lever.

2. In a riveter, a lock in the form of a lever pivotally mounted in the wall of the cylinder, a button-set having an annular groove and loosely mounted in said cylinder, a nose on said lock arranged to project within said cylinder and into said groove, and a spring-actuated device engageable with said lever near its free end for locking the same.

3. In a riveter having a cylinder, a lock in the form of a lever pivotally mounted in the wall of said cylinder, a button-set having an annular groove, a nose on said lock arranged to project within said cylinder and into said groove, and means confined within the wall of said cylinder for engaging said lever and holding it in the engaged condition.

4. In a riveter having a cylinder, a lock in the form of a lever pivotally mounted in the wall of said cylinder and lying in a slot in the latter, an arm on said lock projecting exteriorly of said cylinder, a nose on said lock projecting interiorly of said cylinder, a button-set loosely mounted in said cylinder and having an annular groove arranged to receive said nose, and a spring-latch arranged to hold said lock in engagement with said groove.

5. In a riveter having a cylinder, a lock in the form of a lever pivotally mounted in the wall of said cylinder, a nose on said lever projecting interiorly of said cylinder, a button-set loosely mounted in said cylinder and having an annular groove arranged to receive said nose, and a shoulder on said button-set arranged to contact with said nose and locking means mounted within the wall of the cylinder to engage said lever near its free end and hold said lever in the engaged position.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

WILLIAM E. HUBBY.

Witnesses:
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