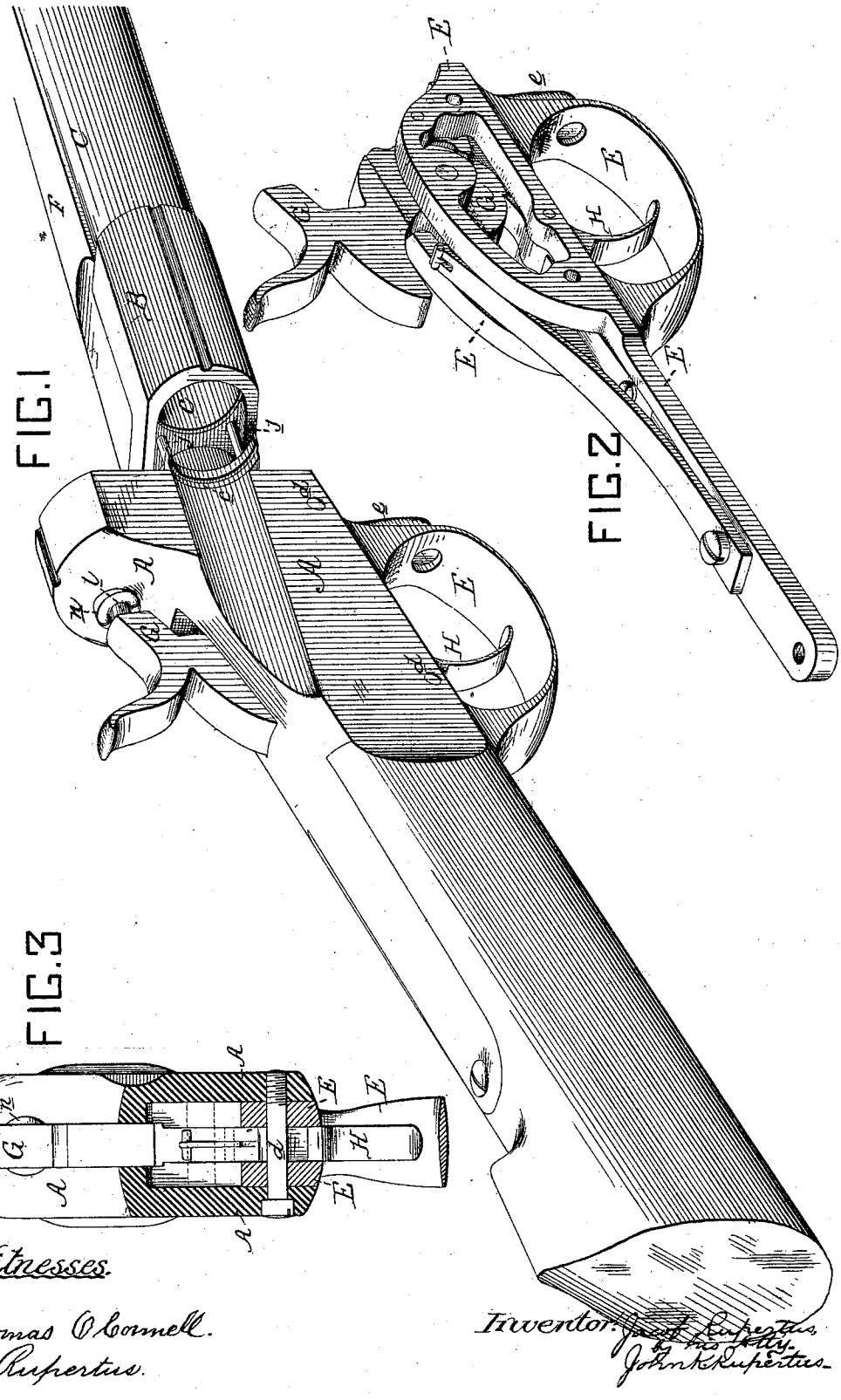
2 Sheets—Sheet 1.

J. RUPERTUS.

Breech-Loading Fire-Arm.

No. 209,925. **Patented Nov. 12, 1878.**



Witnesses.

Thomas O'Connell.
S. Rupertus.

Inventor. John Rupertus.
by his Atty.
John K. Rupertus.

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2 Sheets—Sheet 2.

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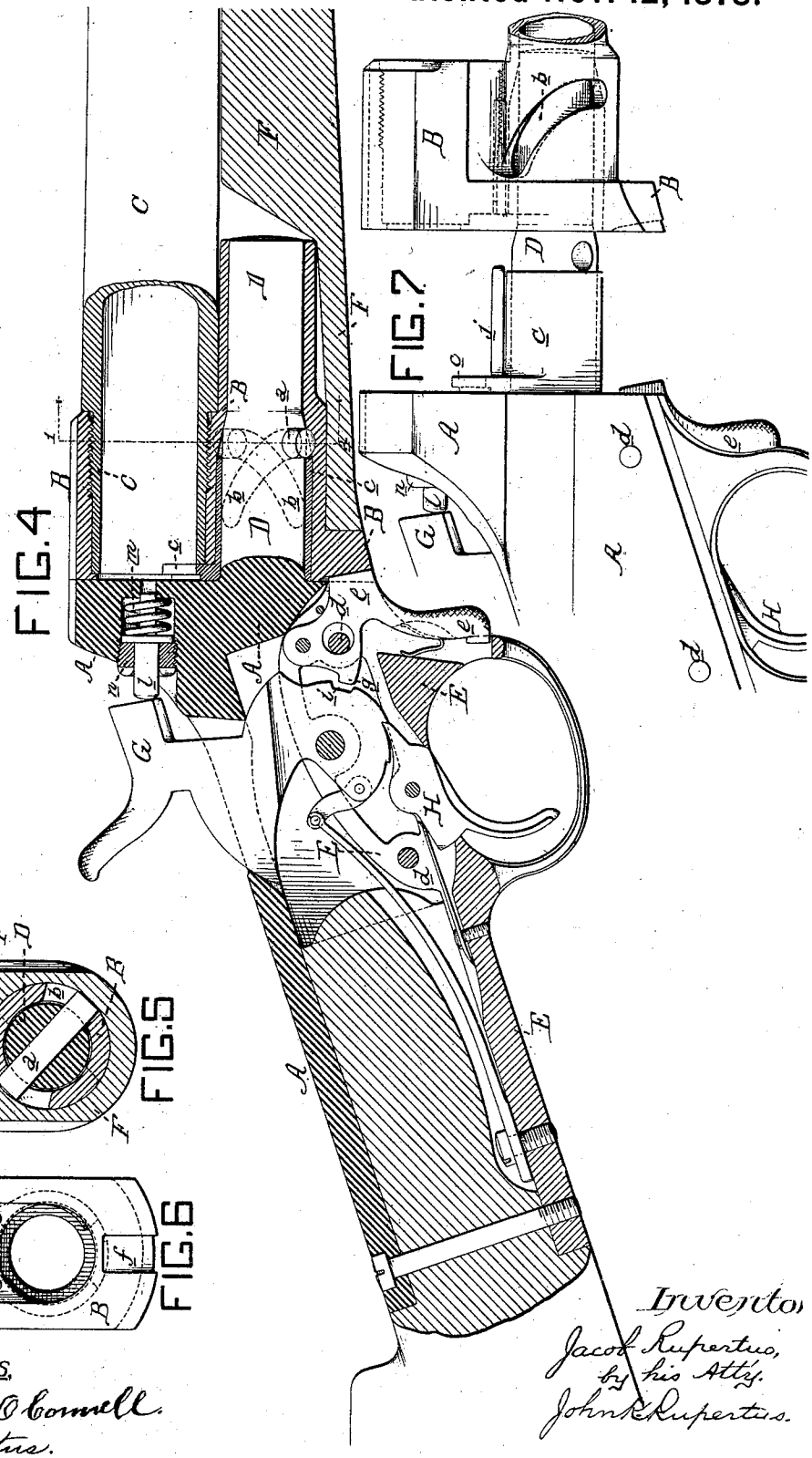


FIG. 4

FIG. 7

FIG. 5

FIG. 6

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UNITED STATES PATENT OFFICE.

JACOB RUPERTUS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **209,925**, dated November 12, 1878; application filed September 3, 1878.

To all whom it may concern:

Be it known that I, JACOB RUPERTUS, of the city and county of Philadelphia, State of Pennsylvania, have invented new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification:

The object of my invention is a simple and efficient breech-loading fire-arm. This object I attain in a manner too well described hereinafter to need preliminary description.

In the accompanying drawings, Figure 1, Sheet 1, is a perspective view of my improved breech-loading fire-arm with the breech opened. Fig. 2 is a perspective view of the lock mechanism detached. Fig. 3 is a transverse sectional view through the lock mechanism. Fig. 4 is a longitudinal sectional view. Fig. 5 is a transverse sectional view on the line 1 2, Fig. 4. Fig. 6 is a face view of the breech-piece. Fig. 7 is a side elevation with the breech-piece detached from the stock-piece.

A is the stock-piece, and B the breech-piece, of my improved breech-loading fire-arm. Extending from the stock-piece parallel with the barrel C is a pin or trunnion, D, upon which the breech-piece B turns. Through the trunnion D is driven a small pin, *a*, the ends of which are adapted to helical slots or ways *b* in the breech-piece. Contained within the breech-piece, adapted to and turning on the trunnion D, is the extractor *c*, part of the same forming the bore of the barrel, and being retained in position by pins *j j* sliding in the openings *k* in the breech-piece. (See Figs. 4, 6, and 7.)

Fitted into the stock-piece A is the trigger-guard piece E, which extends up into the stock-piece, and is secured within the same by screws or pins *d d* passing through both stock and guard pieces. The trigger-guard piece E is slotted for the reception of the entire lock mechanism. (See transverse sectional view, Fig. 3, and longitudinal sectional view, Fig. 4.) Hung to the guard-piece E is the bolt or catch *e*, entering a recess, *f*, in the breech-piece, for locking the breech-piece in a position for firing. (See Figs. 4 and 6.) The bolt, which extends down in front of the trigger-guard, has formed on it at a point adjacent to the hammer a projecting portion, *g*, adapted to enter into a recess of the hammer, for a purpose described hereinafter. (See longitudinal section, Fig. 4.)

The barrel C and breech-piece B are secured together in the following manner: Upon part of the reduced portion of the barrel which enters the breech-piece are screw-threads, which are adapted to corresponding screw-threads in the breech-piece, the remaining portion of the barrel which enters the breech-piece being cylindrical without threads, which cylindrical portion does not extend through to the face of the breech-piece, but terminates therein in such a manner that partly in the breech-piece and partly in the extractor *c* is formed the counterbored portion necessary for the reception of the flange of the cartridge. (See Figs. 4, 6, and 7.)

The fore end F is adapted to the recessed sides of the breech-piece E, Figs. 4, 5, 6, and 7, while the opposite end is secured to the barrel in any suitable manner. While the fore end protects the helical slots *b* and pin *a*, it can be readily detached to gain access to the same.

The cartridge is exploded by the hammer G through the medium of the firing-pin *l*, which firing-pin is acted on by a spring, *m*, and retained in position within the stock-piece A by a nut, *n*. The spring *m* is of sufficient strength to overcome the momentum of the hammer-spring and force the hammer back to the first or safety notch, in a position for the opening of the breech for the withdrawal of the exploded shell and the insertion of the new cartridge.

The nut *n* not only confines the firing-pin and its spring in position, but is capable of being adjusted to limit the extent of the rebounding motion of the firing-pin, and consequently the rearward motion of the hammer, which makes a too careful adjustment of the relative strength of the spring *m* and the hammer-spring unnecessary.

It will be evident that when the bolt *e* is withdrawn from the slot *f* in the breech-piece B and the breech-piece is turned on the trunnion D, owing to the action of the ends of the pin *a* in the helical slots *b*, the breech-piece will recede from the stock-piece A, and

that the extractor *c* will also be rotated, but will not move away from the stock-piece, being confined by the pin *a*. The cartridge being retained by the extractor while the breech-piece recedes, the same can be easily removed.

The fire-arm is loaded by inserting the shell into the breech while in the position shown in Fig. 1 and turning the breech in the opposite direction to that described above until the bolt *e* locks both breech and stock pieces together, when the arm is ready for use.

The hammer G, trigger H, and bolt *e*, together with their springs, being attached to the trigger-guard piece E, the entire lock mechanism can be readily taken out by removing the screws or pins *d d*. (See Figs. 1, 2, 3, and 4.)

Formed in the hammer G is a recess, *i*, in such a position on the same that when the trigger is in the safety-notch the projection *g* on the bolt *e* can enter the recess *i* and unlock the breech-piece. If the trigger is not in the safety-notch, and consequently the recess *i* not in position, the bolt *e* cannot be operated on to open the breech, thereby preventing any accidental discharge of the fire-arm while loading.

The advantages arising from securing the barrel to the breech-piece in the manner described and shown will be readily understood by those familiar with fire-arms.

By constructing the firing-pin in the manner described above, the necessity of operating the hammer before the breech can be opened is avoided. The gun can therefore be more rapidly reloaded and fired.

What I claim as my invention is—

1. The combination of the stock-piece A and its trunnion D, with the breech-piece B, provided with helical slots *b* and pin *a*.

2. The combination of the rotating and receding breech-piece B with the extractor *c* encircling the trunnion D, both the breech-piece and extractor turning upon the trunnion D, and the extractor secured thereon by the pin *a*, so as to be prevented from moving forward.

3. In a fire-arm in which the barrel rotates on a longitudinal axis to open and close the breech, the locking-catch *e*, adapted to engage in a notch in the rear end of the breech-piece, and provided with a rearward projection, *g*, in combination with the hammer, provided with notch *i*, by which the catch *e* is prevented from being operated to unlock the barrel till the hammer is brought to the proper position, all as shown and described.

4. The combination, substantially as described, of the hammer G and its spring, the firing-pin *l*, the spring *m*, and the nut *n*, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB RUPERTUS.

Witnesses:
S. RUPERTUS,
JOHN K. RUPERTUS.