A. A. CHASSEPOT.

Breech Loading Fire Arm.

No. 97,167. Patented Nov. 23, 1869.

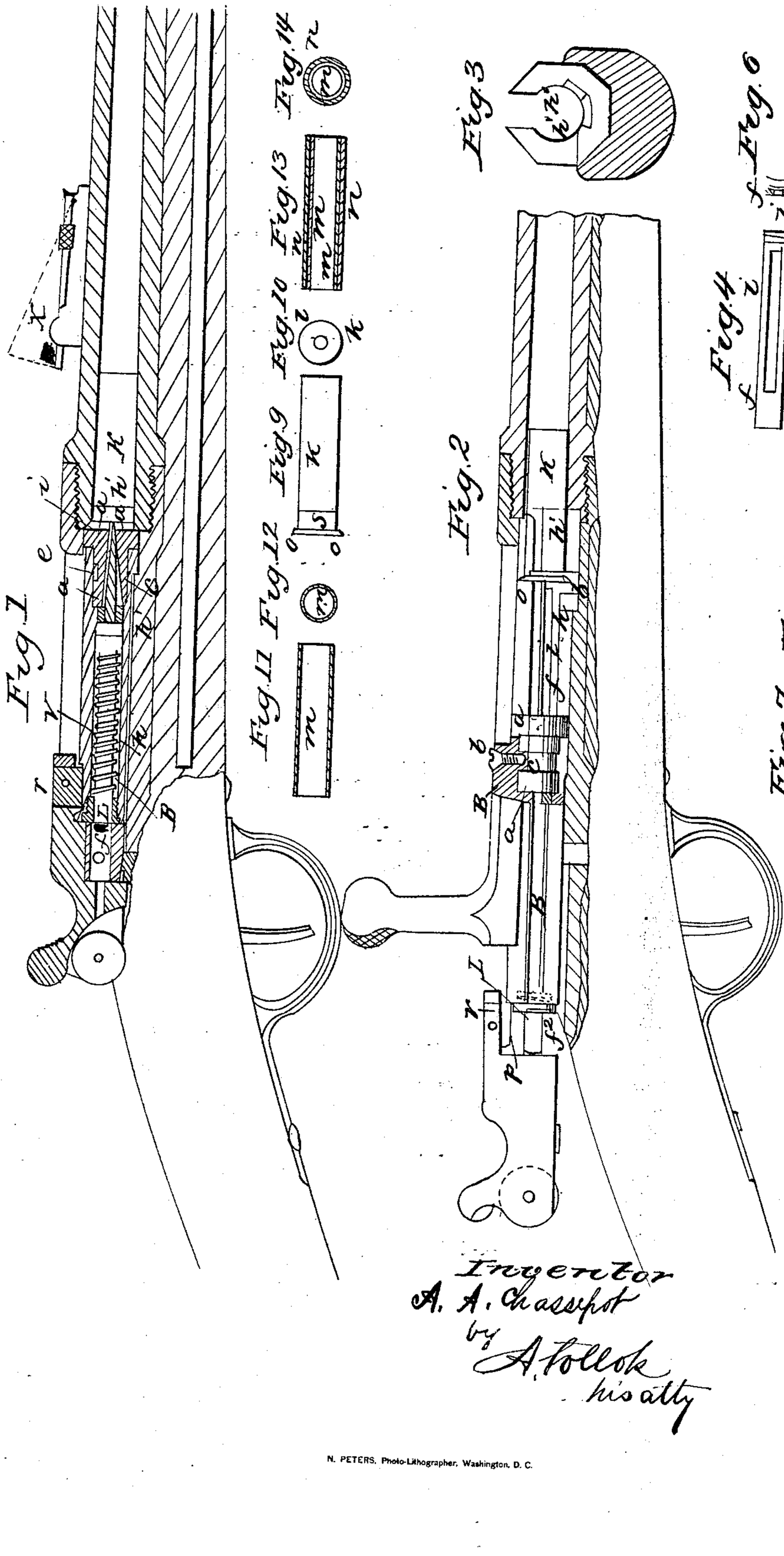

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

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Letters Patent No. 97,167, *dated November* 23, 1869.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, A. A. CHASSEPOT, of Paris, in the Empire of France, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, and Cartridges for the same; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings.

The improvements which are the subject of this patent, relate to the needle-gun, for which Letters Patent of the United States, No. 60,832, were granted me on the 1st day of January, 1867, the principal object I now have in view being to use, in connection with that fire-arm, flanged metallic cartridges, together with an automatic retractor, for withdrawing the cartridge-shells or cases from the barrel.

These improvements consist—

First, a of movable automatic cartridge-retractor, actuated by the plug or piston, by which the rear of the cartridge-chamber is closed.

Second, of a piston for closing the rear of the charge-chamber, made entirely of metal, with a needle shortened, so as to ignite the cartridge by percussion only.

Third, of a metallic central-fire cartridge, which has preferably a compound case or shell, of paper and metal, received and held in a charge-chamber, of a form suitable for the purpose.

To enable those skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal section of my needle-gun, provided with the movable cartridge-retractor.

Figure 2 is a like section, representing the position of the retractor when drawing out the cartridge from the gun.

Figure 3 is a transverse section of the gun, showing the groove in which the cartridge slides.

Figures 4, 5, and 6, represent a front view, side view, and end view of the movable cartridge-retractor detached from the arm.

Figures 7 and 8 represent a front view, and a side elevation of the piston bv which the retractor is operated.

In order to successfully combine a cartridge-retractor with the fire-arm described in the above-mentioned Letters Patent, I have modified, in some particulars, the construction of the latter.

The movable sliding head is discarded, and the rubber piston or gas check is replaced by the metallic piston, represented in figs. 7 and 8, through which is cut a longitudinal channel, of trunco-conical shape, upon the axis of the piston. Through this channel the shortened needle T or percussion pin, as it may be called, passes, when driven forward by its spring.

The piston *a* is partly received and enclosed in a chamber, made for that purpose, in the end of the bolt B, fig. 2, and is there held by means of the screw *b*, whose end fits in an annular groove, *c*, formed in the exterior of the piston.

A square-shaped projecting finger or stud, *d*, is attached to, or formed upon the head of the piston. This stud engages with the cartridge-extractor and constitutes the means whereby the latter is operated.

The cartridge-retractor *f* consists of a metal plate or strip, provided at one end with an offset or shoulder, *g*, which is curved, to conform to the interior circumference of the barrel.

This shoulder *g* has formed in it a groove or recess, in which is received the flange of the base of the cartridge K, which is represented in red ink, in two positions, in figs. 1 and 2.

A longitudinal slot or groove, *i*, is formed in the retractor, in which is received the stud or finger *d* of the piston *a*.

The retractor slides in a recess, *h*, in the bottom of the breech of the gun.

The employment of metallic flanged cartridges has also led me to modify the shape of the charge-chamber, and to dispense with the combustion-chamber, mentioned in the patent above referred to.

The rear of the charge-chamber is provided with a circular groove, *o'*, for holding the flange *o* of the cartridge *k*.

A recess, *h'*, is formed in the breech and barrel, for the reception of the shoulder *g* of the retractor, which shoulder forms a continuation of the circular grooves *o'*, and completes the annular formation at the entrance to the chamber.

The gun is loaded in the same manner as described in my former patent, with this exception, that in drawing out the breech-bolt, when the stud *d* of the piston *a* (which moves with the breech-bolt) arrives at the end of the slot *i* in the cartridge-retractor, it draws back the latter, which, in its turn, retracts the cartridge or cartridge-shell from the barrel. By then tipping the gun a little to one side the cartridge-shell will drop of itself from the gun. When another cartridge is to be introduced into the charge-chamber it is placed in the breech-receiver, in front of the breech-bolt, in such position that its flange shall fit in the groove of the shoulder *g* of the retractor, and when the breech-bolt is pushed forward, so as to force the cartridge into the barrel, the retractor will consequently be also drawn forward into its place.

The method above described, of uniting the breech-bolt and piston, admits of the independent rotary movement of the former, which is necessary, in order

to open and close the breech, without causing a like movement of the piston, and there is thus no lateral strain brought upon the cartridge-extractor, which has only a longitudinal sliding movement.

My new metallic cartridge *k*, with its central priming *l*, is represented more clearly in figs. 9 and 10.

While any suitable central-fire metallic cartridge may be employed, I prefer, however, to use a compound case or shell, of paper and metal, which is made in the following manner:

I first form a pasteboard tube, *m*, figs. 1 and 2, of suitable material, but thinner than that employed in the manufacture of ordinary pasteboard cases, and then envelop this tube with a band of sheet-copper, *n*, closing the joint by suitable solder. The double tube is then drawn down and treated in the manner usual in the manufacture of metallic cartridge-cases, and I finally obtain a compound paper and metal shell of the calibre desired, strong, and having the paper and metal inseparably united.

This shell is then united with the flanged metallic cap or base *s*, fig. 9.

Cartridges made in this manner are not liable to be affected by moisture, as are those made entirely of paper, nor are they subject to oxidation, as is the case with those made entirely of metal; and at the same time they possess decided advantages over those whose paper shells or cases are covered with a thin metallic leaf or foil, simply rolled on.

In perfecting the construction of my fire-arm, I have replaced the screw, formerly inserted in the hammer, by a piece, *p*, figs. 1 and 2, held in place by a pin, *r*. This piece serves as a tenon to slide in the groove formed in the breech-bolt B.

I dispense also with the rib on the needle-carrier, fig. 2, as well as the mortise cut for its reception in the screw-plug L. All this is replaced by the screw-plug L, made as represented in figs. 1 and 2.

The position of the hinge of the hausse-sight X is also reversed, the front end instead of the rear end of the sight being hinged to the barrel, in order to facilitate the operation of adjusting it.

Having now described my invention, and the manner in which the same is or may be carried into effect,

What I claim as new, and desire to secure by Letters Patent, is as follows:

As an improvement on the fire-arm described and claimed in Letters Patent, No. 60,832, dated January 1, 1867, the combination with the sliding and rotating breech-bolt, which contains the percussion-pin T, of the metallic piston, constructed as described; that is to say, centrally perforated, for the passage of said percussion-pin, and provided with a stud to actuate the cartridge-retractor, and held in a chamber formed in the end of the said bolt, in the manner shown and set forth.

In testimony whereof, I have signed my name to this specification, before two subscribing witnesses.

A. A. CHASSEPOT.

Witnesses:

A. DONNET,

ST. GRINONI.