

T. P. MOTT & S. GARDINER, Jr.
Electrical Gun-Cartridges.

No. 138,679.

Patented May 6, 1873.

fig. 1.

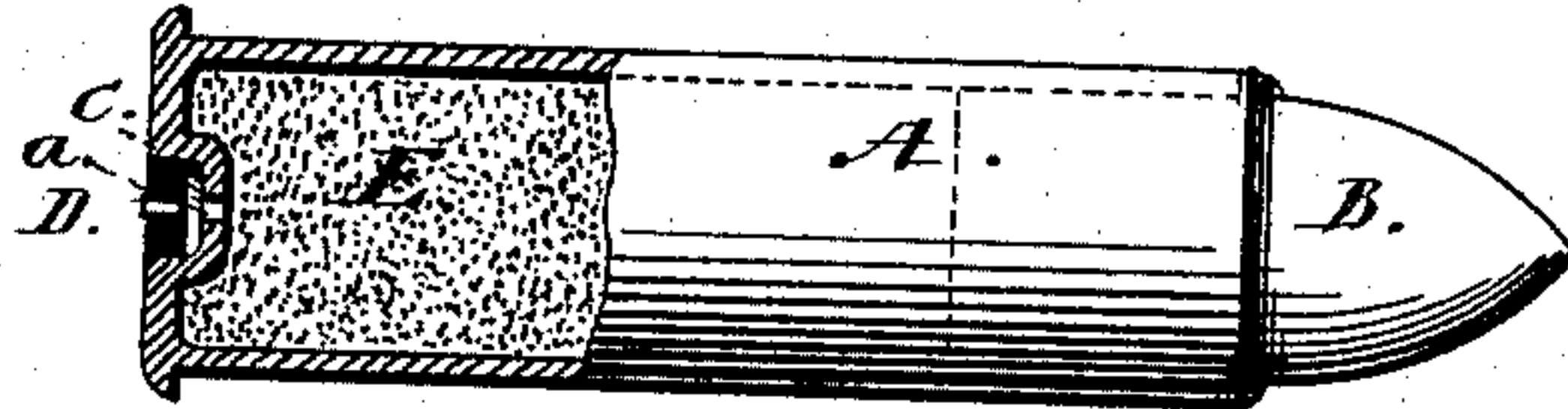


fig. 2.

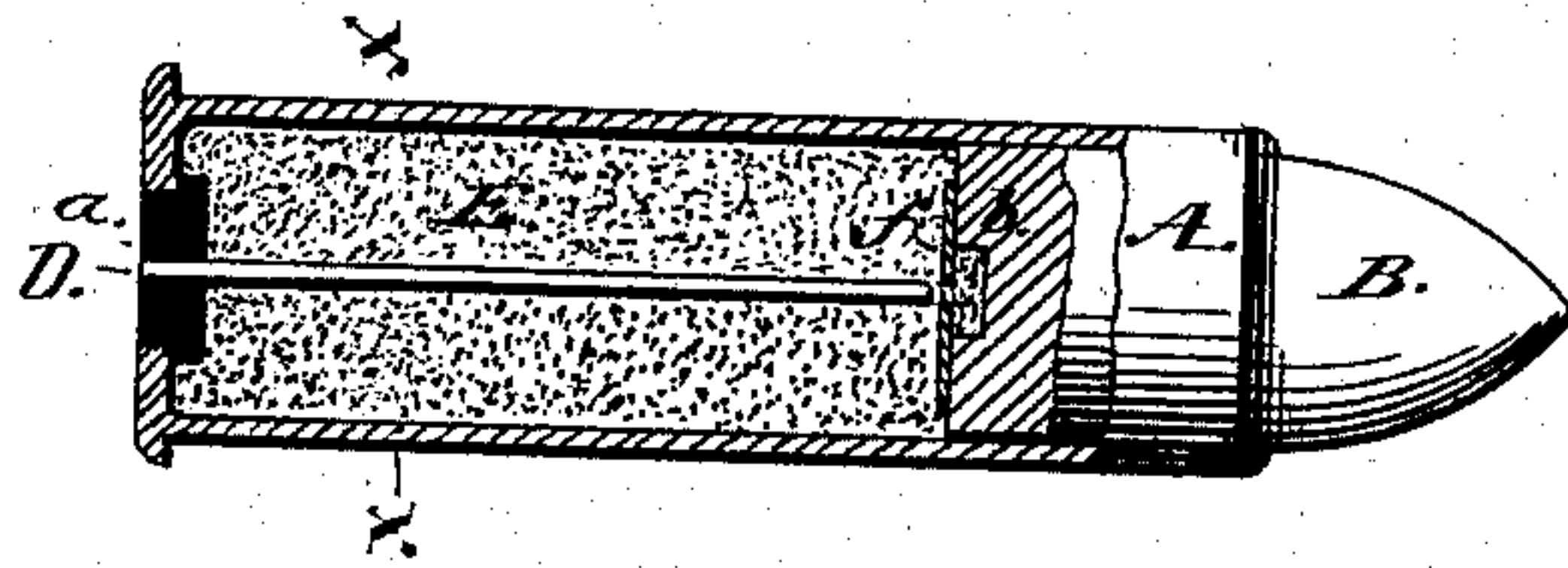


fig. 3.

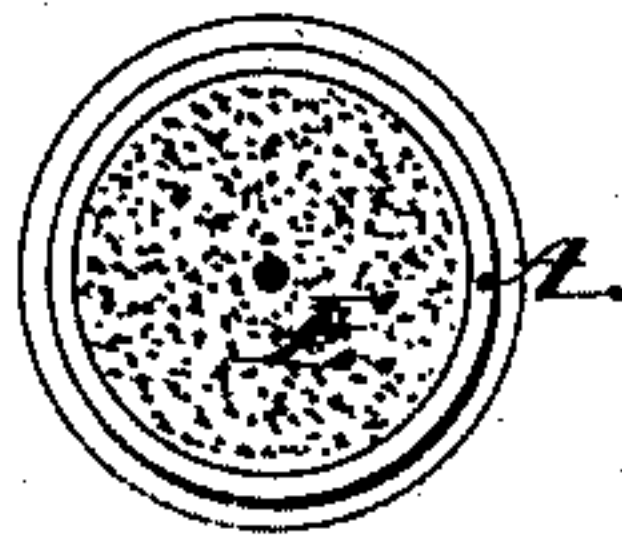
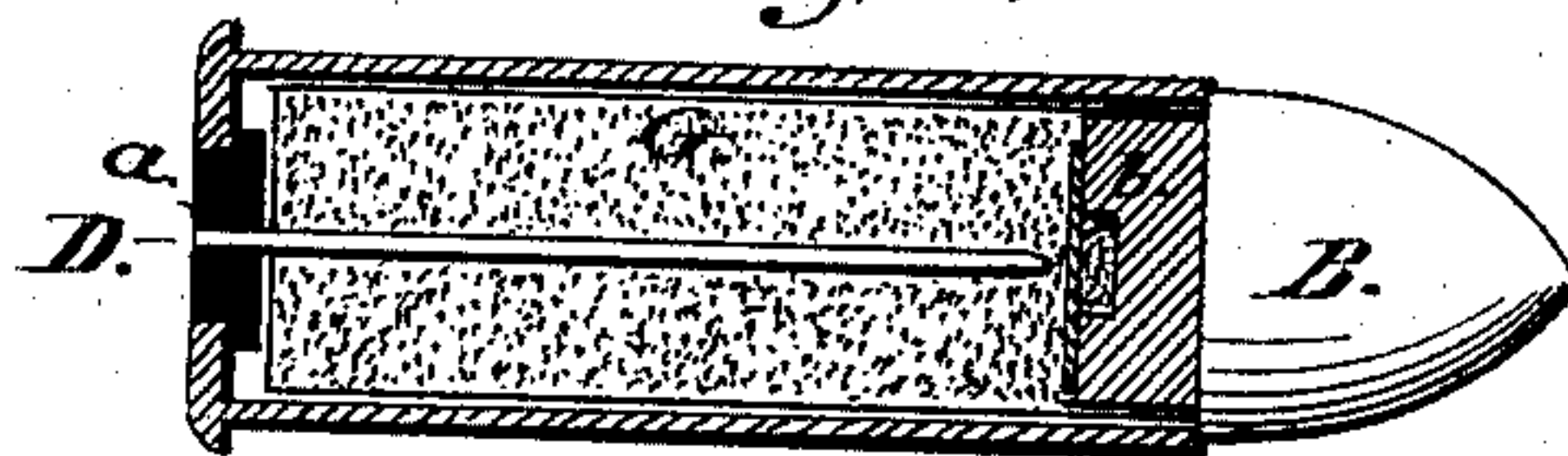


fig. 4.



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UNITED STATES PATENT OFFICE.

THADDEUS P. MOTT AND SAMUEL GARDINER, JR., OF NEW YORK, N. Y.;
SAID GARDINER ASSIGNOR OF ONE-SIXTH HIS RIGHT TO T. P. MOTT.

IMPROVEMENT IN ELECTRICAL GUN-CARTRIDGES.

Specification forming part of Letters Patent No. 138,679, dated May 6, 1873; application filed April 3, 1873.

To all whom it may concern:

Be it known that we, T. P. MOTT, of the city of New York, county of New York and State of New York, and SAMUEL GARDINER, Jr., of the city of New York, county of New York and State of New York, have invented certain Improvements in Gun-Cartridges, of which the following is a specification:

Nature and Object of the Invention.

Our invention relates to an improvement in gun-cartridges to be fired by electricity. It consists in the first part of an arrangement by which the cartridge may receive ignition at its base through the medium of a wire leading from an electrical machine, conveniently located, at the instant of pulling the trigger of the arm.

In this part of the device we prepare a cartridge in the usual way, securing the ball with the shell and leaving a space for the powder back of it. At the base or end of the shell we form a small space for fulminating-powder between the insulator which surrounds the wire and the metal which forms the base of the shell. A small hole is formed in the metal at the base of the shell to allow the spark from the fulminate to ignite the powder behind the ball.

By a modification of the above we fire the cartridge from the base of the ball, and thereby, with more certainty, burn all of the powder in the cartridge, giving to the ball the full benefit of its expansive force.

In this modification of our invention we form at the base of the ball a space sufficiently large to receive a proper amount of fulminating-powder, which is to be covered with a thin strip of paper or other suitable material to separate it from the powder in the cartridge just back of it. The wire in this case passes through an insulator at the base of the cartridge, and thence forward until it nearly reaches the covering of the fulminate.

Description of Drawing.

Figure 1 is a longitudinal section of the cartridge with the arrangement for firing at the

base of the shell. Fig. 2 is a longitudinal section of same with arrangement for firing at the base of the ball. Fig. 3 is a section on line *xx* of Fig. 2.

Similar reference letters refer to corresponding parts in all the figures.

General Description.

A A is the shell of the cartridge. B B is the ball. C C is the end of the shell or cartridge. D D are wires, which connect directly with an electrical apparatus whose wires are insulated in their passage to the cartridge by suitable insulating material. At the end of the shell the wires D D are insulated by a disk of hard rubber or other suitable insulating substance. *a* is the hole in the metal at the end of the cartridge, in which the insulating-disk is placed. The wire D is insulated from the metal in the end of the cartridge, and passes entirely through the powder E and within a short distance of the covering *f* of the fulminate.

In Fig. 4 is shown the arrangement of our invention in which we use the paper cartridge incased within a metal shell. The outer shell has precisely the same arrangement as the one shown in Fig. 2, but without the ball and powder. The ball here has attached to it the paper shell for the powder.

To use this cartridge one has only to force the cartridge into the metal over the wire, which will pass through the powder until it nearly reaches the fulminate. The same insulating substances may be used to separate the wire from the metal of the shell. The fulminate in this arrangement is placed within the space in the base of the ball, as seen in Figs. 2 and 4.

It will be observed that in our drawing we show the positive coming into the cartridge unaccompanied by the negative. This arrangement gives to our device an advantage over all other inventions of which we are aware, as we obtain our negative through the metal of the shell itself as it connects with the barrel of the arm, a conducting communication being had with the ground through the body

of the person handling the same. This same arrangement of a single wire conducting the positive electricity might be applied to any torpedo or shell where a negative communication could be made with the earth through the metal or conducting material of the ball or shell surrounding the powder.

Claims.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A cartridge or shell, substantially as described, adapted to be exploded by an electrical spark where a single wire is used to bring

the positive current to the fulminate, the negative being obtained through the metal of the ball or other metallic surroundings of the fulminate, for the purpose set forth.

2. The combination, in a cartridge for fire-arms, of a metallic shell insulating-disk and a single "positive" wire, D, substantially as and for the purposes set forth.

THADDEUS P. MOTT.
SAML. GARDINER, JR.

Witnesses:

EDW. W. DONN,
E. C. FERNALD.