Aug. 16, 1932. W. VAN RIXEL, JR 1,872,198

GUN CLEANING DEVICE

Filed Nov. 18, 1930

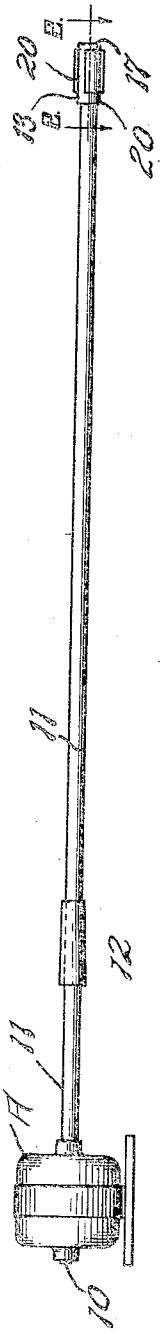


Fig. 1.

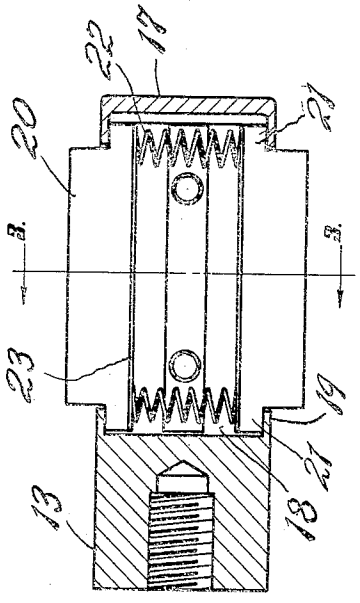


Fig. 2.

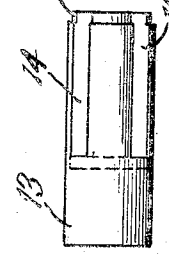


Fig. 4.

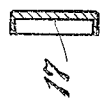


Fig. 5.

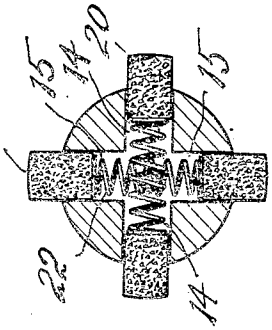


Fig. 3.

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# UNITED STATES PATENT OFFICE

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## GUN CLEANING DEVICE

Application filed November 18, 1930. Serial No. 496,516.

The invention relates to a cleaning device for gun barrels or other tubes, and more especially to automatically driven rod cleaners, for gun barrels, either straight bored, back bored or choke bored.

The primary object of the invention is the provision of a cleaner of this character, wherein the head thereof is novel in form so as to enable the quick and convenient insertion, removal and assemblage of cleaning elements therein, these being tensioned near opposite ends, so that such elements will snugly hug the wall of the barrel or other tube and automatically adjust themselves to compensate for any deformities in the wall and wear on the latter or said elements.

Another object of the invention is the provision of a cleaner of this character, wherein its rod carries a centering device or member to fit varying gages of gun barrels and this rod is motor driven.

A further object of the invention is the provision of a cleaner of this character, wherein the cleaning elements are readily accessible through the free end of the rod, which is of novel form.

A still further object of the invention is the provision of a cleaner of this character which is extremely simple in construction, thoroughly reliable and efficient in its purposes, strong, durable, and inexpensive to manufacture.

With the above and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention, and pointed out in the claim hereunto appended.

In the accompanying drawing:

Figure 1 is an elevation of a cleaning device constructed in accordance with the invention.

Figure 2 is an enlarged vertical longitudinal sectional view through the head of the rod, on line 2—2 of Fig. 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a detail plan view of the head with the cleaning elements removed.

Figure 5 is a vertical sectional view through the head cap.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail A designates generally an electric motor of any approved type having a driving shaft 10 with which is coupled in any suitable manner a cleaning rod 11, the latter being fitted with a centering device 12, which may be either stationary or rotatably engaged with said rod. This rod 11 may be made up of one or any number of sections as desired.

On the outer end of the rod 11 is detachably fitted a circular head 13, formed with crossed longitudinally disposed slots 14 and 15, respectively, these opening through the end of the head and through the opposite sides thereof. The outer end of the head 13 is externally reduced as at 16, for accommodating a rimmed cap 17, the latter being telescoped over the reduced end 16, as shown in Figures 1 and 2 of the drawing.

In the head 13 at the inner end of the slots 14 and 15 is a recess 18 common to all of the slots to provide an abutment lip 19 at the inner end of each slot, as shown in Figures 2 and 4 of the drawing.

Fitted within the respective slots 14 and 15 are cleaning elements in the form of felt strips 20, each being provided at opposite ends with stops 21, these at the inner ends of the slots 14 and 15, coacting with the abutment lips 19, while those at the outer ends of the slots coact with the rim of the cap 17 to limit the outward movement of the elements 20 assembled in the head 13 of the rod.

Disposed in crossed relation to each other within the head 13 and working against the strips 20 are coiled expansion springs 22 serving to constantly force the said strips outward of the slots 14 and 15 for snug contact with the wall of the bore of a gun barrel or other tube.

Interposed between the ends of the crossed springs 22 and the inner faces of the strips 20 are suitable follower plates 23, to prevent the springs from working into the strips as will be apparent.

It will be obvious that the strips can be readily and easily inserted into and removed from the head with dispatch. This assures quick and easy assemblage and also permits replacement when the occasion requires. The strips are inserted through the open ends of the slots 14 and 15 when the cap 17 is removed from the end of the head of the rod.

The centering device 12 enables the rod 11 to be properly centered within a gun barrel or other tube while the cleaning device is in use.

What is claimed is:

In a device of the kind described, a rod having a centering member at one end adapted for connection with a driving shaft of a power element, a circular head of uniform diameter in cross-section throughout its length and having crossed intersecting slots opening through the periphery thereof at diametrically opposite points of the same and through one end, said slots being extended for a major portion of the length of the head and the latter forming overhanging lips to the inner ends of said slots, a cap removably fitted and telescoped over the end of the head through which the slots open and having a rim constituting lips overhanging the slots at this end of said head, means at the other end of the head for its detachable mounting on the other end of the rod, felt cleaning strips movably fitted in said slots and having end stops coacting with the lips to limit the outward movement of the strips, and springs within the slots and working against opposed strips at their ends to yieldably protrude said strips from the slots.

In testimony whereof I affix my signature.

WM. VAN RIXEL, JR.