

(No Model.)

H. MAXIM.

DETACHABLE GAS CHECK FOR PROJECTILES.

No. 428,311.

Patented May 20, 1890.

Fig-1-

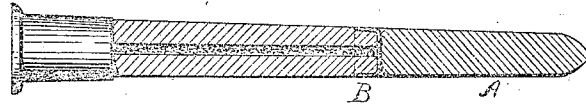


Fig-2-

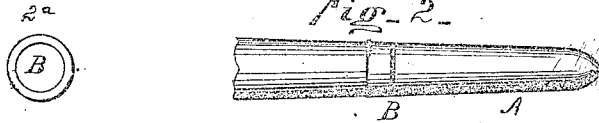


Fig-3-

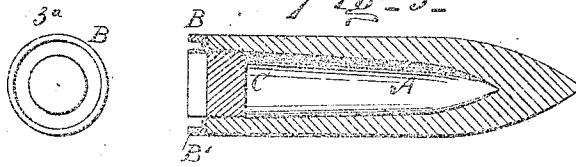
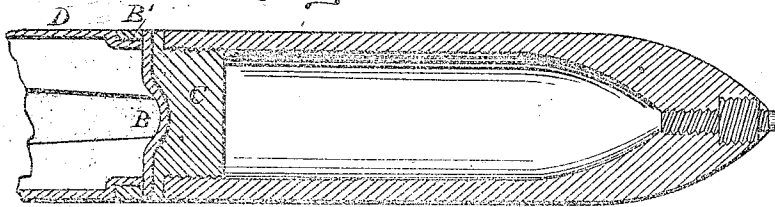


Fig-4-



Fig-5-



Witnesses

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# UNITED STATES PATENT OFFICE

HUDSON MAXIM, OF PITTSFIELD, MASSACHUSETTS.

## DETACHABLE GAS-CHECK FOR PROJECTILES.

SPECIFICATION forming part of Letters Patent No. 426,311, dated May 20, 1890.

Application filed September 24, 1889. Serial No. 324,907. (No model.)

To all whom it may concern:

Be it known that I, HUDSON MAXIM, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Projectiles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to projectiles and gas-checks therefor.

The object of the invention is to produce a projectile which shall have a positive gas-check while in the gun, but in which the gas-check shall be detached when the projectile leaves the gun. The gas-check also serves as a means of uniting the projectile to the cartridge.

Figure 1 is a central longitudinal section of a cartridge having the improved projectile attached. Fig. 2 is a broken side elevation of the projectile and front end of the cartridge. Fig. 2<sup>a</sup> is a view of the gas-check detached. Fig. 3 is a central longitudinal section of a hollow projectile with gas-check attached; Fig. 3<sup>a</sup>, a rear view of gas-check, Fig. 3. Fig. 4 is a longitudinal central section of the projectile with its base inclosed in the shell of a cartridge. Fig. 5 is a longitudinal central section of a hollow projectile with the gas-check covering the base-plug and forming a cap or cover to the front end of the cartridge-shell.

A indicates the body of the projectile, which may be of the approved form of modern projectiles, and composed of any known material, such as lead with a steel or copper coating, or of iron, steel, or other metal.

B indicates the gas-check, which is a ring of expansible metal, such as copper or low steel. This gas-check is generally a cup with its bottom turned toward the base of the projectile and soldered thereto with a solder which will melt at a temperature developed by the heat of the explosion of firing.

The gas check B may cover the base-plug C of a shell, or the central portion may be cut away, as in Fig. 3<sup>a</sup>, to permit the base-plug C to pass through the bottom of the cup.

The projectile Fig. 4 has a hollow base. The part of the projectile to which the gas-check is attached is slightly hollowed at the

rear, and the copper gas-check is shaped to correspond. The gas-check is soldered to the base of the projectile.

The rearwardly-extending flange B' is united to the metallic shell D of a cartridge-case by solder, or, as in Fig. 5, the gas-check may extend over the mouth of a metallic cartridge-case and be soldered thereto.

Fig. 1 shows the projectile attached to a cartridge composed of a solid amorphous explosive compound, which is used without a metallic case and enters the gas-check.

When the projectile is fired, the gas-check unsolders and drops from the projectile on leaving the gun.

The gas-check may be made of such weight as to serve as a missile after firing. The cup or rearwardly-extending flange is of about the caliber of the gun, and will expand on the explosion to perfectly fill the bore.

As the gas check is only detached by the unsoldering due to the heat of the explosion, it becomes a convenient means for attaching the projectile to the cartridge or casing.

What I claim is—

1. A projectile having a rear portion secured thereto by solder, which becomes detached on firing the gun.
2. The combination, with a projectile, of a metallic cup at the base of said projectile and secured thereto by a solder which fuses as the projectile is fired.
3. The combination, with a projectile, of a gas-check secured thereto by solder which is fusible under the heat of the explosion, and a cartridge-case secured to the check, substantially as described.
4. The combination, with a projectile, of a cup forming a gas-check, said cup having a flange extending rearwardly, a solder fusible under the heat of explosion uniting the gas-check and the projectile, and a cartridge entering the gas-check and secured thereto, substantially as described.

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

HUDSON MAXIM.

Witnesses:

W. A. BARTLETT,  
T. W. JOHNSON.