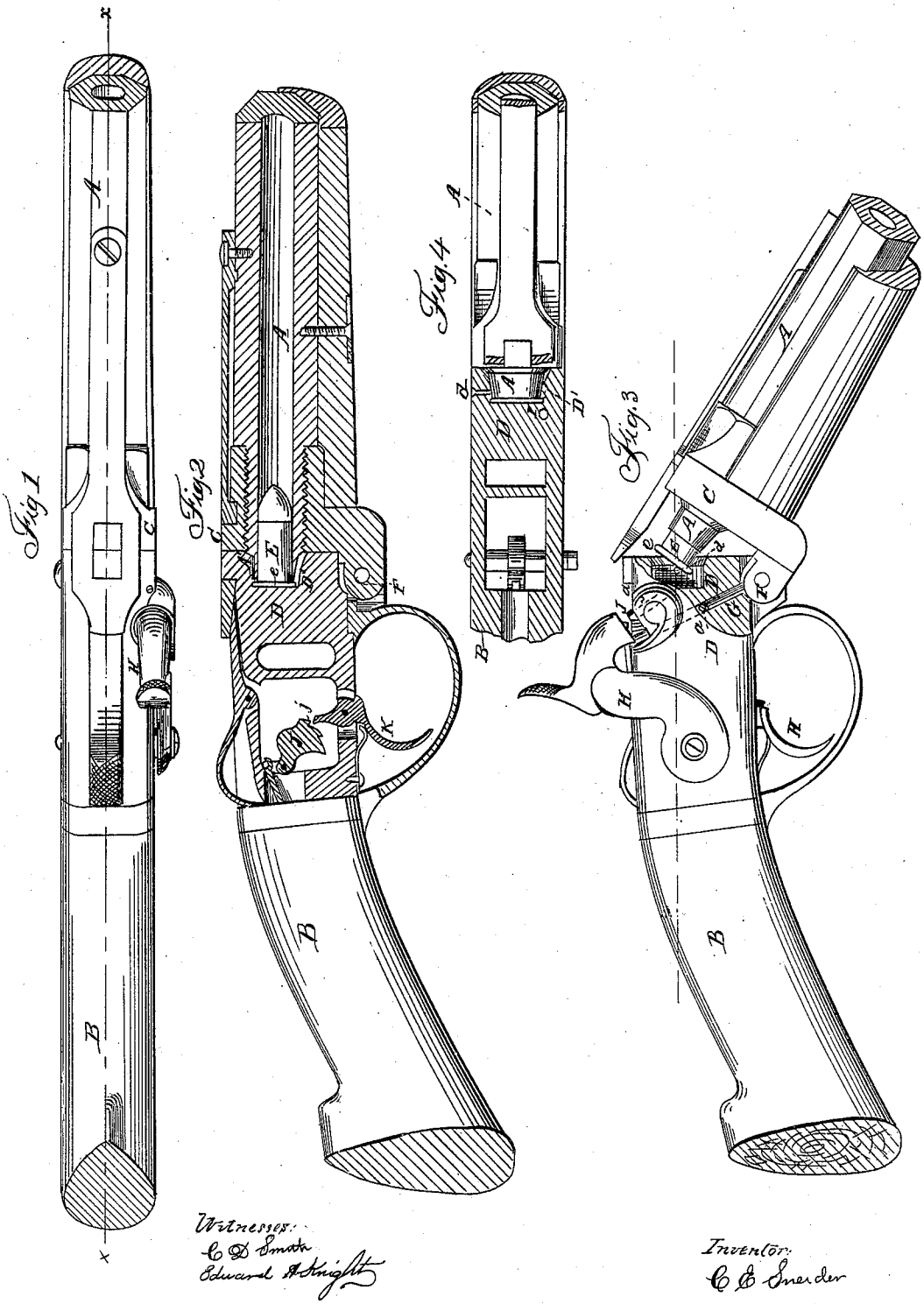
C. E. SNEIDER.

Breech-Loading Fire-Arm.

No. 47,755. Patented May 16, 1865.



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IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **47,755**, dated May 16, 1865.

To all whom it may concern:

Be it known that I, CHARLES EDWARD SNEIDER, of the city and county of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of a gun embodying my improvements. Fig. 2 is a vertical longitudinal section thereof in the line *x x*, Fig. 1. Fig. 3 is a side elevation of the same. Fig. 4 is a horizontal section of the same in the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

The chief object of the invention is to adapt the breech-loading gun known as "Smith's Carbine" to be used with the primed metallic flange-cartridge instead of with the cartridge and percussion-cap now used in the same. To this end I construct the barrel with a projection on its rear end, forming a chamber in continuation of the bore to receive the cartridge, and being of such external shape as that the flange of the cartridge will project so as to admit of being taken hold of firmly by the fingers, and thus facilitate the withdrawal of the exploded shell.

The invention further consists in a novel and improved device for retracting the hammer to afford room for the flange of the cartridge and prevent premature explosion in closing the barrel.

The following description will enable others skilled in the art to which my invention appertains to fully understand and use the same.

In the accompanying drawings, A represents the barrel; B, the stock; C, a frame on the breech end of the barrel, and D the breech. The front frame, C, turns or moves with the barrel, and when the latter is closed rests against and forms a joint with the breech D.

The rear end of the barrel A, instead of terminating at the point where the frame C and breech D come together, is extended or prolonged, as shown at A′, and this part, projecting backward from the frame C, occupies a chamber, D′, in the forward part of the breech D when the barrel is in its closed position. In loading, the cartridge E is passed into the projecting chamber A′ and pushed forward till its flange *e* comes against the rear end of the said projection A′. This latter is flattened or tapered at each side in such a way that when the cartridge E is inserted its flange *e* will project at each side, so that in being withdrawn it can be taken hold of in the most natural and effectual manner—that is to say, the flange in being grasped will be between the tip and first joint of the finger and thumb. By this arrangement it is manifest that the most effective power of the fingers is gained, and it enables the cartridge-shell to be withdrawn without the employment of either of the many contrivances which have hitherto been made use of, such appliances being more or less delicate in construction and liable to get out of order and derange the gun, or perhaps render it entirely useless. The walls of the chamber D′ afford a firm bearing for the projecting part A′ of the barrel A and sustain the force consequent upon the explosion, thus preventing the bursting of or injury to the said projecting part, which from its thinness might otherwise be incapable of withstanding the explosive force of the charge.

While in most cases the described construction of the projection A′ will permit the cartridge-shell to be readily withdrawn by the fingers, I propose to use means for starting or loosening the cartridge-shell after the explosion, for the reason that the shell is at times caused to tightly stick or adhere within the bore by the force of the explosion. These means consist simply in the employment of a pin or screw, *d*, projecting a suitable distance into the chamber D′, and in making the cartridge somewhat smaller than the interior of the projecting part A′, so that in the act of closing the barrel the cartridge will have sufficient lateral play to allow its flange *e* to freely pass to the rear of the pin *d*. After the flange *e* has thus passed to the rear of the pin *d*, the slight movement of the cartridge in assuming its normal position will place the flange *e* beyond or directly behind the pin, and hence, if the cartridge-shell is caused by the explosion to stick to the bore, the opening movement of the barrel will force the flange *e* against the pin *d*, and thus start or loosen the cartridge-shell to such an extent as to insure its ready withdrawal. The explosion forces the base of the cartridge against the rear of the chamber

D′, expanding the flange *e*, and the latter would in this way be made to extend behind or beyond the pin *d*, whether the other means should prove successful or not. It is my intention, if found desirable, to substitute for the pin *d* a spring or any other adequate appliance.

Persons familiar with breech-loading fire-arms used with metallic cartridges will appreciate the value of my method of making the fingers available in extracting the cartridge-shell, and cannot but see the impossibility of doing so with an equal degree of convenience and success where the cartridge is used in fire-arms constructed as hitherto—that is, where the barrel presents a continuous bearing for the flange of the cartridge—it being necessary in such cases to make use of the extremites of the fingers or the finger-nails themselves.

F is a cam-lug forming part of the hinge upon which the barrel turns, and being of such form as to impart an upward movement to a pin, G, during the opening movement of the barrel. The pin G is so located within the breech D as to act upon the striking-face of the hammer H directly behind the point which strikes the exploding-pin I, the latter being adapted to slide freely in an aperture which allows the pin I to strike the base of the cartridge E at the rear end of the chamber D. Hence, when the barrel A is being turned to its open position, the pin G, being forced upward by the cam-lug F, throws back the hammer so far as will cause the trigger K to engage with a safety-notch, *j*, in the sear J, at which time the hammer is held with its striking-face retracted to such position that the pin I is free to be slid back by the pressure of the cartridge in the act of closing the gun without striking or coming in contact with the hammer. Thus all danger of premature discharge is prevented.

a a may represent small screws passing respectively through slots in the pins G I, and employed to prevent them from sliding out of the apertures in which they work.

Although the cartridge E is made somewhat smaller than the chamber, the ductility of the material of which it is composed will allow it to be expanded by the action of the gases, and thus prevent the escape of the latter.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. The backward projection A′ of the charge-chamber, constructed, as described, to permit the ready removal of the cartridge-shell with the thumb and finger, in combination with the chamber D′, inclosing the said projection A′ while in position for firing.

2. In combination with the above, the pin or screw *d*, employed to start the shell of the exploded cartridge during the opening movement of the gun, substantially as described.

3. The pin G, in combination with the cam-lug F, the two operating in the act of turning the barrel to throw the hammer to the point at which the safety-notch engages with the trigger to retain the hammer in a retracted position, and thus allow the exploding-pin I to move freely to the pressure of the base of the cartridge during the closing movement of the barrel, substantially as set forth.

The above description of my improvement in breech-loading fire-arms signed this 11th day of January, 1865.

C. EDW. SNEIDER.

Witnesses:

OCTAVIUS KNIGHT,

ALEXR. A. C. KLAUCKE.