(No Model.)

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P. BOCH.

MAGAZINE GUN.

No. 272,636.

Patented Feb. 20, 1883.

Fig: 1.

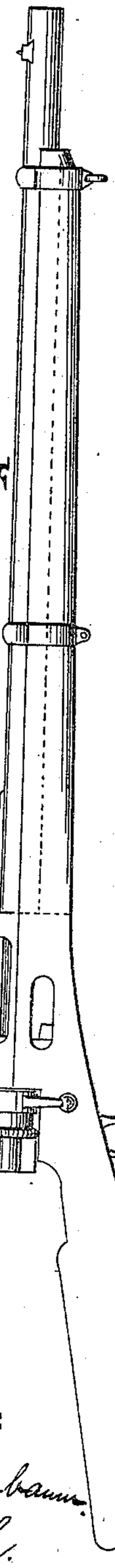
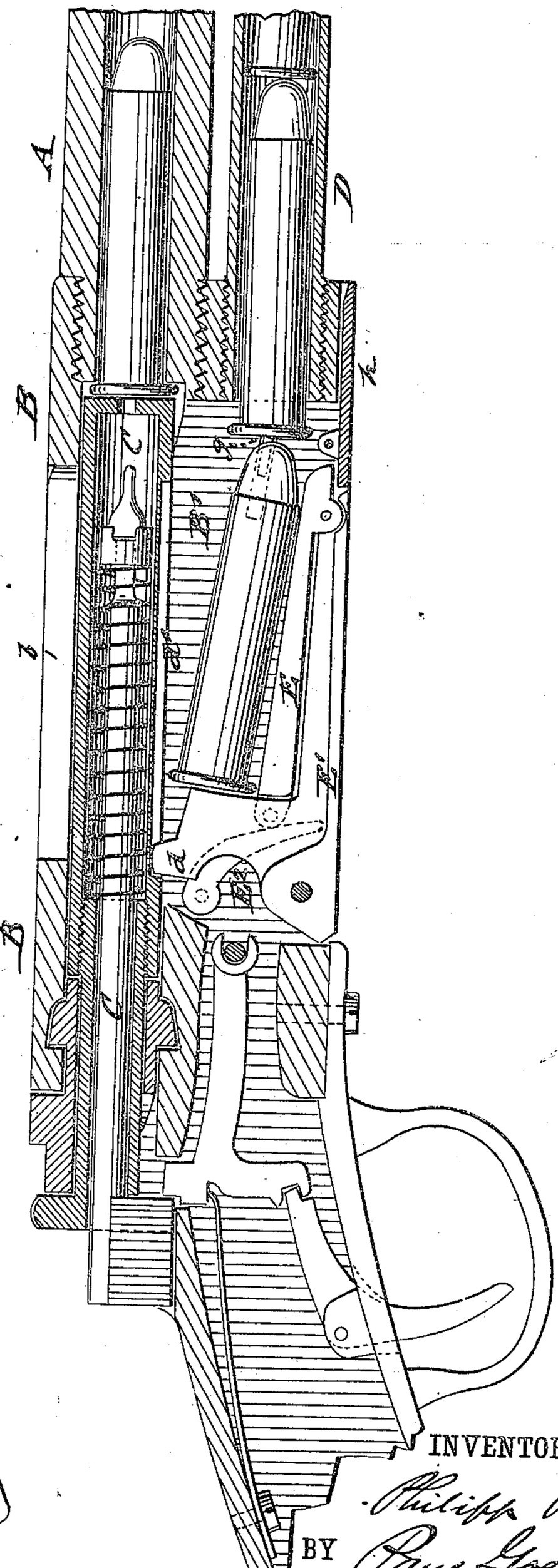


Fig: 2.



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(No Model.)

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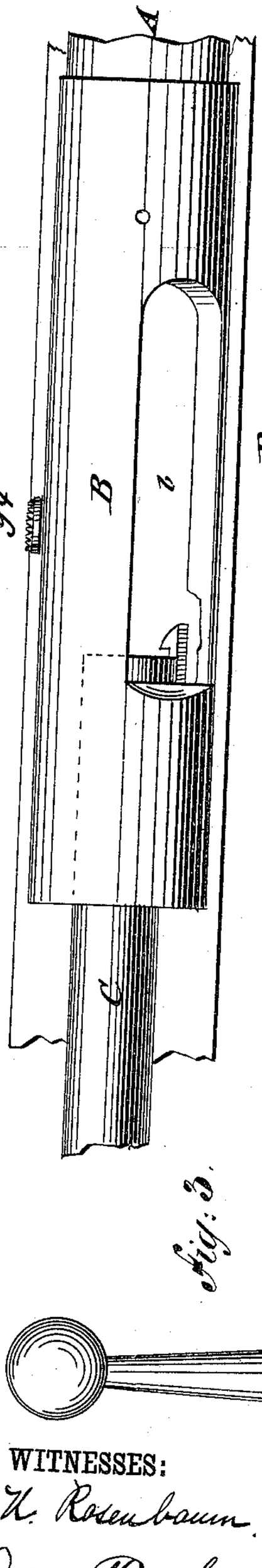

Fig. 4.

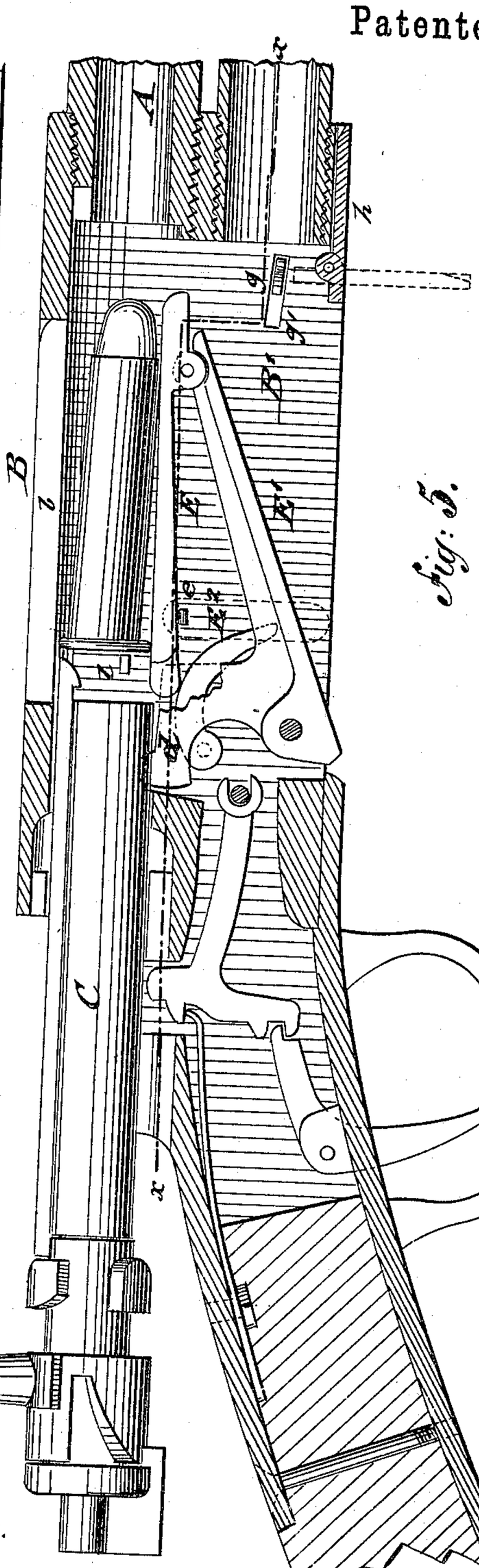

Fig. 3.

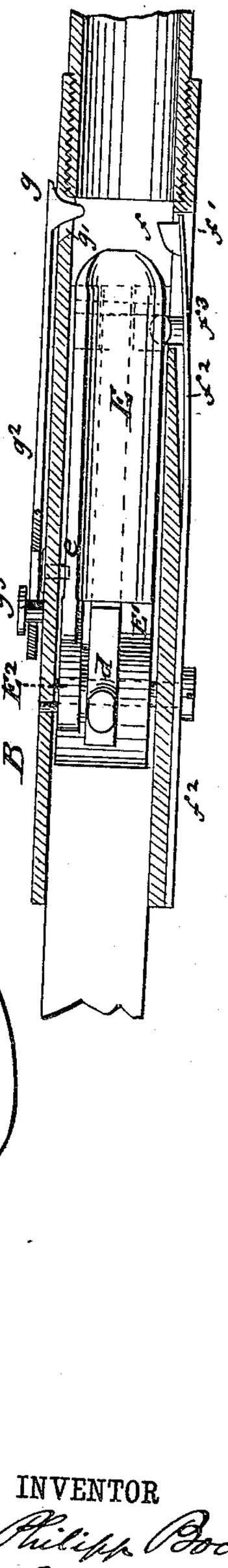

Fig. 5.

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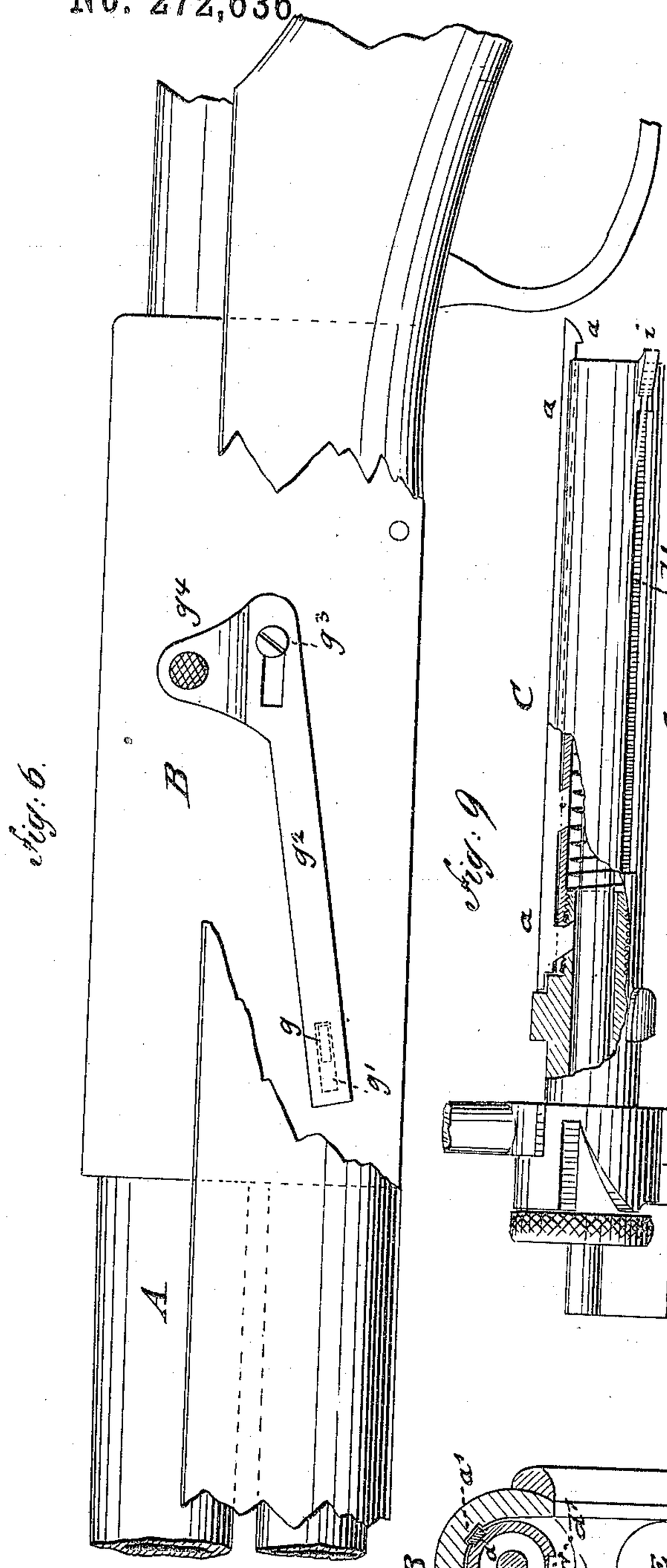

Fig. 6.

Fig. 9

Fig. 8

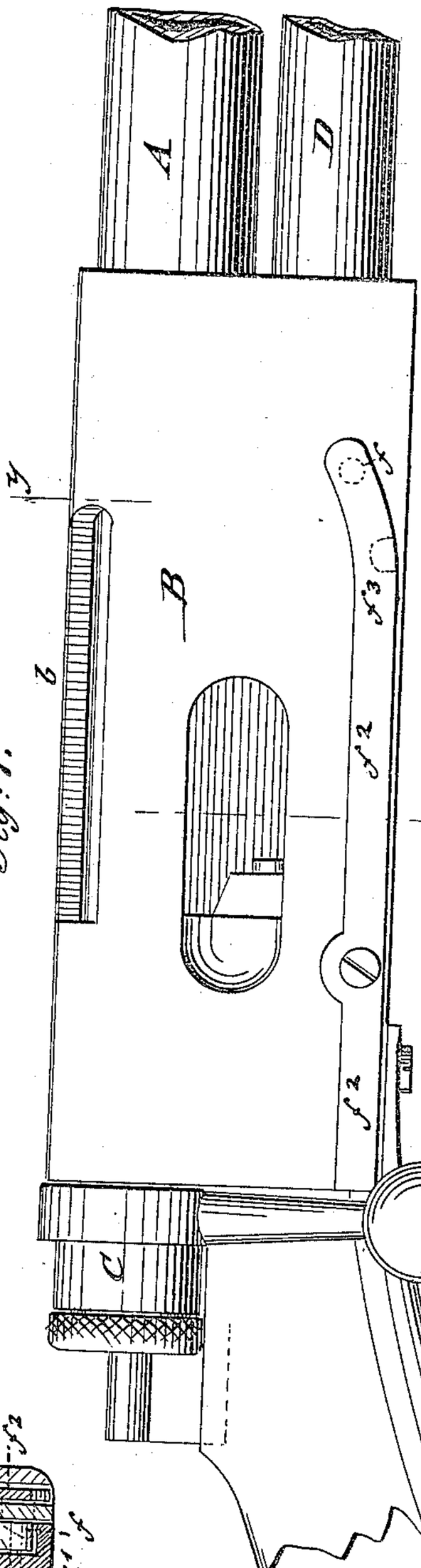

Fig. 7.

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UNITED STATES PATENT OFFICE.

PHILIPP BOCH, OF NEW YORK, N. Y.

MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 272,636, dated February 20, 1883.

Application filed March 30, 1882. (No model.)

To all whom it may concern:

Be it known that I, PHILIPP BOCH, of the city, county, and State of New York, have invented certain new and useful Improvements in Magazine Fire-Arms, of which the following is a specification.

This invention has reference to improvements in the magazine fire-arm shown in my application filed September 3, 1881, the improvements being designed with a view to arrange the magazine in the usual manner in a supplementary barrel below the main barrel of the fire-arm, and use the arm either for single firing or magazine-firing, as desired, the cartridges being readily inserted either to the barrel or the magazine through a side opening of the carrier-well below the shoe or receiver of the main barrel.

The invention consists of a breech-loading fire-arm in which the cartridge is pushed forward into the breech of the barrel and fired by means of a breech-bolt, the construction of which is fully set forth in the application heretofore filed and referred to. The cartridges are arranged in a supplementary barrel or magazine below the main barrel, and conducted on a carrier-plate, which is lifted by the action of an elbow-lever operated by the breech-bolt, into line with the main barrel. The rear end of the carrier-plate is guided along a curved and pivoted guide-piece, which moves along a side flange of the elbow-lever, into raised position, and is then engaged by a spring-catch. The forward motion of the breech-bolt moves the cartridge forward and into the main barrel, while the carrier-plate is returned to its former position at the lower part of the carrier-well. A spring-catch which projects through a slot in the side wall of the carrier-well is pressed back by the elbow-lever so as to clear the path of the cartridge to be fed forward by the spring in the magazine onto the carrier-plate. The cartridges are charged into the magazine, or to the carrier-plate for single firing, through an opening in the side wall of the carrier-well, while the shell is thrown out through a top opening in the shoe or receiver by means of a detachable extractor of the breech-bolt and by a fixed stop or accelerator in the receiver. A sliding spring-stop projects through a slot of the opposite side wall of the carrier-well into the same, and retains the cartridges in the magazine to allow of single firing.

In the accompanying drawings, Figure 1 represents a side elevation of my improved breech-loading magazine fire-arm. Fig. 2 is a detail vertical longitudinal section of the same shown with the breech-bolt in position, ready for firing. Fig. 3 is a detail vertical longitudinal section with the breech-bolt withdrawn and in position to push forward a cartridge. Fig. 4 is a detail top view of the shoe or receiver with the breech-bolt withdrawn. Fig. 5 is a detail horizontal section on line *x x*, Fig. 3. Fig. 6 is a side elevation of the shoe or receiver with a part of the stock broken away to show the sliding spring-stop for retaining the cartridges in the magazine. Fig. 7 is a detail side view taken from the other side of the shoe. Fig. 8 is a vertical transverse section on line *y y*, Fig. 7; and Fig. 9 is a side view, with a portion broken away, of the sliding breech-bolt.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the barrel; B, the receiver or shoe at the breech end of the same; and C, the sliding breech-bolt, which is accurately fitted to the inside of the shoe B, and guided by the shank of the detachable extractor *a* in a corresponding groove, *a'*, at the interior of the shoe B. The shoe B is provided with a slotted opening, *b*, in the top part, through which the shell is thrown out after the same is drawn back from the main barrel by the extractor *a*.

The breech-bolt and its mode of operation within the shoe have been fully described in the separate application for Letters Patent on magazine fire-arms heretofore referred to.

Below the main barrel is arranged a supplementary barrel, D, which forms the magazine, and which is provided with a strong spiral spring at its front end, by which the cartridges placed in the magazine are fed backward to a space or well, B', below the receiver B, where they are taken up by an oscillating carrier-plate, E, which is hinged to the front end of a fulcrumed elbow-lever, E'. The upper arm, *d*, of the elbow-lever E' is guided along a groove, *d'*, of the breech-bolt and engaged by the solid portions at the ends of the slot *d'*, so as to raise or lower the elbow-lever and thereby the car-

rier-plate. When the breech-bolt C is drawn back the elbow-lever E′ is thrown up and the carrier-plate raised by a curved guide-piece, E^2, which is pivoted to the side wall of the well B′ and guided by its lower end along a side flange or rib of the elbow-lever E′. The rear end of the carrier-plate E passes along the curved guide-piece E^2, which is also raised by the elbow-lever until the carrier-plate assumes a position parallel to the axis of the main barrel, as shown in Fig. 3. The simultaneous motion of the elbow-lever E′, guide-piece E^2, and carrier-plate E, caused by the backward motion of the breech-bolt, lifts the cartridge and throws it in line with the breech-bolt and the barrel. As soon as the carrier-plate E arrives at its highest position a small spring-catch, *e*, engages its rear end, as shown in Fig. 3, the support given thereby to the carrier-plate being sufficient to hold the cartridge in position for being thrown by the forward motion of the breech into the main barrel. The spring-catch *e* exerts, however, but little resistance to the return motion of the carrier-plate and elbow-lever. When the breech-bolt has nearly completed its forward motion it returns the elbow-lever E′, carrier-plate E, and guide-piece E^2 into their former position, as shown clearly in Fig. 2, in which position the carrier-plate is ready to receive the next cartridge from the magazine D.

The inwardly-projecting spring-stop *f* projects through a corresponding slot, *f′*, in the side wall of the carrier-well B′, near the rear end of the magazine D, and serves to engage the cartridges as they are fed backward, by the usual spiral spring in the forward end of the magazine, onto the carrier-plate. The stop *f* prevents the cartrides still in the magazine from being thrown backward while the carrier-plate and elbow-lever are raised, so as not to interfere with the downward motion of the same, when they are returned into position at the lower part of the well B′. The spring f^2, to which the stop *f* is applied, is provided with a stud, f^3, back of the stop *f*, the stud having a beveled face, against which the front portion of the elbow-lever E′ presses during its downward motion, so as to carry the spring-stop back and admit the feeding of the next cartridge from the magazine upon the carrier-plate. While the carrier-plate E is in its lowermost position the spring-stop *f* is kept in pressed-back position; but as soon as the upward motion of the carrier-plate begins, the beveled stud f^3 is released and the spring-stop *f* thrown in, so as to engage and stop the next cartridge, preventing it from being thrown backward, so as to interfere with the regular motion of the carrier-plate and elbow-lever.

Whenever it is desired to use the fire-arm for single firing a second spring-stop, *g*, which is arranged at the opposite side wall of the carrier-well, and guided by its slotted spring-shank g^2 on a fixed and headed pin, g^3, of the side wall, is thrown forward so as to project through a slot, *g′*, to the interior of the carrier-well B′, immediately back of the rear end of the magazine, as shown clearly in Figs. 3, 5, and 6. The stop *g* serves to prevent any of the cartridges in the magazine from passing onto the carrier-plate. By drawing back the spring-stop *g* by means of a thumb-rest, g^4, above the slotted rear part of the spring-shank, the stop *g* is drawn along the beveled rear edge of the slot *g′* in the side wall to the outside, so as to clear the interior of the well and allow the cartridges to pass onto the carrier-plate and to be fired in quick succession.

Whenever it is desired to remove the breech-bolt, for cleaning or otherwise, from the receiver B, the elbow-lever E′ has to be first released therefrom. This is accomplished by throwing a stop-plate, *h*, which is hinged to a point near the end of the magazine, into vertical position, as shown in dotted lines in Fig. 3, so that the front end of the carrier is not stopped by the plate *h*, but is allowed to pass, with the elbow-lever in downward direction, to the outside of the carrier-well, whereby the shorter arm *d* of the elbow-lever is disengaged from the guide-groove of the breach-bolt C.

The breech-bolt C is provided at its front end, at a point below the extractor, with a beveled rest-piece, *i*, which is clearly shown in Figs. 4 and 9. When the breech-bolt C is drawn back, after the cartridge is fired, to throw out the shell, the latter is also drawn back, as it is retained by the extractor and the rest-piece *i*. When the breech-bolt is nearly drawn back the rim of the shell strikes against a fixed projecting stop or accelerator, *l*, at the inside of the receiver, as shown in Fig. 3. The accelerator *l* serves for the purpose of imparting a sudden jerky motion to the shell, so that it is released from the extractor and thrown with considerable force through the opening at the top of the receiver to the outside. The fixed accelerator *l* works in connection with the extractor of the breech-bolt and renders the throwing out of the shell quick and reliable. Simultaneously with the throwing out of the shell the breech-bolt lifts the carrier-plate E into raised position, and brings thereby a new cartridge into line with the breech-bolt and barrel, which cartridge is fired, by the forward motion of the firing-pin, into the barrel. In this manner the entire number of cartridges contained in the magazine may be rapidly fired in succession; or the arm may be used at any moment for single firing by simply moving forward the sliding spring-stop at one side of the well, so as to interrupt the backward feeding of the cartridges from the magazine.

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

1. In a magazine fire-arm, the combination, with a sliding breech-bolt, of a fulcrumed elbow-lever actuated by the breech-bolt, of a carrier-plate hinged to the front end of the elbow-lever, and of a curved guide-piece pivoted sidewise of the elbow-lever to the wall of the carrier-well, all arranged in such a manner that the carrier-plate is raised or lowered by the

backward or forward motion of the breech-bolt, substantially as described.

2. In a magazine fire-arm, the combination, with the longitudinally-sliding breech-bolt C, having a groove, d', of a fulcrumed elbow-lever, E′, which is engaged by the groove d', of a carrier-plate, E, hinged to the front end of an elbow-lever, E′, of a curved and pivoted guide-piece, E^2, along which the rear end of the carrier-plate is guided, and of a spring-catch, e, which engages the carrier-plate when it arrives in raised position parallel to the axis of the barrel, substantially as set forth.

3. In a magazine fire-arm, the combination of a carrier-well, B′, whose side wall has a slot, g', beveled at its rear end, and the magazine D, arranged below the firing-barrel, with an inwardly-projecting stop, g, which is slotted at its rear end and guided along a fixed and headed stud, g^3, substantially as shown and described.

4. The combination, with a hinged stop-plate, h, applied to the lower front end of the carrier-well, of the fulcrumed elbow-lever E′ and of the carrier-plate E, which is hinged to the front end of the elbow-lever E′, and stopped by the plate h when the same is in its normal position, but which is capable of being swung clear of the plate to the outside of the carrier-well when the stop-plate is thrown into vertical position, substantially as described.

5. The combination, in a magazine fire-arm, of a sliding breech-bolt, a fulcrumed elbow-lever, a cartridge-plate hinged to the front end of the elbow-lever, a curved guide-piece pivoted to the wall of the carrier-well, a hinged stop-plate, h, applied to the front end of the carrier-well B′, provided with a slot, g', and an inwardly-extended stop, g, and a fixed and headed stud, g^3, all constructed and adapted to operate substantially in the manner and for the purposes described.

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

PHILIPP BOCH.

Witnesses:
PAUL GOEPEL,
CARL KARP.