

No. 750,623.

PATENTED JAN. 26, 1904.

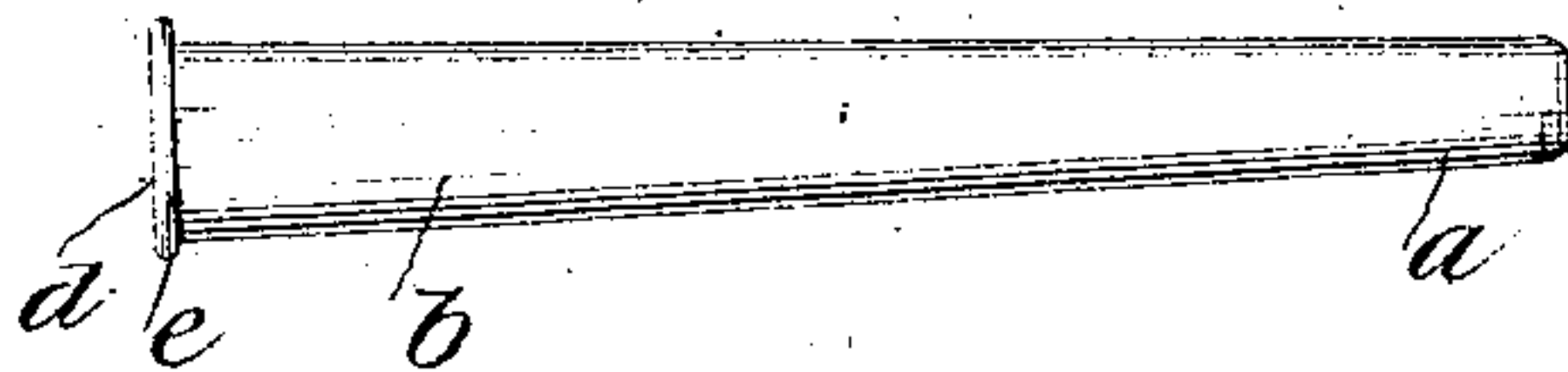
J. M. EDMUNDS.

CARTRIDGE.

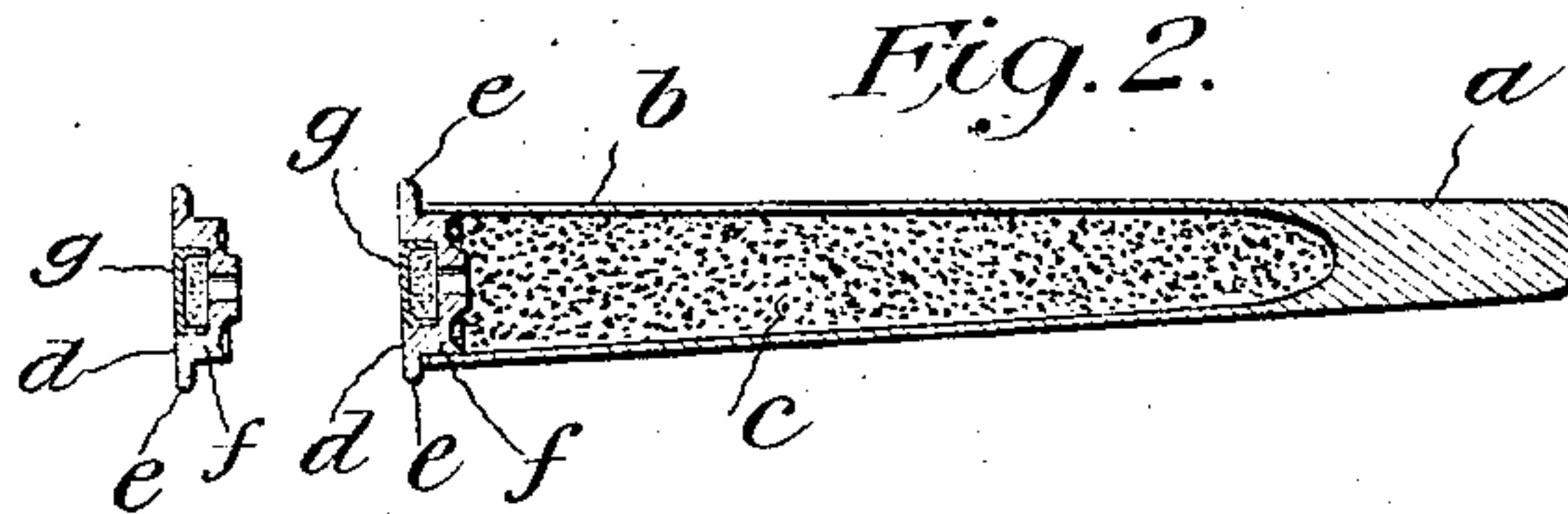
APPLICATION FILED MAR. 14, 1901.

NO MODEL.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*E. A. Finckel.*  
*A. E. Lamb.*

*Inventor:*

*John Marion Edmunds.*  
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*Atty.*



## UNITED STATES PATENT OFFICE.

JOHN MARION EDMUNDS, OF NEW YORK, N. Y.

## CARTRIDGE.

SPECIFICATION forming part of Letters Patent No. 750,623, dated January 26, 1904.

Application filed March 14, 1901. Serial No. 51,146. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MARION EDMUNDS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Cartridges, of which the following is a full, clear, and exact description.

This invention consists of a cartridge for large and small firearms (automatic or rapid fire) wherein the bullet—that is to say, the projectile—carries integrally or in permanent attachment the shell which forms the powder-chamber, the primer being applied to a plug which has a frangible connection with the shell and from which plug the shell and projectile separate upon the firing of the charge, provision being made for ejecting the plug.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is an elevation of one illustration of my invention; and Fig. 2 is a longitudinal section, showing also a detached plug to the left.

The ball, bullet, or projectile *a* is made integral with the shell *b*, in which is the charge of powder or other explosive *c*. The rear end of this powder-chamber is closed by means of a plug *d*, having a flange *e* and a shoulder *f*, about which the shell is fitted frictionally or otherwise in such manner that the joint between the two may be broken by the discharge or explosion of the powder charge.

I do not limit the invention to any particular manner of forming the joint between the plug and the shell so long as such joint is sufficiently strong to withstand ordinary handling and may be broken upon the ignition of the powder charge.

*g* is the primer, of any suitable construction.

It will be understood that upon firing the cartridge the projectile and the shell portion separate from the plug and pass out at the muzzle of the gun, while the plug remains in the breech and may be ejected in any suitable manner or by any suitable means.

I may employ aluminium in the construction of the cartridge; but I do not limit my invention to any particular material or metal.

As the cartridge starts through the bore of

the gun a part of the powder charge is carried with it, thereby filling the bore with gas until the charge reaches the muzzle. The cartridge is conical in shape, and as it leaves its place in the chamber or breech and enters the bore proper it partly collapses until it fits the bore and rifling so perfectly that none of the gas can escape, and hence the maximum power of the powder charge may be utilized in the material increase of the velocity of the projectile. The projectile leaves the gun with the rifling perfectly impressed upon it and having a rotary motion on its longitudinal axis.

In those guns which are designed to receive bottle-necked cartridges it may be necessary to use a thimble or bushing in the chamber in order to adapt my conical cartridge for use therewith.

It will be noted that the tapered shell will so collapse when entering the rifling of the gun-barrel as to form a tight joint between said shell and barrel whereby all the gases created by explosion are kept at the rear of the projecting bullet and that none of the gas is permitted to precede the said projecting bullet, which is a desideratum, inasmuch as the confinement of the gases behind the bullet results in the economical use of powder, or, in other words, by the use of a less amount of powder a greater amount of range is obtained. It will be further noted that by forming an integral structure comprising a hollow powder-chamber and a solid end which forms the bullet proper the structure manifestly may be produced at a low cost.

What I claim is—

1. A projectile comprising a solid bullet end and a flexible shell integral therewith and enlarging from said bullet end, said shell being reducible by the rifling when the projectile is fired.

2. A projectile comprising a solid bullet end carrying an elongated tapering shell, the enlargement of the taper being farthest from said bullet end, and the wall of said shell being of a material sufficiently pliable so that it is reduced in size when entering the rifling of the gun, and a primer-cap frangibly fitted into the mouth of the shell.

3. A projectile comprising a solid bullet end,



a shell at the rear thereof and enlarging therefrom, said shell being flexible so that when the projectile is fired the former will become reduced in size and fit the rifling.

5 4. A projectile comprising a solid bullet end carrying at its rear a flexible shell which provides a powder-chamber, said shell being reduced in size in the rifling when the projectile is fired, and a primer-cap fitted into the mouth of said shell.

5. A projectile comprising a bullet end, a flexible shell integral therewith and enlarging therefrom and being reducible into the rifling when the projectile is fired, and a primer-cap frictionally fitted into the mouth of the shell.

6. A projectile comprising a solid bullet end, a shell integral with and enlarging therefrom

and being adapted when the projectile is fired to become reduced whereby to fit the rifling closely and form a gas-check. 20

7. A projectile comprising a solid bullet end, a flexible shell integral therewith and enlarging therefrom, said shell when the projectile is fired becomes reduced whereby to closely fit the rifling and form a gas-check, and a primer-cap frictionally fitted into the mouth of the shell. 25

In testimony whereof I have hereunto set my hand this 11th day of March, A. D. 1901.

JOHN MARION EDMUNDS.

Witnesses:

E. M. EDMUNDS,

JAMES S. MCGLYNN.