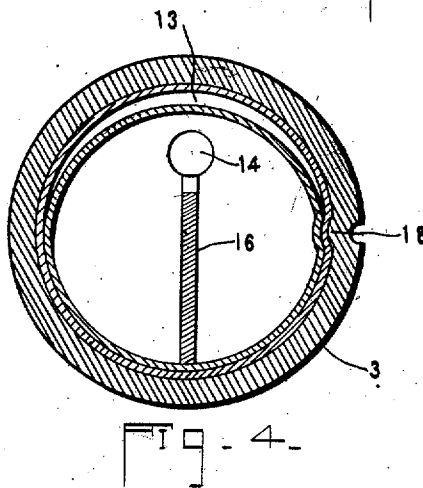
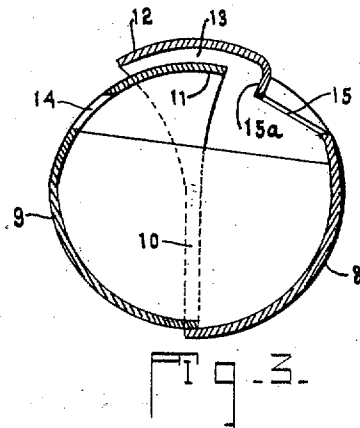
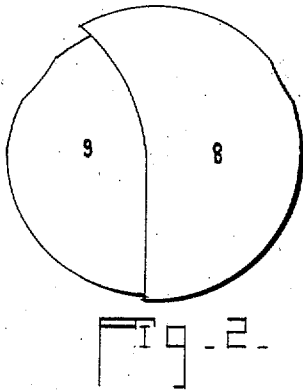
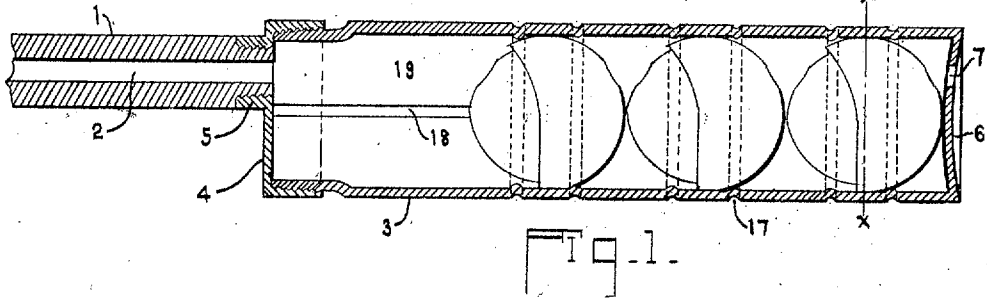


G. F. CHILDRESS.
GUN MUFFLER.
APPLICATION FILED OCT. 4, 1909.

953,943.

Patented Apr. 5, 1910.



WITNESSES:

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GEORGE F. CHILDRESS, OF WILLS POINT, TEXAS.

GUN-MUFFLER.

953,943.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed October 4, 1909. Serial No. 520,847.

To all whom it may concern:

Be it known that I, GEORGE F. CHILDRESS, a citizen of the United States, residing at Wills Point, in the county of Van Zandt and State of Texas, have invented certain new and useful Improvements in Gun-Mufflers, of which the following is a specification.

My invention relates to new and useful improvements in gun mufflers. Its object is to provide an attachment for fire-arms whereby the sound of the discharge thereof will be eliminated or made approximately inaudible.

A further object is to accomplish this result by means of a plurality of hollow apertured spheres arranged in a suitable casing fixed on the end of the gun muzzle, through which spheres and casing the bore of the gun is extended. The gases produced by the discharge will undergo a whirling motion in each sphere before passing to the next one, their pressure and velocity being thus gradually reduced sufficiently to permit them to escape noiselessly.

Finally the object of the invention is to provide a device of the character described that will be strong, durable, simple, and efficient, and comparatively easy to produce. With these and various other objects in view my invention has relation to certain novel features of construction and operation, an example of which is described in the following specification, and illustrated in the accompanying drawing, wherein:

Figure 1 is a longitudinal vertical section of the gun muffler, attached to the muzzle of a gun, the hollow spheres being shown positioned within the casing. Fig. 2 is a side elevation of one of the spheres on an enlarged scale. Fig. 3 is a vertical section through the center of the sphere longitudinal with the axis of the casing. Fig. 4 is a transverse vertical section through sphere and casing taken on the line $x-x$ of Fig. 1.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in all the figures, the numerals 1 denote the muzzle of a gun to which the muffler is attached and 2 denotes the bore.

The muffler casing 3 is of cylindrical shape and is provided with a cap 4, screw threaded upon one extremity. An internally threaded collar 5 projects integrally from the cap 4 to receive the extremity of

the gun muzzle. The other end of the casing 3 is closed by a wall 6, dished slightly into the casing to better resist interior pressure, and provided with an aperture 7 to give passage to the bullet.

The hollow balls which retard the escape of the gases, are composed of two approximate hemispheres 8 and 9. These hemispheres are made to differ slightly in radius so that the larger one 8 may be made to slightly overlap the smaller one 9 as shown in Fig. 3 at 10. It will be observed that edges of the two hemispheres overlap only in the lower halves thereof. The upper half of the hemisphere 9 is gradually decreased in radius from the sides to the top and a tongue 11 projects inwardly therefrom. A similar tongue 12 projecting from the hemisphere 8 overhangs the hemisphere 9, a passage way 13 for the gases being formed between the two tongues. An aperture 14 admits the bullet to each sphere and an aperture 15 provides an exit for the same. It will be observed that the wall of the sphere adjacent to the aperture 15 is pressed inward forming a shoulder 15^a upon which gases entering through the passage-way 13 may impinge and be so deflected as to prevent their immediate escape through said aperture 15. A vertical partition 16 extends centrally across the lower half of the two hemispheres longitudinally of the casing. This partition may be attached by any suitable means to one of the hemispheres before the two are joined together. Its purpose is to form a brace to prevent the walls of the spheres from being forced inward by the pressure of the gases, and also to guide the gases as they whirl within the spheres while expanding, so that the whirling may be in planes parallel to the partition. An annular groove 17 is provided in the casing at each side of each ball, preventing their being longitudinally displaced by the action of the gases and a tongue 18 extending longitudinally of the casing prevents transverse rotation of the balls.

In the operation of the device, the gases resulting from a discharge of the gun first escape from the muzzle into the space 19 of the casing. Thence they pass into the first hollow ball, a portion entering through the aperture 14, but the greater part going through the passage-way 13. The gases enter the ball under a high velocity and impinging upon the wall, are set into rapid ro-

tation. When the velocity has decreased, the gases will escape through the aperture 15 into the next sphere to be further expanded and reduced in velocity. When all of the spheres have thus been traversed the gases escape through the aperture 7 under reduced pressure and with a retarded velocity so that no report is produced.

The spheres will preferably be constructed of aluminum and the number of them employed will vary according to the caliber of gun to which the muffler is attached.

The herein described muffler is believed to be less easily clogged with dirt than the majority of similar devices, since the gases are retarded in comparatively large spaces.

I am aware that changes may be made in the form and proportion of parts and details of my invention without departing from the spirit nor sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations in said device as fairly come within the scope of the following claims.

What I claim is:

1. In a gun muffler, the combination with the muzzle of a gun, of a plurality of hollow balls in alinement with said muzzle at the extremity thereof, through which balls, the bore of the gun is extended, and means whereby said balls are maintained in the described position.

2. In a gun muffler, the combination with the muzzle of a gun, of a plurality of two-part hollow balls in alinement with said muzzle at the extremity thereof, through which balls the muzzle of the gun is extended, a suitable passage-way being provided to said balls to permit the gases due to discharging the gun to enter the same, and means whereby the balls are maintained in the described position and the gases are obliged to pass through the balls in escaping.

3. In a gun muffler, the combination with the muzzle of a gun, of a casing attached to the extremity thereof, adapted to permit the passage of a bullet, and a plurality of

hollow balls rigid within said casing, through which balls the bore is extended.

4. In a gun muffler, the combination with the muzzle of a gun, of a casing attached to the extremity thereof, imperforate, exclusive of an aperture permitting the passage of a bullet, and a plurality of hollow balls rigid within said casing, through which balls the bore of the gun is extended, a suitable aperture being provided to each ball to give access to the gases and impart a whirling motion to the same.

5. In a gun muffler, the combination with the muzzle of a gun of a casing attached thereto, having an aperture in alinement with the bore of the gun, and a plurality of two part spheres rigid within the casing the parts of which are connected by an airtight joint in their lower portion the upper portions being separated forming a passage way for gases, said spheres being adapted to give passage to a bullet.

6. In a gun muffler, the combination with the muzzle of the gun, of a casing attached thereto, imperforate exclusive of an aperture permitting the passage of a bullet, a plurality of hollow spheres rigid within said casing, having the bore of the gun extended therethrough, and braces within said spheres, reinforcing the same.

7. In a gun muffler, the combination with the muzzle of a gun, of a casing attached thereto adapted to give passage to a bullet, a plurality of two part spheres rigid within said casing, adapted to give passage to a bullet, and having an aperture to give entrance to gases and impart a whirling motion to the same, and vertical guide plates centrally mounted within the spheres.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE F. CHILDRESS.

Witnesses:

JOHN S. MURRAY,
G. B. COULSON.