

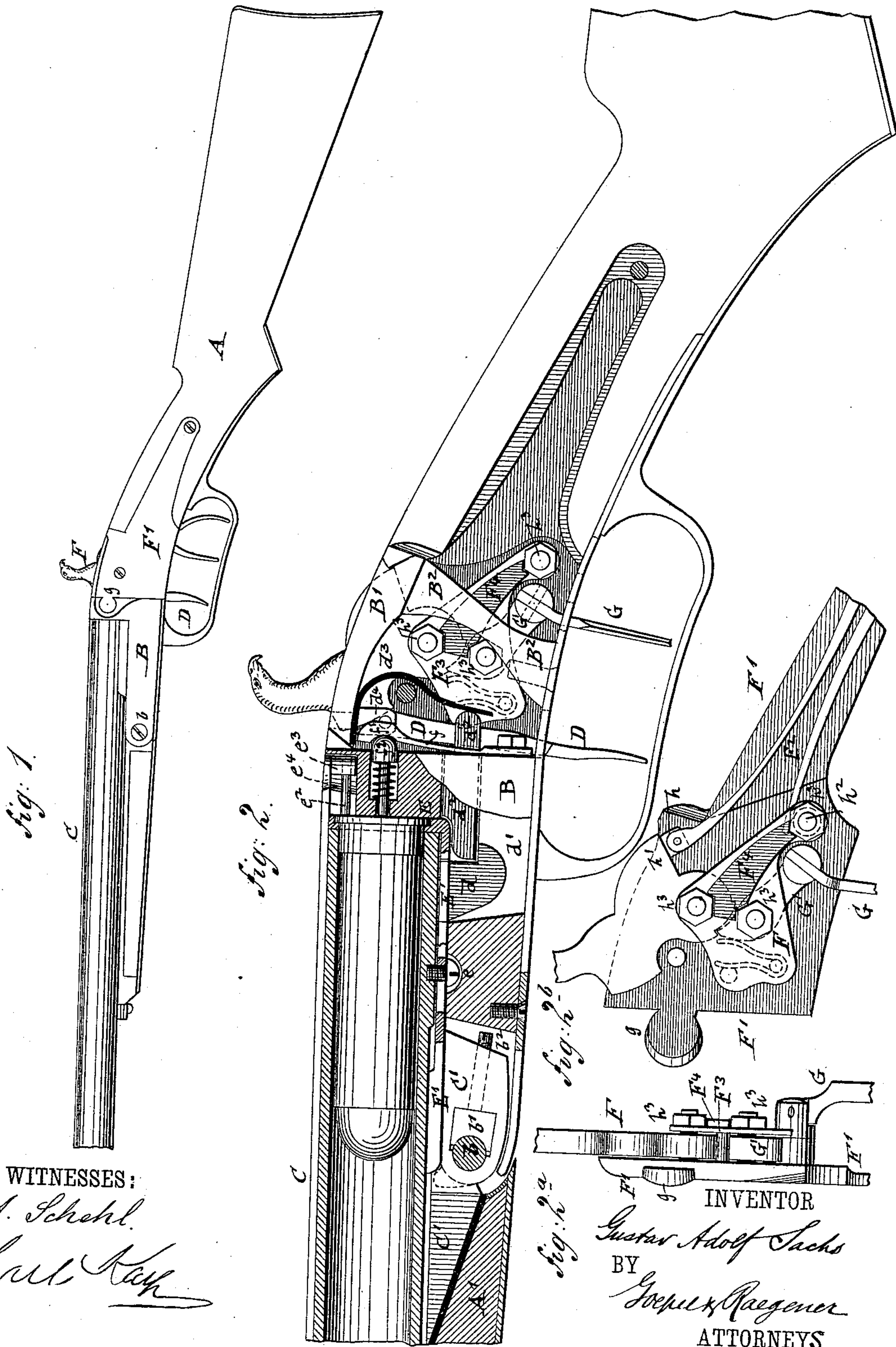
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3 Sheets—Sheet 1.

G. A. SACHS.
BREECH LOADING FIRE ARM.

No. 353,432.

Patented Nov. 30, 1886.



WITNESSES:

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INVENTOR

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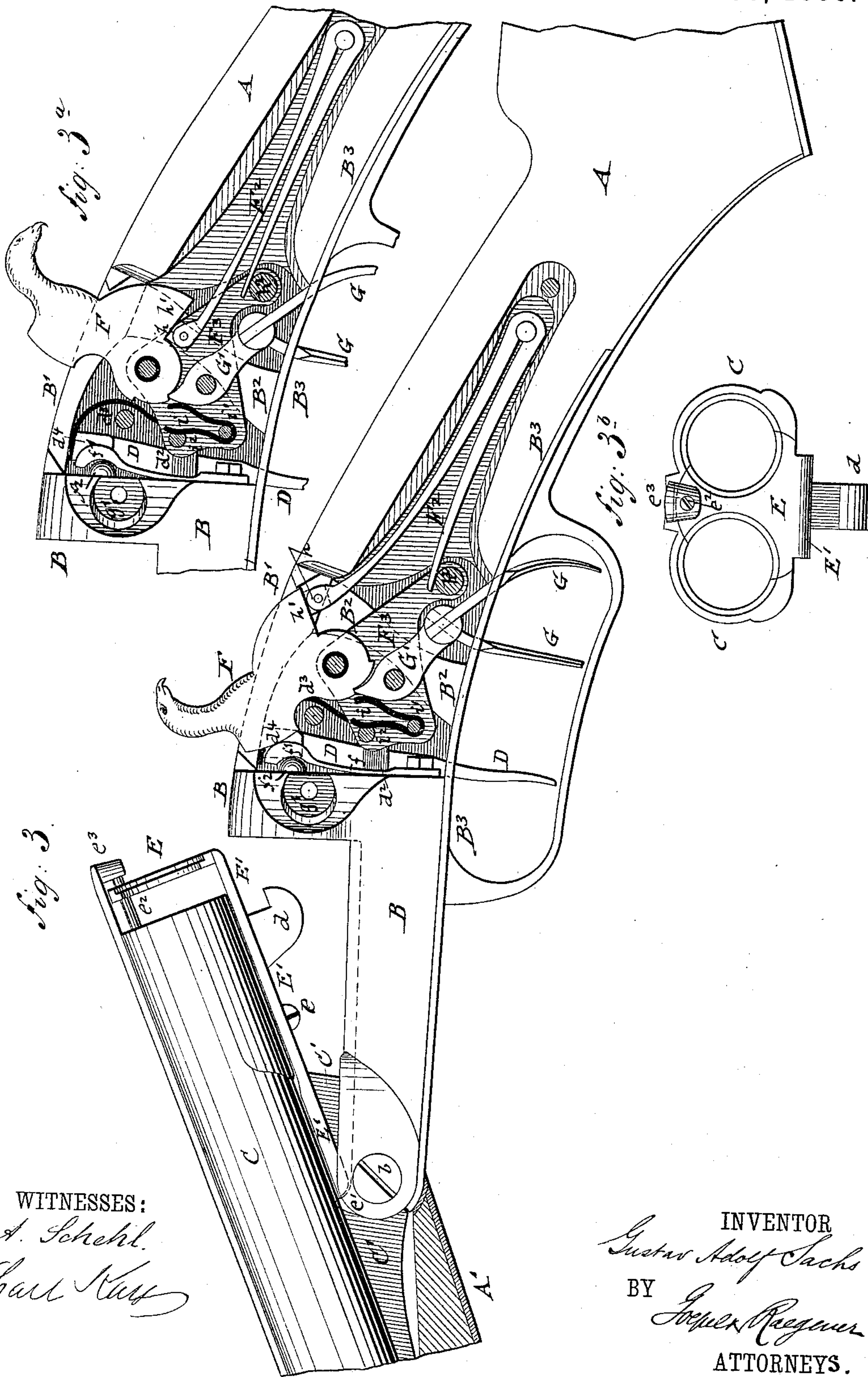
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(No Model.)

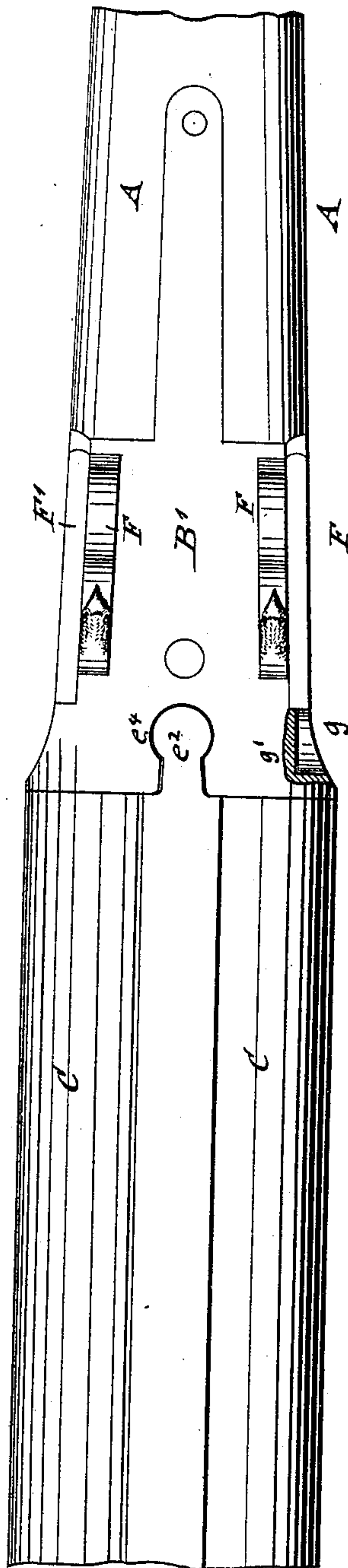
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Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAV ADOLF SACHS, OF VALLEY CITY, DAKOTA TERRITORY.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 353,432, dated November 30, 1886.

Application filed November 7, 1884. Renewed June 25, 1886. Serial No. 206,243. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV ADOLF SACHS, of Valley City, in the county of Barnes and Territory of Dakota, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification.

This invention has reference to certain improvements in breech-loading fire-arms, and more especially to improvements in breech-loading double-barrel shotguns of that class in which the barrels are fulcrumed to the breech-block and adapted to be thrown into inclined position for inserting new cartridges, after which they are returned to and locked to the breech-block; and the invention consists of improvements in the mechanism for locking the barrel or barrels to the breech-block, of an improved device for extracting the shells, and of an improved construction of the actuating mechanisms for the hammers and firing-pins.

In the accompanying drawings, Figure 1 represents a side elevation of my improved breech-loading fire-arm. Fig. 2 is a vertical longitudinal section of the same, drawn on a larger scale, showing the barrels locked to the breech-block. Figs. 2^a and 2^b are respectively a detail end view and inside view of the hammer-actuating mechanism; Fig. 3, a side elevation, partly in vertical longitudinal section, showing the barrel in inclined position, ready for inserting a new cartridge; Fig. 3^a, a vertical longitudinal section of the hammer-actuating mechanism, with the hammer in raised position; Fig. 3^b, a detail end view of the extractor. Fig. 4 is a top view of the fire-arm.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the stock, B the breech-block, and C C the barrels, of my improved double-barreled breech-loading fire-arm. The barrels are fulcrumed by a strong lug, C', intermediately between the barrels, to a recess at the front end of the breech-block B, the tight fitting of the lug C' to the fulcrum-pin *b* being secured by a soft-metal bearing, *b'*, that is adjusted by a set-screw, *b*², which passes longitudinally through the lug C', as shown clearly in Fig. 2.

The barrels C C are provided with a fixed hook, *d*, near their breech end, which hook

enters into a recess, *d'*, of the breech-block and is locked to the same by means of a slide-piece, *d*², which is guided in the rear part of the breech-block. The rear end of the locking slide-piece *d*² is pressed forward by a strong band-spring, *d*³, so as to keep up the reliable interlocking between the hook *d* and the slide-piece *d*². The rear end of the locking slide-piece *d*² is slotted and a lever, D, passed through the said slot, the lever being fulcrumed at its upper end to lugs *d*⁴ of the tail-piece B' of the breech-block B, and extended through the bottom plate, B³, of the hammer-actuating mechanisms to the outside, as shown in Fig. 2. The outer end of the lever D is located in front of the triggers, within the guard-piece of the same, as shown clearly in Figs. 1, 2, and 3.

By pulling back the lever D the locking slide-piece *d*² is released from the hook *d*, so that the barrels can be thrown on their fulcrum into inclined position, in which position the shells are removed and new cartridges inserted.

The extractor E, that serves for both barrels, is located at the breech end of the barrels, and provided with a slotted forward-extending shank, E', at right angles to the extractor E. These segmental edges of the extractor E are recessed for engaging the rims of the cartridge-shells, as shown in Fig. 3^b. The shank E' of the extractor E is guided by slots on the hook *d*, the stop-screw *e*, and the lug C, as shown clearly in Fig. 2. The front end of the extractor-shank E' is rounded off and engaged by upwardly-curved toes *e'* of the breech-block B, so that when the barrels C C are thrown into inclined position the pressure of the toes *e'* on the shank E' moves the extractor backward and withdraws the shells from the breech of the barrels. The lower edge of the extractor E is rounded off, so as to pass readily along the rear part of the breech-block, which latter pushes the extractor forward into its normal position, while the barrels are returned into locked position. The upper end of the extractor E is centrally perforated and guided along a fixed longitudinal pin, *e*², that extends from the solid portion intermediately between the barrels C C to a rearwardly-extending lug, *e*³, of the same, said guide-pin and lug fitting into a recess, *e*⁴, at the top part of the breech-block, as shown in Figs. 2 and 4. By

this arrangement the extractor E is steadily guided while moving in forward and backward position and the shells extracted far enough to be quickly removed on setting the barrels into inclined position.

The tail-piece B' of the breech-block B is connected by a strong center stay, B², to the bottom plate, B³, and firmly bolted to the latter. The center stay, B², separates the hammer-actuating mechanisms, which are located at each side of the same.

The hammers F are fulcrumed to the side plates, F', of the hammer-actuating mechanisms, each being actuated in the usual manner by a strong mainspring, F², when the trigger G is pulled. The trigger G releases the fulcrumed trigger-lever G' from the notches of the hammer-shank. The curved front part of the hammer F strikes against an enlarged cup-shaped portion, f', at the upper end of a safety guard spring, f. The cup-shaped upper portion, f', strikes against the head of a spring-cushioned firing-pin, f², and moves the same forward, so as to ignite the priming of the cartridge. The shank and head of the firing-pin f² are guided in a perforation of the breech-block in line with the axis of the barrel. As soon as the hammer is raised the firing-pin f² is thrown back by its spring, also the cup-shaped portion of the guard f', which is arranged for protecting the heads of the firing-pin f² against the blows of the hammer. The lower end of the spring-guard f is attached to the rear part of the breech-block, as shown in Figs. 2, 3, and 3^a.

The side plates, F', of the hammer-actuating mechanism are connected by transverse screw-bolts and rigidly secured to the recessed sides of the tail-piece B' of the breech-block, as shown in Fig. 4. A projecting lug, g, at the front of each side plate, F', enters into a recess, g', at each side of the breech-block, so as to form a steady and reliable connection therewith. To each side plate, F', is applied a hammer, a hammer-actuating mainspring, a trigger, and a trigger-lever, which are retained by an interior auxiliary plate, F³. On detaching the side plate, F', from the tail-piece of the breech-block and stock A the parts mentioned are detached therewith and can be conveniently inspected and repaired, as shown in Figs. 2^a and 2^b.

The hammer-actuating mainspring F² slides by its upper end, having a pivoted anti-friction block, h, along a projecting heel, h', at the rear part of the hammer F, as shown clearly in Figs. 3 and 3^a, while the lower end rests on a fixed transverse bolt, h², that connects the side plate, F', and inner auxiliary plate, F³. The inner ends of the bolt h² and of the fulcrums of the hammer F and trigger-lever G' are threaded for applying screw-nuts h³, which retain the auxiliary plate F³ in position. The screw-nuts h³ are securely held in position by a notched locking-plate, F⁴, as shown in Figs. 2 and 2^b, which abuts against the stay B² when the side plate, F', is in posi-

tion on the tail of the breech-block B. The locking-plate F⁴ prevents the unscrewing of the screw-nuts and the getting loose of the parts constituting the hammer-actuating mechanisms by the concussions to which they are exposed.

The trigger-lever G' is acted upon by a V-shaped band-spring, i, that is placed around a fixed transverse pin, i', extending from the plate F to the auxiliary plate F³, one end of the spring pressing against the trigger-lever, while the other end presses against a second cross-pin, i², as shown clearly in Figs. 3 and 3^a.

The triggers G are pivoted to sidewise-projecting lugs m of the trigger-levers, so as to facilitate their convenient passage through the recess of the bottom plate when the different parts of the hammer-actuating mechanism are put together.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a breech-block, B, having a recessed front end, with toes e' and a top recess, e⁴, fulcrumed barrels C C, having a longitudinal guide-pin, e², and lug e³ at the breech end, a sliding extractor, E, guided along the pin e², and a slotted shank, E', guided along the under side of the barrels, substantially as set forth.

2. The combination of a breech-block, B, having recessed tail-piece B', a central stay, B², bottom plate, B³, side plates, F', hammers F, extending through the recesses in said tail-piece, and mechanisms for actuating the hammers, supported on the side plates at both sides of the center stay, substantially as set forth.

3. In a breech-loading fire-arm, the combination of the hammer F, mainspring F², side plates, F', auxiliary plate F³, fulcrumed and spring-actuated trigger-lever G', and a trigger, G, pivoted to a laterally-projecting lug of the trigger-lever, substantially as set forth.

4. In a breech-loading fire-arm, the combination of the hammer F, side plate, F', mainspring F², auxiliary plate F³, fulcrumed and spring-actuated trigger-lever G', trigger G, pivoted to said lever, transverse screw-bolts having nuts h³, and nut-locking plate F⁴, substantially as set forth.

5. The combination of the hammer F, the spring-cushioned firing-pin f², having an enlarged head, and the spring-guard f, having a cup-shaped head, f', normally resting upon said enlarged head, said guard being adapted to receive the percussion of the hammer and impart it to the firing-pin, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GUSTAV ADOLF SACHS.

Witnesses:

J. W. SCOTT,
H. W. BISHOP.