

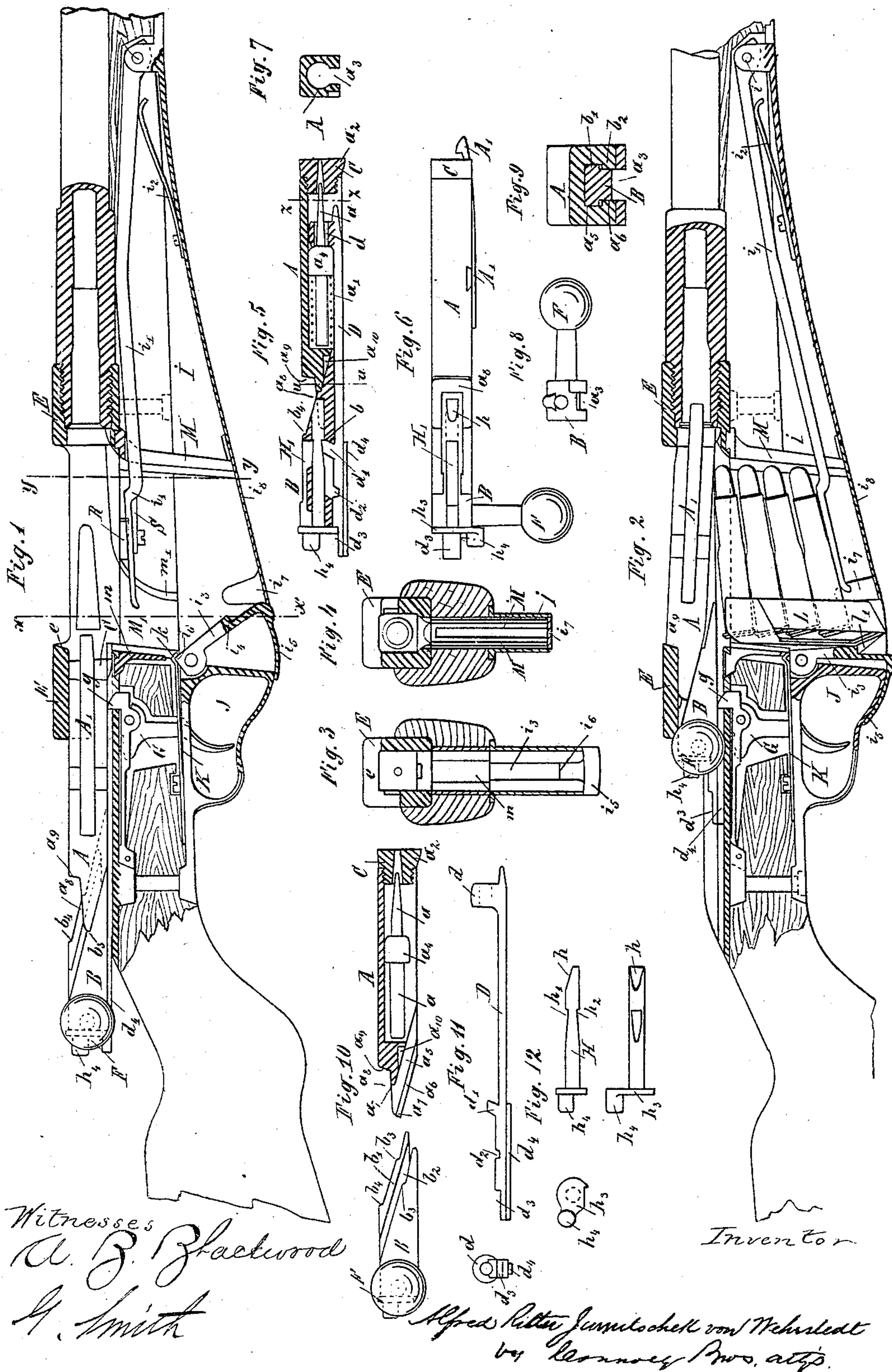
(No Model.)

2 Sheets—Sheet 1.

A. R. J. VON WEHRSTEDT.  
REPEATING FIRE ARM.

No. 437,541.

Patented Sept. 30, 1890.



(No Model.)

2 Sheets—Sheet 2.

A. R. J. VON WEHRSTEDT.  
REPEATING FIRE ARM.

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Fig. 13

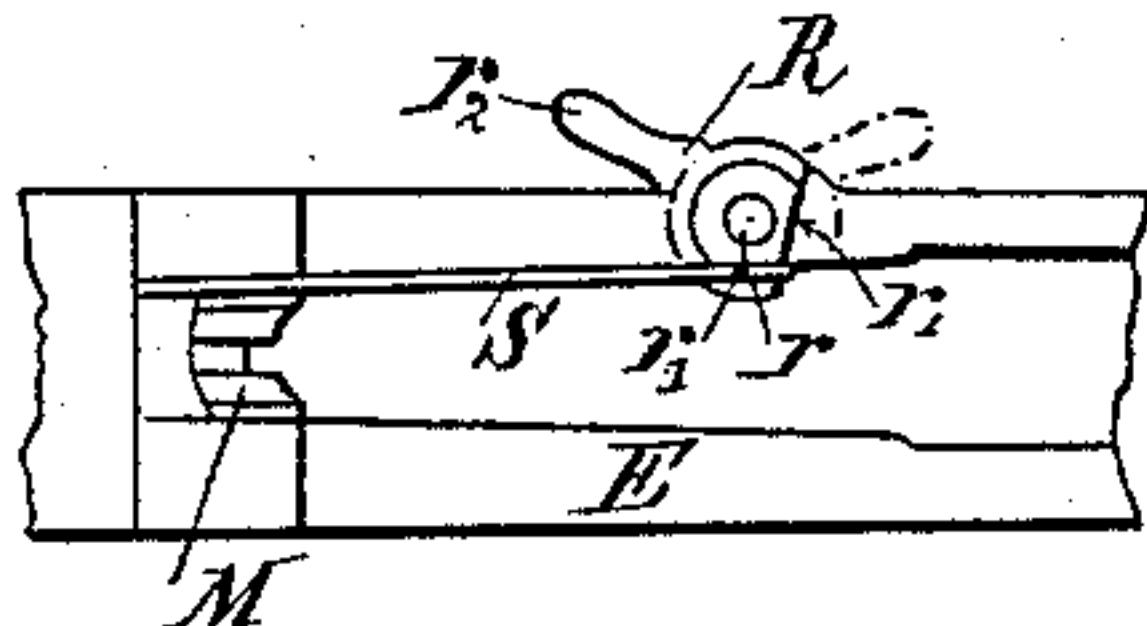


Fig. 16

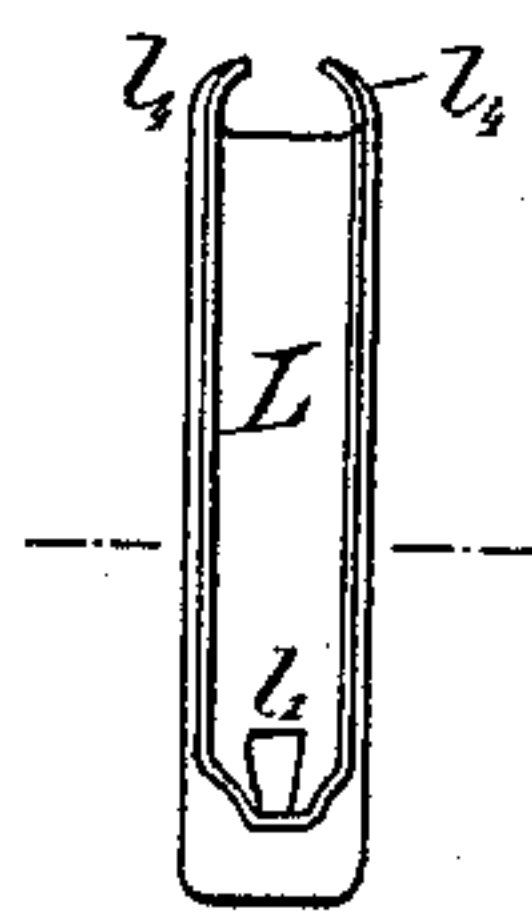


Fig. 15

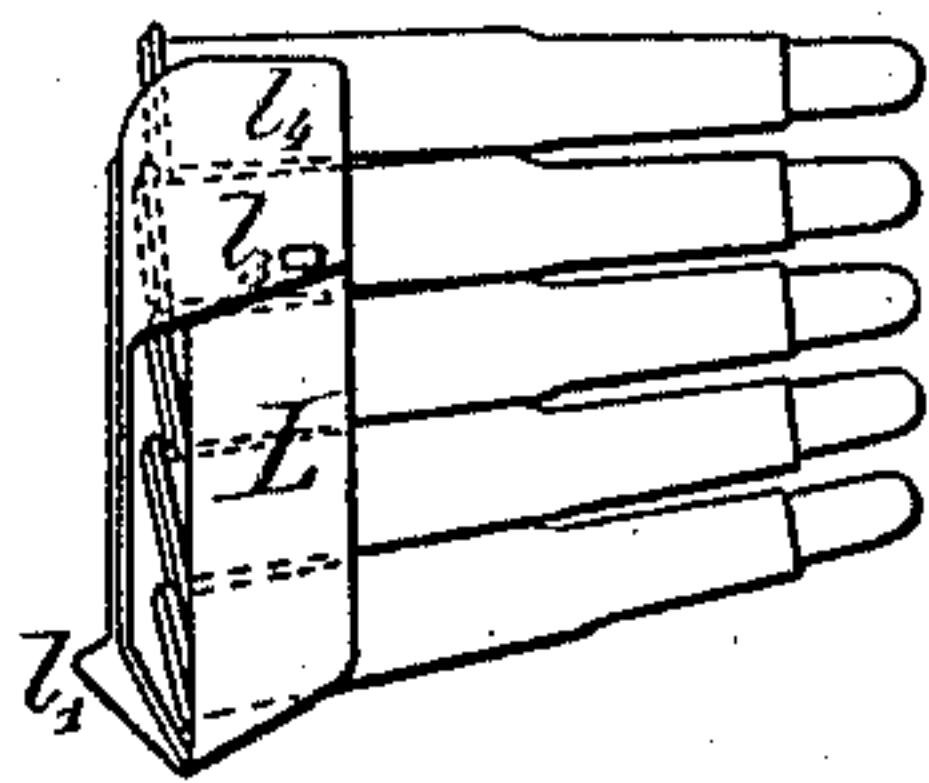


Fig. 14

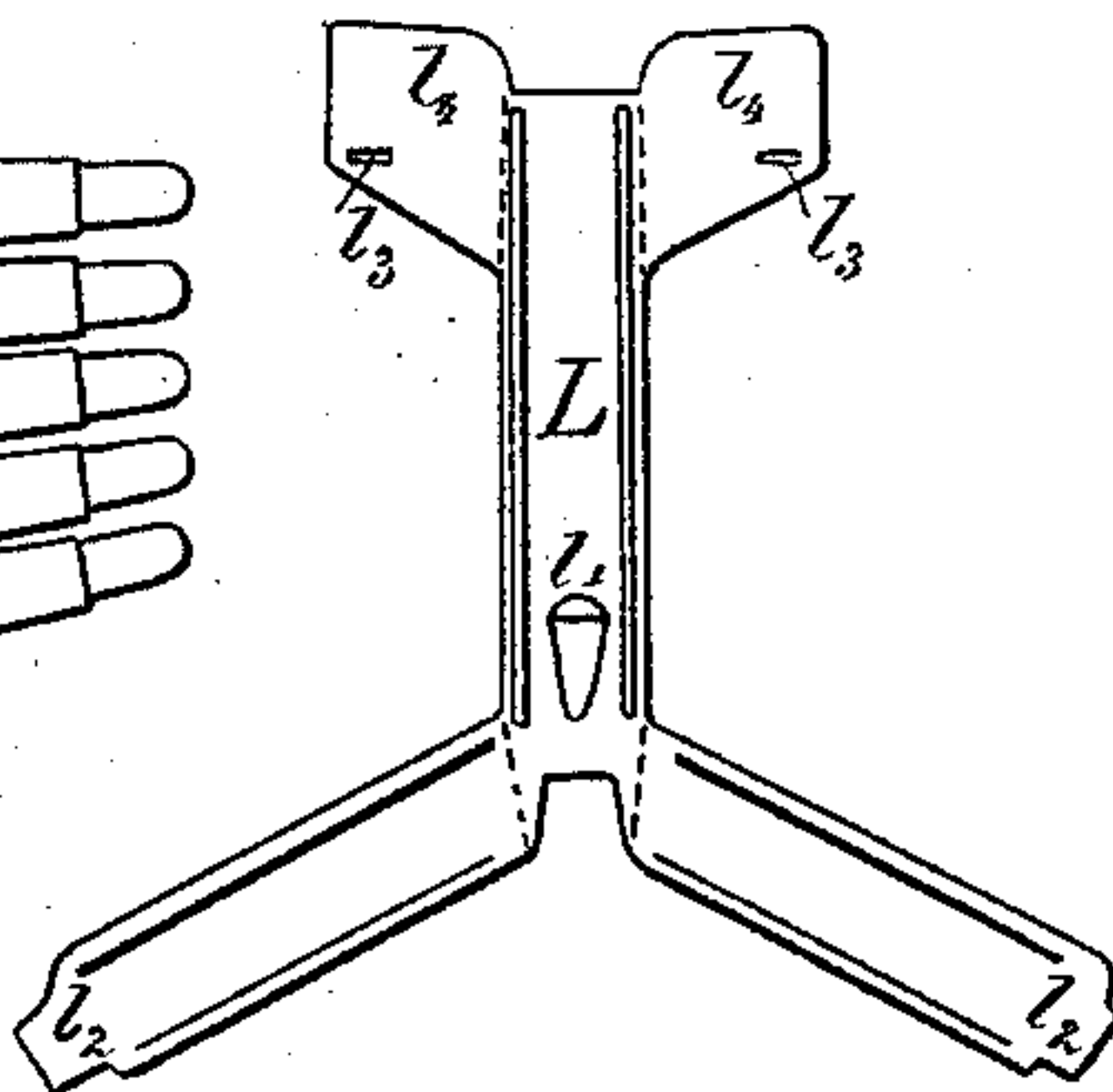


Fig. 17



Witnesses

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# UNITED STATES PATENT OFFICE.

ALFRED RITTER JURNITSCHKEK VON WEHRSTEDT, OF VIENNA, AUSTRIA-HUNGARY.

## REPEATING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 437,541, dated September 30, 1890.

Application filed December 20, 1887. Serial No. 258,529. (No model.) Patented in Sweden October 26, 1887, No. 2,252; in Belgium October 29, 1887, No. 79,349; in England October 29, 1887, No. 14,761; in France October 29, 1887, No. 186,672; in Germany October 30, 1887, No. 43,368; in Italy December 31, 1887, XXI, 22,564, and in Austria-Hungary April 24, 1888, No. 41,060 and No. 6,416.

*To all whom it may concern:*

Be it known that I, ALFRED RITTER JURNITSCHKEK VON WEHRSTEDT, a subject of the Emperor of Austria-Hungary, and a resident of the city of Vienna, in Austria-Hungary, have invented certain new and useful Improvements in Repeating Fire-Arms, (for which I have obtained patents as follows: in Germany October 30, 1887, No. 43,368; in Austria-Hungary April 24, 1888, No. 41,060 and No. 6,416; in Belgium October 29, 1887, No. 79,349; in England October 29, 1887, No. 14,761; in France October 29, 1887, No. 186,672; in Italy December 31, 1887, XXI, 22,564, and in Sweden October 26, 1887, No. 2,252,) of which the following is a specification.

The repeating-gun forming the subject of the present invention has a single-motion breech-closing mechanism in which the breech-bolt consists of two wedge-shaped parts sliding the one upon the other, and which I will call the "locking-wedge" and the "breech-wedge." In closing the breech the locking-wedge is driven between the breech-wedge and the bottom of the breech-casing, thereby raising the rear end of the breech-wedge, so as to cause a shoulder on the latter to engage with the wall of the breech-casing. When the locking-wedge is drawn back, the breech-wedge is lowered and can then be drawn back, so as to open the breech. During the first part of the movement of the locking-wedge the firing-spring is cocked, so that after closing the breech the gun is ready for firing. For holding together the two wedges and for cocking the firing-spring a cocking-piece is employed. This is inserted into a groove in the two wedges and has an eye embracing the firing-pin, while its rear hooked portion enters into a notch in the locking-wedge. The cocking-piece is provided with a downward projection, which on closing the breech engages with the trigger-pin, so that the firing-spring, which has been compressed in opening the breech, is kept cocked.

The repeating mechanism consists of a spring-actuated cartridge-feeder arranged in

a magazine below the breech-casing. The cartridges rest upon the cartridge-feeder, which is hinged below the barrel of the gun, and are held in a sheet-metal case inclosing their bottoms and, say, about one-fourth of their length. A projection on the sheet-metal cartridge holder or case engages with a projection on the magazine, and thus prevents the cartridges being raised farther by the cartridge-feeder than is necessary to bring one cartridge into the way of the breech-bolt. When all the cartridges have been fired, the empty cartridge holder or case, which now is no more held by the cartridges and cartridge-feeder, falls through the opening in the bottom of the magazine. This opening can be readily closed. This is effected by a lug mounted on a plate attached to the rear wall of the magazine. On introducing the cartridge-package the said plate is pushed back by the package, so that the lug is made to overlap part of the trigger-guard, uncovering the said opening. At the same time the projection on the sheet-metal cartridge-holder enters into a notch in the plate and is held by the cartridge-feeder; but when the lug and the plate are pushed back still farther the cartridge-feeder will throw out all the cartridges contained in the magazine, together with their holder.

In order to enable the gun to be used as a single-loader while the magazine is full, I provide a catch consisting of a cam mounted in the left wall of the breech-casing near its bottom, and which can be turned by a handle. When the repeating mechanism has to be put out of action, the cam is turned forward, whereby it is caused to enter between the uppermost and the second cartridge, thus preventing the second and all the following cartridges from being lifted by the cartridge-feeder.

In the drawings hereunto annexed I have shown a gun constructed according to the present invention.

Figure 1 is a vertical longitudinal central section of the gun with the breech opened, the breech-bolt being shown in elevation.



Fig. 2 is a similar view of the gun with the breech closed and the striker cocked. Fig. 3 is a transverse section on the line  $x x$ , Fig. 1. Fig. 4 is a section on the line  $y y$ , Fig. 1. Fig. 5 is a vertical longitudinal section through the breech-bolt with the striker cocked. Fig. 6 is a plan of the same. Fig. 7 is a section on the line  $z z$ , Fig. 5. Fig. 8 is a rear view; and Fig. 9 is a section on the line  $u u$ , Fig. 5, on a larger scale. Fig. 10 shows the two wedges of the breech-bolt partly in elevation and partly in section. Fig. 11 shows the cocking-piece in two views. Fig. 12 shows the stop in different views. Fig. 13 is a bottom view of the catch for putting out of action the repeating mechanism, and Figs. 14 to 17 show the cartridge holder or case in various views.

As is clearly seen from Figs. 5 and 10, the breech-bolt consists, substantially, of two wedge-shaped parts A and B, A being the breech-wedge, and B the locking-wedge. The breech-wedge is centrally hollowed and incloses the firing-pin  $a$  and the firing-spring  $a'$ , its front end being closed by the head  $c$ , screwed into it. On the under side of the breech-wedge there is provided a groove  $a^3$ , into which the cocking-piece D is embedded. This cocking-piece has at its front end an eye  $d$ , while at its rear end it is provided with a projection  $d'$  and two notches  $d^2$  and  $d^3$ . As is shown in Fig. 5, the eye  $d$  of the cocking-piece embraces the front end of the firing-pin  $a$ . A shoulder  $a^4$  presses the cocking-piece forward and the projection  $d'$  abuts against a projection  $b$  of the locking-wedge B, so that both wedges are held together by the cocking-piece and the firing-pin.

In order to insure that the two inclines slide the one upon the other, the breech-wedge A is provided with a groove  $a^5$ , Fig. 10, into which a lip  $b'$  on the locking-wedge enters, Figs. 5, 9, and 10, while a lip  $a^6$  on the breech-wedge engages with a groove  $b^2$  in the locking-wedge.

When the breech has been opened and the breech-block entirely drawn back, the projections  $a^7$  enter into the notches  $b^3$ , and as in this position the breech-wedge A is guided by the top wall of the breech-casing E, Figs. 1 and 2, so that it cannot be raised—that is to say, so that the locking-wedge cannot be driven under the breech-wedge—the two wedges when in this position are in such rigid connection that by pushing forward the locking-wedge by means of the handle F the breech-wedge is also pushed forward. When the breech-wedge has arrived at its extreme position, with its head abutting against the head of the cartridges in the barrel, its rear end can be raised, because its shoulder  $a^8$  is then below the edge of the wall of the breech-casing E. When the locking-wedge B now continues its forward motion, the projections  $a^7$  escape from the notches  $b^3$ , and the locking-wedge raises the breech-wedge A by being forced in between the breech-wedge and the bottom of the breech-casing. At the same

time the surface  $a^9$  is brought to abut against the front surface  $e$  of the breech-casing, so that the breech-bolt is locked and the breech cannot be opened by the explosion. The shoulder  $b^4$  serves to prevent the locking-wedge B from being driven in too far, thus avoiding undue pressure and friction.

In opening the breech the locking-wedge B is at first drawn back, thereby lowering the rear end of the breech-wedge A, so that the latter can also be drawn back. During this first part of the movement of the locking-wedge B the firing-spring is cocked, Fig. 5, because the cocking-piece D and the firing-pin  $a$  are drawn back together with the locking-wedge B, while the breech-wedge A is only lowered at its rear end without being drawn back. When the breech-wedge is drawn back, its projections  $a^7$  have already entered into the notches  $b^3$ , and thus prevent the two wedges A and B from being drawn closer together. This position is retained until the breech has to be closed, whereupon the breech-wedge A is raised at its rear end, as already stated; but before this takes place the projection  $d^4$  of the cocking-piece has been engaged by the trigger-pin  $g$ , which keeps the firing-spring cocked while the breech-bolt is being pushed forward.

The stop, Figs. 5 and 12, consists of a pin H, provided with notches  $h'$  and  $h^2$  and having on its rear end a disk  $h^3$  with handle  $h^4$ . The disk  $h^3$  is so shaped that it does not interfere with the cocking-piece D. When the pin is turned in the direction of the hand of a watch while the spring is cocked and the breech is closed, the circular part of the disk enters into a notch  $d^3$  in the cocking-piece, so that the firing-spring cannot come into action even if the trigger should be pulled. At the same time the beveled end  $h$  of the pin H is turned downward, while that end which is not beveled enters into the recess  $a^{10}$  of the breech-wedge, thus preventing both parts from moving, and also the breech from opening. When the stop is turned while the firing-spring is not cocked, the pin H enters into the recess  $a^{10}$  in the same manner as before stated, thus preventing the breech from opening, and the disk on the pin H enters into the second notch  $d^3$  of the cocking-piece.

H' is a spring, the end of which enters into the notches  $h'$   $h^2$ , thus holding the pin H in place.

The bottom of the breech-casing and the stock are provided with an opening. Into the magazine thus formed a cartridge-pack- age may be inserted from above. In order to enlarge the magazine, a casing I is provided below the said opening. This casing is screwed to the stock of the gun and is connected with the trigger-guard J. In the casing there is located the cartridge-feeder  $i'$ , pivoted at  $i$  and pressed upward by the spring  $i^2$ .

On the rear wall of the magazine a plate  $i^3$  is pivoted, which is provided with a notch  $i^4$ .



The spring K bears upon the upper flat portion of the plate and keeps it open; but when the latter is pressed forward, so that the lug  $i^5$  closes the opening which is provided in the casing I for the empty cartridge-holders L to fall through, the edge  $i^6$  enters into the notch  $k$  of the spring K, so that the plate is held in this position too.

M are two guide-lugs for the cartridges and the cartridge-feeder. They are fixed in the breech-casing. A similar guide M' is provided for the cartridge-holder at the rear end of the magazine. This guide consists of two side walls, which at their rear edges are connected by the wall  $m$  and have their front edges provided with elevated rims  $m'$ . The lugs  $i^7$ , by means of which the bottom  $i^8$  of the magazine is secured to the body thereof, form a continuation of the rims  $m'$ .

The cartridge-packages contain five cartridges, more or less, held together by the cartridge-holder L. The cartridge-holders consist of a single piece of sheet-steel, which is stamped out in the form shown by Fig. 14 and bent together along the dotted lines. Convex ribs formed in the blank by stamping out or pressing serve to strengthen the whole.  $l'$  is the projection by which the holder is held in the magazine.  $l^2$  are lugs, which are drawn through slots  $l^3$  and then bent down, thus holding together the holder L. The upper lugs  $l^4$  are bent as shown in Fig. 16, and being elastic form springs to hold the cartridges together. When such a cartridge-package is inserted into the magazine from above, the projection  $l'$  forces the plate  $i^3$  backward, Fig. 2, and enters into the notch  $i^4$ . The cartridge-feeder, which has been depressed, now bears upon the bottom cartridge and raises the cartridges contained in the magazine so far that the top cartridge lies between the lugs  $l^4$ . When the breech is open, the topmost cartridge is so far raised that in pushing forward the breech-bolt the projection  $a^2$  on the latter comes against the head of the cartridge and pushes it forward into the breech-chamber, while the other cartridges are raised by the cartridge-feeder  $i'$ .

On opening the breech the cartridge-shell is extracted and ejected by the extractor A' in the well-known manner. The extractor is let into the breech-wedge A and prevents the unscrewing of its head. If it is desired to remove a partly-emptied or a filled cartridge-holder from the magazine, the plate  $i^3$  is pressed back a little more by means of the lug  $i^5$ , whereby the projection  $l$  of the cartridge-holder is disengaged from the notch  $i^4$ , and the cartridge-feeder throws out the holder, together with the cartridges contained therein, through the top opening of the magazine. When the cartridge-holder is emptied, the last cartridge having been introduced into the breech-chamber, the cartridge-holder which has been held in place by the cartridges only glides down and falls through the opening in the bottom of the magazine.

The catch for putting out of action the repeating mechanism consists of an eccentric disk R, provided with a cylindrical projection with two plane surfaces  $r'$  parallel to its axis. This disk is free to revolve round the screw  $r$ , and is held in position by a spring S bearing against one of the surfaces  $r'$ . In the position shown by dotted lines in Fig. 13 the repeating mechanism is free to act, because the disk R does not project beyond the edge of the breech-casing; but when it is turned by means of the handle  $r^2$  into the position shown by full lines in Fig. 13 (the breech being open) the said disk enters between the topmost and the immediately succeeding cartridge. The first cartridge can still be pushed into the barrel, while all the rest below it are held back by the catch, so that the gun can be employed as a single-loader.

I claim—

1. In a repeating-gun, the combination, with the breech-casing, of a breech-bolt consisting of two wedge-shaped parts A B, which have projections and notches on their inclined surfaces and are guided by lips  $a^5$  and  $b'$ , the rear wedge B being provided with a handle F, so that on pushing forward the rear wedge B it enters between the bottom of the breech-casing and the front wedge A, raising the latter, so that a shoulder  $a^8$  on the said front wedge is caused to bear against the front wall  $e$  of the breech-casing, thereby preventing the breech from being opened by the explosion.

2. In a repeating-gun, the combination, with the breech-casing, of a breech-block consisting of the two wedges A and B, with the cocking-piece D, having at its front end an eye  $d$ , embracing the firing-pin, and at its rear end a projection  $d'$ , engaging with the wedge B, and having a projection  $d^4$ , engaging with the trigger-pin  $g$ , and notches  $d^2$   $d^3$ , engaging with eccentric disk  $h^3$  on pin H, enabling it to be retained in certain positions hereinbefore set forth by means of the trigger-pin  $g$  and the pin H.

3. In a repeating-gun, in combination with the breech-casing and the parts A B, forming the breech-bolt, and the cocking-piece D, having notches  $d^2$   $d^3$ , a stop consisting of a pin H, provided at its rear end with an eccentric disk  $h^3$  and having a beveled front end  $h$ , so that by turning the said pin the disk  $h^3$  is caused to engage with the notches of the cocking-piece, thus preventing the firing-pin from being thrown forward, while at the same time the non-beveled end of the pin H enters into a recess  $a^{10}$  of the breech-wedge, thus locking both wedges.

4. In combination with the breech-closing mechanism, a magazine I, arranged in the middle of the gunstock and having an opening in the bottom for the empty cartridge-holders to fall through, and a pivoted plate  $i^3$ , held in a rearward or forward position by the spring K and forming the rear wall of the magazine, and provided with the lug  $i^5$ , so that this lug closes the said opening in the



bottom of the magazine when the plate  $i^3$  is pressed forward while the magazine is empty.

5 5. The combination of the breech-closing and cocking mechanism and the magazine I with an eccentric R, fulcrumed on the breech-casing, so that by turning it can be made to enter below the topmost cartridge in the magazine, thus holding down the rest of the cartridges below it.

10 6. In repeating-guns, the magazine I and the cartridge-feeder  $i'$ , in combination with the case or holder consisting of the center

piece L, the arms  $l^2$ , and the lugs  $l^4$ , for holding together the cartridges stamped out of a single piece of sheet metal bent together and held together by bending down, substantially as described and shown. 15

In testimony whereof I have affixed my signature in presence of two witnesses.

ALFRED RITTER JURNITSCHKE  
VON WEHRSTEDT.

Witnesses:

E. G. J. MOELLER,  
P. O. PAGET.