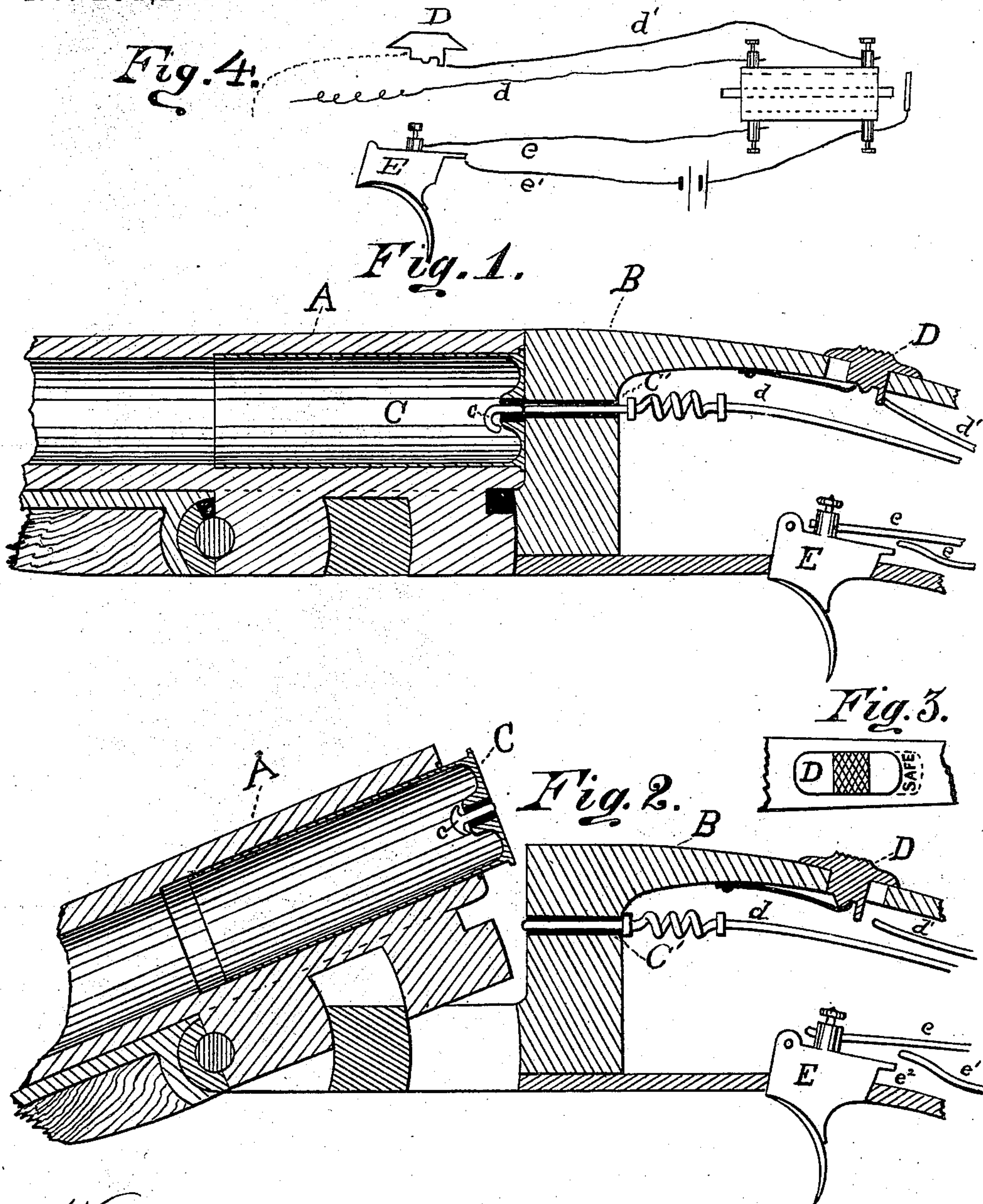


(No Model.)

A. T. BROWN.
ELECTRIC FIRE ARM.

No. 291,288.

Patented Jan. 1, 1884.



Witnesses:

Geo Livermore
L. H. Smith

Inventor:

Alexander T. Brown

UNITED STATES PATENT OFFICE.

ALEXANDER T. BROWN, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF TO LYMAN C. SMITH, OF SAME PLACE.

ELECTRIC FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 221,228, dated January 1, 1884.

Application filed August 27, 1883 (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER T. BROWN, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Fire-Arms Adapted to be Discharged by Electricity; and the following, in connection with the drawings, is an exact description thereof.

My invention relates to a gun and a cartridge, each being complementary to the other. The gun is not adapted for use with any other cartridge; nor can the cartridge be used with any other gun, so far as I am aware.

The object of my invention is to produce a gun and cartridge, the gun using an induction-coil in conjunction with any suitable electric generator, whereby connections may be made from the coil to the cartridge, and the powder in the cartridge ignited by means of a spark.

The novel features of my invention will be hereinafter pointed out in the claims.

In the drawings, Figure 1 is a vertical longitudinal section of so much of the breech and frame of a gun as is necessary to illustrate the connecting-wires. Fig. 2 shows the gun with the breech open and shell partly withdrawn. Fig. 3 is a top view of the safety-slide or circuit-breaker. Fig. 4 is a diagram illustrating the connections to the induction-coil.

A indicates the barrel of the gun, which breaks down, as is usual in shot-guns. B is the frame; C, the cartridge. The frame B is of metal, as is usual, and when electrical connection is made to any portion of the frame, the circuit may be closed through said frame.

D is a slide on the frame. In one position this slide may be in contact with wire *d'* from the induction-coil, while in the other position it does not touch said wire. Thus the circuit may be made or broken between the wire *d'* and the frame by simply sliding the button D.

d d' are the wires leading to the secondary coil, and *e e'* the wires of the primary induction-coil. The relation of said wires and battery to the induction-coil is shown in the diagram Fig. 4. The wire *d* is insulated where it passes through the breech of the gun, by

some suitable insulating material, C'. The front portion of the wire is made to form a spring, as shown in Figs. 1 and 2, so as to be constantly pressed forward toward or into contact with the cartridge. When the safety-button D is pressed forward, the circuit will be broken with wire *d'*, as well as the primary circuit at *e'*; but when the cartridge C is in place in the barrel and the breech closed, the wire *d* will be in contact with the pin *c* in the cartridge; and if the button or slide D is drawn in contact with wire *d'*, the secondary circuit from the induction-coil will be closed, save the slight space at the end of the pin *c*, at which point the spark is to be developed. Now, supposing the primary circuit to be closed by pulling the trigger E, the secondary current through wires *d d'* will produce a spark at *c*, and fire the cartridge. The tension of the secondary or induced current will be greatest as the point *e'* of the trigger goes past and breaks connection with wire *e'*, and the cartridge will be fired at that time, if not at the first touch of the trigger to the wire *e'*. The metallic head of the cartridge contains the insulated pin *c*, which turns over at the point toward the metal of the shell. The pin *c* and the metal of the shell thus form part of the secondary circuit. The insulated pin *c* is precisely in the middle of the head of the cartridge, so that it comes in contact with the end of wire *d'* when the breech is closed, the wire *d* being pressed forward by its spring, as stated. The electric circuit is formed through the metallic head of the cartridge, and through the metal frame of the gun to the induction-coil, when the cartridge is fired. The induction-coil and its battery are inclosed in the stock in suitable manner.

It is apparent that the device for firing may be adapted to other systems of breech-loaders than those in which the barrel breaks down; also that the cartridge may be of any usual form and material, so that it have a metallic head and an insulated pin in the center thereof, the point of said pin being turned back nearly to the shell.

I claim—

1. The combination, with the breech of a

gun, of an induction-coil, a trigger, and metallic connections from the primary circuit of the coil to the trigger, as set forth.

2. The combination, with the breech of a gun, of an induction-coil, a metallic connection from the primary circuit of the coil to the trigger, a metallic connection from said primary circuit to the neighborhood of the trigger, and a trigger pivoted as described, so that when pulled it may come in contact with said last-mentioned metallic connection.

3. The combination, with the breech of a gun, of the induction-coil, the wire d , passing through the breech-block, but insulated therefrom, the wire d' , connected to the frame of the gun, and the primary circuit-wires ee' in electrical circuit with the coil by means of the trigger, all substantially as described.

4. The combination, with the stock of a gun and with the conducting-wire, of an electrical firing device contained therein, and of a safety device, substantially such as described, whereby the connection may be broken, substantially as set forth.

5. The combination, with the stock of a gun, of wires, as $d d'$, connecting the frame with the battery or coil, a safety-button, as D , to break the connection or close the same, and a firing-trigger independent of said safety device, constructed to close the circuit, substantially as described.

6. The combination, with the stock of a gun, of an electric battery or coil, a wire or metallic connection insulated from the frame and leading to the cartridge-chamber from said battery or coil, a metallic connection from said battery or coil leading to the metallic frame of the arm, and a push-button by which the continuity of the last-mentioned metallic connection may be broken, substantially as described.

In witness whereof I have hereunto set my hand this 24th day of July, 1883.

ALEXANDER T. BROWN.

In presence of—

C. W. SMITH,
W. L. SMITH.