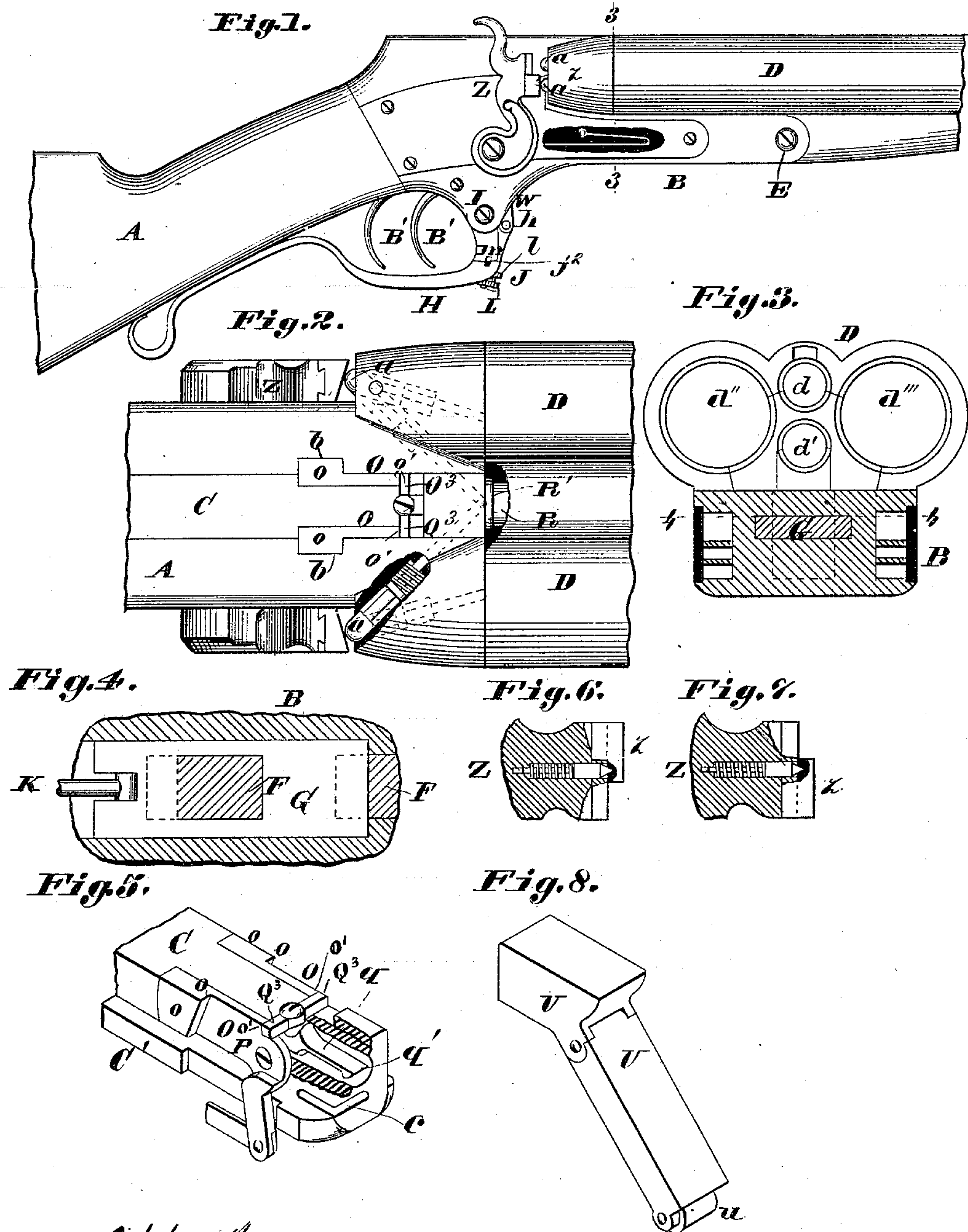


M. V. KACER & W. J. KRIZ.

MAGAZINE FIRE ARM.

No. 282,328.

Patented July 31, 1883..



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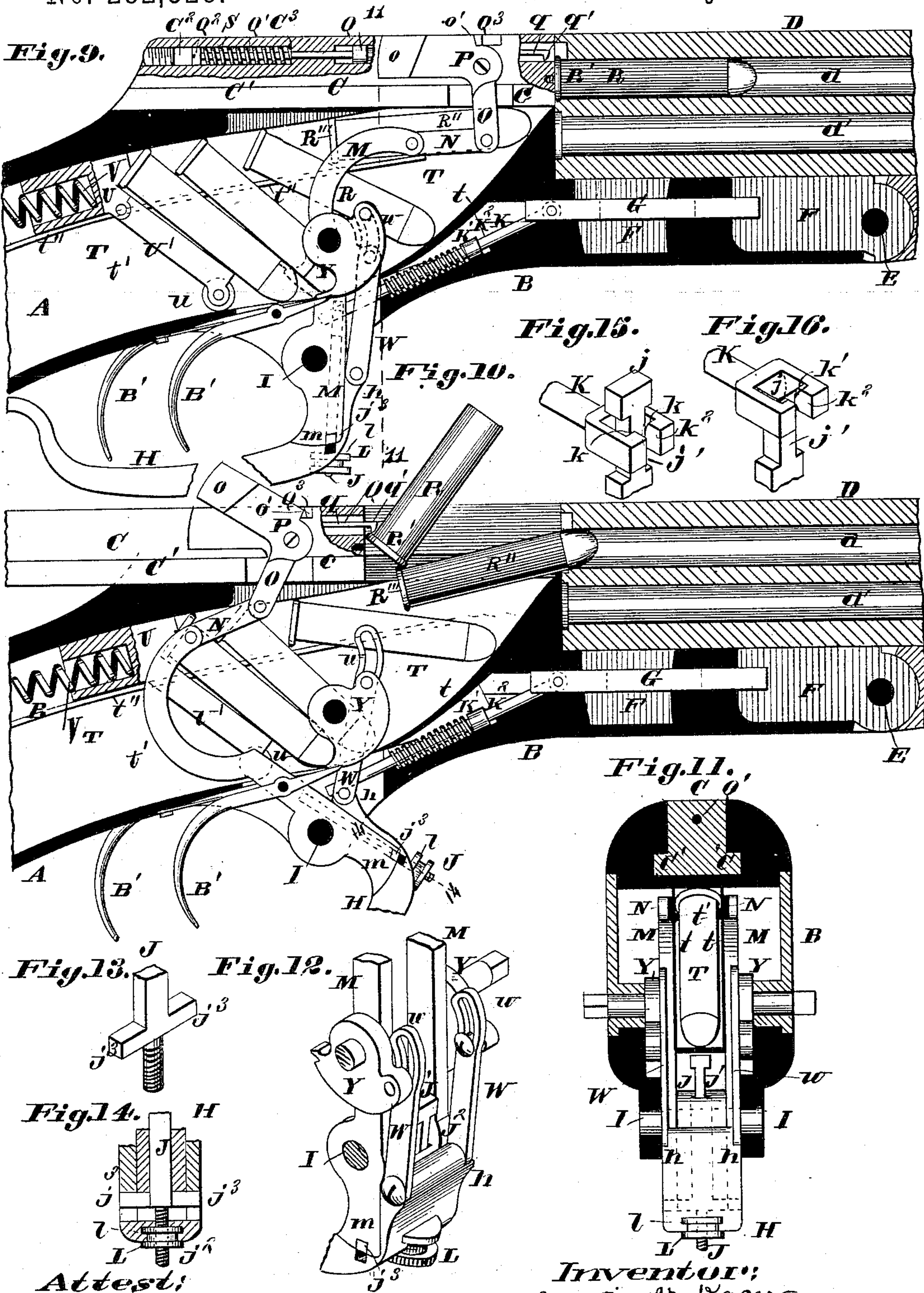
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UNITED STATES PATENT OFFICE.

MARTIN V. KACER AND WILLIAM J. KRIZ, OF ST. LOUIS, MISSOURI.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 282,328, dated July 31, 1883.

Application filed December 7, 1882. (No model.)

To all whom it may concern:

Be it known that we, MARTIN V. KACER and WILLIAM J. KRIZ, both of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Magazine Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This improvement relates to the class of magazine fire-arms in which the cartridges are contained in a chamber in the stock and lifted into position for insertion in the barrel one at a time.

Our improvement consists in a cartridge-case constructed to receive the cartridges in an oblique position and to guide the foremost cartridge to the breech-bore of the barrel, the cartridges being advanced by a spring-follower with an anti-friction wheel traveling the bottom of the cartridge-case; also, the described breech-block and cartridge-extractor and mechanism for moving and locking the former and for moving the latter; also, in means for converting the gun from a magazine-gun to a breech-loader, and vice versa; also, to certain other details set forth in the claims.

Figure 1 is a side elevation. Fig. 2 is a detail top view. Fig. 3 is a vertical transverse section at 3 3, Fig. 1. Fig. 4 is a detail horizontal section at 4 4, Fig. 3. Fig. 5 is a detail perspective view of cartridge-extractor. Fig. 6 is a detail section of hammer with face-block up, and Fig. 7 is a similar view with face-block down. Fig. 8 is a perspective view of cartridge-follower. Fig. 9 is a longitudinal section with operating parts in elevation and in position for firing, and Fig. 10 is a similar view with the shell on point of extraction. Fig. 11 is a vertical section at 11 11, Fig. 9. Fig. 12 is a detail perspective view of the operating-lever. Fig. 13 is a detail perspective view of the lower end of the lever-connecting pin. Fig. 14 is a transverse section at 14 14, Fig. 10. Figs. 15 and 16 are detail perspective views, showing, respectively, the head of the connecting-pin out of and in engagement with the connecting-rod operating the sliding catch, by which the breech end of the barrel is held down in the breech-frame.

The improvement is applicable to single-

barreled guns or pistols, or to those having more than one barrel.

A is the stock of the fire-arm, a part of the stock of a gun being shown.

B is the breech-frame, and C the breech-block, shown part in elevation and part in perspective to exhibit parts of the extractor within.

D is the barrel, hinged to the breech-frame at E, and having at the under side lugs F, as usual, entering mortises in the breech-frame, and locked therein by a sliding catch, G. The barrel may have a single bore or any number of bores, the improvement being applicable to a fire-arm having a single bore or more.

In the drawings we show the application of our improvements to our four-bore barrel, which forms the subject-matter of our application for Letters Patent filed on the 5th of January, 1882.

d is the upper rifle-bore, and d' the lower rifle-bore, both located in the web between two shot-bores, d'' d''' . The lower rifle-bore, d' , and the two shot-bores d'' d''' are loaded, as usual, by unlocking the breech and dropping the barrel.

H is a lever beneath the stock, working on a fulcrum-pin at I, and forming the trigger-guard when in the position shown in Figs. 1 and 9.

J is a T-headed pin, which is inserted in the lever H, as shown, the head projecting through an open mortise, k , at the rear end of the connecting-rod K. The fore end of the connecting-rod K is hinged to the rear end of the sliding catch G, so as to enable the drawing back of the catch to release the lugs F by the forward (and downward) movement of the lever H. This movement of the connecting-rod K and slide G follows when the pin J is in its lower position, so as to bring the head j into the mortise k , so that the backward movement of the head will cause it to impinge upon the corners k' , whereas when the pin J is in its upper position the head j is lifted above the mortise k and the neck j' passes freely through the narrow mortise-inlet k'' without actuating the connecting-rod K. The pin J is adjusted in position in the lever H by a thumb-nut, L, that works on a screw-threaded part, j^2 , of the pin, the nut having a flange, l , that turns in a

groove in the lever H, so as to form a bearing for the nut.

M M are side levers turning on the fulcrum-pin I, and extending down upon each side of the lever H. These levers are notched at the lower ends at *m* to receive lugs *j*³ upon the sides of the pin J when said pin is in its upper position, and thus the side levers, M, will be moved with the lever H when the lever H does not move the slide-catch G, whereas when the pin J is in position to move the catch G the lever H fails to move the side levers, the lugs *j*³ being out of the notches *m*.

K' is a spiral spring surrounding the connecting-rod K, and bearing at the front end against a collar, K², of the rod, so as to force the rod and catch G forward, the rear end of the spring having bearing against a part of the breech-frame suitably prepared for it.

The upper ends of the side levers, M, are connected by links N to angle-arms O, pivoted at P to the breech-block C, so that the movement of the side levers causes the breech-block to slide in its bearings. The breech-block has side ribs, C', working in grooves of the breech-stock, so as to be confined to a strictly endwise movement from its forward position, as seen in Figs. 5 and 11, where it bears against the rear end of the cartridge, to its rear position, as in Fig. 10, when it retreats to give room for the removal of the shell from the upper rifle-bore, *d*.

Q is the extractor, made use of to remove the shell when the fire-arm is used as a magazine-gun. When the breech is opened by bending down the barrel on the pin E, the extractor D' acts as usual.

The extractor Q is inserted in a socket in the breech-block, the construction being as follows: The breech-block is bored through from end to end, the central part of the bore being of smaller diameter than the two ends. In the front part of the socket is the fore end *q* of the extractor Q, which is made thin, so as to spring up over the flange of the cartridge R, to engage the catch *q'* over the flange R' of the same.

Q' is a screw whose stem passes through the reduced part of the socket, and whose head works in the rear enlargement, C², of the socket.

S is a spiral spring surrounding the screw Q', whose rear end bears against the head of the screw, and whose fore end bears against the annular shoulder C³ at the fore end of the enlargement C². The spring acts to draw the extractor backward until its fore end *q'* is flush with the fore end of the breech-block. The extractor has lugs Q³ at top, that are engaged by the corners *o'* of the arms O when the side levers, M, commence to move backward and the extractor is thrown forward to engage over the flange R' of the shell R. At the same time that the corners *o'* are moving forward the extractor, the rear ends are being thrown up to disengage their catches *o* from the re-

cesses *b* in the breech-stock at the sides of the breech-block C. When the arms O have reached this position, they cease to turn on the pivot P, and the continued backward movement of the side levers causes the breech-block to move backward, the extractor drawing the shell R out of the bore *d* and making way for the next shell, R'', to enter the bore. The discharged shell R is drawn backward over the cartridge beneath until the flange of the one comes in contact with the flange R''' of the other. Then the continued backward movement of the extractor tilts up the discharged shell R and throws it out. The shell R'' beneath is prevented from following it by the insertion of its end into the bore *d*.

The shells are inserted into the bore by entering the rounded ends of the bullets, (which slide up the inclined floor of the magazine,) when by pressure from the breech-block they are forced into alignment with the bore and into the barrel, the rounded ends of the bullets sliding on the upper side of the bore.

The cartridges R are inserted in an oblique position in the magazine or case T, the case being curved in such a manner at the fore end *t* as to throw upward the end of the first cartridge and cause it to enter the bore *d*. The cartridges fit the sides *t'* of the case, so that they are kept in line. They are pushed forward by a follower-block, U, that has a hinged leg, U', and is caused to advance by a spring, V, behind it. The leg of the follower, at its lower end, carries an anti-friction roller, *u*, running upon the bottom of the case. In loading the magazine T the breech-block is thrown back and the cartridges forced one at a time into the magazine at the front end, the cartridges pushing the follower backward.

The hammer is cocked by the downward movement of the lever H, said lever having a lug, *h*, to which is hinged the lower end of lifting-link W, whose other end is slotted at *w* to receive a pin upon the front side of the tumbler-block Y, to which the hammer Z is attached. The slot *w* is of such length that the lever H can be returned to its upper and backward position without drawing down the hammer, there being sufficient lost motion to allow the upward and downward movement of the hammer when the lever H is folded up against the under side of the stock. The hammer-face strikes the firing-pin *a*, and the latter causes the discharge of the cartridge, as usual.

The lower position of the tumbler-block is shown in dotted lines in Fig. 9.

Where the present improvement is applied to our former invention in fire-arms for which we filed application in the United States Patent Office on the 5th January, 1882, the same being shown in Figs. 1, 2, 6, and 7, there are two hammers, and they are provided with sliding face-blocks *z*, arranged, as described in such application, to act on the four firing-pins *a*. There must also be two lifting-links W,

one for each hammer. The triggers are shown at B'. That firing-pin *a* which alone operates when the fire-arm is used as a magazine gun or pistol passes through a milled groove, *c*, in the front corner of the breech-block.

It will be observed that, owing to the position of the cartridges in the magazine, (the cartridges being "central fire,") nothing can at any time touch the detonating-cap, so that there is no danger of the discharge of a cartridge in the stock by any violent concussion.

We prefer to make the sides *t'* of the magazine with ribs *t''*, that will form a rest for the flanges R' of the cartridges in case the follower U shall (from any cause) cease to act.

We claim—

1. In a fire-arm, the combination of magazine having an upwardly-curved bottom, and a spring-follower having a hinged leg to move the cartridges from an oblique to a horizontal position, substantially as described.

2. In a fire-arm, the combination, with the magazine having an upwardly-curved front end *t*, of the spring-follower U V, having anti-friction roller *w*, as set forth.

3. In a fire-arm, the combination of magazine T, having upwardly-curved bottom *t*, and sides *t'*, provided with cartridge-supporting ribs *t''*, and a spring-follower, U V, to force the cartridges from an oblique to a horizontal position up the curved bottom, as set forth.

4. The combination, with the breech-block, of the extractor Q, having lugs Q³, pivoted arms O, having corners *o'* to press on said lugs, and suitable levers to elevate said arms, as set forth.

5. In a fire-arm, the combination of sliding breech-block C, spring-extractor Q Q' S, having lugs Q³ and catch *q'*, lifting-arms pivoted to the breech-block, having corners *o'* to impinge against the lugs and advance the extractor, catches *o*, and means for elevating the catches to release the breech-block and retract the latter, as set forth.

6. In a fire-arm, the adjustable pin J, in combination with operating-lever H, breech-block C, sliding catch G, whereby the barrels are locked to the breech, and means for connecting the pin with the breech-block or sliding catch, as set forth.

7. The combination of operating-lever H, a sliding breech-block, an extractor in said breech-block, side levers, M, links N, and angle-arms O, connecting the breech-block with

said side levers, M, and a pin, J, seated in the operating-lever, and having means for locking the side levers thereto, substantially as set forth.

8. The combination of hand-lever H, breech-barrel having suitable lugs and hinged to the breech, sliding catch G, to engage the lugs, pin J, seated in the operating-lever, and having head *j* and neck *j'*, and rod K, hinged to the catch, and having open mortise at its rear end to connect it to the pin, as set forth.

9. The pin J, having lugs *j''* and screw-thread *j''* at its lower end, nut L, working on said screw, and side levers, M, having notches *m*, to receive the lugs of the pin, in combination with hand-lever and means for connecting the side levers to the breech-block, as set forth.

10. The combination, with the hand-lever H, side levers, M, breech-block having side arms, O, sliding catch G, and rod K, of the pin J, to connect either the side levers, M, or the rod K with the hand-lever, as set forth.

11. The combination of barrel-catch, breech-block, pin J, having head *j* and neck *j'* at the upper end, and lugs *j''* and screw-thread *j''* at the lower end, and adjusting-nut L and hand-lever H, for optional connection to the barrel-catch or breech-block for single or magazine loading, as set forth.

12. The combination, with the hand-lever H and side lever, M, of the lifting-link W, having slot *w*, and hammer tumbler-block Y, having pins received by said link-slot, as set forth.

13. In a magazine fire-arm, the combination of a single breech-loading, magazine-loading, and double-barreled breech-loading shot-gun, as set forth.

14. In a fire-arm, the combination of a barrel having upper and lower bores, a hinged breech, a magazine discharging into one bore, and cartridge-operating devices therefor, as set forth.

15. In a fire-arm, the combination of a barrel having upper and lower bores, a breech to which the barrel is hinged, and a magazine within the breech for feeding the upper bore, each bore being adapted for single loading, as set forth.

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Witnesses:

SAML. KNIGHT,
GEO. H. KNIGHT.