J. T. AND R. A. CAREAGA.

GUN BARREL TESTING DEVICE.

APPLICATION FILED JULY 10, 1918.

1,329,366.

Patented Feb. 3, 1920.

2 SHEETS—SHEET 1.

FIG. 1.

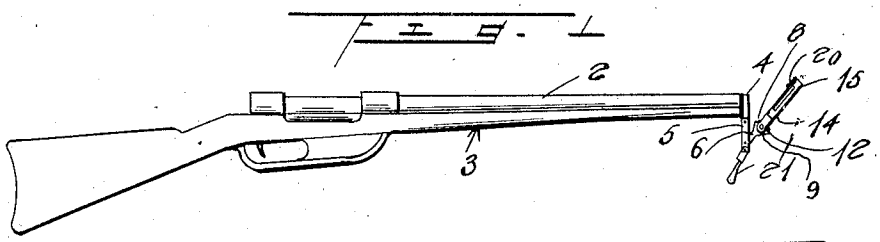


FIG. 4.

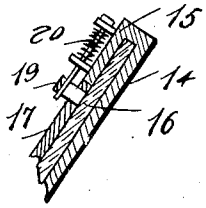


FIG. 2.

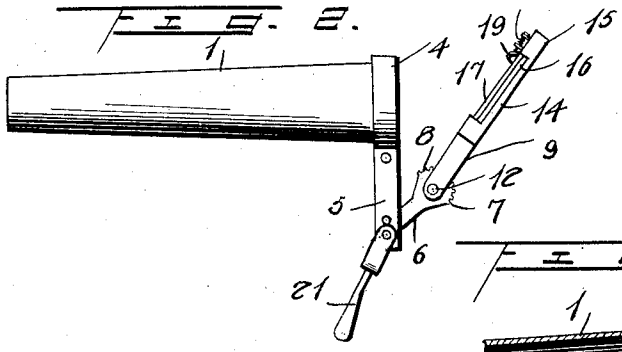


FIG. 3.

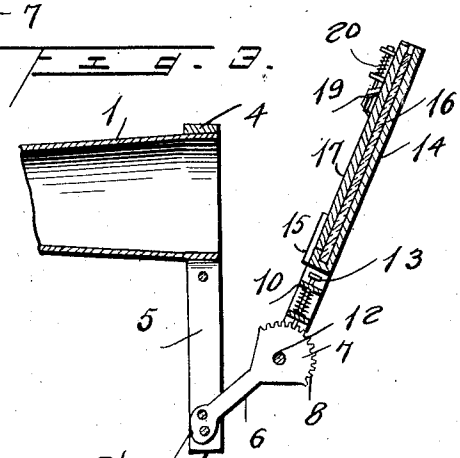


FIG. 5.

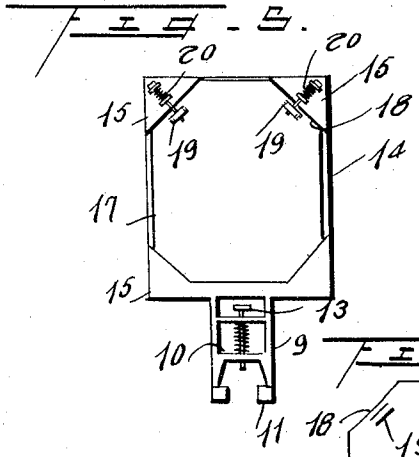
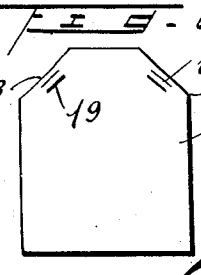


FIG. 6.



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2 SHEETS—SHEET 2.

FIG. 7.

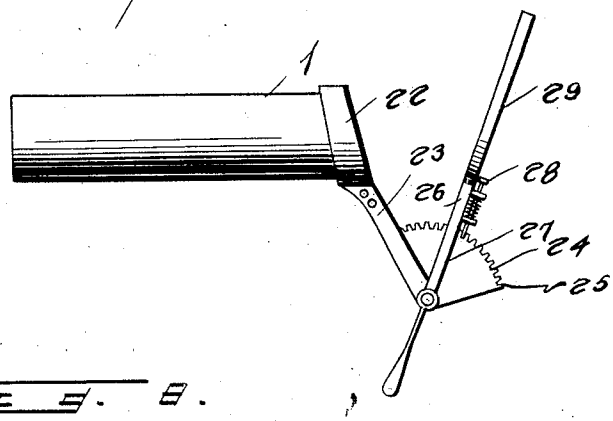


FIG. 8.

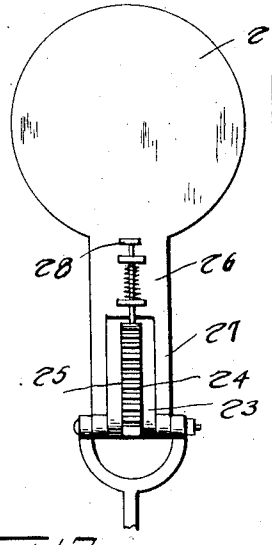


FIG. 9.

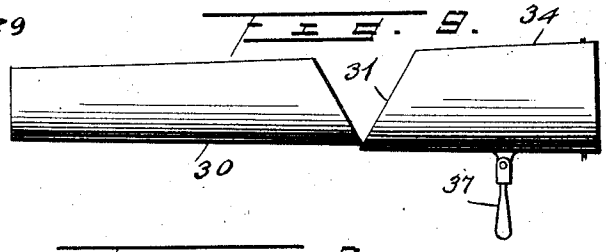


FIG. 10.

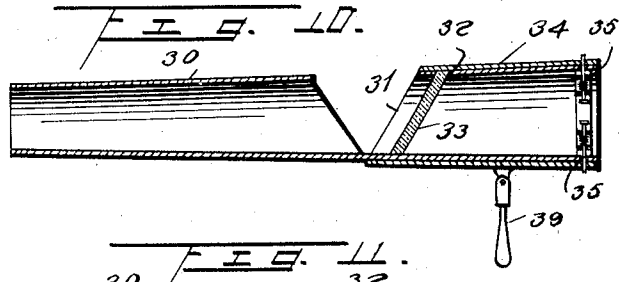


FIG. 11.

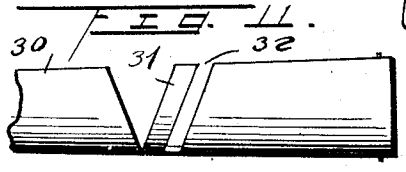
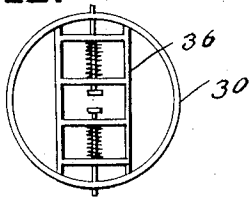


FIG. 12.



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UNITED STATES PATENT OFFICE.

JOHN T. CAREAGA AND RAMON A. CAREAGA, OF SAN JOSE, CALIFORNIA.

GUN-BARREL-TESTING DEVICE.

1,329,366. Specification of Letters Patent. Patented Feb. 3, 1920.

Application filed July 10, 1918. Serial No. 244,288.

To all whom it may concern:

Be it known that we, JOHN T. CAREAGA and RAMON A. CAREAGA, citizens of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Gun-Barrel-Testing Devices; and we 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 improvements in gun barrel testing devices, and has for one of its objects the provision of means whereby the interior of the gun barrel can be readily viewed to determine if the same is cleaned, or if any defects are present, thus rendering the device especially adaptable for military and sportsmen's use.

Another object of this invention is the provision of a cylindrical member adapted to be inserted in the end of a gun barrel and having means which will reflect any dirt, rust or defects within the barrel, and also which can be readily carried within the pocket when not in use.

A further object of this invention is the provision of a gun barrel testing device of the above stated character, which will be simple, durable and efficient, and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view, as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of our invention, reference will be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a gun, illustrating our invention applied thereto,

Fig. 2 is a side elevation of a gun barrel testing device, constructed in accordance with our invention,

Fig. 3 is a fragmentary vertical sectional view of the same,

Fig. 4 is a detail sectional view illustrating a means of securing a mirror within a supporting frame,

Fig. 5 is a front elevation of the mirror supporting frame,

Fig. 6 is a plan view of the cover for the mirror,

Fig. 7 is a side elevation of a slightly modified form of our invention,

Fig. 8 is a front elevation of the same, illustrating another type of mirror,

Fig. 9 is a side elevation of another modified form of our invention,

Fig. 10 is a vertical sectional view of the same,

Fig. 11 is a fragmentary side elevation of the third modification, illustrating the manner of securing the mirror thereto, and

Fig. 12 is an end elevation, illustrating means for securing a mirror retaining tube to the third modified form.

Referring in detail to the drawings, the numeral 1 indicates a tubular member, constructed from any material suitable for the purpose, and tapers from one end in the direction of its other end, so that the same can be readily inserted within the barrel 2 of a gun 3. The tubular member has secured to its largest end, and the end which is disposed exteriorly of the barrel 2 when in use, a collar 4, on which is formed a downwardly depending arm 5. An arm 6 is pivotally secured to the downwardly depending arm 5, and has formed thereon a segment 7, provided with teeth 8. The arm 6 has frictional contact with the arm 5 so that the arm 6 can be varied at various angles in relation to the arm 5. A pair of relatively spaced arms 9 are connected by members 10, and have formed thereon bearings 11 to receive a frictional pivot bolt 12 carried by the segment 7. The members 10 have mounted thereon a spring actuated latch bolt 13 adapted to engage the teeth 8 upon the segment 7 for holding the arms 9 at various positions in relation to the segment. The arms 9 have formed thereon a substantially rectangular frame 14, carrying at each corner retaining flaps 15. The retaining flaps 15 receive the corners of a mirror 16, and which mirror may be in the form of a highly polished

metal, or ordinary mirror glass. The frame 14 is adapted to be adjusted upon the segment 7 so as to position the mirror 16 in an upwardly and outwardly inclined plane in relation to the enlarged end of the cylindrical member 1, so that the defects within the interior of the barrel 2 of the gun 3 will be shown within the mirror. When the device is not in use, the mirror 14 is covered by a removable cover 17, which has its lower edges disposed under the retaining flaps 15 upon the lower edges of the frame, while its opposite end is cutaway, as illustrated at 18, to conform to the edges of the upper flaps 15, and have formed thereon straps 19, adapted to receive spring actuated bolts 20, carried by the upper flaps 15, whereby the cover is locked to the frame and entirely protects the mirror.

In operation, the cylindrical member 1 is inserted within the gun barrel 2, as illustrated in Fig. 1, and the frame 14 is adjusted upon the segment 7 until the proper inclination is obtained, so that the interior of the gun can be readily viewed through the mirror 16. From the foregoing description, it will be noted that the device can be readily folded into a very compact device when not in use, so that the same can be readily carried within a person's pocket. If desired, a suitable handle 21 may be connected to the arm 5 at the point of connection of the arm 6 thereto, so that the device can be readily and conveniently handled. This handle is also capable of being folded in relation to the various parts, so as to render a compact device.

Referring to our modified form of invention, the cylindrical member 1 has formed thereon a collar 22, provided with a downwardly and outwardly inclined arm 23, carrying at its lower end a segment 24, provided with teeth 25. A supporting member 26 is provided with relatively spaced arms 27, which are pivoted to the lower end of the arm 23 and straddle the segment 24. The member 26 carries a spring actuated bolt 28, which coöperates with the teeth 25 on the segment 24 for adjusting the member in relation to the cylindrical member 1 upon the segment 24. A circular piece of material 29 is formed upon the member 26, and is highly polished so as to form a mirror capable of reflecting the defects within a gun barrel when the tubular member 1 is inserted therein.

Referring to our modified form of invention, as disclosed in Figs. 9 to 12 inclusive, it consists of a tubular member 30, constructed from any material suitable for the purpose and provided with a substantially V-shaped cut out portion 31 to form a sight opening. A slot 32 is formed within the tubular member 30, adjacent the cutout portion 31, to receive a mirror 33, which mirror, owing to the inclination of the V-shaped cutout portion 31, forming the sight opening, is inclined so that a person looking in through the sight opening may view the interior of a gun barrel when the tubular member 30 is inserted therein. The mirror 33 is retained within the slot 32 by means of a sleeve 34, which fits over the enlarged end of the tubular member 30 and is provided with openings to receive spring actuated bolts 35, carried by a frame 36 located within the enlarged end of the tubular supporting member 30. When the bolts 35 have been passed through the openings in the sleeve 34, the mirror 33 is locked within the slot 32, and by releasing the bolts 35 from the apertures in the sleeve 34, and withdrawing the sleeves and the tubular member, the mirror 33 may be removed from the slot. A suitable handle 37 is pivoted to the sleeve 34, whereby the device can be readily handled or manipulated.

While we have shown and described the preferred embodiment of our invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described our invention what we claim is:

1. A gun barrel testing device comprising a tubular member, an arm connected to the tubular member, a mirror pivotally connected to said arm, and means holding said mirror at various positions in relation to the tubular member.

2. A gun barrel testing device comprising a tubular member, an arm connected to the tubular member, a segment carried by said arm, a member pivoted to said segment, and a mirror carried by said member.

3. A gun barrel testing device comprising a tubular member, an arm carried by the tubular member, a segment carried by said arm, a member pivotally connected to said segment, a mirror carried by said member, and a spring actuated bolt carried by said member and coöperating with the segment for holding the mirror in adjusted position.

4. A gun barrel testing device comprising a tubular member, an arm associated with said member, a segment connected to said arm, a frame pivotally connected to the segment, a spring actuated bolt carried by said frame and coöperating with teeth upon the segment for holding the frame in adjusted position, flaps carried by the corners of the frame, and a mirror having its corners disposed underneath the flaps upon the frame.

5. A gun barrel testing device comprising a tubular member, a frame adjustably connected to the tubular member, flaps carried by said frame, a mirror having its corners

inserted under the flaps, a cover having its lower corners disposed under the lower flap and having its upper corners cutaway to engage the edges of the upper flap, straps carried by said cover, and spring actuated bolts carried by the upper flap for engagement with the strap.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN T. CAREAGA.
RAMON A. CAREAGA.

Witnesses:
JOHN W. SULLIVAN,
S. H. BAUMAN.