

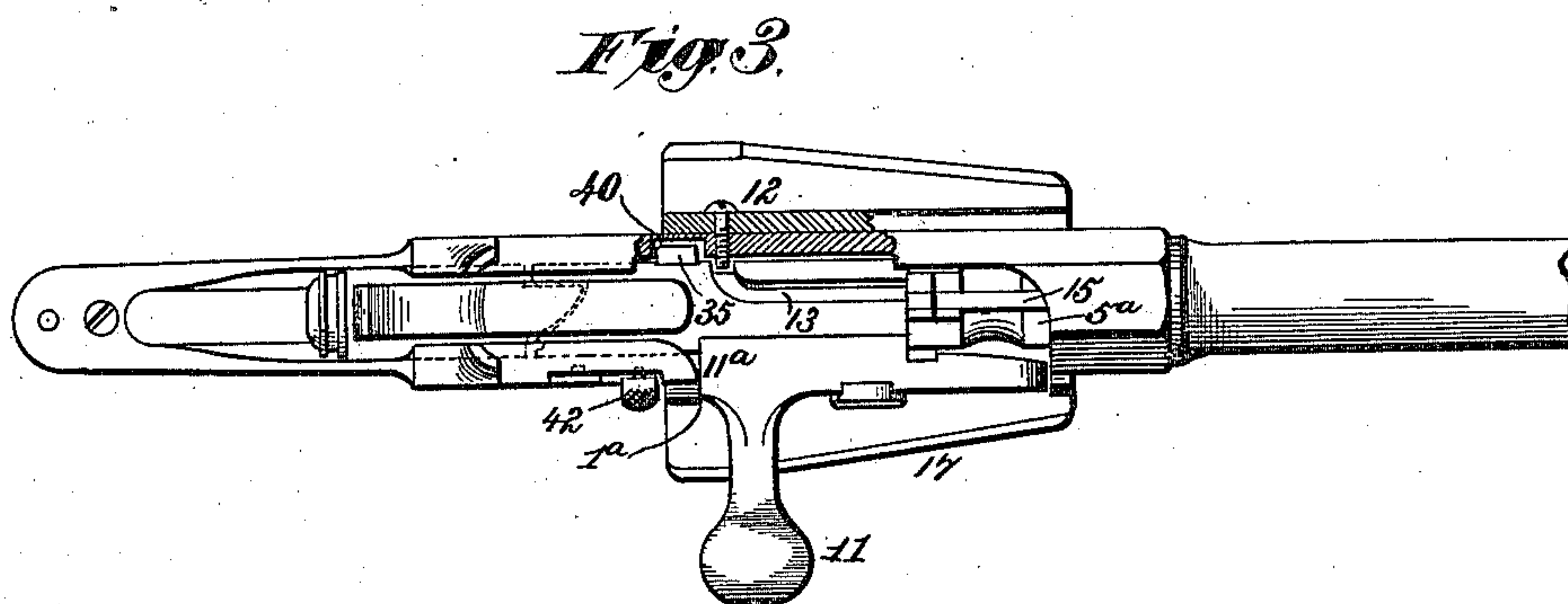
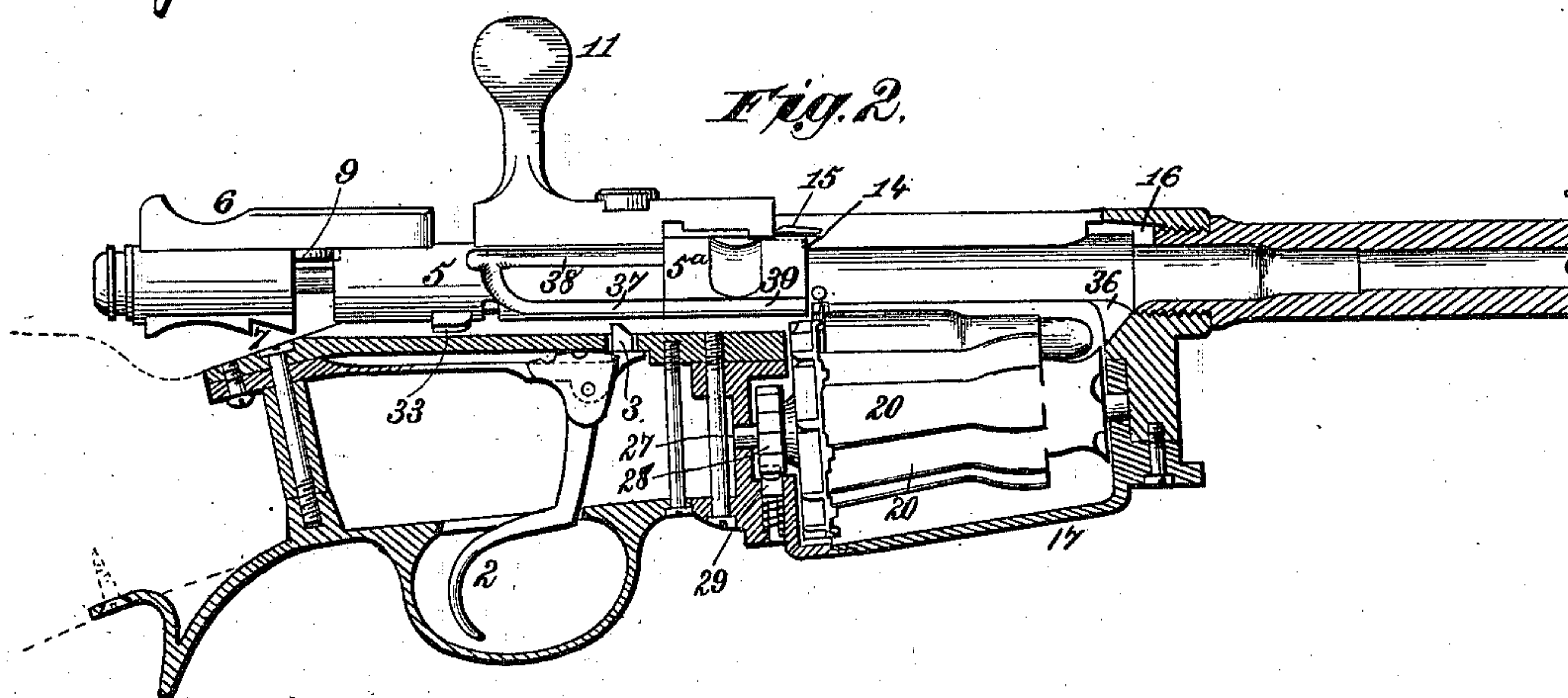
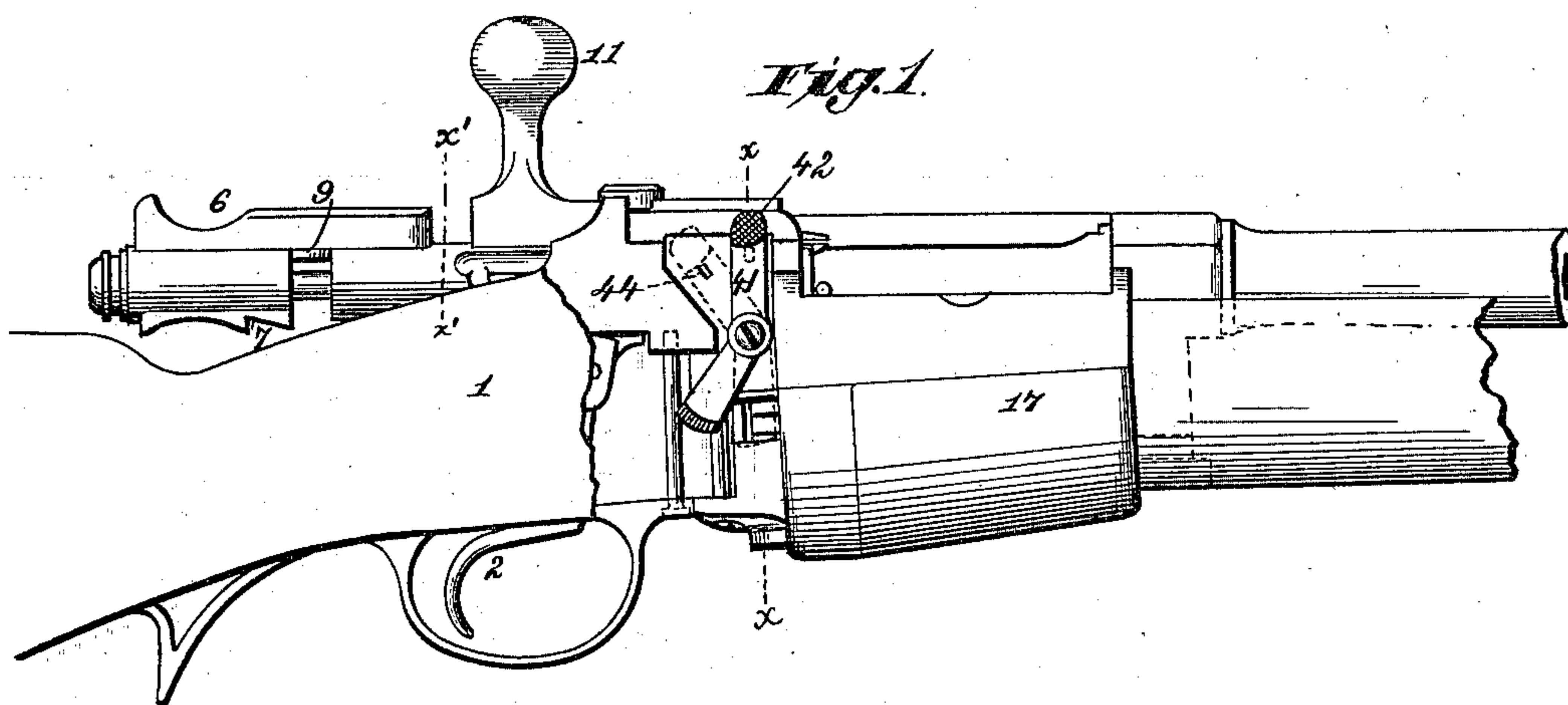
(No Model.)

2 Sheets—Sheet 1.

O. SCHOENAUER.
MAGAZINE FIRE ARM.

No. 336,443.

Patented Feb. 16, 1886.



Witnesses.

Robert Everett.

J. A. Rutherford

Inventor:

Otto Schoenauer.

By James L. Norris
Atty.

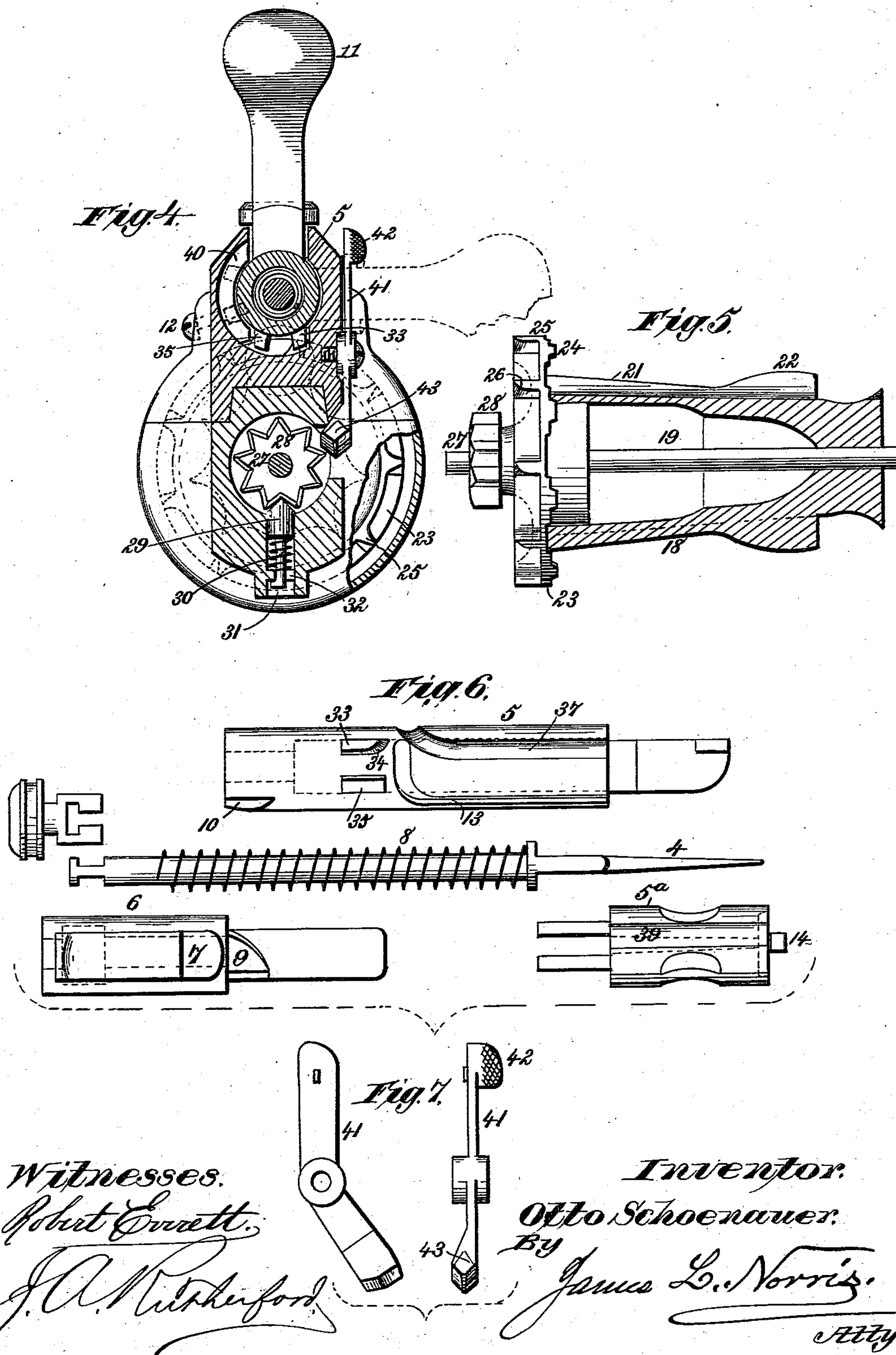
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UNITED STATES PATENT OFFICE.

OTTO SCHOENAUER, OF STEYR, AUSTRIA-HUNGARY.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 336,443, dated February 16, 1886.

Application filed August 30, 1884. Serial No. 141,883. (No model.) Patented in Germany February 1, 1884, No. 28,428; in Italy March 10, 1884, XVII, 16,488, XXXII, 470; in Austria-Hungary March 28, 1884, No. 2,442 and No. 13,738; in England April 1, 1884, No. 5,793; in Belgium April 30, 1884, No. 64,859, and in France May 10, 1884, No. 160,300.

To all whom it may concern:

Be it known that I, OTTO SCHOENAUER, of Steyr, Austria-Hungary, manager of the Oesterreichische Waffenfabriks Gesellschaft, have invented certain new and useful Improvements in Repeating or Magazine Rifles, (for which I have obtained patents in Austria-Hungary, 2,442, 13,738, dated March 28, 1884; Germany, No. 28,428, dated February 1, 1884; Eng-
land, No. 5,793, dated April 1, 1884; Bel-
gium, No. 64,859, dated April 30, 1884; France, No. 160,300, dated May 10, 1884; and Italy, Vol. XVII, No. 16,488, Vol. XXXII, No. 470, dated March 10, 1884,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to repeating rifles, or, as they are frequently termed, "magazine-guns;" and the purpose thereof is to provide improved means for actuating the revolving cartridge-drum for giving the required stability to the breech-bolt, and for equalizing the resistance upon each side thereof, and for converting the gun at will into a single-loader by disconnecting the cartridge-drum from its actuating devices without removing the same from the weapon or discharging the cartridges therefrom.

The invention consists in the several novel features of construction and combinations of parts hereinafter fully set forth, and definitely pointed out in the claims annexed to this specification.

Referring to the drawings, Figure 1 is a side elevation showing the parts in the position they occupy after firing and after the breech-bolt has been retracted to withdraw the empty shell. Fig. 2 is a view, partly in side elevation and partly in longitudinal vertical section, showing the parts in the same position as in Fig. 1. Fig. 3 is a plan view, with a portion in section, showing the position of the parts just after firing. Fig. 4 is a vertical transverse section of Fig. 1, the breech-chamber being sectioned in the plane X X, and the breech-bolt in the plane X' X'. Fig. 5 is a detail view of the cartridge-drum, the body being in section and the base-plate or shield in side elevation. Fig. 6 is a detail view of the

under side of the breech-bolt, the firing pin and extractor being removed and shown separately in said figure, together with the needle-dog. Fig. 7 is a side and rear elevation of the disconnecting-lever detached, whereby the cartridge-drum is thrown out of action and the gun converted into a hand-loader.

In the said drawings, the reference-numeral 1 designates the breech-chamber of the piece, having a trigger, 2, and spring-stop 3, the latter projecting up into a semicircular groove in the top of the breech-piece, in which the breech-bolt slides. The gun is fired by a needle, 4, lying in the breech-bolt 5, and retracted by a needle-dog, 6, having a catch, 7, which engages, when the breech-bolt is pushed forward, with the spring-stop 3, the dog being thrown back and the needle-spring 8 compressed by a cam, 9, engaging with a cam-groove, 10, upon the breech-bolt. The latter is provided with a lever, 11, by which a rotary movement is given to it, said movement being guided by a pin, 12, set in the wall of the breech-chamber and engaging with a groove, 13, in the breech-bolt. An extractor, 14, is carried upon the end of the latter, which, as the cartridge is driven home, hooks over the edge of the shell, being depressed for that purpose by a deflector, 15, which strikes an inclined surface in a recess, 16, formed in the breech-piece at the rear end of the barrel. The parts thus far mentioned do not differ, in a patentable sense, from the invention shown in the "Gras" and other rifles, and said parts are not claimed by me in the present application. Upon the forward part of the breech-piece is mounted a casing, 17, having the form, essentially, of a frustum of a cone. Within this casing is a cartridge-drum, 18, shown in detail in Fig. 5. This drum rotates upon a shaft, 19, which is arranged in bearings in the casing in such a manner that as the drum revolves its upper surface shall be substantially in a plane parallel with the barrel of the gun.

The surface of the cartridge-drum is divided into a series of charging-chambers, 20, having such form that the cartridge will lie closely therein. These chambers are divided from each other by wings 21, which from the base of the

drum incline slightly toward its surface, so that the chamber is shallower at the point where the base of the projectile lies. From this point the wings are curved upward, as shown at 22, Fig. 5, and terminate at such a point that the cartridge-shell only lies between them, the projectile lying in the open space beyond the ends of the wings. At the base of the drum is mounted a shield, 23, against which the ends of the shells lie, and in order to hold the same more securely in position, peripheral lugs 24 are formed thereon, having such shape that the base of the shell may lie between said lugs with a portion projecting above the edge of the shield, as shown in dotted lines in Fig. 4. The shield 23 is cut down, leaving the flange which carries the lugs 24, and at intervals upon the rear face of said flange are formed lugs 25, having one angle rounded off, as shown at 26. Upon the shield 23 is centrally mounted a wheel, 27, having its periphery divided into as many angular teeth, 28, as there are loading-chambers in the cartridge-drum. When the latter is in place, with the shaft 19 in its bearings, a spring-actuated pin, 29, having a wedge-shaped end, engages with the notches in this wheel and holds it in position. This pin lies in an aperture in the breech-piece directly beneath the wheel 27, and is thrown upward by a spring, 30. The pin has a hook, 31, upon its end, by which it is held in place when the drum is removed, and by turning said pin until the hook registers with an opening, 32, the pin and spring may be removed. Upon the under side of the breech-bolt 5 is formed a lug, 33, having one angle, 34, beveled or rounded, as seen in Fig. 6. Beside this lug, and at a little distance, is formed a second lug, 35, the function of which will be shown hereinafter.

The construction and arrangement of the parts is such that, as the breech-bolt 5 is pushed forward its lug 33 will engage with one of the lugs 26 upon the shield 23, the convex surfaces of the lugs coming in contact with each other. This engagement takes place just before the breech-bolt drives the cartridge completely home into the barrel of the piece, and the longitudinal movement of said breech-bolt gives a slight rotation to the drum, sufficient to permit the lug 33 to move completely behind the lug 26. The lever 11 is then turned over toward the right, thereby sweeping the lug 26 over in the opposite direction. This carries the drum 18 far enough to rotate the wheel 27 until the point of its tooth passes the wedging end of the pin 29, the pin being depressed in its socket by the turn of the wheel. The moment the point of the wedge passes the end of the tooth the action of the spring aids the movement of the wheel, and would effect such a rotation of the drum, if the latter were not retarded, as would bring the adjacent loading-chamber into position to deliver its cartridge to the barrel. The cartridge is driven into the piece by the forward move-

ment of the breech-bolt, which strikes the base of the shell and slides it forward in the loading-chamber, the flare 22 in the wings causing the body of the cartridge, which is of increased diameter, to ride upward toward the axial line of the barrel. The end of the drum 18, which projects beyond the wings 22, is also flared, and in the extreme end of the breech-piece adjacent to the barrel is cut an ascending channel, 36, in which the end of the projectile passes and up which it may ride in entering the barrel. As the cartridge is driven home the lever 11 begins to turn, being guided by the groove and pin 12 13 and by the hand of the marksman, and as it is brought down into position for firing the cartridge-drum is revolved, as already described.

By turning to Fig. 6 it will be seen that there is a channel, 37, formed in the under side of the breech-bolt 5 and curving at its rear end upward, where it joins a second groove, 38, running parallel with the first. In the under side of the extractor-block 5^a is formed a groove, 39, with which the groove 37 registers when the lever 11 is upright, whereas when it is brought down into firing position the second groove, 38, is brought into line with the groove in the extractor-block. Now, as the drum 18 is turned by throwing the lever 11 over, the cartridge in the loading-chamber next to that which has just been emptied is brought up by the turn of the drum and strikes the breech-bolt by which its movement is arrested, the cartridge lying in the groove 38 39, and holding the drum in such position that the wedge-pawl 27 has passed the point of the tooth 28, but has not risen into the notch between the teeth. The parts remain in this position until the gun is fired. As the breech-bolt is retracted and revolved the projecting edge of the cartridge end runs in the curve 38^a of the groove until the lever 11 is upright and the grooves 37 and 39 register, as shown in Fig. 2. The breech-bolt is now drawn back, the cartridge moving in the continuous groove until the breech-bolt runs off the cartridge, whereupon the spring 30, acting upon the pin 29, the drum 18 is brought into position to supply another cartridge to the barrel. When the lever 11 is thrown over, as in Fig. 3, and the parts are in position for firing, the lugs 33 and 35 lie in a channel, 40, in the wall of the breech-piece, and the heel 11^a of the lever 11 lies against the shoulder 1^a, thus giving support upon both sides of the breech-bolt.

Upon the side of the breech-piece just in rear of the drum-casing 17 is pivoted an angular lever, 41, having upon its upper end a thumb-piece, 42, and upon the lower end a V-shaped or double-beveled projection, 43, which lies in an opening cut in the wall of the breech-chamber contiguous to the wheel 27. The upper part of this lever moves in a shallow recess in the wall, and is provided with a click or catch, 44, which engages with an aperture

in the metal and holds the lever in the position to which it may be adjusted. By throwing the end of the lever backward the beveled face of the projection 43 strikes one of the teeth of the wheel 27 and turns the wheel toward the right, just far enough to withdraw the lug 25 out of the path of the lug 33 on the breech-bolt. A slight movement of the cartridge-drum is sufficient to accomplish this, and the gun is thereby converted into a single hand-loader and may be used as such whether the loading-chambers of the cartridge-drum are filled or empty.

Having thus described my invention, what I claim is—

1. In a repeating fire-arm, the combination, with a cartridge-drum having a series of loading-chambers and provided with a shield at its end having lugs with beveled angles, of a sliding and revolving breech-bolt having a beveled lug which engages the lugs upon the shield and rotates the drum as the breech-bolt is brought into position for firing, substantially as described.

2. In a repeating fire-arm, the combination, with a revolving cartridge-drum having a shield at its rear end provided with beveled lugs, of a toothed wheel rigid on the shaft of the drum, a spring-actuated pin having a wedge-shaped head engaging said wheel, and a breech-bolt having a beveled lug which is adapted to engage with the lugs upon the shield of the cartridge-drum, substantially as described.

3. In a repeating fire-arm, the combination, with a breech-piece having a groove or recess

in one wall and a shoulder upon the opposite wall, of a breech-bolt having a lever, the heel of which engages with the said shoulder, and lugs which lie in the opposite recess when the piece is fired, substantially as described.

4. In a repeating fire-arm, the combination, with a revolving cartridge-drum having beveled lugs upon its shield, of a wheel rigid on the shaft of the drum and having wedging teeth, a spring-actuated pin having a wedging head engaging with said wheel, a breech-bolt having a beveled lug adapted to engage with the lugs of the wheel, and a lever pivoted upon the breech-piece and having a beveled projection upon its end adapted to engage with the wheel on the drum-shaft and throw the drum out of operative position, substantially as described.

5. In a repeating fire-arm, the combination, with a cartridge-drum having a notched wheel on its shaft, of a spring-actuated pin having a wedging head engaging with said wheel, a shield on the end of the drum having beveled lugs, a breech-bolt having a lug which engages with the lugs of the shield, and an extractor-block having a groove in the side which registers successively with two parallel grooves in the breech-bolt, substantially as described.

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