April 24, 1928.

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W. R. BLUEHDORN

MUZZLE ATTACHMENT FOR GUNS

Filed May 31, 1927

Fig. 1.

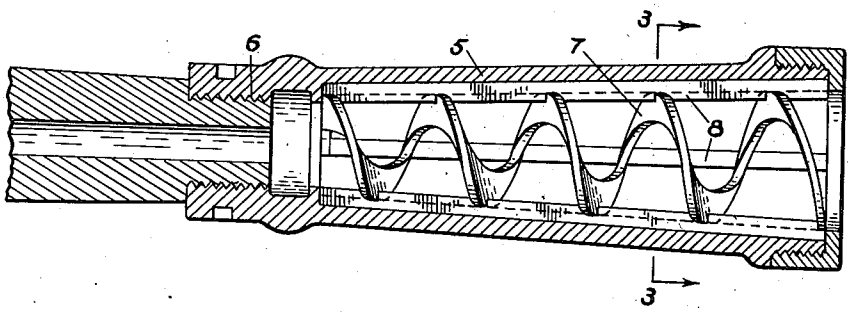


Fig. 2.

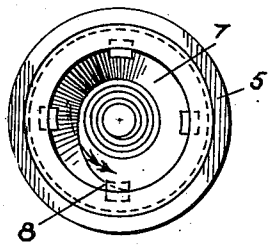


Fig. 3.

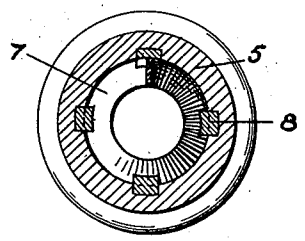


Fig. 4.

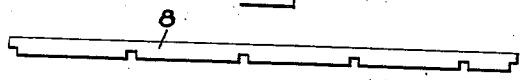
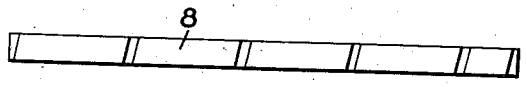


Fig. 5.



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UNITED STATES PATENT OFFICE.

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MUZZLE ATTACHMENT FOR GUNS.

Application filed May 31, 1927. Serial No. 195,507.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1883, 22 STAT. L., 625.)

The invention described herein may be used by the Government, or any of its officers or employees in prosecution of work for the Government, or by any other person in the United States, without payment to me of any royalty thereon, in accordance with the act of March 3, 1883.

This invention relates to a muzzle attachment for guns and more specifically it has reference to that class of attachments serving to conceal flash, check recoil, muffle sound, and arrest the tendency of the gun to climb.

Devices of this character which comprise a cylindrical casing within which is a baffle for imparting rotary motion to the gases, operate successfully on rifles firing single shot but when placed on machine guns having a high rate of fire they function indifferently unless they are made exceedingly large.

The principal object of this invention is to provide an attachment which will allow more effective expansion of the gases due consideration being had to the relation between the rapidity of firing, the length of the dampening passage, the velocity of the gases and bullet, and the gyrations of the bullet when passing through the attachment.

With the foregoing and other objects in view, my invention resides in the novel arrangement and combination of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

A practical embodiment of the invention is illustrated in the accompanying drawings, wherein:

Fig. 1 is a longitudinal sectional view of the attachment mounted on the muzzle of a gun;

Fig. 2 is a view in front elevation;

Fig. 3 is a sectional view on the line 3—3 of Fig. 1;

Figs. 4 and 5 are detail views of the splines.

Referring to the drawings by numerals of reference:

The attachment comprises a casing 5 interiorly threaded at the rear end 6 for securing it to the muzzle of the gun. The casing is of a truncated cone shape so that its cross sectional area will be increasing from rear to front and the inclination of the walls with respect to the axis of bore of the gun and the length of the casing will be determined by the relation between the velocity of the issuing bullet and the quantity, velocity and expansion of the gases to be discharged, the result to be secured being that the gases will be gradually and effectively expanded thereby reducing the tendency to build up pressure within the casing during rapid fire.

Rotary motion and retardation of the gases is effected by a helical baffle 7 which may be retained in place by being threaded in a set of splines 8 in the casing. The baffle being of uniform depth throughout provides a flared axial passage which will allow the bullet to pass through despite its gyrations.

The velocity of the gases is almost twice as great as the velocity of the bullet but because a large portion of the gases are restricted to a circuitous passage they will issue from the casing practically simultaneously with the bullet. As a result pressure will not be built up within the casing to interfere with the functioning of the device during subsequent shots.

The baffle is terminated forwardly in such a manner that the gases on being discharged will be directed against the lower portion of the casing the reaction being to overcome the tendency of the piece to climb.

I claim:

1. An attachment for guns embodying a truncated-cone shaped casing, means whereby the smaller end of the casing may be secured to a gun, splines in the interior wall of the casing, and a helical baffle of uniform height secured to the splines.

2. An attachment for guns embodying a truncated-cone shaped casing, means whereby the smaller end of the casing may be secured to a gun, and a helical baffle of uniform height within the casing.

3. An attachment for guns embodying a casing and a helical baffle within the casing having an axial bore gradually increasing from rear to front.

WILLIAM R. BLUEHDORN.