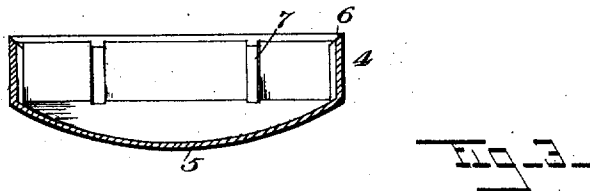
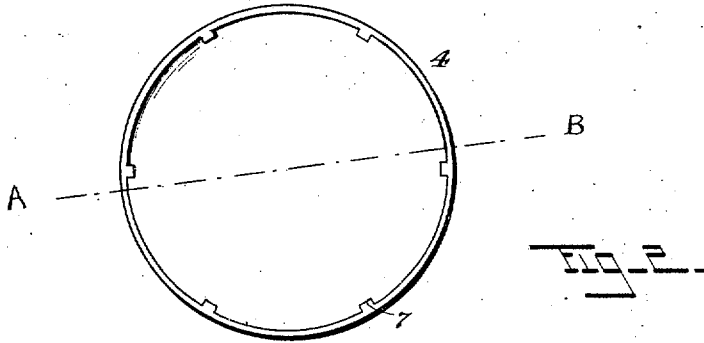
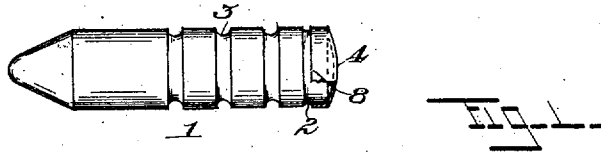


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PATENTED MAR. 12, 1907.

J. H. BARLOW.
BULLET.

APPLICATION FILED JAN. 22, 1906.



Witness

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JOHN H. BARLOW, OF NEW HAVEN, CONNECTICUT.

BULLET.

No. 847,149.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed January 22, 1906. Serial No 297,099.

To all whom it may concern:

Be it known that I, JOHN H. BARLOW, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Bullets, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to new and useful improvements in bullets, and refers more particularly to bullets having a metal gas-check connected therewith.

It is the object of my invention, among other things, to produce a bullet of this character at the minimum cost which will effectually prevent the escape of gas while the bullet is within the barrel of the firearm and the gas-check means will leave the bullet after the same has been ejected from the barrel, and, further, to produce such new and novel results as will be hereinafter more particularly set forth.

To these and other ends my invention consists in the bullet having certain details of construction and combination of parts, as will be hereinafter described, and more particularly pointed out in the claims.

Referring to the drawings, in which like numerals of reference designate like parts in the several figures, Figure 1 is a view of a bullet constructed in accordance with my invention, the gas-check being partially in section. Fig. 2 is an enlarged view of the gas-check, and Fig. 3 is a sectional elevation thereof upon line A B of Fig. 2.

The old style of bullet is not adapted for the modern rifle with its quick twist and the high-power smokeless powder now generally used, as the hot gases from the powder will melt or fuse the bullet, thus permitting the gas-pressure to be reduced, which thereby decreases the velocity of the bullet and deflects it from its true and proper course. The lead also has a tendency to adhere or solder itself to the barrel, and if the velocity is greatly increased the soft bullet will not hold onto the rifling, but will slip or strip—to use an expression common in the art, will “jump the rifling”—thereby making proper rotation and accuracy impossible. In my invention these objections are overcome by providing a thin hard expansible metal cup, which is temporarily attached to the base of the bullet, with a peripheral recess adjacent thereto.

In the practice of my invention the bullet-body 1 is provided with a base 2 of reduced diameter and has the usual peripheral recesses 3 therein. The gas-check 4 is preferably constructed of thin rolled metal formed into a cup with a rounded bottom 5 and the inner edge of the open end beveled, as at 6. By reason of this beveled edge the gas-check is readily and concentrically attached to the base of the bullet without cutting or marring the soft metal of which the bullet is composed. The outside diameters of the bullet and gas-check are the same, but they may vary, however, in relation to each other a few thousandths of an inch without impairing the efficiency of the invention. This uniformity of diameters is designed so that the minimum pressure upon the end of the gas-check will expand the outside diameter thereof sufficiently to perform the functions hereinafter described.

Upon the inside of the shell are a plurality of wings or teeth 7, that engage the base 2 and hold the shell temporarily and against independent rotation. There are six teeth shown in the drawings; but the number may be varied indefinitely. These wings or teeth are of further advantage in reducing the cost of my improved bullet, because if the cup were smooth and of but one diameter upon the inside the base of all of the bullets would have to be exactly the same size—a result that is practically impossible of accomplishment with the metal of which the bullet is composed, but, having two separate diameters—that is, the diameter between the inner faces of the wings and the inside diameter of the cup or shell—the diameter of the base can therefore vary between that of the two diameters and the cup can be readily attached with the fingers and may be held sufficiently tight for the purposes required.

The gas-check herein described is preferably made at a single operation to reduce the cost thereof to the minimum and is readily applied by hand.

The bottom of the shell is convexed, as shown at 5, and when applied to the bullet, the base of which has a square end, leaves an open space between said base and the inner face of said bottom. (See Fig. 1.)

The bullet, with the gas-check affixed, is placed in the shell in any manner common to the art and then within the firearm. When the piece is fired, pressure of the gas, caused by the ignition of the powder, is exerted upon

the convexed bottom of the gas-check 4, which pressure flattens the same against the flat base of the bullet and expands slightly the diameter of said gas-check, so that it fits snugly within the bore of the gun, and thus prevents the gas from escaping beyond the base of the bullet. Practice has demonstrated that with this gas-check the gas-pressure is maintained at its maximum pressure behind the bullet, thereby avoiding any possibility of fusion or deflection of the bullet. The base of the bullet is also preserved intact and in its original shape, which is also conducive to accuracy in firing.

It is impracticable to bore and cut the rifling in a multiplicity of barrels exactly uniform without varying them from one to two thousandths of an inch from the standard, which variation is immaterial with the use of my improved bullet, as the gas-check will be expanded sufficiently by the flattening of the bottom thereof to take up any such variation, and the metal in the gas-check being harder than that in the bullet insures the bullet traveling within the rifling of the gun-barrel, and thereby preventing its jumping, as above described.

When the bullet leaves the muzzle of the barrel, the air-pressure that travels through the grooves that are cut in the sides thereof by the lands in the barrel fills the open space 8 directly in front of the cup 4 and presses against the beveled face 6, which, with the action of the air compressed between the end of the base 2 and the bottom 5, strips the gas-check from the bullet, and the soft-metal bullet continues its flight with accuracy, having the proper twist and with its base perfect and without deformity.

There are minor changes and alterations that can be made within my invention aside from those herein suggested, and I would therefore have it understood that I do not limit myself to the exact construction herein shown and described, but claim all that falls fairly within the spirit and scope of my invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A firearm-bullet having a gas-check frictionally held upon the base thereof with a compressible bottom, and provided with means to aid the gas-check in dropping off the bullet after the same has been ejected from the firearm-barrel.

2. A firearm-bullet having a gas-check frictionally held upon the base thereof with a compressible bottom, and provided with means to aid the gas-check in dropping off the bullet after the same has been ejected from the firearm-barrel, the outside diameters of said gas-check and bullet being substantially the same.

3. The combination with a firearm-bullet

having a cylindrical base of reduced diameter; of a cup-shape gas-check having a concaved bottom attached to the outside of said base, with an open space of variable width between the ends of said base and the bottom of said gas-check, and designed to leave the bullet-body after the same has been ejected from the firearm-barrel, the outside diameters of said gas-check and bullet-body being substantially the same.

4. A firearm-bullet having a gas-check thereon with longitudinal wings or ribs upon the inside thereof, a compressible bottom and expansible sides, said gas-check being connected with said bullet so as to drop off the same when said bullet has been ejected from the barrel of the firearm, the outside diameters of said gas-check and bullet-body being substantially the same.

5. A firearm-bullet having a base of reduced diameter, in combination with a cup-shape gas-check frictionally held upon said base while the same is traveling through the firearm-barrel and dropping off said bullet after the same is ejected from the barrel, the outside diameters of said gas-check and bullet being substantially the same.

6. The combination with a firearm-bullet body, of an expansible cup-shape gas-check connected therewith, said gas-check having a concaved closed end which is flattened by the force of the explosion and expands the sides of said gas-check to a diameter greater than the bullet-body, the attachment of said gas-check with said bullet-body being such that the gas-check will drop off the bullet-body after the same has been ejected from the firearm-barrel.

7. A gas-check for bullets made of metal harder than the bullet-body and of cup shape with a rounded bottom, an inwardly-beveled open end and having a plurality of wings or teeth upon the interior thereof, the outside diameters of said gas-check and bullet-body being substantially the same.

8. The combination with a bullet-body having a base of reduced diameter; of a cup-shape gas-check with a rounded bottom placed over said base, and of metal harder than said bullet-body, the outside diameters of said gas-check and bullet-body being substantially the same.

9. The combination with a bullet-body; of a gas-check having a plurality of lengthwise teeth upon the surface thereof which is in immediate contact with said bullet-body.

10. The combination with a bullet-body having a base of reduced diameter; of a gas-check, with a rounded bottom, attached to said base with an open space between the end of said base and the bottom of said gas-check and between the open end of said gas-check and the shoulder of the reduced portion of said base.

11. A gas-check for bullets made of metal

harder than the bullet-body, and of cup shape with a rearwardly-projecting concaved bottom and an inwardly-beveled open end.

12. The combination with a firearm-bullet 5 having a base of reduced diameter; of an independent gas-check provided with a compressible bottom placed over said base having means thereon to aid in stripping the same from said bullet after it has left the 10 firearm-barrel, the outside diameters of said gas-check and bullet being substantially the same.

13. A firearm-bullet having a base of reduced diameter with a cup-shape gas-check 15 on said base, the outside diameter of which is substantially the same as said bullet, said gas-check being formed so that pressure upon the end thereof will expand said gas-check to a diameter slightly larger than said bullet- 20 body.

14. A firearm-bullet having a cup-shape gas-check over the base thereof, with a diameter substantially the same as the bullet and shaped so that the sides thereof will be 25 swelled by a compression to a diameter greater than said bullet.

15. A firearm-bullet having an independent cup-shape gas-check over the base thereof with a rearwardly-inclined beveled edge at 30 its open end.

16. A firearm-bullet with a cup-shape gas-check over the base thereof with a diameter substantially the same as said bullet, and shaped so that pressure upon the end thereof 35 will expand the same whereby a portion thereof will act as a resistance-shield and aid in stripping said gas-check from said bullet after the same has been ejected from the firearm-barrel.

40 17. A firearm-bullet with a cup-shape gas-check over the base thereof with a diameter substantially the same as said bullet, and

shaped so that pressure upon the end thereof will expand the same, and when so expanded the front edge thereof will project outside of 45 said bullet and act as a resistance-shield and aid in stripping said gas-check from said bullet after the same has been ejected from the firearm-barrel.

18. A firearm-bullet with a cup-shape gas-check over the base thereof with a diameter 50 substantially the same as said bullet, and shaped so that pressure upon the end thereof will expand the same, and when so expanded the front edge thereof will project outside of 55 said bullet and present a rearwardly-inclined resistance-shield of greater diameter than said bullet, which shield will aid in stripping the said gas-check from said bullet after the same has been ejected from the firearm-bar- 60 rel.

19. The combination with a firearm-bullet; of a cup-shape gas-check frictionally attached thereto, said gas-check having means 65 whereby it may be secured to bullets of slightly-varying diameters.

20. A firearm-bullet with a base of reduced diameter, in combination with a gas-check having a compressible bottom covering the end of said base, and sides which project forwardly over said base parallel with the axis 70 thereof and terminating at a point distant from the shoulder on said bullet formed by said reduced base, the outside diameters of said bullet and gas-check being substantially 75 the same, and the parallel portion of said gas-check being expansible to a diameter greater than said bullet.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. BARLOW.

Witnesses:

GEORGE E. HALL,
FLORENCE H. MONK.