

J. GOULDING.

Breech-Loading Fire-Arm.

No. 42,573.

Patented May 3, 1864.

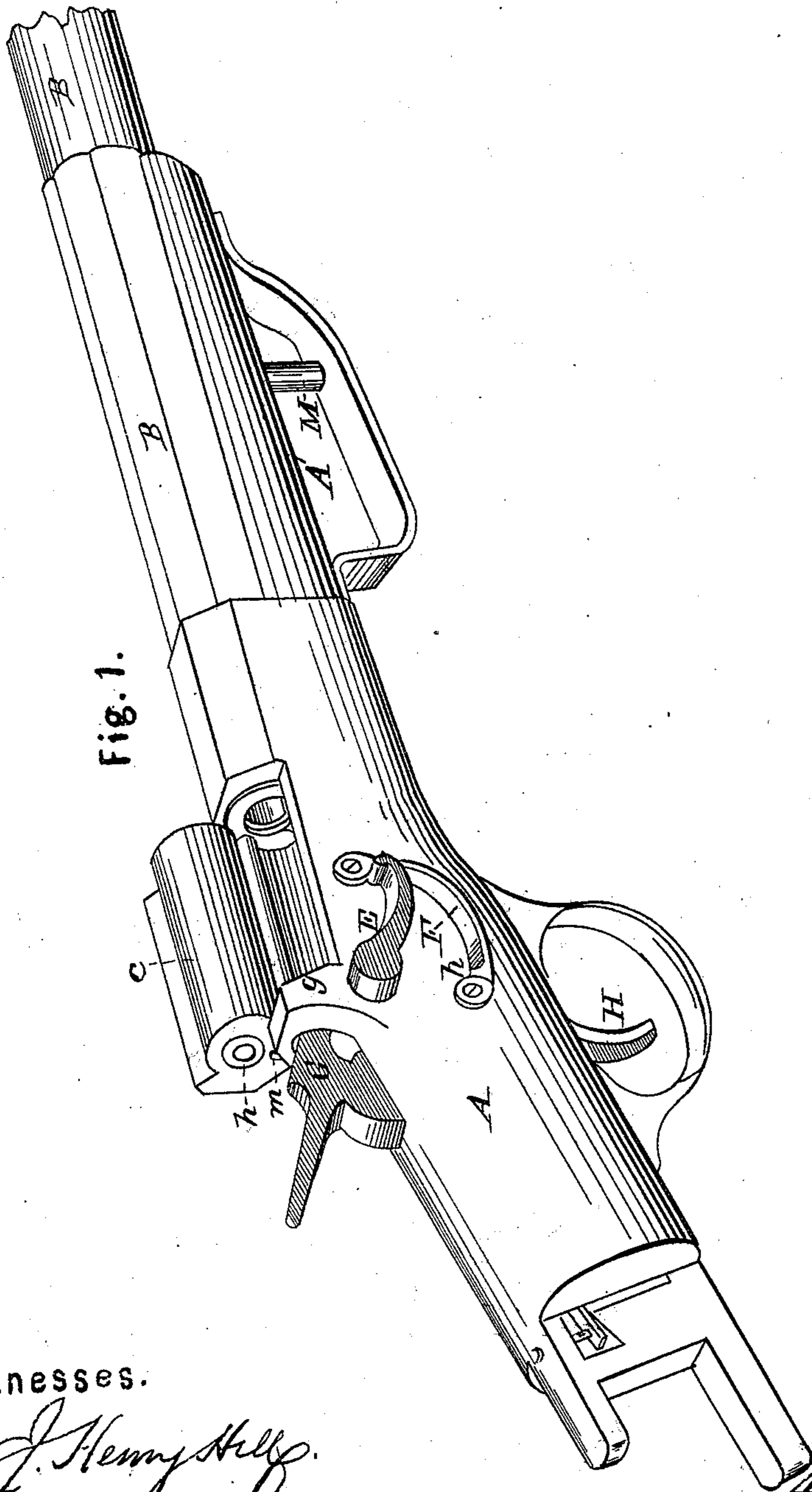


Fig. 1.

Witnesses.

J. Henry Kelly.
Geo H. Miller.

Inventor.

John Goulding
 By his Attorney
Thomas H. Dodge.

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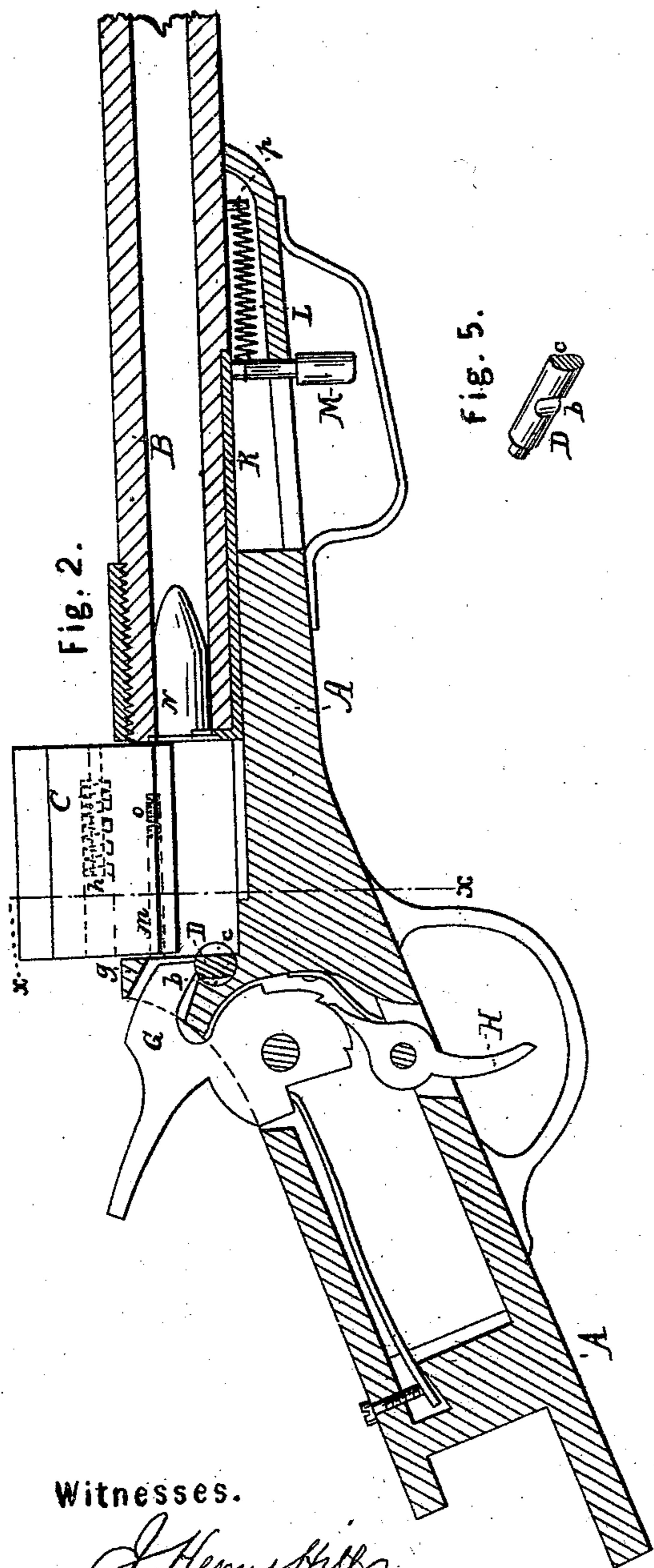


Fig. 2.

Fig. 5.

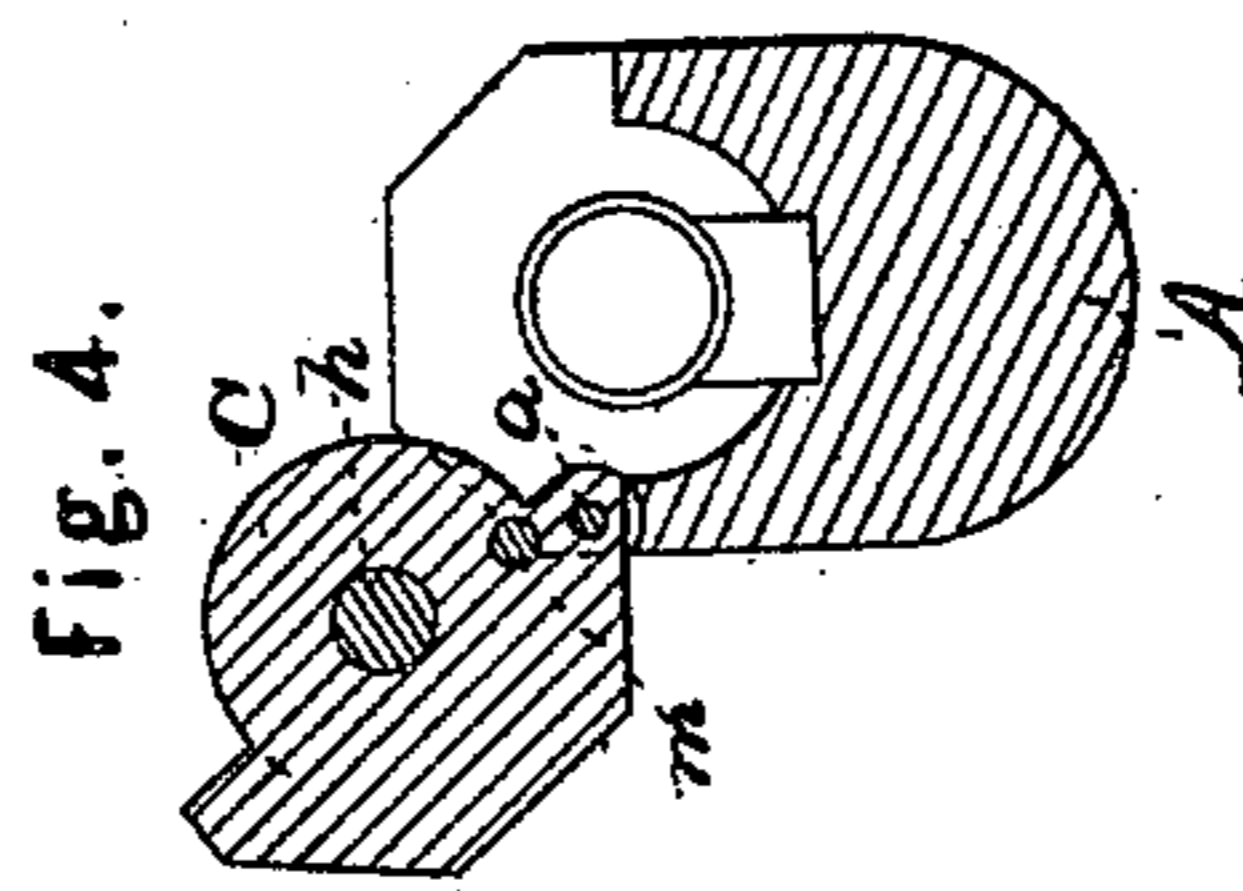


Fig. 4.

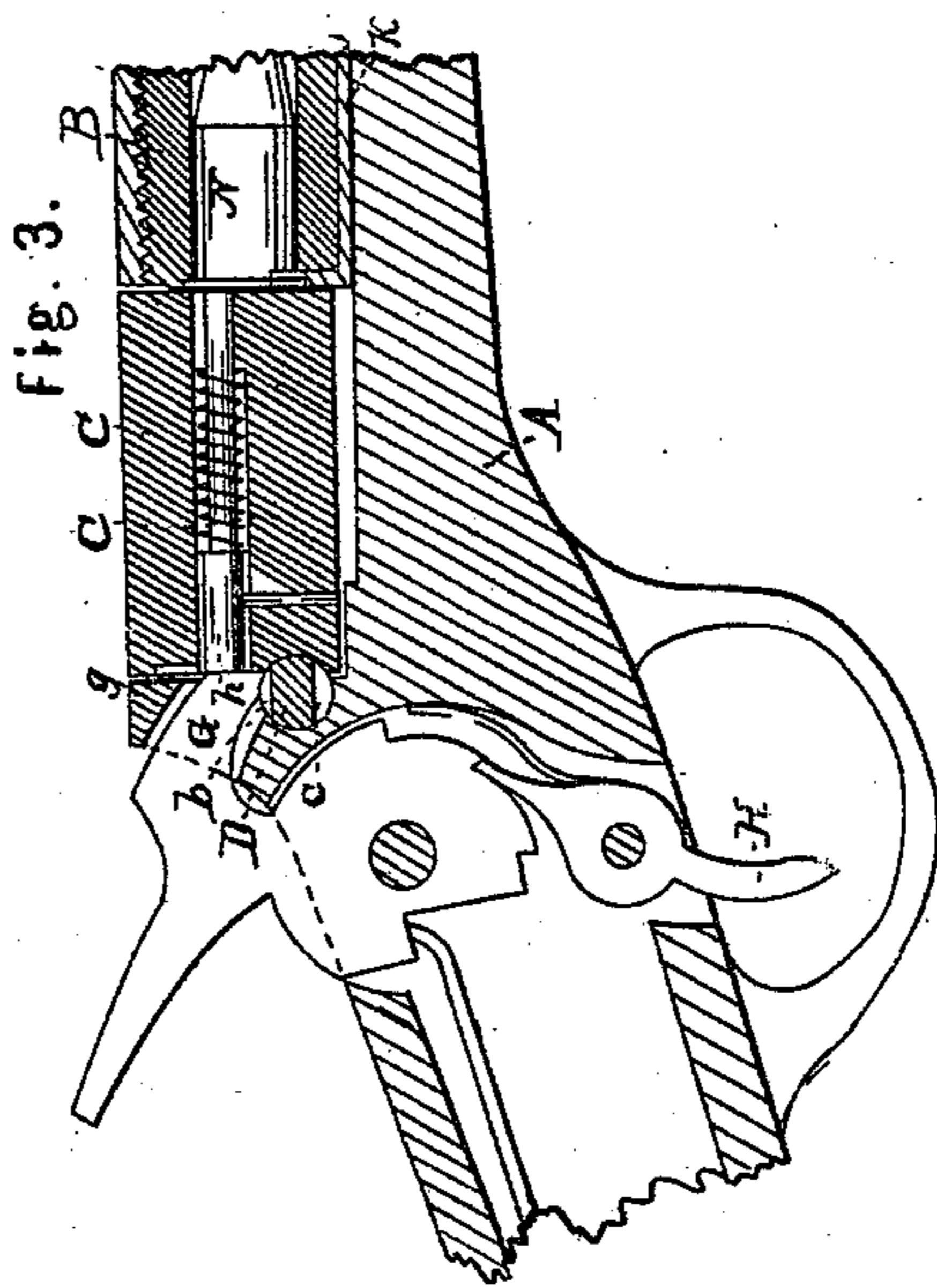


Fig. 3.

Witnesses.

J. Henry Smith
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Inventor.

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UNITED STATES PATENT OFFICE.

JOHN GOULDING, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 42,573, dated May 3, 1864.

To all whom it may concern:

Be it known that I, JOHN GOULDING, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of my breech-loading gun, the stock being detached therefrom and the barrel represented as broken off. Fig. 2 represents a longitudinal vertical section through the same when the breech-piece is opened. Fig. 3 represents a longitudinal vertical section, the breech-piece being represented closed. Fig. 4 represents a vertical cross-section through line *xx* of Fig. 2. Fig. 5 represents a detached view, hereinafter to be referred to.

My invention relates to the arrangement of a cam and lever, with a hinged breech-piece, by which the latter, when closed, is locked and forced up against the charge, and when the cam is turned to release the breech-piece it serves as a stop to half-cock the hammer, and thus prevents all danger of premature discharge of the piece.

It also relates to the arrangement of a friction-spring rod within the breech-piece, which serves as a brake to prevent it from closing when the gun is turned on one side to discharge the empty cartridge.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the metal frame of the gun, which is secured to the stock, and which contains the lock and the working parts. The barrel B is secured to it in the ordinary manner, and the breech-piece C is pivoted to it by means of pin *a*, and can freely turn on said pin when it is to be opened or to be closed.

D represents a cylindrical cam. It is set transversely in the breech just to the rear of the breech-piece, and can be turned on its axis by means of the lever E at the side of the gun. The end of said lever can be sprung into either of the notches 2 of the arc F, to secure the cam into the positions for opening or securing the breech-piece. The shape of the cam is shown in a detached view in Fig. 5.

It has a notch, *b*, cut on one side, while the opposite side, *c*, is cut down flat, for the purpose hereinafter to be described.

G represents the hammer, and H the trigger. They are of the ordinary construction, and require no further description.

The cartridge to be used with this gun is a metal cartridge, which is inserted at the breech of the barrel; and it is necessary for its perfect operation that the breech, when closed, should be locked and forced up against the charge. This is effected by means of the cam D.

Figs. 2 and 4 represent the breech as open. In this position the lever E is locked, its end being sprung in the notch on arc F, as represented in Fig. 1. The flat side *c* of the cam D is flush with the rear inner face, *g*, of the breech, and the breech-piece C can be opened or closed; but in this position the cam D has raised the hammer G, so as to half-cock or lock it, and thus there is no danger of premature discharge of the piece. The rear face of the breech-piece C has a notch at its lower end, and when the breech-piece is turned down, as represented in Fig. 3, said notch comes opposite the cam D, and by turning the end of lever E into the rear notch, 2, on the arc F, the cam D is turned to the position represented in Fig. 3, thereby securely locking the breech-piece C and also firmly pressing it against the cartridge N. This movement of the cam D brings its notch *b* on the upper side, and as this notch is in line with the hammer G, it leaves room for said hammer to fall down sufficiently to strike the spring-rod *h* in the breech-piece C, which explodes the cartridge when the piece is fired.

m represents a spring-rod within the breech-piece. Its rear end bears against the rear face, *g*, of the breech, while the inner end rests against the spring *o*, and it serves as a friction-pin to keep the breech-piece open, as represented in Fig. 4, when the gun is to be turned to one side to discharge the empty cartridge.

K represents a spring-slide, which is set within the frame A, in a groove at the lower side of the barrel. Its rear end is bent at right angles and rests within a suitable cavity in the breech end of the barrel and within the flange which receives the rim of the metal cartridge N. The slide K is held in its posi-

tion by the spiral spring L, which is secured to the knob M and to the pin *p* of the barrel. When the charge is fired, the empty cartridge is discharged from the breech end of the barrel, and is forced into the open breech by pulling the knob M to the rear.

Having thus fully described the nature of my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

1. The combination of the cam D and lever E with the hinged breech-piece C, when constructed and operated substantially in the manner and for the purposes described.

2. In combination with the hinged breech-piece C, the friction-pin *m*, for the purpose of preventing the hinged breech-piece from closing when the gun is turned on one side to discharge the empty cartridge, substantially in the manner herein described.

JOHN GOULDING.

Witnesses:

THOMAS H. DODGE,
J. HENRY HILL.