

(No Model.)

2 Sheets—Sheet 1.

J. NEMETZ.

BREECH LOADING FIRE ARM.

No. 254,681.

Patented Mar. 7, 1882.

Fig. 1.

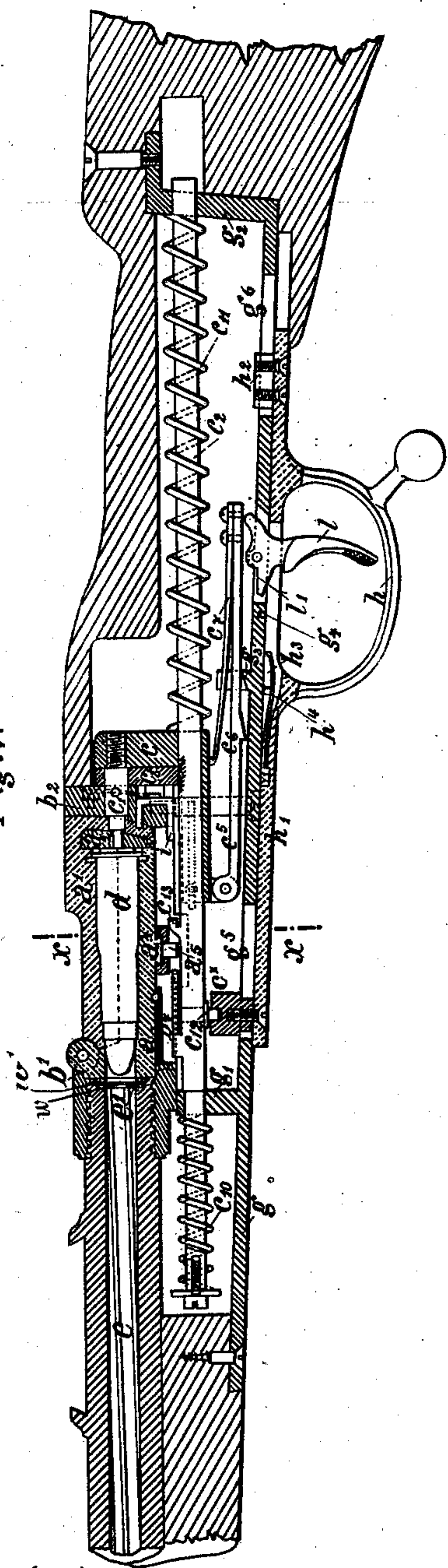
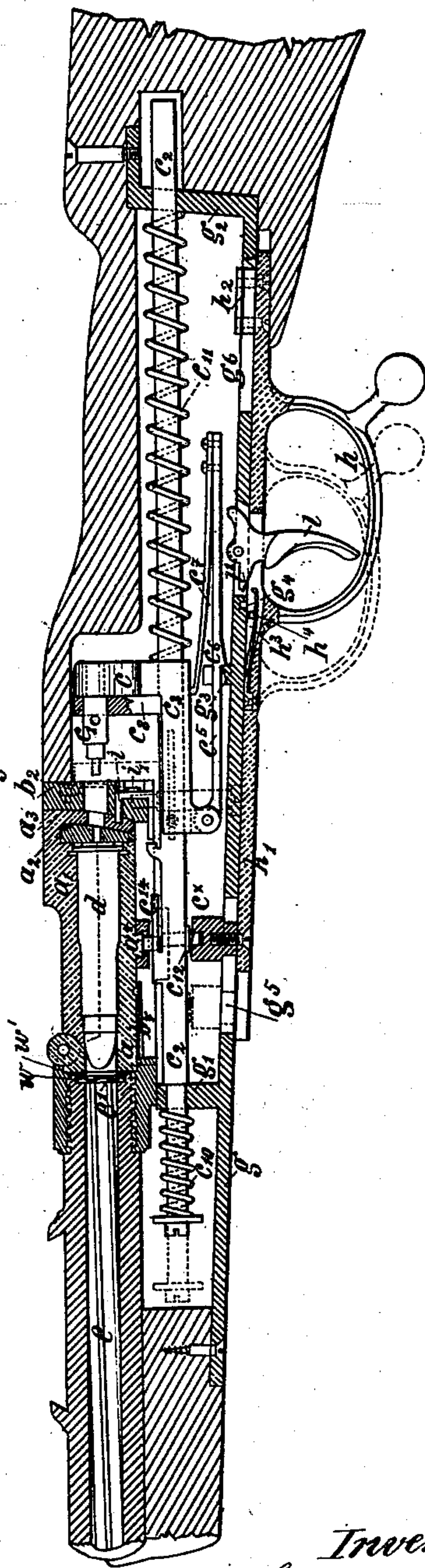


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

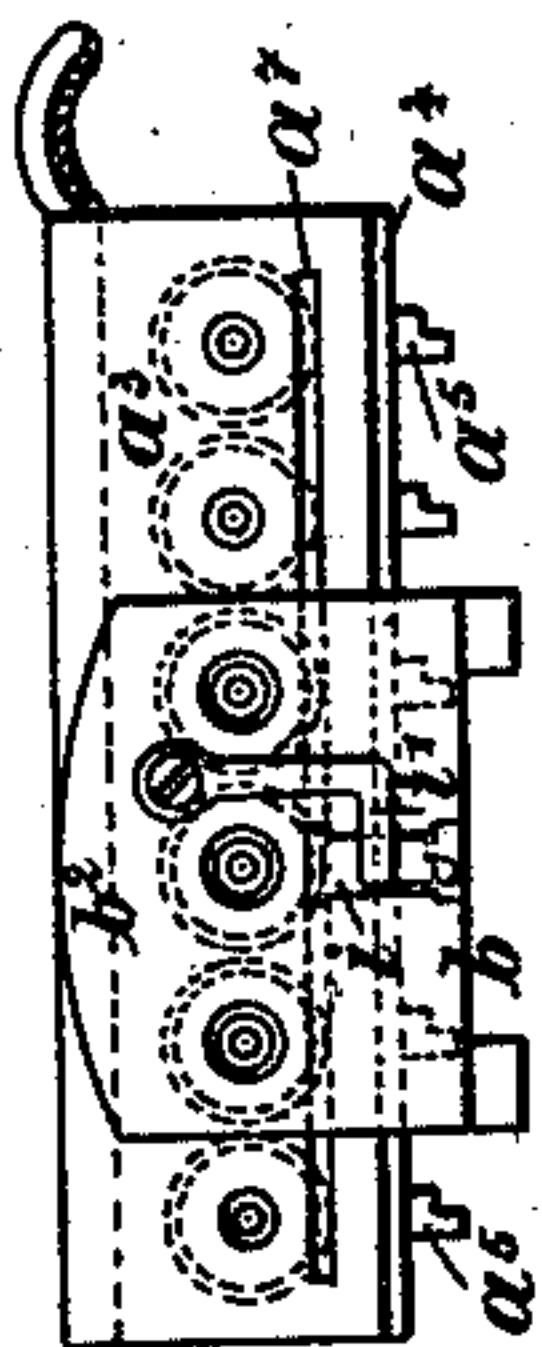


Fig. 8.



Fig. 10.



Fig. 11.

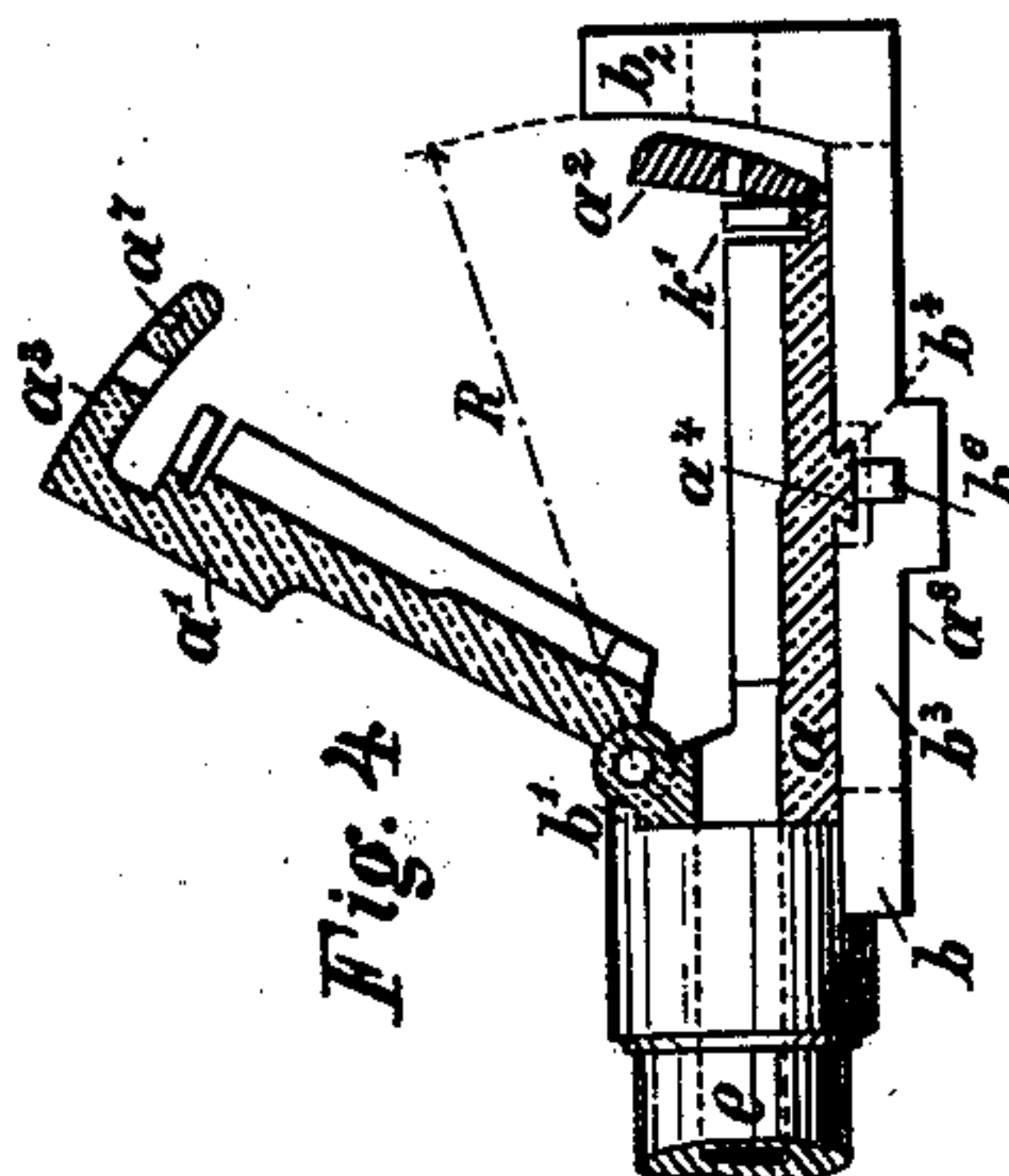


Fig. 4.

Fig. 9.

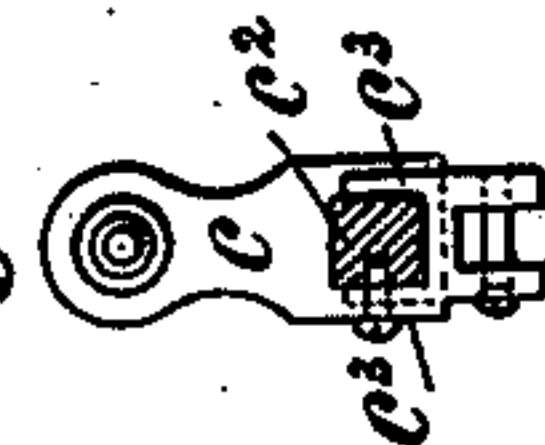


Fig. 12.



Fig. 6.

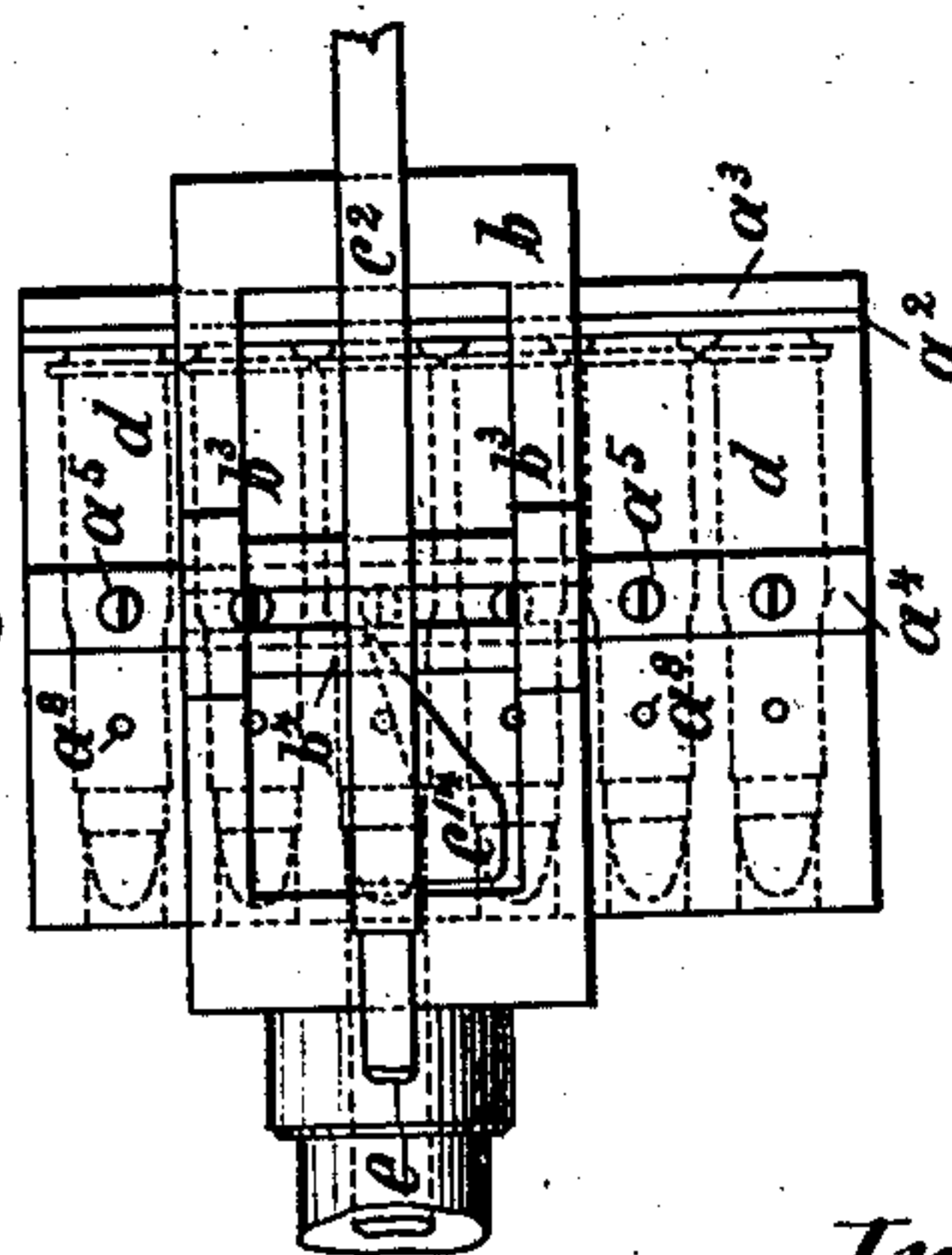
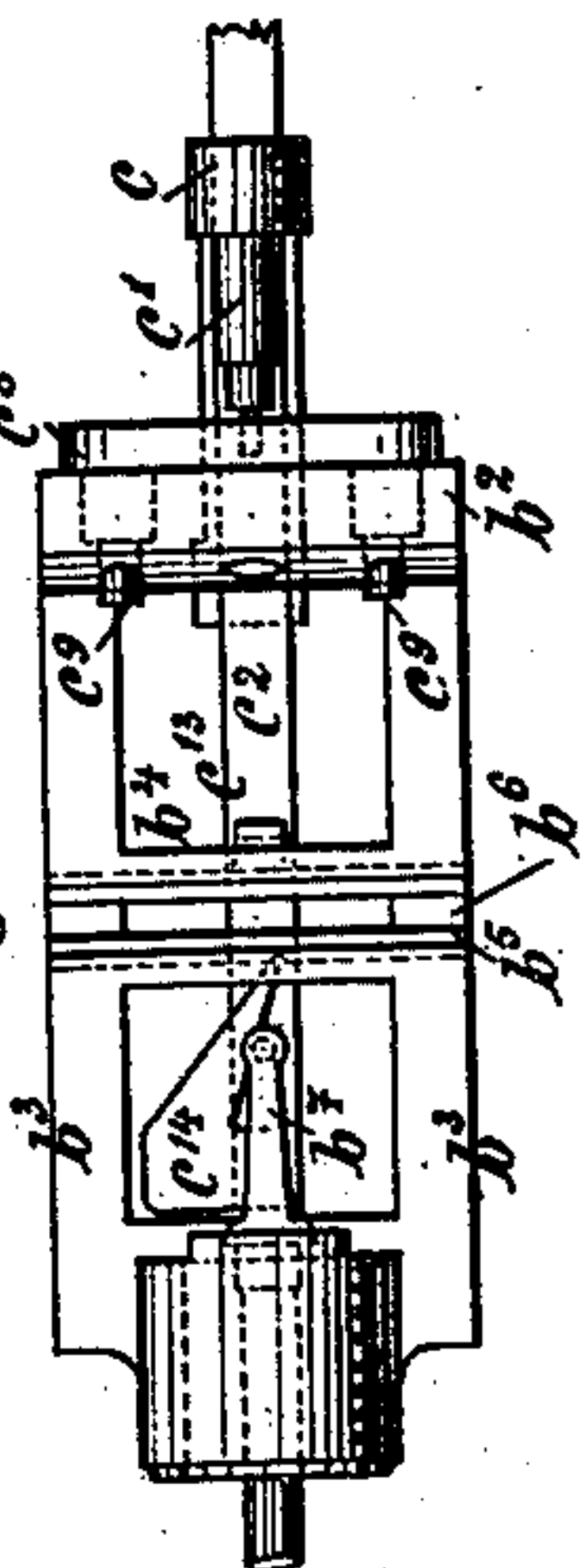


Fig. 7.



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# UNITED STATES PATENT OFFICE.

JOSEF NEMETZ, OF VIENNA, AUSTRIA-HUNGARY.

## BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 254,681, dated March 7, 1882.

Application filed August 25, 1881. (No model.) Patented in Italy July 30, 1881, in Belgium August 16, 1881, in Sweden October 5, 1881, in France October 28, 1881, in Austria November 10, 1881, and in Hungary November 10, 1881.

*To all whom it may concern:*

Be it known that I, JOSEF NEMETZ, a subject of the Emperor of Austria, residing at Vienna, Austria-Hungary, have invented certain new and useful Improvements in Fire-Arms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to a novel construction of magazine fire-arms in which the magazine is moved at right angles to the axis of the barrel and the firing-pin; and the invention consists, first, in a magazine fire-arm, the combination, with the barrel, a laterally-movable cartridge-magazine, a hammer provided with a firing-pin, a guide-rod for the same, and a hammer-rod hinged to said firing-pin, of a sliding trigger-guard and means, substantially as hereinafter set forth, whereby a lateral movement is imparted to the magazine, and the firing-pin, through the medium of its hammer-rod, is locked into position for firing by the operation of the trigger-guard, substantially as hereinafter described, and for the purpose specified; second, in a magazine fire-arm, the combination, with the barrel, a laterally-movable cartridge-magazine, a hammer provided with a firing-pin, a guide-rod for the same, a hammer-rod hinged to said firing-pin, a sliding trigger-guard, and means, substantially as hereinafter set forth, whereby a lateral movement is imparted to the magazine, and the firing-pin, through the medium of its hammer-rod, is locked into position for firing, of the trigger and the actuating-spring, substantially as hereinafter described and shown; third, in a breech-loading magazine-gun, the combination, with the firing-pin, a magazine arranged to be moved at right angles to the axis of said firing-pin, of a trigger-guard adapted to retract the pin, lock it into position for firing, and simultaneously move the magazine to bring a fresh cartridge in position for firing, substantially as hereinafter more fully described; fourth, the inven-

tion further consists in certain details of construction of parts and their combination with each other, as hereinafter fully described, and shown in the accompanying drawings, in which—

Figure 1 is a longitudinal section of so much of a gun as is necessary to illustrate my invention, the parts being shown in the position after firing. Fig. 2 is a like view showing the parts in position ready for firing. Fig. 3 is a transverse section on line *xx* of Fig. 1. Fig. 4 is a longitudinal section of the open magazine. Fig. 5 is a rear elevation of the same and its casing. Fig. 6 is an under side view of the magazine, its casing, and the guide-rod for the hammer. Fig. 7 is a top view of the magazine, its casing, and the guide-rod for the hammer. Figs. 8, 9, 10, 11, and 12 are detail views.

Like letters of reference are employed to indicate like parts wherever such may occur in the above figures of drawings.

The magazine is constructed of two parts, *a* and *a'*, hinged together, as shown. It may be provided with six or more chambers to receive an equal number of cartridges. It is so arranged in the gun as to be moved laterally every time the hammer is retracted into position for firing—that is to say, whenever the hammer is brought to full-cock. The extent of this lateral movement is such as to bring a fresh cartridge in line with the bore of the barrel whenever the hammer is retracted. The two parts *a* and *a'* of the magazine are provided with semi-circular recesses or grooves, so that when the two parts are locked together chambers are formed that have the form of and securely inclose a cartridge each.

At the rear end of the lower portion, *a*, of the magazine is hinged a locking-plate, *a'*, that extends over the cartridge-chambers, and has a number of perforations equal to the number of said chambers for the passage of the firing-pin.

The connection of the locking-plate *a'* with the part *a* of the magazine is such that said plate will have but a limited backward movement when the part *a'* is raised—that is to say, the backward movement of *a'* is such that it



will always be in proper position for engagement with the locking-plate  $a^3$  on the part  $a'$  of the magazine. The plate  $a^3$  extends across the rear face of the locking-plate  $a^2$  when the magazine is closed, as shown, Figs. 1, 2, and 5, and holds the latter plate firmly upon the rear face of the cartridges. The plate  $a^3$  is, like plate  $a^2$ , also provided with suitable openings for the passage of the firing-pin.

Upon its lower face, and at or near its center, the magazine has transverse dovetailed projection  $a^4$ , that is fitted and slides in a correspondingly-shaped guide-groove of the magazine-casing, hereinafter more fully described. By means of this projection and the flange or projection  $b'$  of the magazine-casing the magazine is held against forward or backward motion, while it is adapted to be moved laterally in the dovetailed groove of the casing.

The casing  $b$  is composed of a frame that has a screw-threaded tubular head for the reception of the barrel  $e$ . The rear end,  $b^2$ , of the frame forms the breech-block, the inner face of which has the form of a segment of a circle whose center is that of the pivot-pin of the magazine-lid  $a'$ , as shown, Figs. 1, 2, and 4, and against which bears the curved locking-plate  $a^3$  of said lid. The outer face of the locking-plate  $a^2$  and both the outer and inner faces of the plate  $a^3$  also form segments of circles drawn from the above-described center, and said faces are ground true, so as to fit accurately one against the other.

The breech-block  $b^2$  of the magazine-casing carries a small safety-pin,  $i$ , which is pressed into a recess,  $a^7$ , formed in the locking-plate  $a^3$  of the magazine by a spring,  $i'$ , and serves to lock the locking-plates  $a^2$   $a^3$  against accidental displacement. When the hammer is retracted the nose  $c^{13}$  comes in contact with the arm  $i^2$  of the pin  $i$  and disengages it from the recess  $a^7$  to permit the opening of the magazine.

The opposite sides  $b^3$  of the frame or casing  $b$  are connected together centrally by a cross-piece,  $b^4$ , in which is formed the dovetailed groove  $b^5$ , above mentioned. In the bottom of this groove  $b^5$  is formed a slot,  $b^6$ , Figs. 4 and 7, rectangular or prismatic in cross section, in which ride the guide-pins  $a^5$ , formed on or attached to the dovetailed projection  $a^4$  of the magazine.

Through the medium of a beveled plate,  $c^{14}$ , that is connected with the hammer guide-rod, and that is brought in contact with the pins  $a^7$  when the hammer is retracted to full-cock, the magazine is moved laterally a distance sufficient to bring a fresh cartridge in line with the bore of the barrel  $e$ , as hereinafter referred to.

$c$  is the hammer. (Shown in front elevation, Fig. 9.) It is provided on opposite sides with guide-cheeks  $c^3$ , that are extended to project some distance forward of the hammer, and at their forward end are hinged to the hammer-rod  $c^5$ . These cheeks  $c^3$  serve to hold the hammer in proper position upon its guide-rod  $c^2$ , upon which it is adapted to slide back and forth.

The hammer-rod  $c^5$  has a projection or nose,  $c^6$ , adapted to engage a stop,  $g^3$ , on the covering plate or strap  $g$ , said hammer-rod being held depressed by a spring,  $c^7$ , for purposes presently explained.

In order to properly guide the hammer—that is to say, in order to insure the correct forward movement of the firing-pin, so that it will always strike the cartridge centrally—the cheeks  $c^3$  may be provided with a tongue or pin, and the rod  $c^2$  with a groove, as shown in Fig. 9; or said cheeks may be made to inclose the guide-rod, in which latter case no other guiding devices will be necessary.

Upon the guide-rod  $c^2$  is rigidly attached a safety-plate,  $c^8$ , Figs. 1, 2, and 8, that is provided with a central aperture for the passage of the firing-pin.

On each side of the central aperture the plate  $c^8$  carries a pin,  $c^9$ , the distance between the two pins being equal to the distance between two cartridges in the magazine. When the plate  $c^8$  is in proper position it bears against the breech-block  $b^2$ , and the pins  $c^9$  will lie each in one of the apertures formed in said block and in the locking-plate  $a^3$  for the passage of the firing-pin. By means of this construction the magazine is firmly locked to the breech-block and safety-plate and held against accidental movement in any direction, and as the pins enter into the openings provided for the passage of the firing-pin the magazine will always be in the required position for said pin to come in contact with a cartridge to be fired.

The length of the pins  $c^9$  is equal to the thickness of the breech-block  $b^2$  and the locking-plate  $a^3$  of the magazine, and in form said pins are like the firing-pin with its striking-point removed.

The apertures in the locking-plate  $a^2$  of the magazine are of the same diameter as the point of the firing-pin, hence smaller than the openings in the parts  $a^3$   $b^2$ , as shown, Figs. 1 and 2, so that under no circumstances can the pins  $c^9$  be brought in contact with the cartridge.

The hammer guide-rod has its bearings in two supports,  $g'$   $g^2$ , formed on the covering or lock-plate or strap  $g$ . Its forward end, in rear of the support  $g'$ , is angular in cross-section, which, together with the spring  $c^{10}$ , serves to maintain it in proper position.

A spring,  $c^{11}$ , on the guide-rod  $c^2$  bears against the hammer at one end, and at the other against the support  $g^2$ , and holds the said hammer in contact with the safety-plate  $c^8$  when the hammer has been thrown forward.

It will be seen that the hammer moves with the rod  $c^2$  in one direction and independently of said rod in a reverse direction.

When the parts are in the position shown in Fig. 1—that is to say, after firing—and the rod  $c^2$  is retracted by moving the trigger-guard and its plate backward, the safety-plate  $c^8$  will carry the hammer along and both springs  $c^{10}$   $c^{11}$  will be compressed. This rearward movement of



the hammer through the plate continues as long as the trigger-guard is pulled back, or as far as the rod can move backward. When, however, the full-cock stop on the hammer-rod engages that on the covering plate or strap *g* to arrest the forward movement of the hammer under the tension of the spring *c*<sup>11</sup>, then the trigger-guard is released, and the rod is free to move forward under the tension of the spring *c*<sup>10</sup> to bring the safety-plate *c*<sup>8</sup> into the position above described before firing, or before releasing the hammer by pulling the trigger.

The trigger-guard plate *h'* is connected with the hammer guide-rod by means of a pin, *c*<sup>12</sup>, that engages a recess in a block, *c*<sup>x</sup>, attached to or formed on said plate. This block *c*<sup>x</sup> extends from the guard-plate *h* through a slot, *g*<sup>5</sup>, in the covering plate or strap *g* to the under side of said hammer guide-rod. The strap *g* is provided with a second slot, *g*<sup>6</sup>, in rear of the trigger-guard, in which slides the guide-block *h*<sup>2</sup>, attached to the guard-plate *h'*.

When the gun is to be loaded the trigger-guard plate *h'* is pulled back by means of the handle on the trigger-guard *h* until the small pin *h*<sup>4</sup> on the spring *h*<sup>3</sup> engages the recess *g*<sup>4</sup> in the strap *g* to hold the guard-plate and guide-rod against forward movement under the tension of the springs *c*<sup>10</sup> *c*<sup>11</sup>, which are compressed by the retraction of the guard-strap. When the parts are in this position the magazine can be opened and loaded. The charge consists of six or more cartridges held at their rear ends in a carrier, *k*, of card-board, thin wood, tin, or other like material; as shown in Fig. 12, and are placed in the magazine so that the edges of the carrier will lie in the recesses *k'* formed in the locking-plates *a*<sup>2</sup> *a*<sup>3</sup> of said magazine. The magazine may now be locked, as described above, and the trigger *l* pulled back sufficiently to cause its nose *l'* to engage the free end of the spring *h*<sup>3</sup> and disengage its pin from the recess *g*<sup>4</sup> in the strap *g* and cause the spring *c*<sup>10</sup> to carry the hammer guide-rod forward until the stop or nose *c*<sup>6</sup> on the hammer-rod is arrested by the projection or stop *g*<sup>3</sup> on the strap *g*. This forward movement of the hammer guide-rod also produces a like movement in the safety-plate *c*<sup>8</sup>, which is now in contact with the breech-block, with its pins in the latter, and the locking-plate *a*<sup>3</sup> of the magazine, as shown in dotted lines, Fig. 2, and described above. In this position the parts are at full-cock, and by pulling the trigger the pivoted hammer-rod is disengaged from the stop *g*<sup>3</sup>, the hammer is thrown forward by the spring *c*<sup>11</sup>, and its firing-pin *c'* brought in contact with the cartridge. After the firing of the first cartridge two movements only are required to load and fire the gun—namely, the retraction of the trigger-guard and its plate until the nose or stop *c*<sup>6</sup> is in engagement with the stop *g*<sup>3</sup>, and the pulling of the trigger to release the hammer. At every retraction of the trigger-guard, hammer-rod, and hammer guide-rod the magazine is moved laterally a distance equal to that

between two cartridges. This is effected by means of the beveled actuating-plate *c*<sup>14</sup> on the guide-rod *c*<sup>2</sup>, the inclined edge of said plate being brought in contact with one of the pins *a*<sup>5</sup> of the magazine to move the latter laterally and bring a fresh cartridge in position for firing.

It will of course be understood that it is not absolutely necessary that the cartridges should be held by a carrier. These may be placed one by one in the magazine, if desired, and the recesses *k'* may then be dispensed with; but when it is desired to load rapidly, then the advantage of the carrier becomes obvious.

A small spring, *b*<sup>7</sup>, attached to the magazine-casing carries at its outer end a stud or pin, that engages a recess, *a*<sup>8</sup>, in the under side of the magazine every time the latter is moved, as described, to insure the proper position of the cartridge relatively to the barrel. The power of the spring is such as to be readily overcome by that exerted by the inclined plate *c*<sup>14</sup> upon the pins *a*<sup>5</sup> to move the magazine laterally.

In order to provide a gas-tight connection between the barrel and magazine, I employ a spring-washer, *w*, and a plain washer, *w'*, inserted in a small recess formed in the rear end, *e'*, of the barrel *e*. By preference I form the spring-washer of steel and the plain washer of gun-metal.

When all the cartridges have been fired off the magazine is reloaded, as above described, and pushed from right to left until the first cartridge on the right of the magazine is opposite the bore of the barrel.

If it is desired to use the gun as a breech-loader, this may be done either after all the cartridges have been fired off or by pushing the magazine toward the right until the extreme left chamber is opposite the bore of the barrel, as in this position of the magazine no further lateral movement can take place, as will be readily understood.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a magazine fire-arm, the combination, with the barrel, a laterally-movable cartridge-magazine, a hammer provided with a firing-pin, a guide-rod for the same, and a hammer-rod hinged to said firing-pin, of a sliding trigger-guard, and means, substantially as set forth, whereby a lateral movement is imparted to the magazine, and the firing-pin, through the medium of its hammer-rod, is locked into position for firing by the operation of the trigger-guard, substantially as and for the purpose specified.

2. In a magazine fire-arm, the combination, with the barrel, a laterally-movable cartridge-magazine, a hammer provided with a firing-pin, a guide-rod for the same, a hammer-rod hinged to said firing-pin, a sliding trigger-guard, and means, substantially as set forth, whereby a lateral movement is imparted to



the magazine, and the firing-pin, through the medium of its hammer-rod, is locked into position for firing, of the trigger and the actuating-spring  $c^{11}$ , substantially as and for the purpose specified.

3. The magazine hereinbefore described, composed of the parts  $a$ , carrying the hinged locking-plate  $a^2$ , and having a dovetailed projection,  $a^4$ , and guide-pins  $a^5$ , and the part  $a'$ , hinged to part  $a$ , and having the locking-plate  $a^3$ , said parts  $a$   $a'$  being constructed to form chambers for the reception of a series of cartridges, substantially as described.

4. In a magazine fire-arm, a hammer or firing-pin, a hammer-rod to which said hammer is hinged, and a sliding trigger-guard, in combination with a guide-rod upon which said firing-pin is mounted, the parts being arranged to move together in one direction, while the hammer and its rod are capable of independent motion in a reverse direction, substantially as and for the purpose specified.

5. The combination, with the magazine  $a$   $a'$ , constructed as set forth, of its casing or inclosing-frame  $b$ , provided with a dovetailed groove,  $b^5$ , and a prism-shaped slot, (in cross-section,)  $b^6$ , formed in the bottom of said groove  $b^5$ , for the reception of the dovetailed projection  $a^4$ , and the guide-pins  $a^5$  of the magazine, substantially as described, for the purpose specified.

6. The inclosing case or frame  $b$ , composed of two side pieces,  $b^3$ , united in front by a screw-threaded tubular head for the reception of the barrel  $e$ , said head having a rearwardly-projecting ledge or flange,  $b'$ , and in rear by a breech-block,  $b^2$ , perforated for the passage of the firing-pin, the cross-bar  $b^4$ , provided with a dovetailed groove,  $b^5$ , and a prism-shaped slot, (in cross-section,)  $b^6$ , formed in the bottom of said groove  $b^5$ , substantially as described, for the purpose specified.

7. The hammer  $c$ , provided with guide-cheeks  $c^3$  and a firing-pin,  $c'$ , a sliding trigger-guard, and mechanism to retract the hammer into position for firing, in combination with the guide-rod  $c^2$ , upon which said hammer slides, an actuating-spring,  $c^{11}$ , to throw the hammer and firing-pin forward, after being retracted into position for firing, through the medium of said trigger-guard by pressure upon the trigger, substantially as described.

8. The combination, with the hammer, its guide-rod  $c^2$ , its actuating-spring  $c^{11}$ , the hammer-rod  $c^5$ , hinged to the hammer, as described, and having the stop  $c^6$ , the spring  $c^7$ , and the plate or strap  $g$ , having stop  $g^3$ , of the trigger  $l$ , substantially as described, for the purpose specified.

9. The combination, with the hammer, its guide-rod  $c^2$ , carrying the plate  $c^8$  and the actuating-spring  $c^{11}$ , the hammer-rod  $c^5$ , hinged to the hammer, as described, and having the stop  $c^6$ , the spring  $c^7$ , and the plate or strap  $g$ , hav-

ing stop  $g^3$ , of the trigger-guard and plate  $h$   $h'$ , all arranged and operating substantially as and for the purpose specified.

10. The combination, with the guide-rod  $c^2$ , the hammer  $c$ , mounted upon said rod, and mechanism to retract the rod and hammer into position for firing and lock said hammer into such position, of the spring  $c^{10}$ , to move the rod  $c^2$  forward independently of the hammer, substantially as and for the purpose specified.

11. The combination, with the plate  $g$ , having recess  $g^4$ , of the guide-rod  $c^2$ , its spring  $c^{10}$ , the trigger-guard plate  $h'$ , carrying a spring,  $h^3$ , provided with a lug or pin adapted to engage the recess  $g^4$ , and the trigger  $l$ , having the nose  $l^3$ , adapted to engage the free end of the spring to release the lug from the recess, substantially as described, for the purpose specified.

12. The combination of the breech-block  $b^2$ , the magazine-casing, the magazine, the guide-rod  $c^2$ , carrying the plate  $c^8$ , the hammer  $c$ , and actuating-spring  $c^{10}$ , the hammer rod  $c^5$ , having stops  $c^6$ , and the strap  $g$ , having stop  $g^3$ , with the trigger-guard plate  $h$  and the spring  $c^{10}$ , all arranged and operating substantially as and for the purpose specified.

13. The combination of the hammer guide-rod  $c^2$  and the safety-plate  $c^8$ , carrying the pins  $c^9$ , with the breech-block  $b^2$  and the outer locking-plate,  $a^3$ , of the magazine, both the breech-block and plate being perforated for the passage of said pins  $c^9$  and the firing-pin, substantially as and for the purpose specified.

14. The combination, with the outer plate,  $a^3$ , of the magazine, provided with a recess,  $a^7$ , and the breech-block  $b^2$ , of the pin  $i$  and a spring  $i'$ , substantially as and for the purpose specified.

15. The combination of the breech-block  $b^2$ , the plate  $a^3$  of the magazine, and pin  $i$ , having an arm,  $i^2$ , and the spring  $i'$ , with the guide-rod  $c^2$ , having the abutment  $c^{13}$ , all arranged and operating substantially as and for the purpose specified.

16. The combination, with the outer locking-plate,  $a^3$ , of the magazine, the breech-block  $b^2$ , and the hammer and its firing-pin  $c$ , of the rod  $c^2$ , its safety-plate  $c^8$ , and the springs  $c^{10}$   $c^{11}$ , all arranged and operating substantially as and for the purpose specified.

17. The combination, with the magazine carrying-pins  $a^5$  and its casing or frame, of the guide-rod  $c^2$ , its actuating-plate  $c^{14}$ , and the trigger guard and plate  $h$   $h'$ , all arranged and operating substantially as and for the purpose specified.

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

JOSEF NEMETZ.

Witnesses:

VICTOR KARMIN,

Engineer.

JAMES RILEY WEAVER.