

No. 671,708.

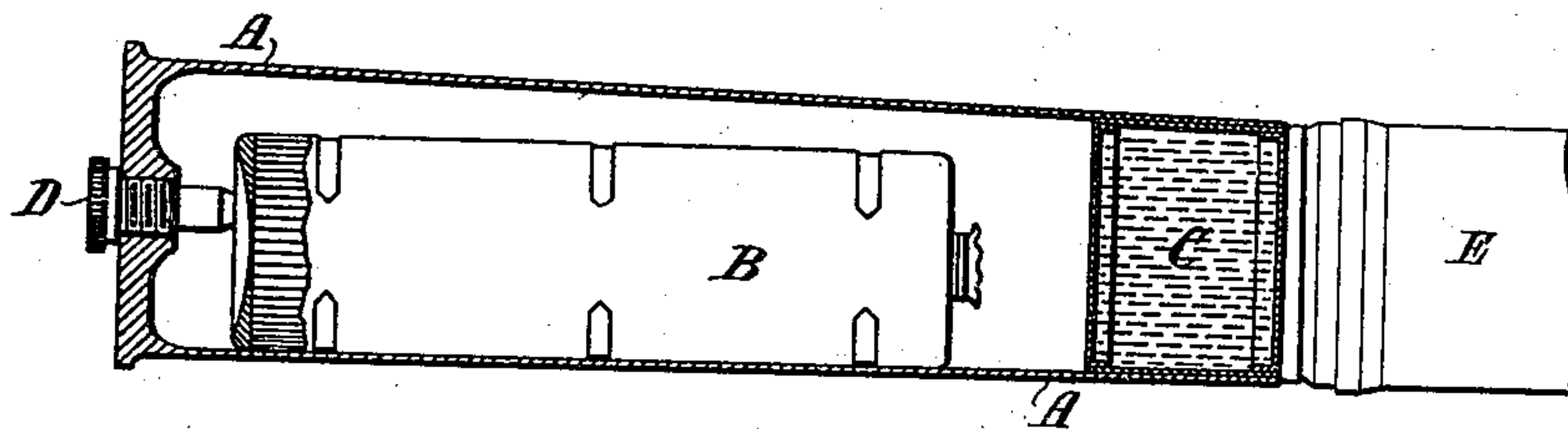
A. NOBLE.

Patented Apr. 9, 1901.

MEANS FOR PREVENTING EROSION OF GUNS.

(Application filed July 27, 1900.)

(No Model.)



Witnesses

E. A. Balloch.
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Inventor.

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UNITED STATES PATENT OFFICE.

ANDREW NOBLE, OF NEWCASTLE-UPON-TYNE, ENGLAND, ASSIGNOR TO SIR
W. G. ARMSTRONG, WHITWORTH & CO., LIMITED, OF SAME PLACE.

MEANS FOR PREVENTING EROSION OF GUNS.

SPECIFICATION forming part of Letters Patent No. 671,708, dated April 9, 1901.

Application filed July 27, 1900. Serial No. 25,022. (No model.)

To all whom it may concern:

Be it known that I, ANDREW NOBLE, a subject of the Queen of Great Britain, residing at Elswick Works, Newcastle-upon-Tyne, England, have invented a new Means for Preventing Erosion of Guns, of which the following is a specification.

I have found that the erosion of guns is due mainly to the excessive temperature of the gases resulting from the explosion of the firing charge. To decrease the temperature of the gases without diminishing their ballistic effect, I use in conjunction with the cordite or other explosive employed a case containing water, or it might be other vaporizable substance of high specific heat, placed at the front of the explosive charge and in rear of the projectile, an explosive primer being placed in rear of the explosive charge.

The drawing annexed shows a longitudinal section of a gun-cartridge constructed in the manner I prefer.

A is the cartridge-case; B, a charge of cordite contained within it; C, a case filled with water closing the mouth of the case A.

D is a primer carried by the base of the cartridge-case and containing, as is usual, sufficient explosive compound to insure the ignition of the charge B.

E is a portion of a projectile.

It will be observed that the case containing the water is arranged at the front of the charge, leaving the rear end of the propelling charge

free to be ignited by a detonating-primer in rear of it. It will also be observed that the water-casing is placed immediately in rear of the projectile. This I have found to be of great importance, because a greater muzzle velocity is imparted to the projectile when the water-casing is so placed than is obtained when the water-casing is placed in any other part of the cartridge or charge.

I claim as my invention—

1. The combination of a projectile, a case containing a volatilizable substance of high heat capacity immediately in rear of the projectile, an explosive propelling charge in rear of such case, and in rear of all of these an explosive primer for exploding the propelling charge.

2. The combination of a projectile, an explosive propelling charge and a case containing a volatilizable substance of high heat capacity arranged wholly between the projectile and the explosive charge.

3. A gun-cartridge composed of a cartridge-case, a case containing a volatilizable substance of high heat capacity closing the mouth of the cartridge-case, an explosive propelling charge within the cartridge-case, and an explosive primer carried by the center of the base of the cartridge-case.

A. NOBLE.

Witnesses:

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