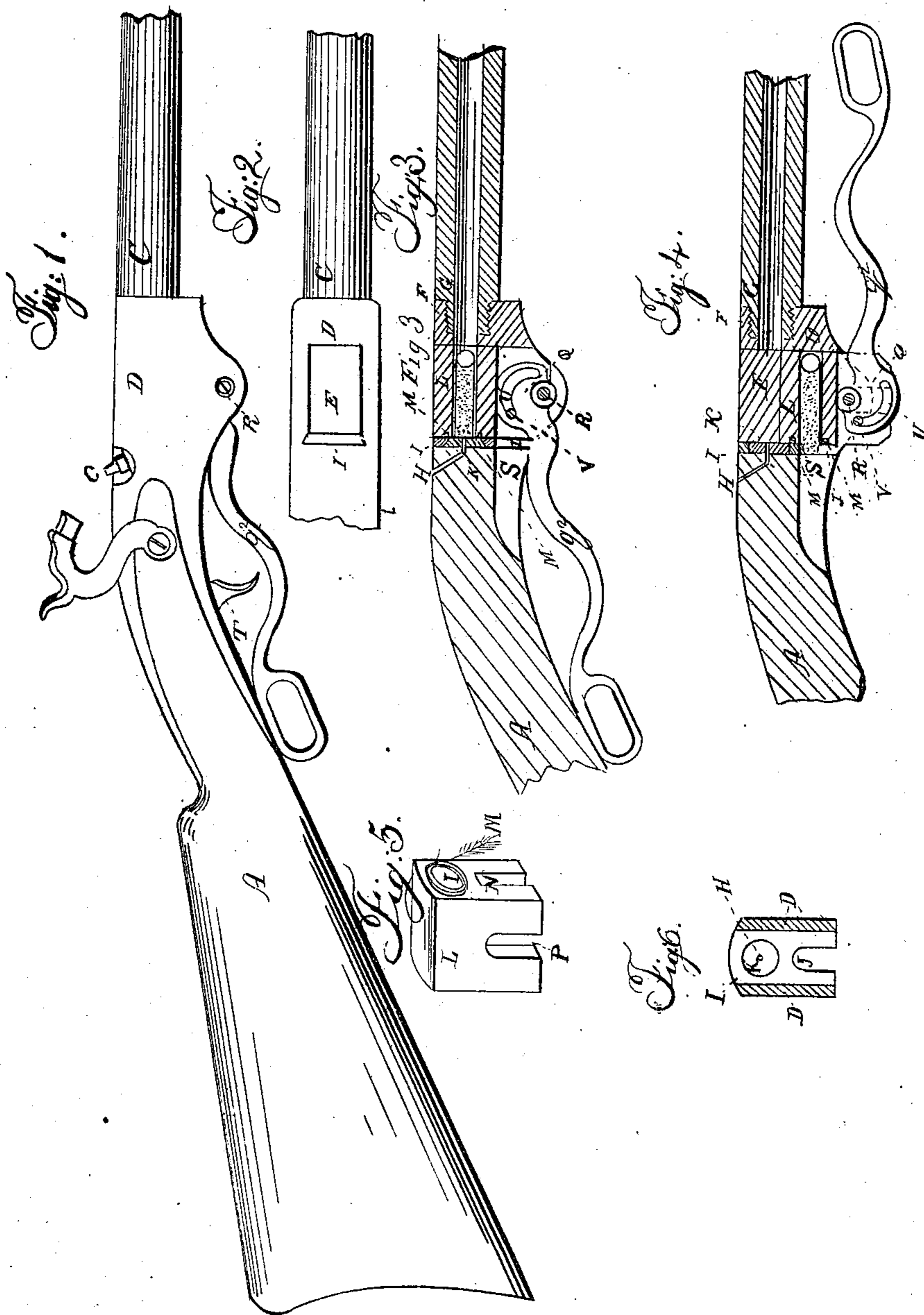


G. H. SOULE.
Breech-Loading Fire-Arm.

No. 15,347.

Patented July 15, 1856.



UNITED STATES PATENT OFFICE.

GEORGE H. SOULE, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. 15,347, dated July 15, 1856.

To all whom it may concern:

Be it known that I, GEORGE H. SOULE, of Jersey City, State of New Jersey, have invented certain new and useful improvements on my improved breech-loading gun patented April 3, 1855; and I do hereby declare the following to be a full description of the same.

The object of my invention is to obviate the wearing away of the breech-piece of my improved gun. Experience has developed the fact that the face of the breech directly exposed and acted upon by the explosion of the powder has a constant tendency to chip and wear away when the metal is either hard-finished iron or steel; and this result has been found by practical observation to be more sensibly increased when the facing is of hardened steel. My invention, therefore, is to obviate this defect in the practical working of my gun; and the nature of the invention consists in the use and application of a copper or other tough or malleable metal breech-plug, in combination with a wrought or malleable iron breech-piece; also, in protecting the bore of the charging-chamber with an annular ring of a similar soft metal used in plugging the breech-piece. But to describe my invention more particularly I will refer to the accompanying drawings, forming a part of this schedule, the same letters of reference, wherever they occur, referring to like parts.

Figure 1 is a profile view of the gun. Fig. 2 is a plan view of the gun. Fig. 3 is a longitudinal section of the gun, showing the charging-chamber in position for being discharged. Fig. 4 is a longitudinal section of the gun, showing the charging-chamber down and in position for receiving the cartridge from or through the opening under the breech. Fig. 5 is a perspective view of the charging-chamber. Fig. 6 is a face view of the cartridge-cutter plate, showing the copper plug in the face of it.

Letter A represents the shoulder or breech of the gun, in which is arranged an ordinary gun-lock. Letter B is the hammer, and C is the chimney or fuse, which is secured into the metallic breech-piece D. This breech-piece is forged either from steel or wrought-iron, or may be made from malleable cast-iron or other suitable metal. Through it, at right angles to its axis, is cut a square mortise-hole, E, and

in its front end a tap, F, into which the end of the barrel of the gun G screws; also through the back end of it is the touch-hole vent H.

Upon or covering the surface of the back square or plane of the mortise E is inserted by a dovetail a face-plate of steel, I, having at its lower edge a center portion, J, cut away; and also through the face of it, on a line with the bore of the gun, is inserted a piece or plate of copper or other soft metal, K. The object of this plate is to face the back square of the mortise in the breech-piece with steel when made of malleable cast-iron; second, by the crotch or forked lower edge of it to serve as a cartridge-cutter, and, third, by the copper plate in the face of it prevent the chipping or burning away of the metal by the action of the powder and heat generated on exploding it. This copper plate is intended to cover the entire area of the bore of the gun, and may be said to form a breech-plate, against which the back face of the charging-chamber L fits.

In the face of the charging-chamber is an annular ring of copper, M. This is inserted as near the edge of the bore of the chamber as practicable, and to any suitable depth required. It is not absolutely necessary that this ring of copper should be inserted in a groove outside the edge of the bore, as the same effect would be obtained if the bore of the charging-chamber were lined at the end or throughout its entire length, the object in each way being the same—that is, interposing a copper or other suitable soft-metal surface against which the burning sulphurous gases and explosive effects of the powder have no appreciable effects—that is, burning or chipping away the metal in contact between the breech and charging-chamber, and thereby causing a leakage or escape of the gases.

Letter N represents a longitudinal slot through the lower edge of the charging-chamber, and P a transverse slot through the same.

The object of the slot N is to admit of the cam Q fitting therein so as to operate directly upon the center of the charging-chamber in raising or depressing it in the mortise in the breech-piece, and of that of P is to allow the charging-chamber to drop down low enough upon the center-pin R of the cam Q to bring its bore on a line with the charging-port S, cut on the under side of the breech-piece, just in

front of the trigger T. The cam Q is attached to the end of a lever, q^2 , which, when the gun is charged or loaded, as shown in Fig. 3, forms the trigger-guard, and is supported by a center-pin, R, passing transversely through the sides of the breech-piece. In the cam is a slot, U, transversely through which and the back legs of the charging-chamber passes a pin, V, the object of which is to draw the charging-chamber down when the lever q^2 is thrown forward, so as to receive the cartridge from behind through the charging-port S, while the object of the periphery of the cam is to elevate or raise the charging-chamber so as to bring the cartridge on a line with the bore of the gun.

Having now described my invention and its operation, I will proceed to set forth what I

claim and desire to secure by Letters Patent of the United States.

What I claim as an improvement on my improved breech-loading gun patented April 3, 1855, is—

The use of the facings of copper or other equivalent tough metal less oxidizable than steel or iron by the action of the heat and sulphur gases caused by the explosion of the powder, in combination with the breech-piece and charging-chamber, substantially for the purposes and mode of application as hereinbefore set forth.

GEORGE H. SOULE.

Witnesses:

GEO. A. VROOMS,

CHARLES L. BARRITT.