No. 658,934. Patented Oct. 2, 1900.

R. M. WASHINGTON & A. W. CAPY.

ATTACHMENT FOR BARRELS OF FIREARMS.

(No Model.) (Application filed Jan. 5, 1899.)

Fig 1

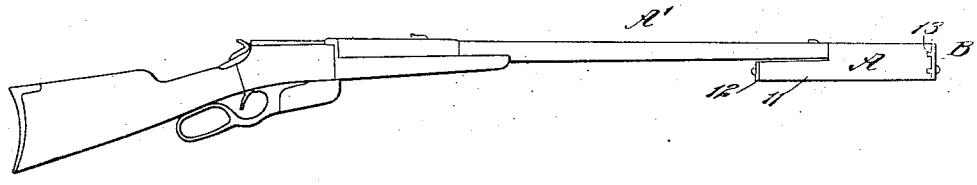


Fig 2

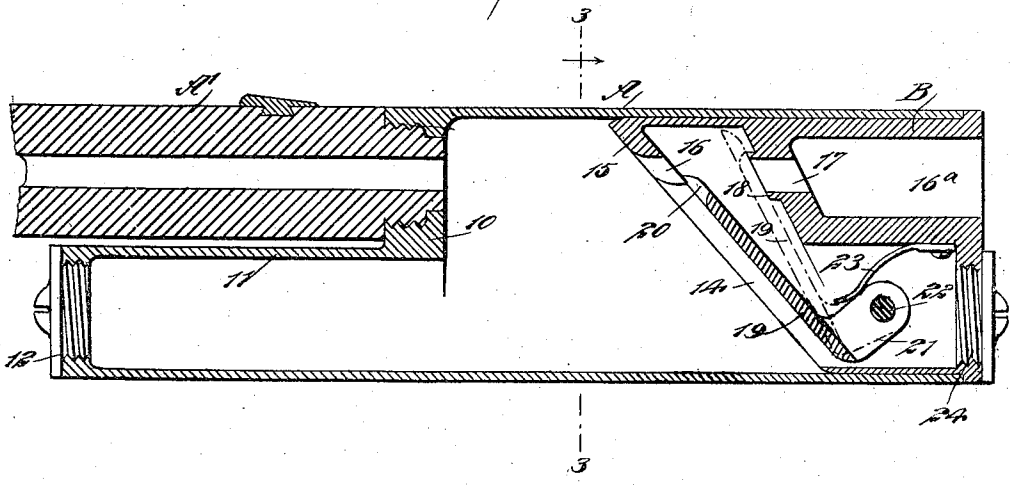
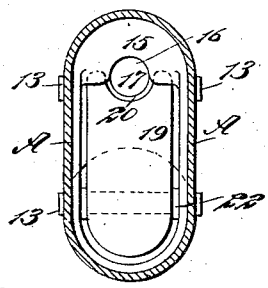


Fig 3



WITNESSES:
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BY
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UNITED STATES PATENT OFFICE.

READE MACON WASHINGTON AND ALFRED WILLIS CAPY, OF DALLAS, TEXAS, ASSIGNORS OF ONE-FOURTH TO SAID WASHINGTON.

ATTACHMENT FOR BARRELS OF FIREARMS.

SPECIFICATION forming part of Letters Patent No. 658,934, dated October 2, 1900.

Application filed January 5, 1899. Serial No. 701,240. (No model.)

To all whom it may concern:

Be it known that we, READE MACON WASHINGTON and ALFRED WILLIS CAPY, of Dallas, in the county of Dallas and State of Texas, have invented a new and useful Attachment to the Barrels of Firearms, of which the following is a full, clear, and exact description.

One object of my invention is to provide a simple, light, yet durable device adapted for attachment to the muzzles of rifles, muskets, and other arms adapted to fire bullets, and to so construct the attachment that it will materially modify or entirely prevent the noise made when a weapon is discharged, and will also act to suppress the smoke almost entirely when black powder is used.

A further object of the invention is to attain the ends above set forth without impairing the power or accuracy of the weapon.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a rifle and the attachment applied thereto. Fig. 2 is a longitudinal section through the attachment, drawn on a larger scale than in Fig. 1, and also a longitudinal section through that portion of the barrel to which the attachment is applied; and Fig. 3 is a transverse vertical section taken practically on the line 3 3 of Fig. 2.

A represents a casing, which is usually made oval in cross-section, as shown in Fig. 3. This casing is provided with a collar 10 at the rear end of its body portion, and the said collar is adapted to be screwed upon or otherwise attached to the forward or muzzle end of the barrel A′ of a gun, as shown particularly in Fig. 2. At the rear lower portion of the body-casing A a tubular extension 11 is formed, which is usually circular in cross-section, but may have other cross-sectional contour. The extension 11 from the casing is adapted to extend rearwardly beneath the barrel a necessary distance when the casing is attached to the barrel and is fastened to the barrel by a strap or its equivalent. In order that the extension 11 of the body and in fact the chamber in the body proper may be readily cleaned when desired, the rear end portion of the extension 11 is closed by a plug 12, screwed therein or otherwise detachably secured in place. The upper surface of the casing A is flush with the corresponding surface of the barrel in order that the sight of said barrel shall not be interfered with. The space within the casing A and the extension 11 may be termed an "expansion-chamber;" but certain portions of this expansion-chamber are shut off, as will be hereinafter stated.

The body-casing A is adapted to receive a cap B, the cap being at the forward or delivery end of the casing, and this cap is adapted to slide within the body-casing and is held in engagement therewith in any approved manner—as, for example, through the medium of spring clips or tongues 13—as shown in Figs. 1 and 3. The inner face 14 of the cap B is inclined, the inclination being from the upper edge downwardly and forwardly, and the inner face of the cap is open from a point at or near its bottom to a point near the top. The upper portion of the inner inclined face of the cap B is provided with a deflecting-plate 15, and the said deflecting-plate has an opening 16, the center of said opening being in longitudinal alinement with the axis of the bore A′ of the barrel.

Immediately forward of the opening 16 in the deflecting-plate and at the forward upper end of the cap a chamber 16^a is formed provided with an inlet 17, the center of which inlet is in a plane with the center of the axis of the opening 16 in the deflecting-plate and the axis of the bore A′ of the barrel. This alinement of the openings 17 and 16 with the bore of the barrel is in order that the bullet discharged from the barrel may pass through the said openings 16 and 17 and out through the chamber 16^a without interfering in the slightest degree with any of the mechanism designed to confine the gases.

The inner face or wall of the chamber 16^a is inclined, and a flange 18 is formed upon this wall around the inlet-opening 17. The flange 18 is adapted as a seat for a valve 19, which valve closes the inlet 17 of the cham-

ber 16ª immediately after the discharge of the bullet; but normally the valve is made to bear against the inner face of the lower portion of the deflecting-plate 15, assuming a position parallel with the line of the inner face of the cap B, as shown in positive lines in Fig. 2. The opening 16 in the deflecting-plate is made in its lower edge, and in order that the discharge of the bullet shall not be impeded a correspond' g opening 20 is made in the upper end of the valve, and when the valve 19 has bearing against the deflecting-plate 15 the opening in the valve and the opening in the edge of the deflecting-plate register, forming an opening of sufficient size to permit the uninterrupted passage of the bullet.

An arm 21 is secured to the front face of the lower portion of the valve 19, the arm being at right angles to the outer face of said valve, and the valve is pivoted in the cap B by a pin 22, that is passed through the cap and through the said arm, as shown in Figs. 2 and 3. The valve 19 is held in its open position—that is, in engagement with the deflecting-plate—by means of a spring 23, usually attached to the bottom outer wall of the chamber 16ª, the spring having bearing against the upper surface of the arm 21, as shown in Fig. 2. In order that the spring 23 may be repaired or replaced when necessary, an opening is made in the front of the cap below the chamber 16ª, and this opening is normally closed by a block 24.

In the operation of the attachment when a gun is fired the bullet is discharged as usual, and in passing out from the barrel does not touch or interfere with the mechanism of the attachment, as has heretofore been stated. The expanding-gases strike the deflecting-plate 15 and the valve 19 at the same instant. The deflecting-plate being rigid and inclined toward the valve turns the flow of gas downward in direction of the valve, and the valve being free to move outward is thrown against its seat 18, as shown in dotted lines in Fig. 2, and is held there until the inside pressure of the gas in the expansion-chamber and barrel of the gun becomes equal to the outside pressure of the atmospheric air plus the tension of the spring 23, whereupon the valve again opens and the gun is ready for another shot. The gas, instead of rushing into the air as usual, is turned by the valve back into the expansion-chamber, which the gas itself had closed. The action is very quick, the various steps described following each other in practically a moment of time.

The expansion-chamber, which includes the cubic contents of the bore of the gun, acts substantially as a condenser, and at the time of firing no smoke is visible. Upon throwing open the breech of the gun as soon as possible after firing a bullet the expansion-chamber will be found practically filled with a light smoke; but the deposit upon the lands and grooves is not more than usual, as the greater portion of the deposit will be found upon the valve in nearly a direct line with the axis of the bore of the gun.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A casing arranged for attachment to the barrel of a gun, and having an outlet for a bullet, an inclined deflecting-plate in said casing and a valve normally held in an open position and operated by the gases to close the outlet for the bullet after said bullet has escaped from the casing, substantially as described.

2. A casing provided with a gas-condensing chamber and arranged for connection with the barrel of a gun, the said chamber having an outlet for a bullet, the said casing having a tubular extension forming part of the gas-condensing chamber and extending rearwardly beneath the barrel of the gun, a closure for the rear end of said tubular extension, a valve operated by the gases to close the outlet for the bullet after said bullet has escaped and a support against which said valve normally rests, the said support being located between the end of the gun-barrel and the outlet for the bullet, substantially as described.

3. A casing adapted for attachment to the barrel of a gun, a chamber at the forward end of said casing and having an inlet in its inner or rear wall in line with the bore of the gun, a plate in said casing between the rear end of said chamber and the end of the gun-barrel and a pivoted valve normally resting on the said plate, the plate and valve being constructed to permit of the passage of a bullet, the said valve being adapted to close the opening in the rear end of said chamber immediately after the escape of the bullet, being carried to said closing position by the action of the gases, substantially as described.

4. A device adapted to control the noise of the explosion of a charge and prevent the escape of smoke from the muzzle of a gun, said device consisting of a casing arranged for attachment to the muzzle of a gun, the casing being provided with a downwardly and forwardly extending deflecting-plate having an opening in line with the axis of the barrel, the casing being provided with a passage-way for a bullet forward of the deflecting-plate, and a valve normally resting with its upper end on said deflecting-plate, and adapted to be moved to close said passage-way by the accumulation of gases within the said casing, as described.

5. The combination, with the barrel of a gun, a casing attached to the muzzle of said barrel, and a cap removably secured in the forward end of the casing, the cap being provided with an inclined deflecting-plate having an opening therein in line with the axis of the barrel, of a chamber forward of the deflecting-plate, provided with an opening also in line with the axis of the bore of the

gun, and a valve having bearing normally against the deflecting-plate, the said valve being forced to a seat at the inlet of the said chamber, by the action of the gas accumulated in the barrel and back of the said valve and deflecting-plate, after a bullet has been discharged, as described.

6. The combination with the barrel of a gun, of a casing attached to the muzzle of said barrel, a cap secured in the forward end of the casing and provided with an inclined deflecting-plate having an opening therein in line with the axis of the barrel, a chamber forward of the deflecting-plate and provided with an inlet-opening also in line with the bore of the gun-barrel and formed with a valve-seat and a spring-pressed valve normally resting against the deflecting-plate and adapted to be forced against said valve-seat, substantially as described.

7. The combination with the barrel of a gun, and a casing attached to the muzzle of the barrel and having a tubular extension at the rear lower portion provided with a removable closure at its rear end, of a cap removably secured in the forward end of the casing, the inner face of said cap being inclined from the upper edge downwardly and forwardly and the said inner face being open from a point at or near its bottom to a point near the top, an inclined deflecting-plate at the upper portion of the inclined inner face of the cap, the said plate having an opening in its lower edge in longitudinal alinement with the axis of the bore of the barrel, a chamber formed at the forward upper end of said cap and forward of the plate, the said chamber being provided with an inlet in its inner wall in line with the opening in the plate and the bore of the barrel, the inner wall of said chamber being inclined and having a flange formed thereon around the inlet-opening and constituting a valve-seat, and a pivoted and spring-pressed valve normally resting at its upper end against the lower portion of the deflecting-plate and having an opening at its upper edge forming with the opening in the lower edge of the deflecting-plate, a passage for the bullet, the said valve being forced to its seat at the inlet-opening of said chamber by the action of the gases after a bullet has been discharged, the front of said cap below the chamber having an opening provided with a removable closure, for the purpose set forth.

8. A casing arranged for attachment to the barrel of a gun and provided with a gas-condensing chamber, and a cap removably secured in the forward end of said casing and provided with a chamber having an opening in line with the axis of the bore of the gun and forming a passage for a bullet, a valve pivoted in said cap and operated by the gases to close the outlet for the bullet immediately after the escape of the bullet, the said cap being provided with an opening in its front below the said chamber, and a closure for said opening, substantially as described.

9 A device adapted to control the noise of the explosion of a charge and prevent the escape of smoke from the muzzle of a gun, the said device comprising a casing arranged for attachment to the muzzle of a gun the casing being provided with a passage-way for a bullet, a valve for closing said passage-way, a spring for normally holding said valve open, and a deflecting-plate for turning the flow of gas toward the valve, the valve being carried to closing position by the gases.

10. A casing for attachment to the muzzle of a gun, a cap removably secured in the forward end of said casing and having a valve-seat with an opening for the passage of the bullet and a valve carried by said removable cap and free to swing, the said valve being normally held in an open position, and adapted to be moved by the action of the gases to a closed position, substantially as described.

11. A casing arranged for attachment to the muzzle of a gun, a removable cap fitted in the forward end of the casing and having a valve-seat with an opening for the passage of the bullet, the axis of said opening coinciding with the axis of the bore of the gun, a valve carried by said cap and free to swing to close said opening, a spring for normally holding said valve in the open position, and a deflecting-plate carried by the cap and arranged to deflect the gases toward the valve, the said valve being closed by the action of the gases, whereby the said casing receives and confines for a time the gases resulting from firing the gun.

READE MACON WASHINGTON.
ALFRED WILLIS CAPY.

Witnesses:
O. A. HEBERER,
H. W. KELLY.

Corrections in Letters Patent No. 658,934.

It is hereby certified that in Letters Patent No. 658,934, granted October 2, 1900, upon the application of Reade Macon Washington and Alfred Willis Capy, of Dallas, Texas, for an improvement in "Attachments for Barrels of Firearms," errors appear requiring correction, as follows: In the grant and in the printed head of the specification, it is stated that they have assigned one-fourth of their right to said Washington, whereas it should have been stated that *said Capy assigned one-fourth of the entire right to said Washington;* and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 16th day of October, A. D., 1900.

[SEAL.]

F. L. CAMPBELL,
Assistant Secretary of the Interior.

Countersigned:

C. H. DUELL,
Commissioner of Patents.