GUIDE APPARATUS FOR CLEANING GUN BARRELS

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APPARATUS FOR CLEANING GUN BARRELS

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ABSTRACT OF THE DISCLOSURE

Apparatus and a method of cleaning the inner bore of a gun barrel are disclosed in which the apparatus comprises an inner longitudinal bore for guiding a cleaning rod through the barrel bore and a funnel-shaped, conical bore extension of the guide provides for the centering of the rod during its reciprocation and rotation during the cleaning operation. The method involves the inserting of the rod within the guiding longitudinal bore, centering a facing end of the gun barrel within the conical shaped extension, and the holding of the guide against the barrel face to maintain an alignment of the bores during reciprocation and rotation of the rod within the bores.

GUIDE APPARATUS FOR CLEANING GUN BARRELS

The present invention relates to guide apparatus for rifle and pistol cleaning which reduces the wear on the inner bore of a rifle or gun barrel as a result of cleaning. A variety of cleaning instruments are available for cleaning the inner bore of a rifle or other gun. Many such instruments utilize a cleaning rod which is inserted into the bore of a weapon with attached cloth pads and brushes and then is repeatedly reciprocated and rotated therein to effect the cleaning operation.

It is well-known that the cleaning rod often contacts the walls of barrel defining the inner bore during the cleaning operation. Such contact frequently results in the scoring and abrasion of the inner bore and the facing end of the gun barrel. The latter aspects have proven undesirable inasmuch as they increase the wear and useful life of the gun and impair its performance. A number of precautions have therefore been taken in the prior art to minimize such scoring and abrasion. Among the precautions are the making of plastic rods and devices for guiding the rod in its movement within the bore of the gun. These techniques and devices have been found to be desirable aids for cleaning guns, but have not altogether been satisfactory for accurately guiding the alignment of a rod and for eliminating scoring, abrasions, wear, and the impairment of the gun performance.

It is therefore an object of my invention to provide apparatus for facilitating guiding a cleaning rod within a bore of a gun to reduce scoring and abrasions.

Another object is to provide guiding apparatus which is simple in construction, inexpensive to manufacture, strong and durable.

In the accompanying drawing forming part of the disclosure and description, like numerals designate parts throughout the several views, in which:

FIG. 1 is a central longitudinal section view of the invention illustrating the guide apparatus as applied to the barrel of a gun and a cleaning rod passing through the guide apparatus into the bore of the barrel;
FIG. 2 is a perspective view of the guide apparatus; and
FIG. 3 is a sectional view taken on line 3—3 of FIG. 2.

In a specific illustrative embodiment of my invention, FIG. 1 shows a barrel 1 of a gun and it comprises an inner, opened end cylindrically shaped bore 2. A guide apparatus 3 in accordance with the exemplary embodiment of my invention, is also depicted as associated with a face end of the barrel. Apparatus 3 may be constructed of plastic or other similar material and comprise an axial bore 4 having a first aperture 5 for admitting a cleaning rod and patch or brush. A second aperture 7 of bore 4 terminates in a conical or funnel-shaped bore extension member 8 which has a smaller diameter than aperture 7 at its outer diameter. Extension member 8 is tapered inwardly to admit and center the barrel 1 into a fixed position within the funnel-shaped member 8 whereby the cleaning rod 6 is aligned with the inner bore 2 and is reciprocally and rotatably movable therein without scoring or abrasion to the bore 2.

The main body portion 9 is a cylinder shaped element and is provided with the inner axial bore 4 for extending and guiding the gun cleaning rod. Body portion 9 is advantageously usable for hand grasping during the insertion and aligned registration of the rod 6 through bore 4 and into the bore 2 for cleaning operations. The body portion 9 is tapered at segment 10 and is provided with a flanged portion 11 for facilitating grasping of the guide by and urging it into alignment of bores 2 and 4 during cleaning operations. In addition, the guide apparatus illustratively comprises substantially flat rear and front surfaces 12 and 13. As shown in the drawing FIG. 1, the conical shaped bore extension member 8 is contained within both the flanged portion 11 and cylindrically shaped element of the main body portion 9.

Advantageously, the barrel 1 may be secured in a vice (not shown) for rigidity during the cleaning. For a typical cleaning operation, a cleaning rod 6 with a suitable cleaning element such as brush 14 are first inserted into the guide apparatus by passing them through the aperture 5, bore 4, aperture 7 and the funnel-shaped bore extension member 8. It has been found advantageous for the guiding operation to project the brush end of the rod 6 slightly beyond the extension member 8. Next, the guide apparatus 3 is grasped manually at its body portion 9 and is placed with its funnel-shaped extension member 8 in engagement with the front, opened end of barrel 1 as shown in FIG. 1 by initially inserting the cleaning brush and rod 6 into bore 2. The latter operation facilitates the centering of the guide apparatus on the barrel 1 so that the bore 2 is in aligned registration with bore 4. The brush 14 in moving through the bore 2 provides for a centering of a forward end of rod 6 while the axial bore 4 guides a rearward end of rod 6. Accordingly, a minimal amount of manual centering effort is needed and virtual self centering of rod 6 and brush 14 in bore 2 occurs utilizing my guide apparatus. These guiding operations cooperate for enabling rod 6 to move in a defined center portion of bore 2 without scoring or contacting the walls defining bore 2. Thus, there is substantially no manual centering effort needed with my apparatus to provide against scoring or abrasion of bore 2 during cleaning operations. Free reciprocating and rotating cleaning motion of rod 6 is thus available for cleaning bore 2 with bore 4 guiding the reciprocation and rotation of the rod 6 through the center portion of bore 2.

A feature of my invention is that the guiding apparatus has a funnel-shaped extension member 8 which locks bores 2 and 4 in aligned registration for reciprocation and rotation of rod 6 without scoring bore 2 when the extension member 8 is held under manual force in contact with the free, opened end of barrel 1 after initial alignment. It is an advantage of my invention that the guiding apparatus is located on the exterior of the barrel 1 further to reduce wear on bore 2. A salient as-
pect of my invention is that by using the guiding apparatus in accordance with my teaching the rod 6 does not contact the face of the barrel 1 during the cleaning operation and therefore virtually no wear on barrel faces occurs due to cleaning.

It is to be understood that the hereinafter described arrangements are illustrative of the principles of my invention. In light of this teaching, it is apparent that numerous other arrangements may be devised by those skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. Apparatus for engagement at the exterior of a gun barrel and for guiding a cleaning rod through the inner bore of the gun barrel during a cleaning operation thereof comprising:
   a main body portion having an inner axial bore for extending and guiding a cleaning rod through said inner bore of said gun barrel and including a first and a second aperture, said first aperture being structurally arranged for admitting a cleaning rod and an associated cleaning element into said axial bore, and a conical shaped inner tapered bore extension member for said axial bore and having a continuous tapered transition to said second aperture from an exterior of said body, said main body portion having a segment thereof substantially cylindrical in shape and containing said inner axial bore and a flanged portion joined to said cylindrically shaped segment by a section on the exterior of said body with both said flanged portion and said cylindrically shaped segment containing said inner tapered bore extension member, said member forming an opening with a larger diameter at said body exterior than at said second aperture for receiving the facing, opened end of said barrel and centering said barrel with said axial bore in alignment and registration with said inner bore of said gun barrel, said rod and cleaning element being admissible through said inner bore and extension member to the extent that a portion of said rod and element project through said body exterior for guiding said centering of said barrel with said axial bore in said alignment and registration with said inner bore of said gun barrel for a cleaning operation thereof with reciprocation and rotation of said rod within a defined center portion of said inner bore of said gun barrel being guided by said axial bore.

2. Apparatus in accordance with claim 1 wherein said cleaning element comprises a cleaning brush for centering and guiding of a forward end of said cleaning rod within said inner bore of said gun barrel, and wherein said inner axial bore guides and centers a rearward end of said rod to control said reciprocation and rotation of said rod within said defined center portion of said inner gun barrel bore.

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