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2,544,150

DEFORMABLE FIREARM BORE WIPER

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FIG. 1.

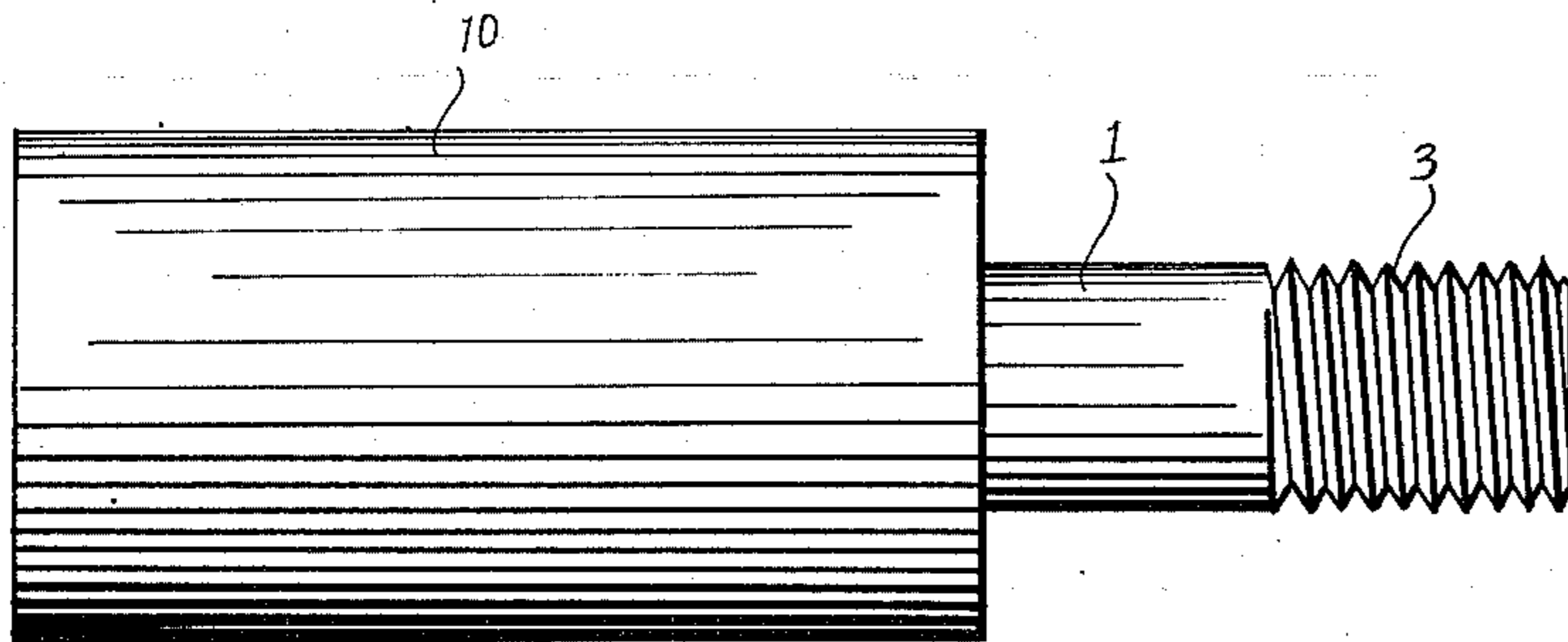


FIG. 2.

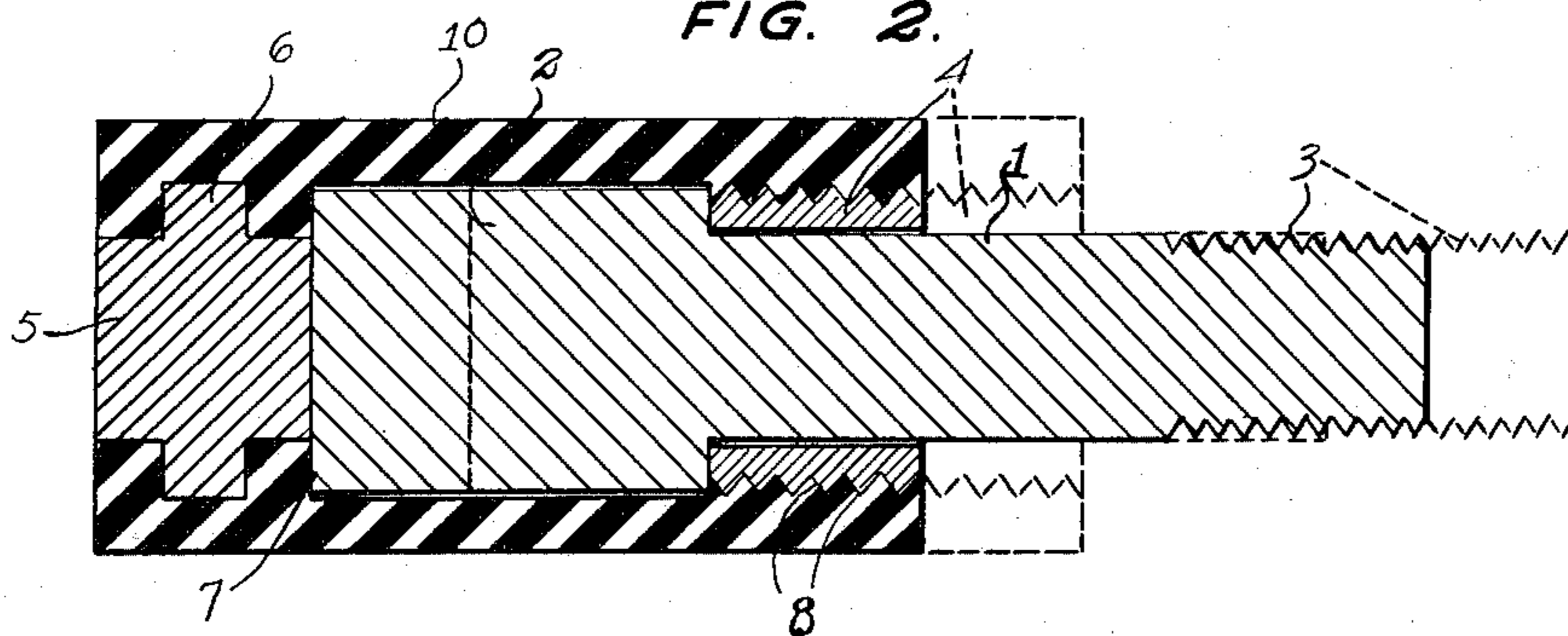


FIG. 3.

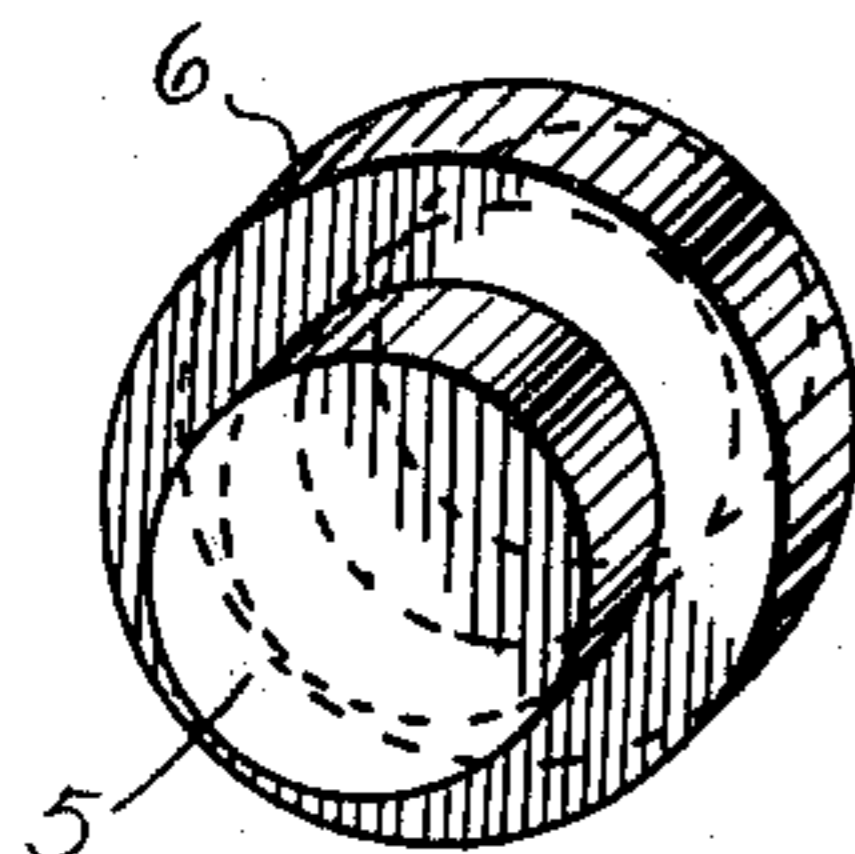
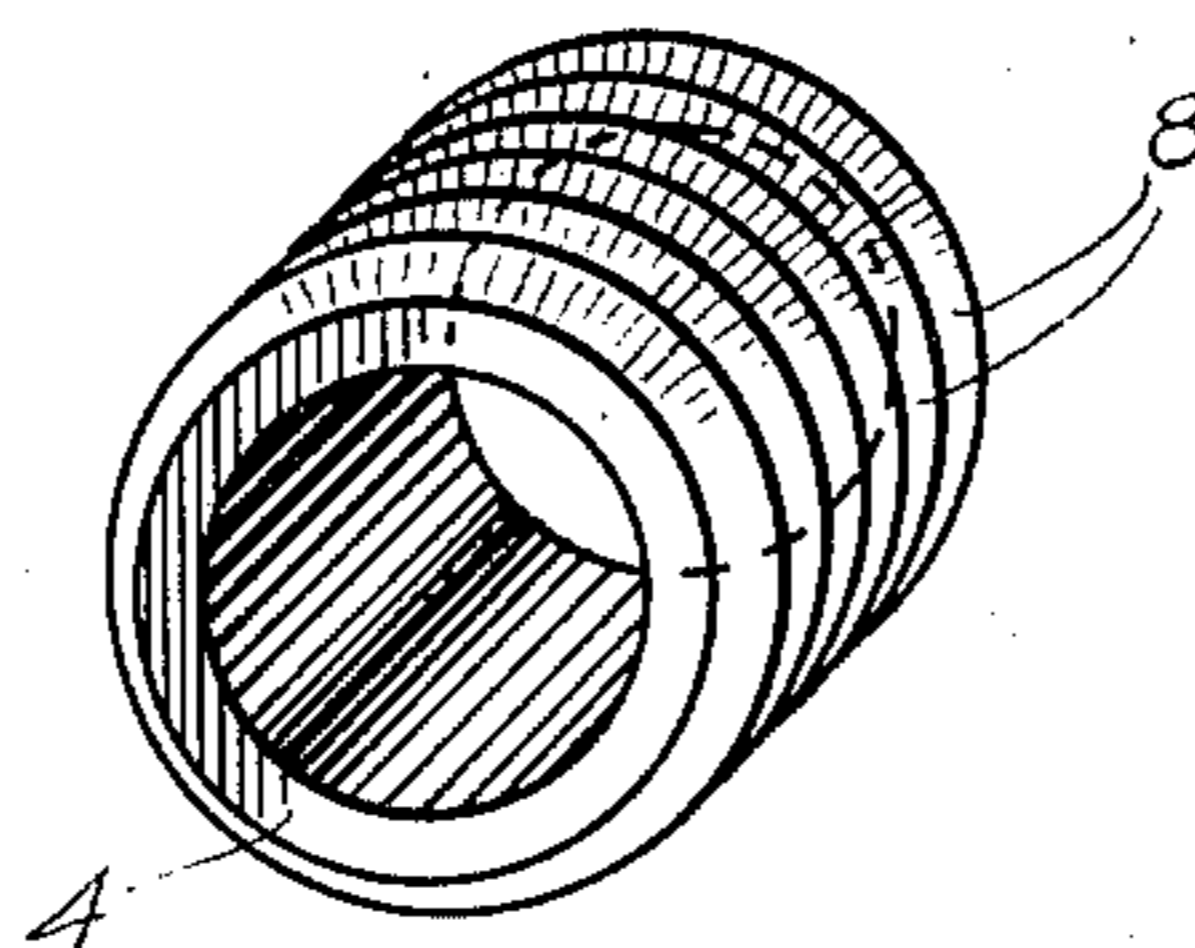


FIG. 4.



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DEFORMABLE FIREARM BORE WIPER

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1 Claim. (Cl. 15—104.06)

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This invention relates to a tube cleaning device, and more particularly to an implement adapted for use in cleaning the bores of shotguns or like firearms.

The principal object of the invention is to provide a cleaning implement for tubular articles, capable of self-adjustment in use to conform to changes and irregularities in the diameter of the bores of such articles, so that the implement can be passed through the articles without sticking therein or damaging the surface being cleaned.

A further object is to provide a cleaning implement adapted for attachment to a cleaning rod or the like of conventional design for use in cleaning tubular articles of varying internal diameter, such as the bore of a shotgun or similar firearm.

The above and other objects are accomplished by the hereinafter described embodiment of the invention, comprising, briefly stated, a stem for attachment to a cleaning rod of conventional construction, and having an enlarged head, about which is positioned a flexible casing capable of stretching and deforming to conform to variations in the diameter of a tubular article undergoing the cleaning operation.

While the invention has particular application to the cleaning of firearms, the same is not limited to such use, and it will be understood that the principle of construction and operation set forth can be generally employed with equally satisfactory results in the cleaning of a wide variety of articles of a tubular character.

The invention will best be understood from the following description, constituting a specification of the same, when taken in conjunction with the annexed drawing wherein:

Figure 1 is a side elevational view of the invention;

Figure 2 is a longitudinal central sectional view of the invention showing the internal structure of the same;

Figure 3 is a perspective view of a part of the invention as it appears before assembly of the implement, and

Figure 4 is a perspective view of another part of the invention showing the appearance of the same before assembly in the device.

Referring to the drawing in greater detail, 1 indicates a threaded stem having at one end an enlarged head 2, and provided at the opposite end with screw threads 3, for attachment of the implement to a cleaning rod of conventional design. The stem 1 may be of any suitable material, but

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is preferably formed of a metal such as aluminum alloy.

A ring-like member 4, formed of suitable material, such as brass or the like, fits over the stem 1 in engagement with the head 2. The internal diameter of the ring-like member 4 is somewhat greater than the diameter of the stem 1, to permit a loose fit between these parts, allowing the same to slide relatively to each other, as best seen in Figure 2. The member 4 is also provided with external grooves 8 for a purpose later to be made apparent.

A cylindrical member 5, preferably of metal such as brass, having a centrally located annular flange 6, is positioned in engagement with the free end 7 of the head 2.

The ring-like member 4 and cylindrical member 5 are joined by a flexible tubular casing 10 of rubber, or the like, which serves to maintain the parts in assembled position as seen in Figure 2. The flexible casing 10 is securely bonded to the members 4 and 5 by reason of the external grooves 8 in the former, and the annular flange 6 on the latter. The head 2 is thus retained within the casing 10 between the members 4 and 5, but is free to move with relation to these parts.

The entire structure may be formed by molding or otherwise forming the flexible casing about the other parts of the device.

In using the above described device the same is attached by the screw threads 3 of the stem 1 to a cleaning rod or the like of conventional structure. A cloth such as a gun cleaning patch may be placed over the casing 10. This cleaning patch is preferably of a size to secure maximum bunching of the same about the periphery of the casing 10 at the point where the maximum deformation will occur due to longitudinal stretching of the casing. The device is then pushed through the bore of a gun or the like which is to be cleaned.

When the cleaning device moving in either direction encounters a region in the bore which is of reduced diameter, the increased force required to move the device causes the casing 10 to stretch longitudinally, thus sufficiently reducing its diameter to permit the implement to pass through the bore. The deformability of the casing 10 permits the same to conform to changes in diameter of the bore, so that the cleaning patch is maintained at all times in close contact with the surface to be cleaned.

It will be noted that the metal parts of the cleaning device are surrounded by the flexible casing at all points where the metal might other-

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wise come into contact with the surface of the bore, thus preventing any damage due to a metal to metal contact between the cleaning device and the surface being cleaned during the cleaning operation.

While the invention has been described in connection with a particular embodiment of the same, it will be understood that many changes may be made in the proportions of the various parts and the materials employed, without departing from the spirit of the invention or the scope of the appended claim.

Having described the invention, what is claimed is:

In a firearm bore cleaner, an open ended longitudinally extensible tubular casing fabricated of flexible material, a cylindrical member closing one end of said casing, said member being provided with a peripheral flange intermediate its ends embedded within the interior wall of said casing, an elongated stem having at one end a means for attachment to a cleaning rod and having at its opposite end an enlarged head, the enlarged head of said stem being freely disposed within said casing and abutting said cylindrical member, and a sleeve surrounding said

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stem and disposed freely on the latter to permit longitudinal movement of the stem relative to said casing upon elongation of the extensible casing when an obstruction is encountered in the bore, said sleeve being provided with grooves at its outer periphery embedded within the interior wall of said casing.

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