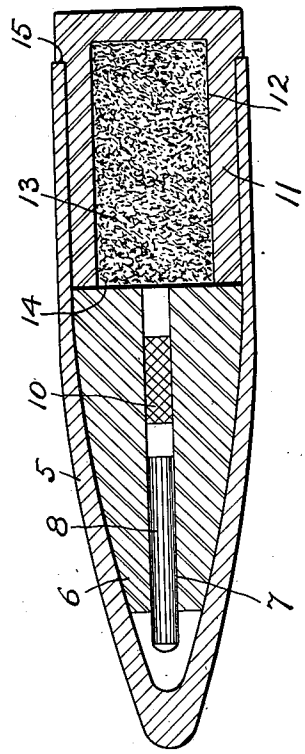
L. W. ROCKWELL.

INCENDIARY BULLET.

APPLICATION FILED MAR. 27, 1918.

1,300,195.

Patented Apr. 8, 1919.



INVENTOR.

Lea W. Rockwell

UNITED STATES PATENT OFFICE.

LEA W. ROCKWELL, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO THE GOVERNMENT OF THE UNITED STATES.

INCENDIARY BULLET.

1,300,195. Specification of Letters Patent. Patented Apr. 8, 1919.

Application filed March 27, 1918. Serial No. 225,112.

To all whom it may concern:

Be it known that I, LEA W. ROCKWELL, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Incendiary Bullets, of which the following is a specification.

This invention relates to incendiary bullets, and more particularly to that type adapted to be used in combating airplanes and the like.

One of the objects of the present invention is to provide a simple and practical bullet of relatively small caliber adapted to be used in machine guns, and which will be highly reliable and efficient in use and operation. A further object is to provide a bullet of the above general character particularly adapted for puncturing the specially constructed gasolene tanks of aircraft and insuring the ignition of the contents thereof. A further object is to provide an incendiary or explosive bullet of small caliber having relatively few parts which may be inexpensively manufactured and easily assembled.

Other objects will be in part obvious from the annexed drawings and in part indicated in connection therewith by the following analysis of this invention.

This invention accordingly consists in the features of construction, combination of parts and in the unique relations of the members and in the relative proportioning and disposition thereof; all as more completely outlined herein.

To enable others skilled in the art so fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, a drawing depicting a preferred form has been annexed as a part of this disclosure, and in such drawings:—

The figure is an enlarged longitudinal sectional view of the bullet showing the construction, position and arrangement of the various parts thereof.

Referring now to the drawing in detail, 5 denotes an outer hollow shell or jacket of the bullet which is of standard construction, and of material such as cupro-nickel, to provide for the desired penetration. Within this jacket, and located at the forward part thereof is a conically-shaped slug or member 6, preferably of steel, having a longitudinal bore 7 within which is positioned a firing pin 8, and, behind the pin, a small cap or detonator 10 of fulminate of mercury. In the rear part of the jacket is a cylindrical plug or member 11, also made preferably of steel, having a hollowed interior 12 adapted to contain a highly combustible charge 13 of either explosive or inflammable character. I prefer to use thermite or the like. This charge is preferably separated from the member 6 by a thin wall 14 of fibrous material constituting a safety device. It is to be noted that this member 11 has a slightly enlarged rear end or flange 15 adapted to take over the rear end of the jacket 5 whereby on firing of the projectile the member 11 cannot be driven forwardly to explode the detonator, or disturb the relative position of the parts.

When the projectile or bullet is charged with thermite or the like and is fired, no action takes place until the nose of the jacket is crushed in or collapsed on impact with a target. Under such circumstances the firing pin 8 is driven rearwardly to ignite or detonate the cap 10 of fulminate of mercury, which in turn ruptures the diaphragm 14 and ignites the thermite 13. The high heat generated by the resultant reaction causes the melting of member 11, steel jacket 5 and the ignition or melting of any surrounding material.

It should be understood from the above that where desirable, I contemplate using a charge of high explosive material in the chamber 12, in which case the bullet, on impact, would have a shattering effect and would not be of incendiary character.

It is thus seen that the present invention provides a simple and practical incendiary or explosive bullet adapted to accomplish all the objects herein set forth.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can by applying current knowl-

edge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

I claim as my invention:

1. A projectile comprising a jacket and a body member, of relatively hard metallic composition and substantially solid in cross section, adapted to impart penetrating power to the projectile, inserted in said jacket, said body member having its forward end cut away to provide a hollow portion adjacent the nose of the projectile adapted to be collapsed on impact.

2. A projectile comprising a jacket, and a frusto-ogival body member, of relatively hard metallic composition and substantially solid in cross section, adapted to impart penetrating power to the projectile, inserted in said jacket, the upper end of said frusto-ogival member defining, with the inner walls of the jacket, a hollow portion adjacent the nose of the projectile whereby said nose is adapted to be collapsed on impact.

3. A device of the character described, comprising a jacket, a conically-shaped member in the forward interior part thereof provided with a longitudinal bore, a firing pin and cap within said bore adapted to be actuated upon collapse of the nose of the jacket on engagement with the target, a cylindrical member in the rear part of said bullet having a combustible charge adapted to be ignited by said cap, said cylindrical member being flanged over its rear end to prevent being driven forward when the bullet is fired.

4. A projectile comprising a jacket, a frusto-ogival body member, of relatively hard metallic composition and substantially solid in cross section, adapted to impart penetrating power to said projectile, inserted in said jacket, the upper end of said frusto-ogival member and the interior walls of the jacket defining a hollow portion adjacent the nose of the projectile, the said frusto-ogival body member being provided with a longitudinal bore of relatively small diameter, and a firing pin fitted in said bore and projecting therefrom into the hollow portion of the projectile adjacent the nose thereof whereby on impact the nose of the projectile is collapsed and the firing pin actuated.

5. A device of the character described, comprising a jacket, a conically-shaped member adapted to be driven into the forward part of said jacket and having a longitudinal bore therein, firing means projecting beyond the front of said member and adapted to be engaged by the head of the jacket on collapse thereof, and a second member behind said first member containing an explosive charge, and means associated with said last mentioned member adapted to coact with the rear of said jacket to prevent said member being driven forwardly as the bullet is fired.

6. A projectile comprising a jacket and a body member, of relatively hard metallic composition and substantially solid in cross section, adapted to impart penetrating power to the projectile, inserted in said jacket, said body member having its forward end cut away to provide a hollow portion adjacent the nose of the projectile and being provided with a longitudinal bore of relatively small diameter extending therethrough, a firing pin fitted in the forward portion of the bore and projecting therefrom into the hollow portion of the projectile adjacent the nose thereof, and detonating means in said bore and to the rear of said firing pin.

7. A device of the character described, comprising a jacket, two members fixed therein, firing means associated with one member and a charge of thermite associated with the other, and firing means adapted to ignite said thermite when the jacket engages a target, and means adapted to prevent relative movement of said members when the bullet is fired.

8. A projectile comprising a jacket and a body member, of relatively hard metallic composition and substantially solid in cross section, adapted to impart penetrating power to the projectile, inserted in said jacket, said body member having its forward end cut away to provide a hollow portion adjacent the nose of the projectile and being provided with a longitudinal bore of relatively small diameter extending therethrough, a firing pin fitted in the forward portion of the bore and projecting therefrom into the hollow portion of the projectile adjacent the nose thereof, detonating means in said bore and to the rear of said firing pin, and a highly combustible charge in operative relation to the detonating means.

9. In combination a bullet casing, a hollow plug in the open rear end of said casing and having a surface engaging said rear end, a slug in said casing between said plug and the nose of said casing, a firing pin guided in said slug and terminating under said nose, a combustible charge in said plug, and a cap adapted to be engaged by said firing pin and to ignite said charge.

10. A projectile comprising a jacket and a body member, of relatively hard metallic composition and substantially solid in cross section, adapted to impart penetrating

power to the projectile, inserted in said jacket, said body member having its forward end cut away to provide a hollow portion adjacent the nose of the projectile and being provided with a longitudinal bore of relatively small diameter, a firing pin fitted in said bore and projecting therefrom into the hollow portion adjacent the nose of the projectile whereby on impact the nose of the projectile is collapsed and the firing pin actuated.

Signed at Washington, D. C., this 15th day of March, 1918.

LEA W. ROCKWELL.