

No. 819,634.

PATENTED MAY 1, 1906.

O. E. J. BRUBAKER.
FIXED AMMUNITION.
APPLICATION FILED JULY 27, 1905.

Fig. 1.

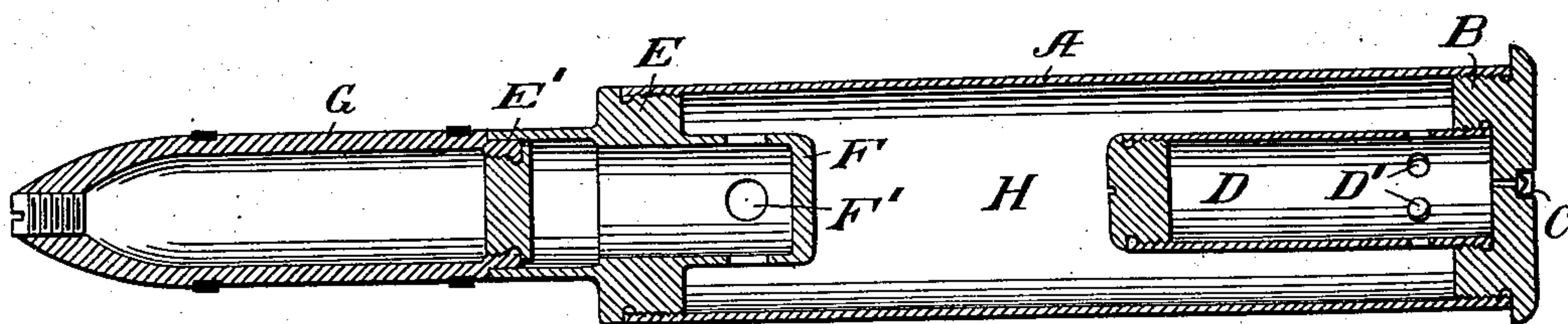


Fig. 2.

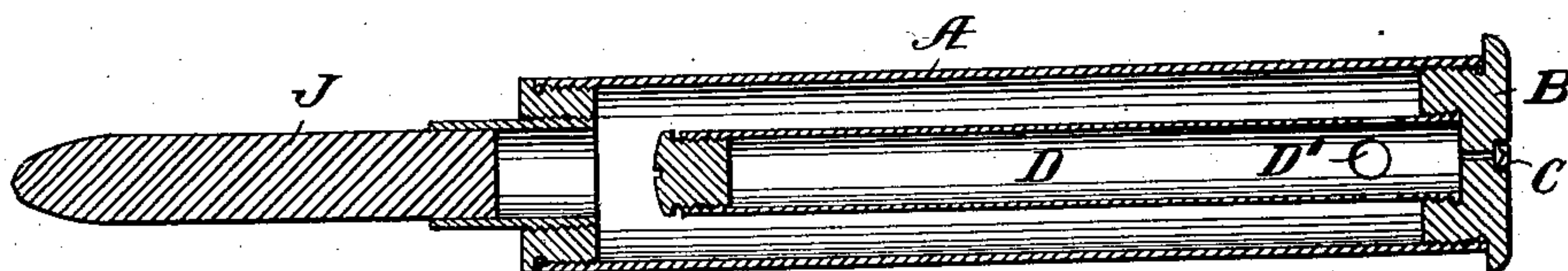
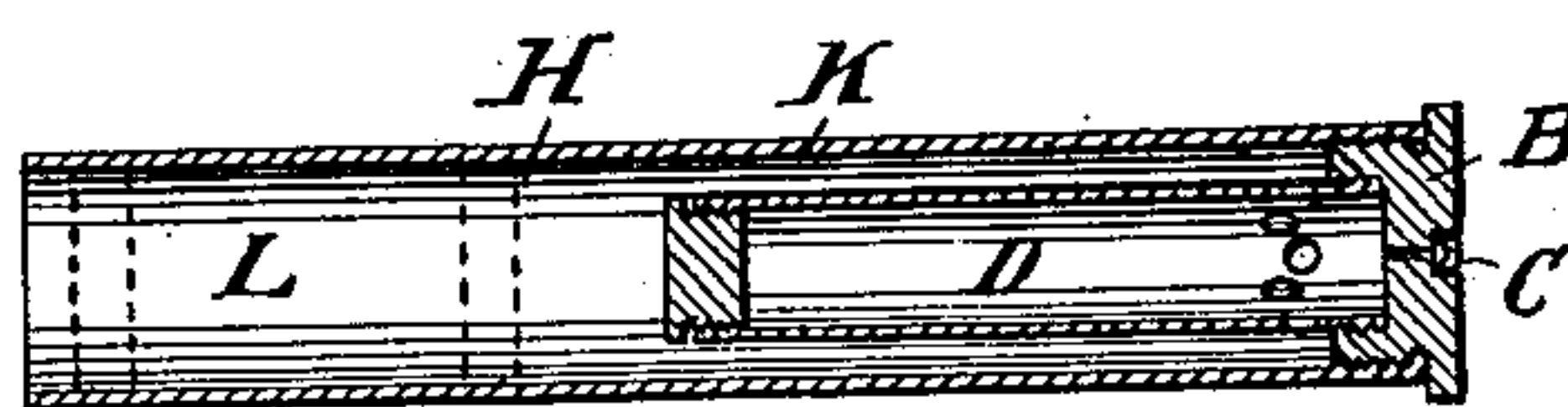


Fig. 3.



Witnesses:

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OLIVER E. J. BRUBAKER, OF ALLEGHENY, PENNSYLVANIA.

FIXED AMMUNITION.

No. 819,634.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed July 27, 1905. Serial No. 271,521.

To all whom it may concern:

Be it known that I, OLIVER E. J. BRUBAKER, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fixed Ammunition, of which the following is a specification, reference being had therein to the accompanying drawings.

The primary object of this invention is to so construct fixed ammunition that recoil is prevented or, at least, reduced to a minimum.

A further object is to provide for practically perfect combustion of the explosive charge, thereby eliminating smoke when the combustible is other than smokeless powder, and at the same time securing the full effective force of the exploded gases. Still a further object is to so construct ammunition carrying high-explosive projectiles that the propelling charge is prevented from gaining direct access to the latter, thereby avoiding overheating the projectile and eliminating danger of its premature explosion.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of my improved ammunition carrying a high-explosive projectile. Fig. 2 is a similar view of an adaptation of the invention carrying a solid projectile. Fig. 3 is a sectional view of a shotgun-shell constructed in accordance with my invention.

Referring to the drawings, A designates the casing or shell proper, B the base, and C the primer. Secured to and projecting inward from the base is the powder-tube D, which is open adjacent base B, as indicated at D', for communicating with the interior of casing A.

In the high-explosive-projectile adaptation of Fig. 1 a head E is secured in the outer end of casing A, the head being recessed and formed with the inwardly-projecting air-chamber F, open to the interior of casing A through perforations F'. The tubular forward projection E' of the head is adapted to receive the rear end of the high-explosive projectile G. Thus it will be seen that an air-space H of considerable extent is interposed between chamber F and the powder-tube D and that the rear portion of that space surrounds said tube. When the powder or other explosive in tube D is fired, the exploded gases issue into space H through apertures D', and in combining with the air in said space perfect combustion is had, all the gases and products being consumed,

thereby obtaining the maximum efficiency of the exploding charge. At the same time the air in space H so cushions the explosion that there is practically no recoil, this cushioning being effected without detracting from the propelling force of the explosion exerted upon the projectile. The rear end of projectile G is protected from direct contact with the exploding charge by chamber F, into which the exploding gases can pass only through apertures F', the air within chamber F preventing the projectile from becoming overheated and exploding prematurely.

In the adaptation shown in Fig. 2, wherein a solid projectile J is substituted for a high-explosive projectile G, the air-chamber F is omitted, as with ammunition of this character no damage results if the projectile or its rear end becomes heated. Otherwise the construction and operation are as above described.

In Fig. 3 an ordinary cartridge or shell K is shown, in which the charge of shot may be confined in the forward end L of the shell in any suitable manner, the powder-tube D being arranged in its rear end exactly as above described, with the air-space H intervening between the powder-tube and the shot and operating to cushion or prevent recoil and at the same time causing perfect combustion of the exploding charge.

From the foregoing it will be understood that the invention is adapted for any and all kinds of fixed ammunition, regardless of whether the projectile is wholly or partially within the shell proper or casing and regardless of whether the projectile carries an explosive or not.

I claim—

1. The combination with a shell for fixed ammunition, of a powder-container therein and communicating therewith at its rear end only.

2. The combination with a shell for fixed ammunition, of a powder-container therein sustained by the shell-base, the container communicating with the shell only at its rear end.

3. The combination with a shell for fixed ammunition, of a powder-container therein sustained wholly by the shell-base.

4. The combination of a casing, a powder-tube projecting into the casing from the base, a projectile, and an air-space separating the projectile and tube and surrounding the latter.

5. The combination of a casing, an explo-

sive in the rear end thereof, a projectile, and an air-chamber separating the projectile from the explosive, said chamber being open to admit the exploding gases.

- 5 6. The combination of a casing, a powder-container therein, a projectile, an air-chamber at the rear of the projectile and open to the casing to admit the exploding gases, the

casing having an air-space between said air-chamber and the powder-container. 10

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

OLIVER E. J. BRUBAKER.

Witnesses:

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