

(No Model.)

6 Sheets—Sheet 1.

F. J. PETRY.

MAGAZINE OR REPEATING FIRE ARM.

No. 407,238.

Patented July 16, 1889.

FIG. 1.

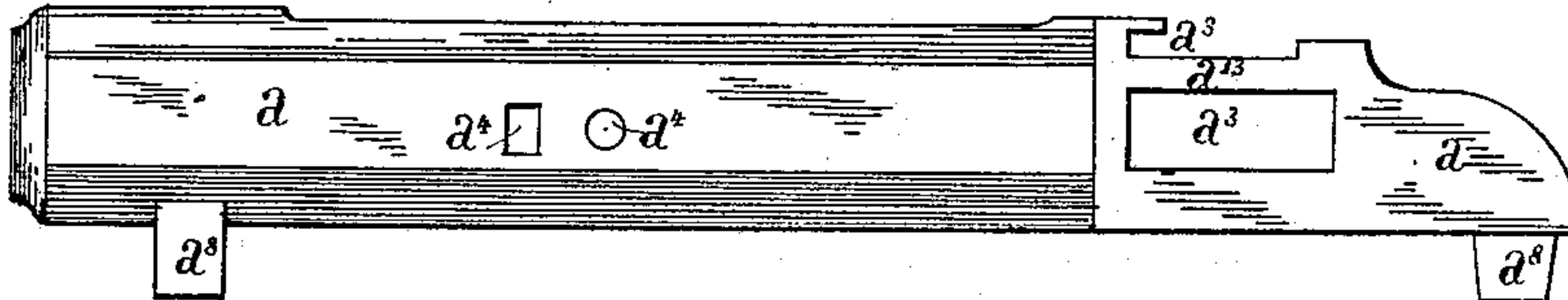


FIG. 2.

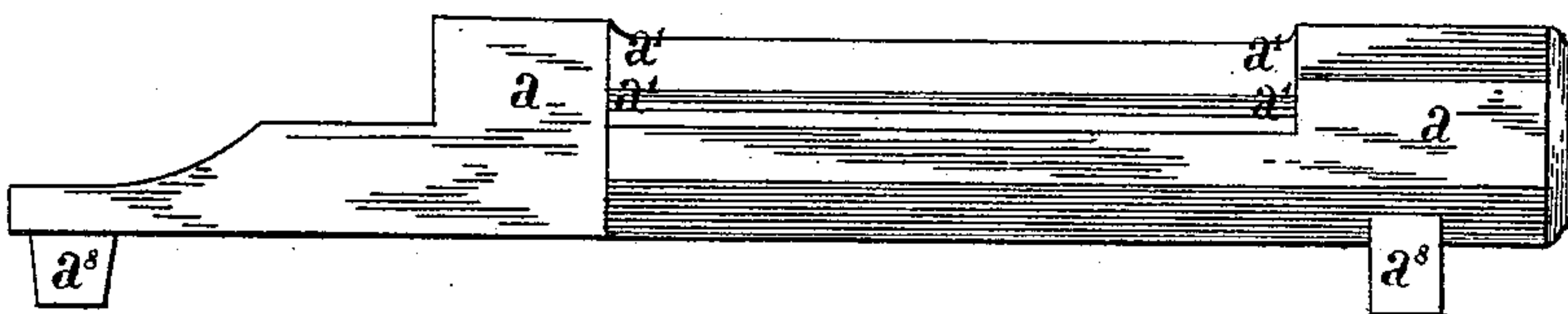


FIG. 3.

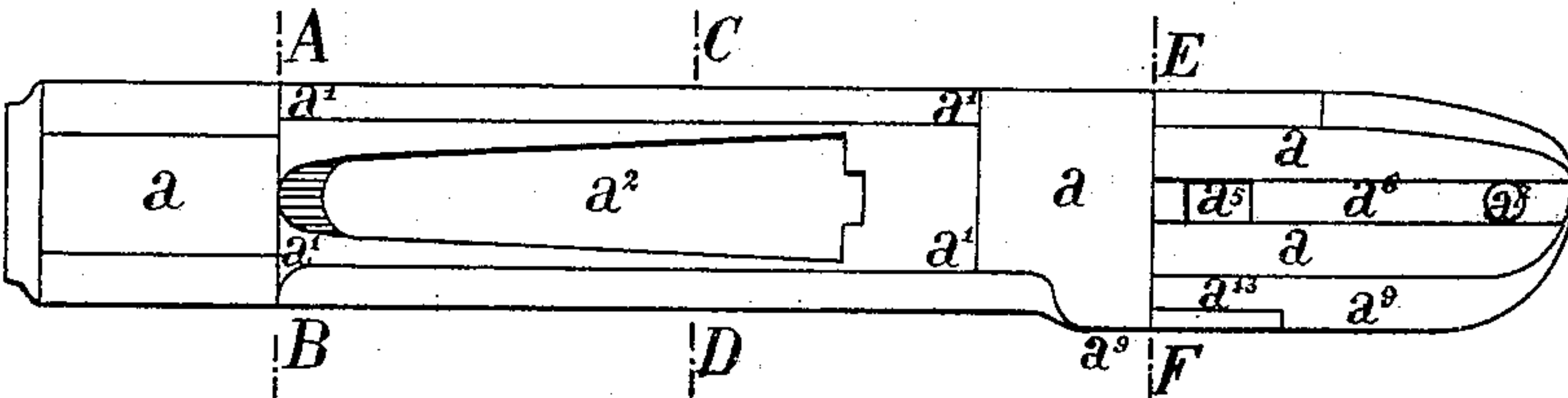


FIG. 4.

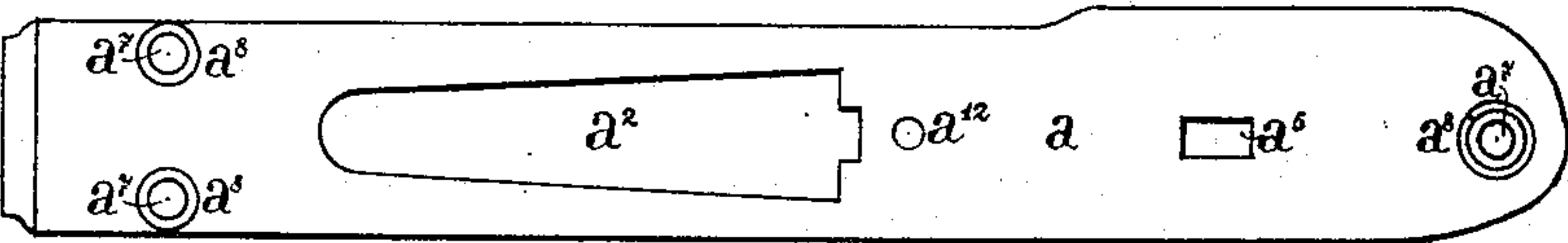


FIG. 5.

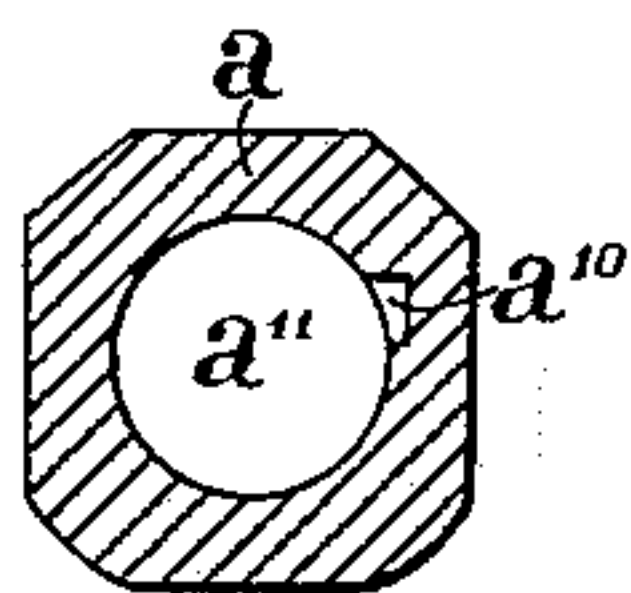


FIG. 6.

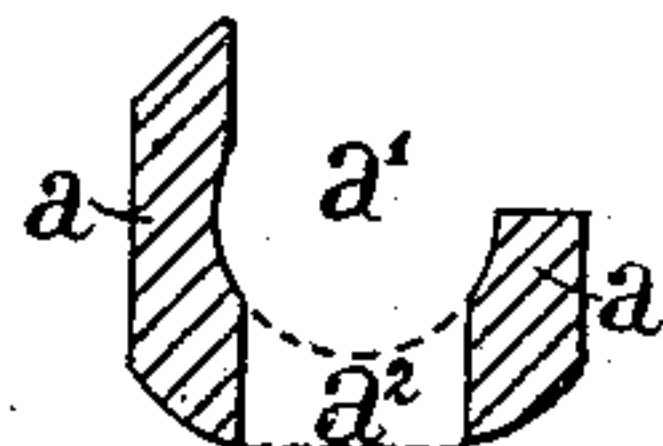
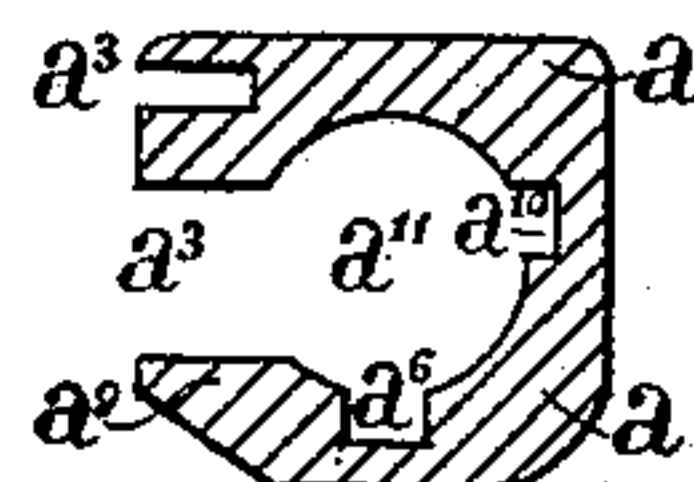


FIG. 7.



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by John J. Halsted & Co.
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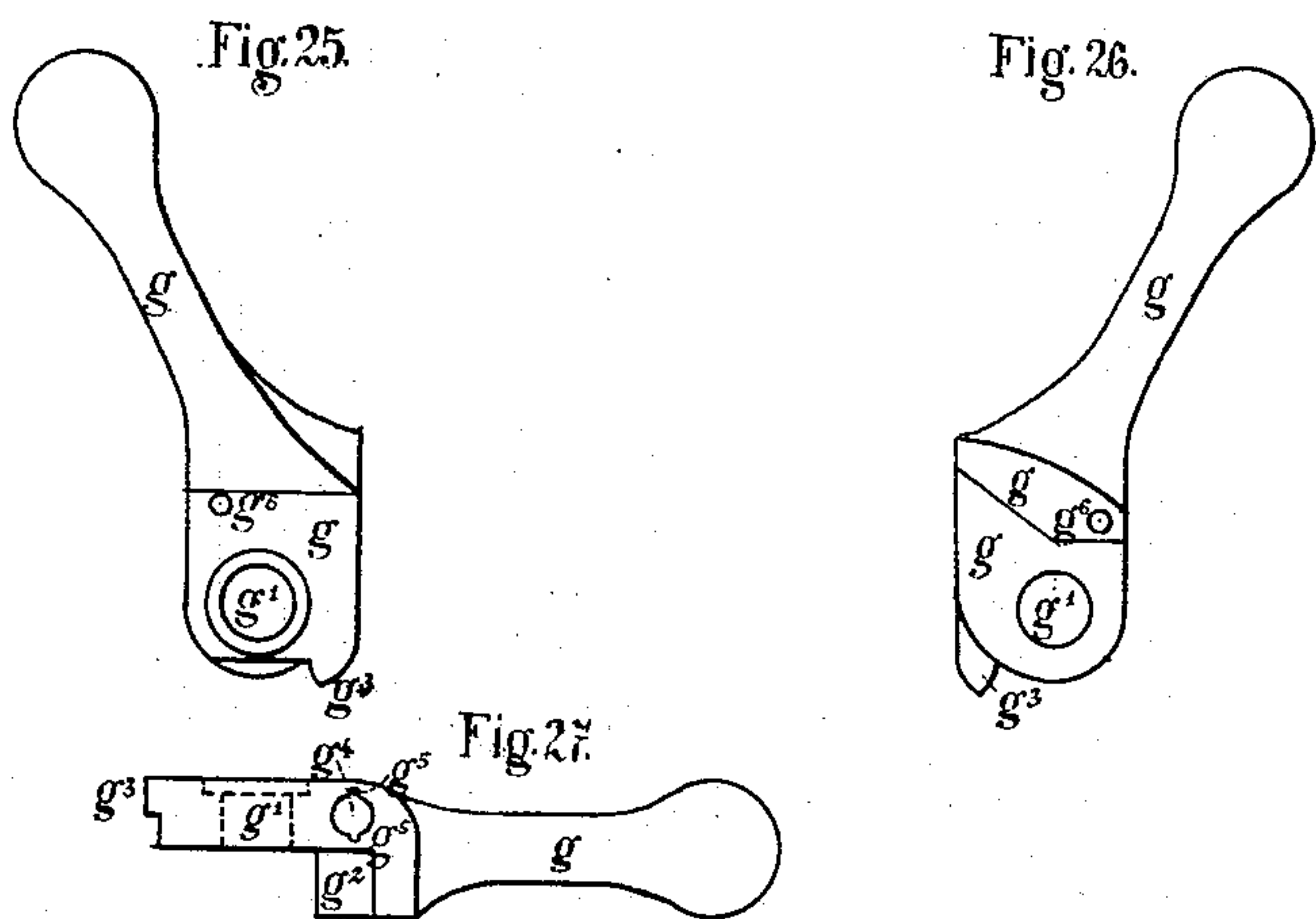
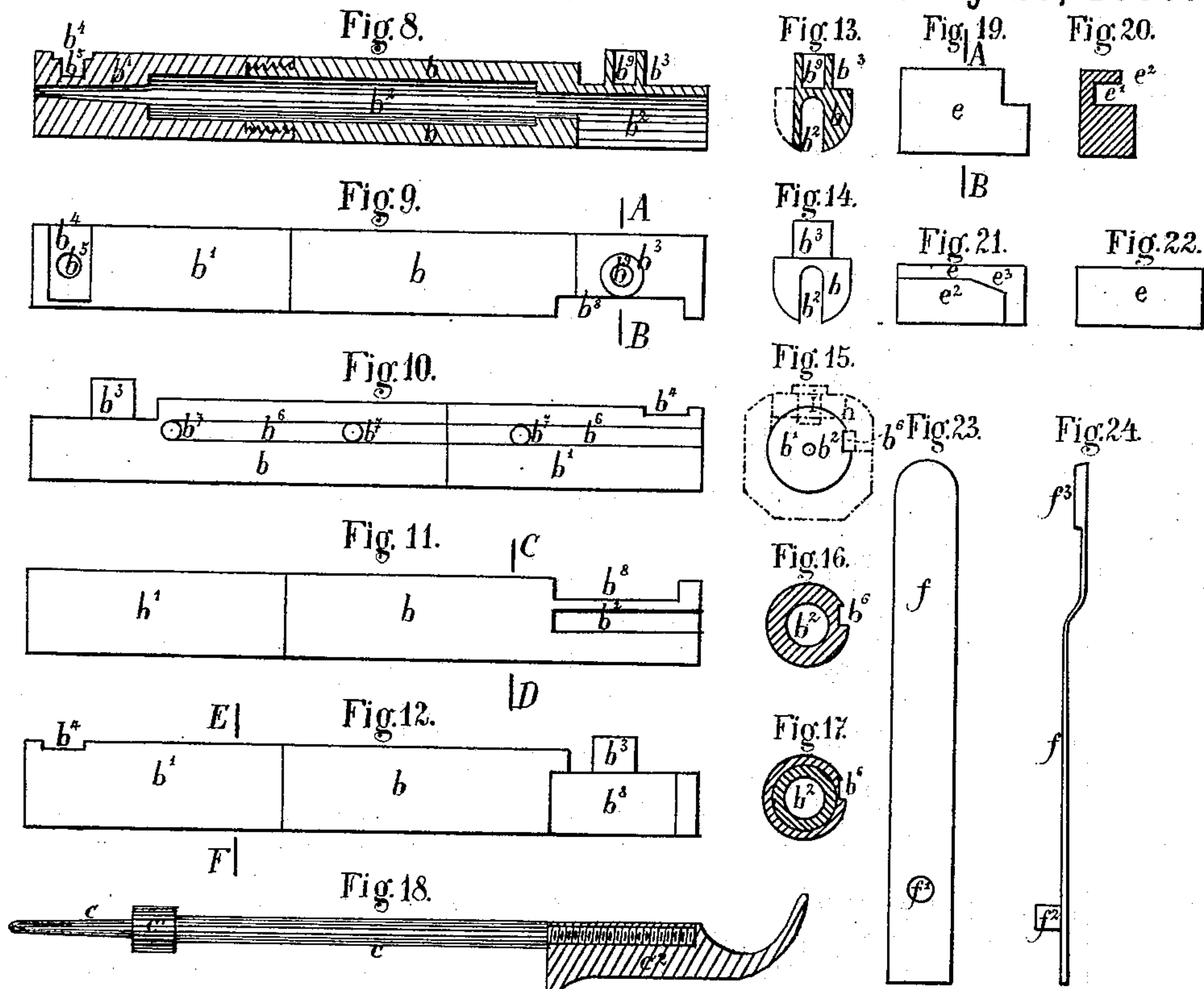
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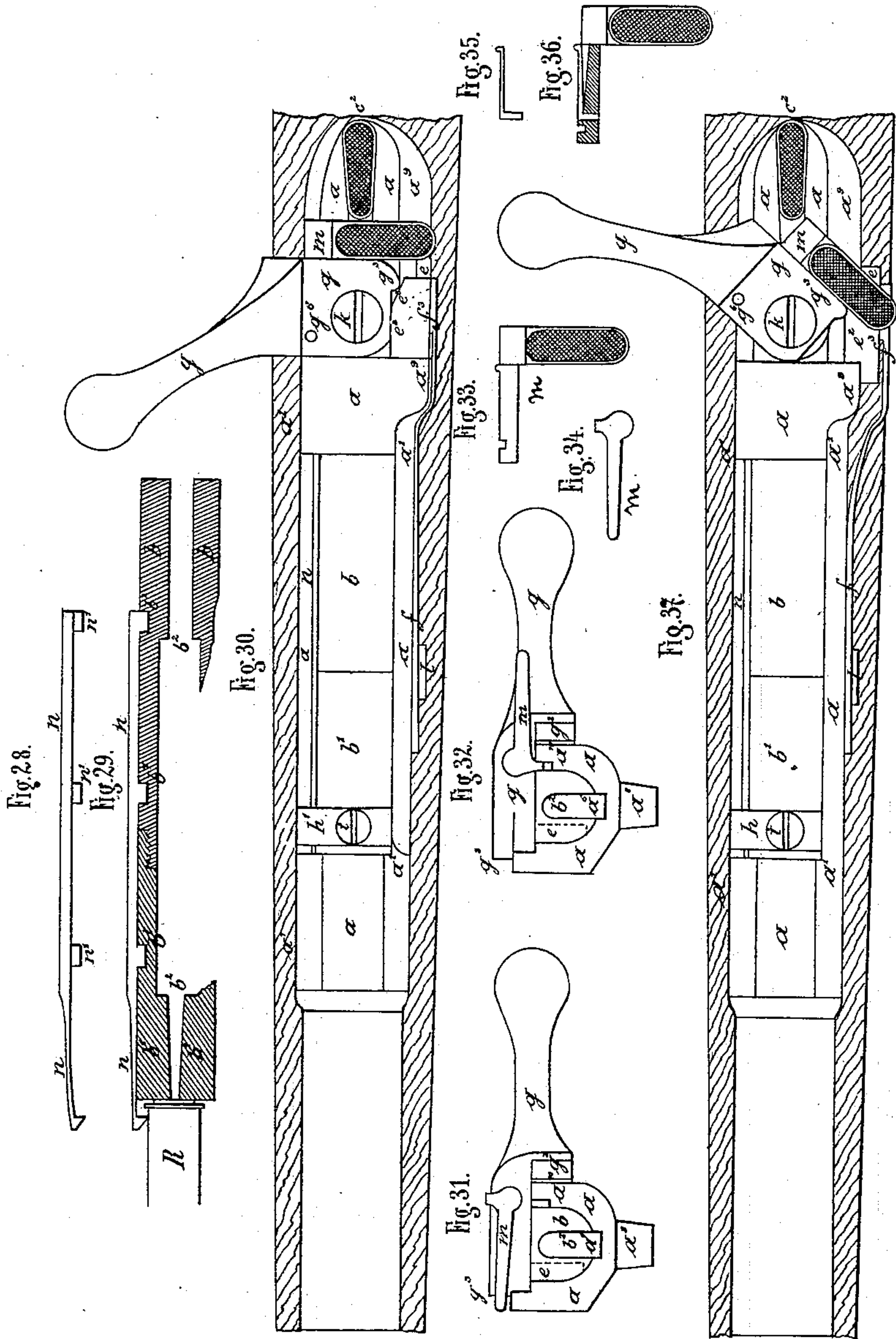
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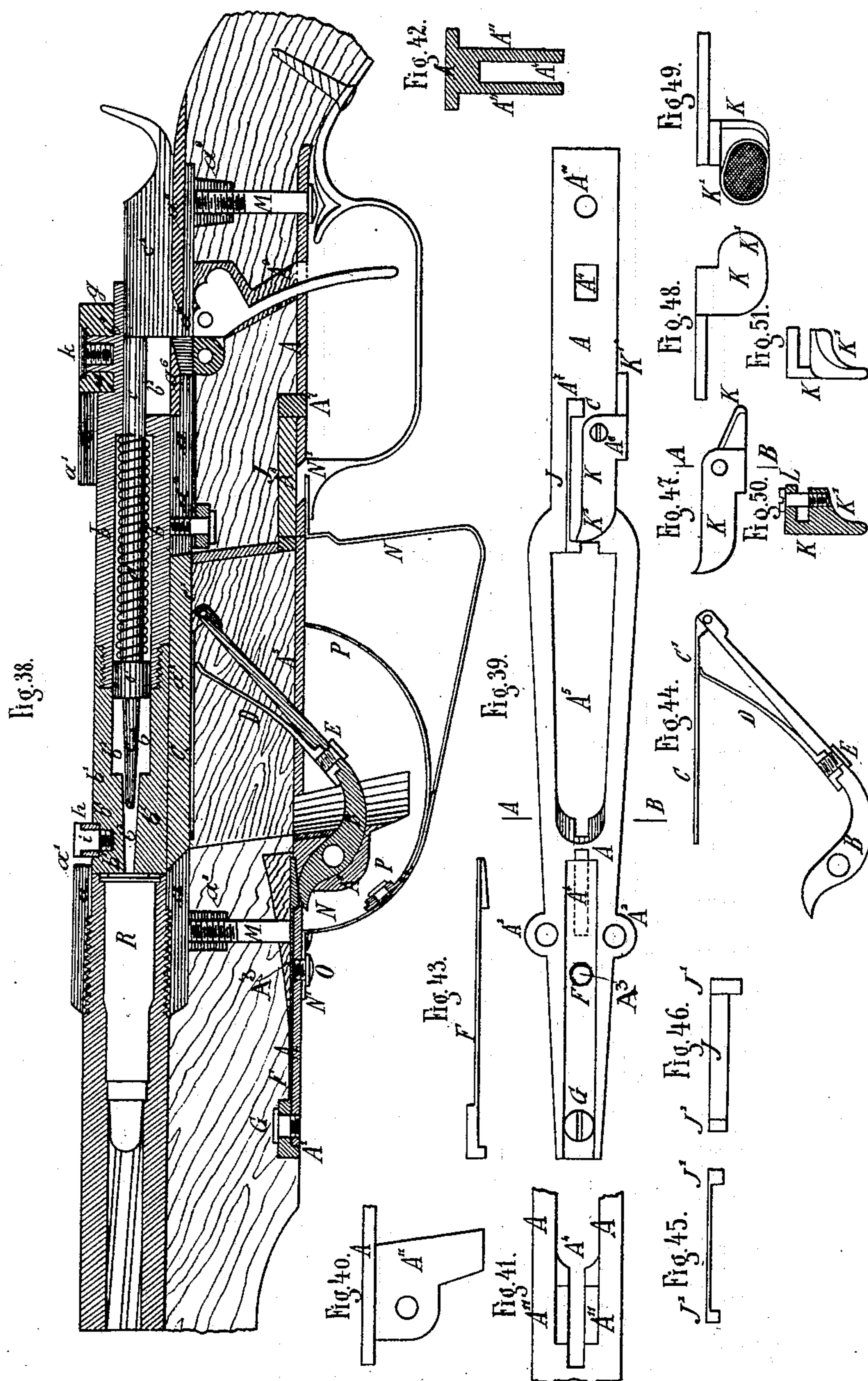
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MAGAZINE OR REPEATING FIRE ARM.

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Fig. 52.

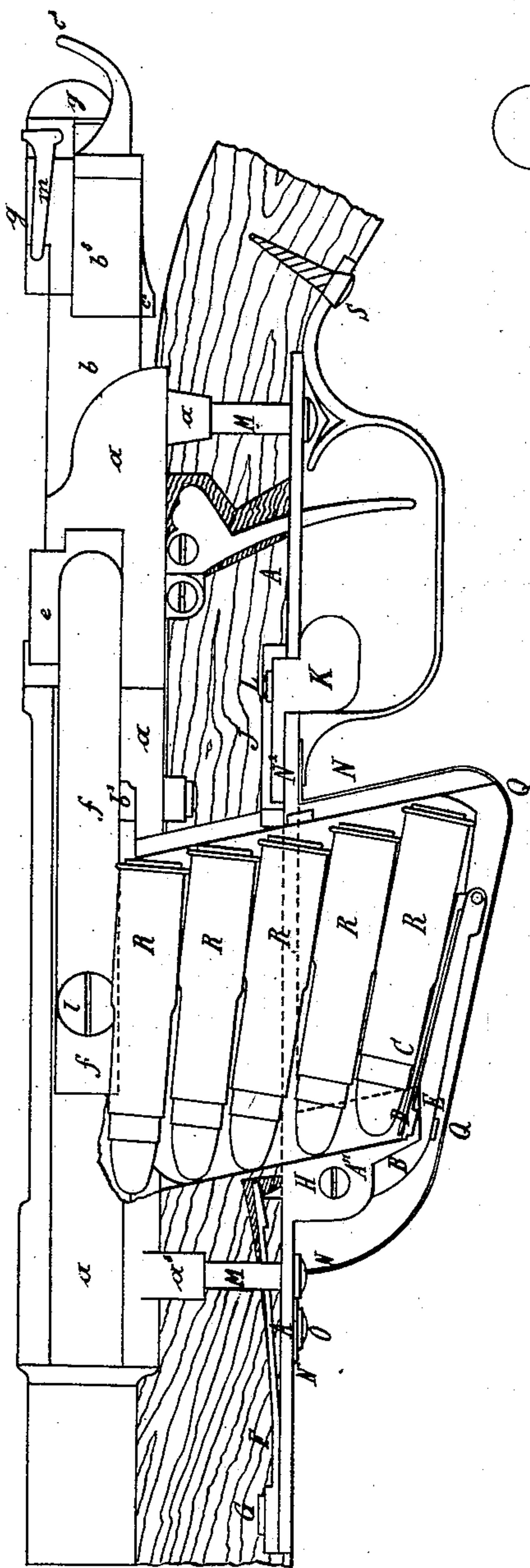
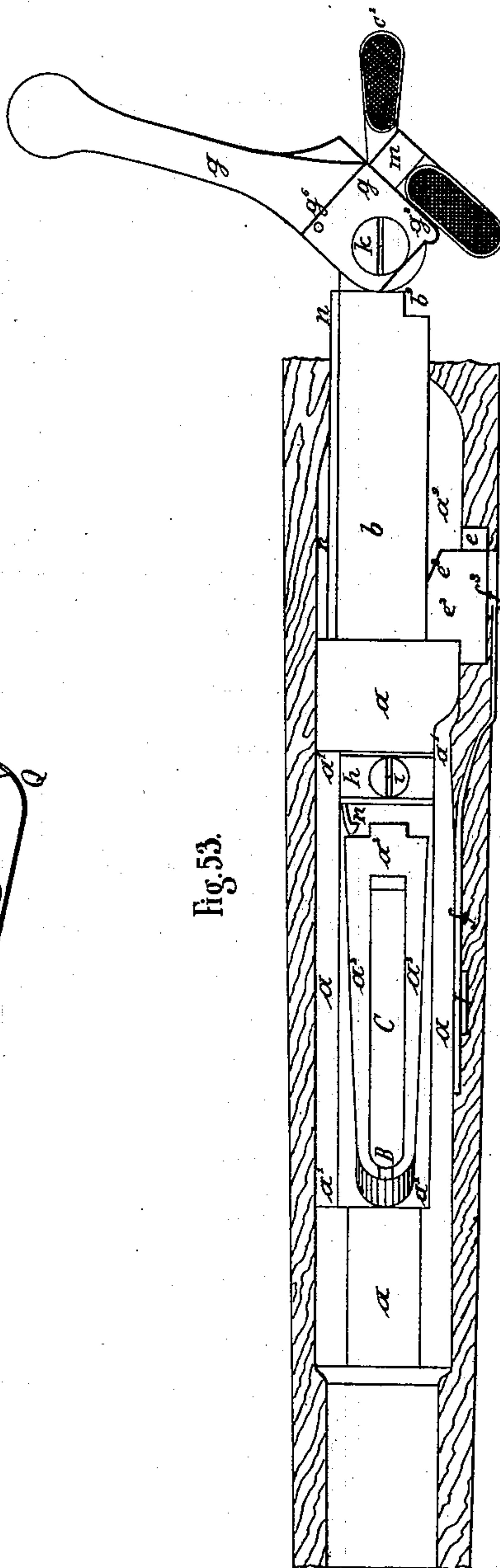


Fig. 53.



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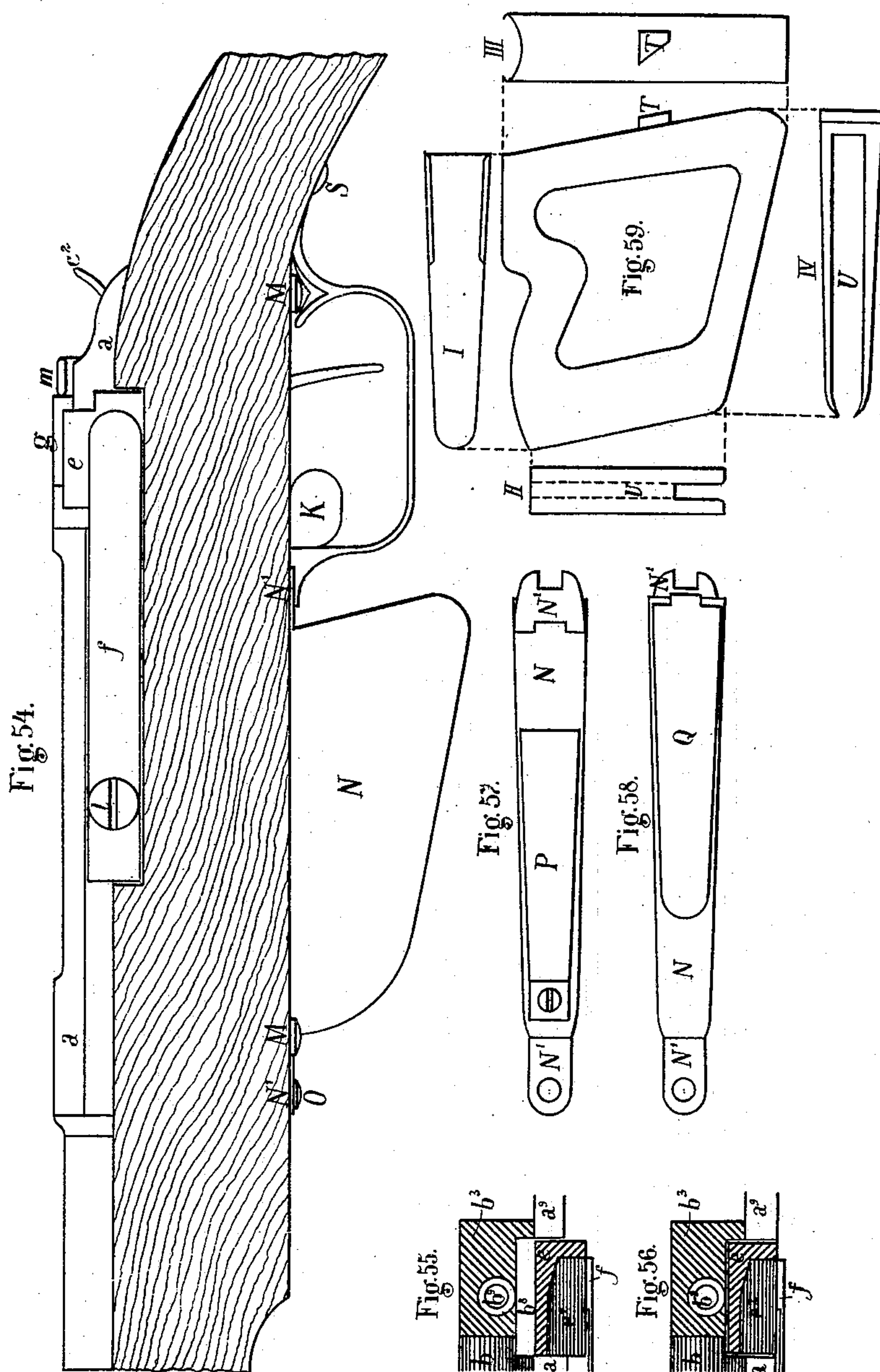
(No Model.)

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Patented July 16, 1889.



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UNITED STATES PATENT OFFICE.

FRANZ JOSEF PETRY, OF VIENNA, AUSTRIA-HUNGARY; ASSIGNOR OF ONE-HALF TO JULIUS BUCHMÜLLER, OF SAME PLACE.

MAGAZINE OR REPEATING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 407,238, dated July 16, 1889.

Application filed June 18, 1888. Serial No. 277,434. (No model.)

To all whom it may concern:

Be it known that I, FRANZ JOSEF PETRY, civil engineer, a citizen of Austria-Hungary, and a resident of Vienna, in the Empire of Austria, have invented new and useful Improvements in Magazine or Repeating Fire-Arms, of which the following is a specification.

My present invention relates, first, to a new breech with cylindrical breech-piece for magazine-guns, which has for its object to effect the opening and closing of this breech by a straight backward-and-forward movement of the cylindrical breech-piece without turning it for a determined angle, and without displacing or moving the parts of the breech-piece one in the other.

My invention relates, further, to certain improvements in the repeating mechanism—that is to say, in the device used until now for automatically presenting the cartridge before the backward opening of the barrel, and ready to be introduced into the breech end by the forward movement of the cylindrical breech-piece. These improvements comprise an arrangement for suitably fixing this mechanism to the under plate of the gun, so that the repeating mechanism may be put on and removed from the gun when desired; also, a particularly-shaped lever and its spring for lifting the cartridges; and, finally, the releaser of the magazine, which parts allow a regular supply of cartridges to be fed into the breech end of the gun and the easy removal of the magazine at any desired moment.

In order to enable persons skilled in the art to carry out my invention and to manufacture my improved magazine-gun, I have shown in the annexed sheets of drawings all the essential parts of it, the same letters of reference indicating similar parts in all the figures.

Figures 1 and 2 are side views of the receiver or chamber *a* of the breech. Figs. 3 and 4 are respectively a plan and under side view of the same. Figs. 5, 6, and 7 are sections along the lines A B, C D, and E F of Fig. 3. Fig. 8 shows the cylindrical breech-piece in a longitudinal section; Fig. 9, a plan of the same; and Figs. 10, 11, 12, 14, and 15

show several views of the same. Figs. 13, 16, and 17 are cross-sections along the lines A B of Fig. 9, C D of Fig. 11, and E F of Fig. 12. Fig. 18 shows the firing-bolt. Figs. 19, 20, 21, and 22 show several views of the locking-key, Fig. 19 being a front elevation, Fig. 20 a section of the same along the line A B of Fig. 19, Fig. 21 a plan, and Fig. 22 a view from beneath this key; Figs. 23 and 24, a plan and side view, respectively, of the spring of the locking-key. Fig. 25 is a plan, Fig. 26 a view from beneath, and Fig. 27 a front elevation of the handle of the breech-piece. Fig. 28 is a side elevation of the cartridge-extractor, and Fig. 29 the extractor combined with the breech-piece. Fig. 30 is a plan of the receiver, with the breech-piece in place and with the locking device *m* in such a position as to allow the breech-piece to be drawn backward. The locking-key *e* is shown engaged in the recess of the breech-piece. Fig. 31 shows the breech-piece in place and with the locking device in one of its positions. Fig. 32 shows the breech-piece in its place and with the locking device in the opposite position, in order to prevent the said cylindrical breech being drawn backward accidentally. Fig. 33 is a plan of the locking device, and Fig. 34 a front elevation of the same. Fig. 35 shows the spring detached from the locking device, and Fig. 36 shows this spring lodged in the same. Fig. 37 is a plan of the receiver, breech-piece, handle, and locking-key in position hereinafter described; Fig. 38, a longitudinal section of the breech-piece, with the receiver and repeating mechanism in positions hereinafter described; Fig. 39, the under plate; Fig. 40, the support for the lifting-lever. Figs. 41 and 42 show a plan and cross-section of the same. Fig. 43 is a detached view of the spring of the lifting-lever. Fig. 44 is a view detached of the lifting-lever, its carrier, spring, and screw. Figs. 45 and 46 are views of springs for maintaining the cartridge-magazine. Fig. 47 is a plan. Fig. 48 is a side elevation, and Fig. 49 is an inner view, of the releaser. Fig. 50 is a cross-section of the releaser on line A B of Fig. 47. Fig. 51 is an end view of the same. Fig. 52 is a longitudinal section of the receiver and adjacent parts in positions hereinafter named.

Fig. 53 is a plan of the receiver and stock with opened breech. Fig. 54 is a left-hand side view of the fire-arm. Fig. 55 is a detail showing the locking-key and adjacent parts. Fig. 56 is a detail showing the key in its recess. Fig. 57 is a plan of the casing. Fig. 58 is a similar plan with an opening therein. Fig. 59 illustrates a side view and four different views of the magazine.

For attaining the first-named purpose, I provide the breech-piece $b\ b'$ (shown in Figs. 8 to 17, inclusive, of Sheet 2) with a recess b^8 , into which a locking-key e , Figs. 19 to 22, inclusive, is forced by a flat spring f , Figs. 23 and 24, when the breech has been closed. This key e is pushed outward by means of the nose g^3 of a handle g , fixed on the cylindrical breech-piece and turning on a vertical part b^3 of the latter, when it is required to open the breech by drawing back the cylindrical breech-piece.

From the foregoing it will be seen that by the combined action of the recess b^8 , locking-key e , and handle g the opening and closing of the breech can be effected without turning the cylindrical breech-piece for a certain angle and displacing the parts of the same one in the other.

In order to attain the further objects of my invention, the repeating mechanism (shown in Figs. 38 to 52, inclusive) is formed of lever B; of an under plate A, with projections A^{11} for receiving the pivot-pin of said lever; of a lifting-spoon C, with its spring D, attached to said lever, and of the flat spring F, which latter is secured in the fore part of the under plate and acts on the shorter arm of the lever B, and by means of this spring F, acting on the lever B and its attached spoon C and spring D, one cartridge is lifted after the other in a steady and regular manner.

A constituent part of the repeating mechanism is the spring J for retaining the magazine in its proper position, and the releaser K for permitting the removal of the magazine when desired or necessary.

Referring to Figs. 1 to 7, the receiver a has an opening a' in its top for the introduction of the charge; a central notch a^2 in its body, to allow the passage of the cartridge-magazine; a lateral opening a^3 near its rear end for the locking-key, and a passage a^3 communicating with a bore a^{11} for the central breech-piece; holes a^4 beneath the opening a' for the screw of the locking-key and its shoulder; an opening a^5 in its top, near the rear end, for the trigger-plate; a central longitudinal groove a^6 , extending back from this opening a^5 , for the firing-bolt; holes a^7 in the under side of said receiver for receiving the joining-screws; projections a^8 at both ends of the receiver and at its under side, and through which pass the screws M for uniting the receiver with the stock and under plate; a re-enforce a^9 in the rear left side part of the receiver, to form the recoil-shoulder; a groove a^{10} in the rear right side part of the receiver, for receiving the car-

tridge-extractor; a bore a^{11} in the rear part of the receiver, for the central breech-piece; a hole a^{12} in the under side of the receiver, behind the notch a^2 , for the screw of the trigger-spring, and a piece a^{13} at the left side of the rear part of the receiver, for guiding the locking-key by means of its screw.

Referring now more particularly to Figs. 8 to 17, inclusive, the cylindrical breech-piece consists, essentially, of the two longitudinal parts b and b' , firmly screwed one into the other, as shown in Fig. 8, and which are provided with a recess b^2 in the part b , for the firing-bolt and its spring; a notch b^4 in the part b' , for receiving the guide h of the breech-piece; a hole b^5 in the top of part b' , for the screw i ; a longitudinal groove b^6 for the cartridge-extractor, and notches b^7 in said groove for fastening the extractor, and a hole b^9 in the top of part b' for fixing the handle g .

The firing-bolt (see Fig. 18) consists of the two parts c and c^2 connected together. The shoulder c' of the part c serves as a head for the spring d , this spring surrounding a portion of the part c and being located between the shoulder c' and a shoulder or bearing at the rear part of the breech-piece $b\ b'$. (See Fig. 38.)

The locking-key (see Figs. 19, 20, 21, and 22) is one of the most important parts of the improved breech, and consists of a solid block of steel or other suitable material, which is provided with a groove e' , projection e^2 , and taper e^3 , upon which rests the nose of the handle.

The spring f of the locking-key e is provided with a hole f' and projection f^2 for fixing it to the receiver a . (See Figs. 23 and 24.) The handle g (shown in Figs. 25 to 27, inclusive, in the drawings) contains the opening g' , shoulder g^2 , to limit the rotation of the handle, nose g^3 , holes g^4 , g^5 , and g^6 , for receiving the locking device m , the head of the spring of same, and fixing-screw. The cartridge-extractor n is shown detached in Fig. 28 and in combination with the breech-piece in Fig. 29.

The locking device m and its spring, the object of which is to prevent the breech-piece from being accidentally drawn backward, is shown in detail in Figs. 33 to 36. Figs. 30, 31, and 32 show this locking device, in combination with the receiver, in the positions for allowing and not allowing the drawing back of the cylindrical breech-piece. The handle g and locking device m are shown in Fig. 37 in a position assumed when the breech-piece is at the point of being drawn backward.

In Fig. 38 the breech-chamber, breech-piece, and repeating mechanism, with cartridge introduced and firing-bolt cocked, are shown in the positions assumed when the gun is intended to be used as a single-loader. The essential parts of the repeating mechanism (shown in Figs. 39 to 49) have already been described. The magazine-holder N has for its object to preserve the repeating mechan-

ism and to form a guide (on its rearward end) for the cartridge-magazine.

Shoulders N' N' and the screw O serve for fixing the holder N to the trigger-guard and to the under plate A .

The spring P , secured to the bottom of the holder N , lifts the magazine in case this contains one or more cartridges, or it repels the same in case it has been completely emptied.

Instead of the above, the bottom of the casing or holder N may be provided with an opening Q , through which the magazine falls down automatically when it has been emptied. In this case the spring P is dispensed with, and if it is required to draw out the remaining cartridges the magazine will be lifted by means of the lever B and the lifting-spoon C .

The under plate A , a constituent part of the repeating mechanism, (shown in plan in Fig. 39,) is provided with a notch A' (see Fig. 38) for receiving the shoulder of the lever-spring F , and with ears A^2 for the joining-screws. It also has a hole A^3 for the screw O , a notch A^4 to allow the movements of the lever B , and an opening A^5 to allow the introduction of the magazine; also a hole A^6 for the screw of the releaser, an opening A^7 for receiving the projection J^2 of spring J , a hole A^8 for the projection of the fore part of the trigger-guard, an opening A^9 for the trigger, a hole A^{10} for the joining-screw, and the projections A^{11} , which support the lever B and serve simultaneously as a guide for the latter.

In Figs. 52 and 53 is shown the receiver with the breech-piece drawn back, the repeating mechanism with introduced magazine containing five cartridges, and spring J for retaining the magazine in its proper position.

In Figs. 55 and 56 are shown two positions of the locking-key. In Fig. 55 it is in a position where it allows drawing back of the breech-piece, and Fig. 56 represents the position of the locking-key when it keeps the breech closed or locked.

In Figs. 57, 58, and 59 are shown the magazine used in my improved gun. Q is the opening through which the emptied magazine may fall down.

U is a slot in the bottom and front of the magazine, through which passes the lever B . This slot extends through the whole height of the magazine if it is desired that the emptied magazine shall fall down automatically.

The function of my improved breech and breech-piece can easily be understood. When it is required to open the breech, the handle g is seized and turned backward around b^3 until the shoulder g^2 strikes the breech-piece. By this partial rotation the nose g^3 of the handle g has pushed outward the locking-key e , so that the breech-piece b can be drawn back in a straight line, and thus the breech is opened, as shown in Figs. 52 and 53. When closing the breech, the cylindrical breech-piece b is pushed forward, the handle g returned to its original position, so that locking-key e , acted upon by the flat spring f , is

allowed to enter the recess b^8 of the breech-piece, thereby maintaining the latter in its closed position. During this backward and forward movement of the breech-piece the firing-bolt d is cocked by means of the shoulder c^2 coming in contact with the trigger-plate. When the gun is to be used as a repeating fire-arm, the breech-piece is drawn back and a full magazine introduced into the casing N , and pressed down until the projection T of the magazine fits under the head J^2 of the spring J . Simultaneously the lever B , spoon C , and spring D are pressed down, as illustrated in Fig. 52. The breech-piece is now pushed forward, and its head b' seizes the upper cartridge and introduces it into the breech end of the barrel. The remaining cartridges are raised by the action of the lever B , spoon C , and springs D and F . After firing, the empty cartridge is extracted from the breech end of the barrel and ejected after the breech-piece b has been drawn back, and the next cartridge is lifted for being introduced by the subsequent forward movement of the breech-piece. When the magazine has been emptied, it will either fall down automatically or be ejected by the spring P after the head J^2 of the spring J has been turned sidewise by the releaser K , thus liberating the magazine.

According to a modification of this invention, the projection A^{11} , lever B , and lifting-spoon C may be combined with the fore part of the casing N and the whole be slid in grooves managed in the under plate A . In consequence of this arrangement the casing N , with lever B , lifting-spoon C , and spring D , may be easily removed from the under plate and the gun used as an ordinary single-loader after the notch in the breech has been closed by a wooden key. This modified construction allows an easy substitution of the repeating mechanism by a new one, if necessary.

I claim as my invention—

1. In a magazine-gun, the combination of a receiver provided with the opening a^3 for the locking-key, the movable cylindrical breech-piece b b' , having the recess b^8 therein, the locking-key e , entering the opening a^3 , and spring f , which presses the key e into the opening, thereby serving to maintain the breech-piece closed, substantially as shown and described.

2. In combination with the receiver of the gun having a recess to receive the same, the locking-key e , as made with its guiding-groove e' , projection e^2 , and taper e^3 , the handle g , carried by the cylindrical breech-piece, and having the nose g^3 to engage the key e and move the same outward, and the flat spring f on the receiver for forcing inward the key to its locking position, substantially as and for the purpose set forth.

3. In combination with the locking-key e , seated in the receiver, and handle g , carried by the reciprocating breech-piece, the de-

scribed breech-piece for opening and closing the breech and introducing the cartridge, consisting of the two parts *b* and *b'*, joined together, the one part *b* having in it the recess
5 *b*^s for the locking-key, and also having a fulcrum part *b'* for said handle, all substantially as set forth.

4. In a magazine-gun, the combination of the cartridge-lifting lever *B*, its spoon *C*, spring
10 *D*, secured to said lever near its fulcrum and its free end bearing on the under side of the spoon, as set forth, the under plate *A*, provided with projections *A*¹¹, serving as a fulcrum-support and guide for said lever, the re-
15 leaser *K*, fixed on the under plate at the rear of its opening *A*⁵, and spring *J J'* *J*², carried by the said under plate and serving to retain

the magazine in place, substantially as shown and described.

5. In a magazine-gun, in combination, the 20 cartridge-lifting lever *B*, the spoon *C* thereon, and spring *D*, secured near the fulcrum of said lever, the spring *F*, bearing on the short arm of said lever, and the casing *N* for protecting these parts and provided with shoulders *N'* 25 and having the opening *Q*, through which the empty magazine may fall, all substantially as shown and described.

Signed at Vienna, in the Empire of Austria-Hungary, this 16th day of May, A. D. 1888.

FRANZ JOSEF PETRY.

Witnesses:

EDMUND JUSSEN,

OTTO SCHIFFER.