June 19, 1951 G. E. GIBSON 2,557,277

DESICCATING DEVICE FOR FIREARM BARRELS

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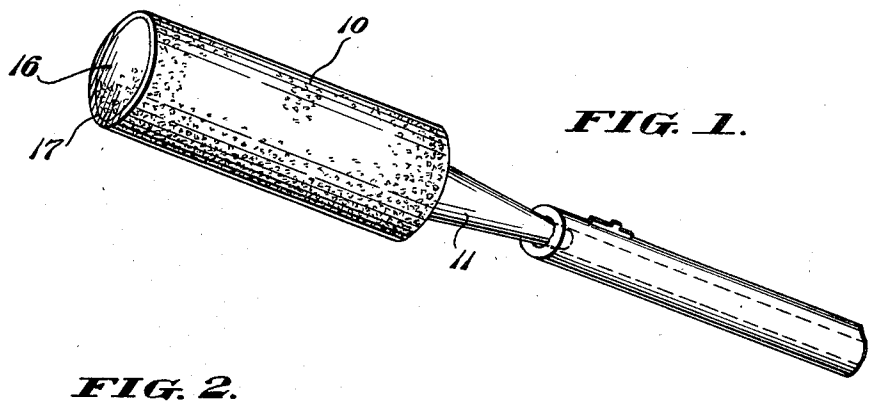


FIG. 1.

FIG. 2.

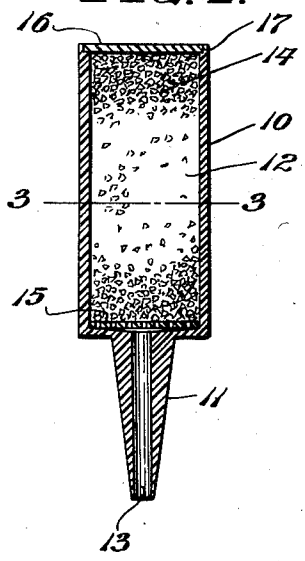


FIG. 3.

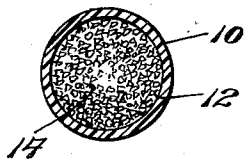
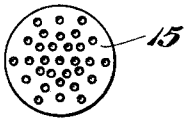


FIG. 4.



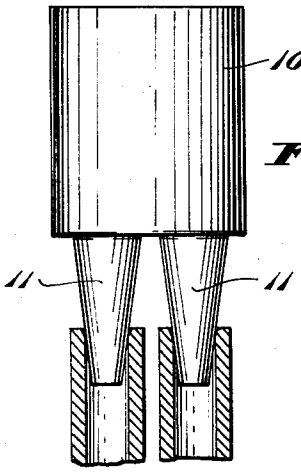


FIG. 5.

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DESICCATING DEVICE FOR FIREARM BARRELS

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3 Claims. (Cl. 42—1)

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My invention deals with desiccating devices, and more particularly to devices of the type adapted to prevent or inhibit corrosion caused by moisture within the barrels of firearms.

In ordinary practice, the barrels of firearms are protected against rust and corrosion by applying a film of gun oil or grease to the exposed surfaces, so as to prevent moisture-containing air from coming into direct contact with the metal. It will be manifest, however, that such protection is purely temporary, as the oil or grease usually vaporizes or is otherwise removed after a relatively short period of time.

Heretofore, to protect the bore of a rifle, or other firearm, for any substantial length of time, it has been necessary to preserve the same with a heavy grease. It necessarily follows that such procedure requires a great expenditure of time and effort, and that such grease must be removed by thorough cleaning before the firearm may be used.

Accordingly, it is an object of my invention to provide a device in the form of a plug which is adapted for insertion within the muzzle of a rifle, pistol, shotgun, or other firearm, and which contains a suitable desiccating material, whereby moisture present in the bore of a firearm is absorbed by such material to prevent rust and other forms of corrosion caused by moisture.

It is another object of the present invention to provide a device of this character wherein the degree of moisture absorbed by the desiccating material may be visually determined in order that the device may be replaced or rejuvenated to afford lasting protection to the bore of an associated firearm.

It is a further object of my invention to provide a corrosion inhibiting device of the character described, which is singularly adapted for use with small arms of varying calibers.

It is still a further object of my invention to provide a device of this character which is structurally simple and consequently economical in manufacture.

These and various other objects and advantages will become readily apparent with a more complete understanding of my invention afforded by the following description and accompanying drawing, wherein:

Fig. 1 is a perspective view of my improved corrosion inhibiting device occupying its operative position within the muzzle of a rifle;

Fig. 2 is a vertical sectional view taken through the device;

Fig. 3 is a horizontal sectional view taken along the line 3—3 of Fig. 2;

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Fig. 4 is a detailed elevational view of the perforated retaining baffle;

Fig. 5 is a side elevational plan view of a slightly modified form of my improved corrosion-inhibiting device wherein the same is adapted for use with a double-barreled gun.

With reference to the drawings, it will be seen that my improved desiccating appliance for firearms embodies a cylindrical tubular body 10 formed at one end with a longitudinally disposed tapered projection 11. The body in its preferred form is constructed from a transparent or translucent synthetic resin, such as Vinylite, Lucite, Plexiglas, or other suitable transparent or translucent acrylic or vinyl resins.

The body 10 is further formed with a cylindrical chamber 12 which is open at one of its ends and which communicates at its opposite end with a channel or bore 13 disposed axially of and extending longitudinally through the tapered projection 11. The chamber 12 is adapted to receive a mass of desiccating material 14, preferably crystals of a compound known as silica gel which occurs as a mineral in its natural form. It will be understood that various other compounds having the necessary hygroscopic properties, such as calcium chloride, or dehydrated copper sulphate, and various other deliquescent salts, may be utilized as the desiccant material contained within the body. However, I have found that silica gel in the above mentioned crystalline form serves most readily for this purpose due to its ready ability to absorb moisture from atmospheric air.

The chamber 12 is provided with a circular perforated baffle 15 which extends transversely over the bore 13 of the projection 11, and which serves to prevent the particles of desiccating material from accidentally dropping through the bore 13.

The open end of the chamber is sealed, once the desiccant has been placed therein, by a circular cap 16, positioned so as to form a relatively tight and flush fit with the end of the body 10. For this purpose, the end wall of the body is recessed, as at 17, to form a circular ledge upon which the cap is positioned. The cap is then permanently united with the body by cementing the two together through the use of suitable solvents.

The tapered projection 11 is formed so as to adapt the same for insertion within the muzzle of a firearm, as shown in Fig. 1. It will be noted that in so forming the projection, the same will fit within the muzzles of a various number of guns of different calibers or gauges. In this

manner, my device contemplates use with all small arms from .22 caliber rifles to 10 gauge shotguns.

When positioned within the muzzle of a gun, it will be manifest that my improved desiccating device will cause the atmospheric air present therein to be brought into contact with the desiccating action of the material 14, and consequently be relieved of its moisture content.

The mass of desiccating material 14 contained in the chamber of the body is impregnated with a suitable moisture-indicating compound, such as cobalt chloride ($CoCl_2$), which when in a relatively dry condition is deep blue in color, and which changes as the moisture content increases to a pale pink. Thus, as the desiccant, silica gel, absorbs moisture through prolonged usage, the degree of moisture may be visually determined by noting the change in color caused by the cobalt chloride, and the device may be removed and replaced by one containing the dry silica gel.

It will be seen, due to the transparency of the body 10, that this change in color of the crystals of silica gel may be easily detected through periodic inspections, in order that the bores of the associated guns may at all times be kept in a dry "moisture-proof" condition.

In Fig. 5 of the drawings, I have illustrated a slightly modified form of corrosion inhibitor which is formed with a pair of tapered projections at one end of the tubular body, which projections are so formed as to fit within the individual barrels of a double-barreled gun.

It will be apparent from the above disclosures that it is necessary to employ some means for closing or otherwise stopping up the breech of the firearm, when using my improved desiccating device. For this purpose, a cartridge, either live or dummy, may be inserted into the breech of the gun in order that the bore of the same may be closed at both ends for efficient desiccating action.

While I have disclosed what I now deem to be preferred forms of my invention, it will be manifest that various changes as to design and details of construction may be later accomplished without departing from the scope of the following claims.

I claim:

1. A corrosion-resisting device for removable attachment to firearm barrels, comprising a body having a diameter in excess of that of the bore of a gun barrel with which the device is adapted to be associated, said body at one end thereof being formed with a longitudinally extending tapering plug member of a diameter adapted for insertion within the muzzle of the associated firearm, the plug member of said body being formed with an open longitudinally extending passage establishing communication between the barrel bore of the firearm and an internal chamber present within said body, a mass of moisture-absorbing material positioned within said chamber, and a perforate baffle member arranged within said body between said plug member passage and said chamber, said baffle member serving to confine the water-absorbing material within said chamber.

2. A corrosion-preventing device for the bores of gun barrels comprising: a body larger in diameter than the gun barrel in which the device is adapted to be inserted, said body being formed with an internal chamber for the reception of a moisture-absorbing material, a muzzle-entering plug rigidly and longitudinally projecting from one end of said body, said plug being formed with an axially disposed passage establishing communication between the interior of an associated gun barrel and the absorbent-containing chamber of said body, said plug having externally tapered walls of a diameter enabling the plug to enter the muzzle of a gun barrel and brought into frictional wedging engagement with the wall of the barrel bore to close said bore and at the same time frictionally retain said device in its operative position of application on the gun barrel.

3. A corrosion-preventing device for application to the muzzle of gun barrels as defined in claim 2, in combination with a screen disposed at the juncture of the chamber in the body of said device and the passage in said plug to confine absorbent material within said chamber and wherein said absorbent material contains a moisture-indicating dye.

GERALD E. GIBSON.

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