No. 695,809. Patented Mar. 18, 1902.

G. O. HAWK.

CARTRIDGE.

(Application filed May 18, 1901.)

No Model.)

Fig. 1.

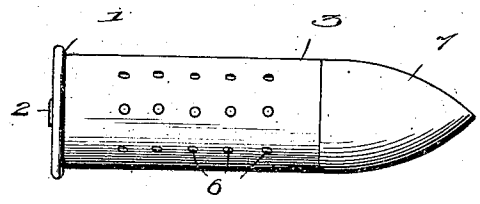
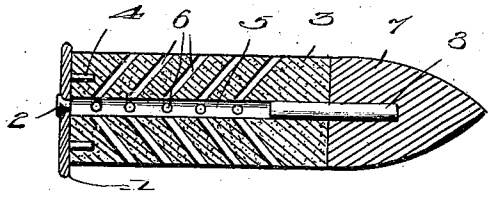


Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

GEORGE O. HAWK, OF GREENFIELD, INDIANA.

CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 695,809, dated March 18, 1902.

Application filed May 18, 1901. Serial No. 60,874. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. HAWK, a citizen of the United States, residing at and whose post-office address is R. R. No. 4, Greenfield, in the county of Hancock and State of Indiana, have invented new and useful Improvements in Caseless Cartridges and Projectiles, of which the following is a specification.

This invention relates to caseless cartridges and projectiles; and the primary object is to provide a device of the character described which will propel a projectile with greater velocity than will the ordinary cartridge incased within the shell now in use.

A further object is to so construct the caseless cartridge and projectile that the resultant waste incident to the discharge of the gun will be diminished.

A still further object is to construct a device whereby the necessity of a surrounding shell inclosing the powder will be obviated.

With these objects in view the invention consists in providing a circular cap-plate in which the cap is secured and molding or forming the charge of powder in a solid cylinder which is secured both to the cap-plate and projectile, so that when the "piece" is discharged the residue remaining within the barrel of the piece will consist only of the cap-plate of the discharged cartridge and projectile, thereby materially lessening the cost of the cartridge and projectile, as well as increasing its driving power.

The peculiar manner of accomplishing the desired result will be described hereinafter, and recited in the claim, the construction being clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a cartridge and projectile constructed in accordance with my invention, and Fig. 2 is a longitudinal sectional view through the same.

Referring now to the drawings by numerals of reference, 1 designates the circular cap-plate provided with a central opening in which is secured in any well-known manner the cap 2. The charge designated by the reference-neral 3 consists of a cylindrical-shaped body of nitroglycerin or other high explosive secured to the cap-piece through the medium of a plurality of forwardly-projecting pins 4, either formed with or secured to said cap-piece and embedded in the charge.

5 designates a centrally-located and longitudinally-extending bore within the charge running the entire length thereof in line with the central opening and from which radiate a plurality of forwardly-inclined series of communicating cylindrical channels or passages 6. The object and purpose of these passages is to provide a means whereby the ignited charge from the cap will spread through the entire mass composing the charge and practically ignite the same throughout simultaneously, thus permitting the projectile 7 to receive the full force of the charge at one time. If these channels and the central bore were not provided, it is probable that the charge would be ignited slowly—that is to say, the powder nearest the cap would ignite and expend its force before the powder near the projectile would be ignited. However, by employing a construction as above described and illustrated this undesirable feature will be obviated, and it is apparent, therefore, that the projectile would be propelled with greater velocity than it would if the slow-burning cartridge generally in use was utilized.

Owing to the fact that I dispense with a surrounding shell inclosing the charge, I find it necessary to provide a central recess or bore 8 in the projectile 7, in which is fitted a pin projecting a suitable length beyond the end thereof and of approximately the same diameter as the bore 5 in the charge. This pin being inserted in the charge, there will be no danger of the projectile becoming detached. If desired, the pin may be molded direct to the projectile or may form a part thereof consisting of the same metal and be forced within the charge in any suitable manner.

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

The combination of a cartridge formed with a central longitudinal bore and a plurality of series of forwardly-inclined cylindrical passages radiating from the longitudinal bore

through the surface of the cartridge, a projectile having a longitudinal bore, a pin fitting in the adjacent ends of the longitudinal bores for connecting the cartridge and projectile, and a cap-plate having a central opening and a plurality of forwardly-projecting pins whereby the cartridge is secured thereto.

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

GEORGE O. HAWK.

Witnesses:
JOHN H. BINFORD,
M. LEOLA THOMPSON.