No. 882,625. PATENTED MAR. 24, 1908.

J. J. CATRON.

MAGAZINE RIFLE.

APPLICATION FILED AUG. 13, 1907. 3 SHEETS—SHEET 1.

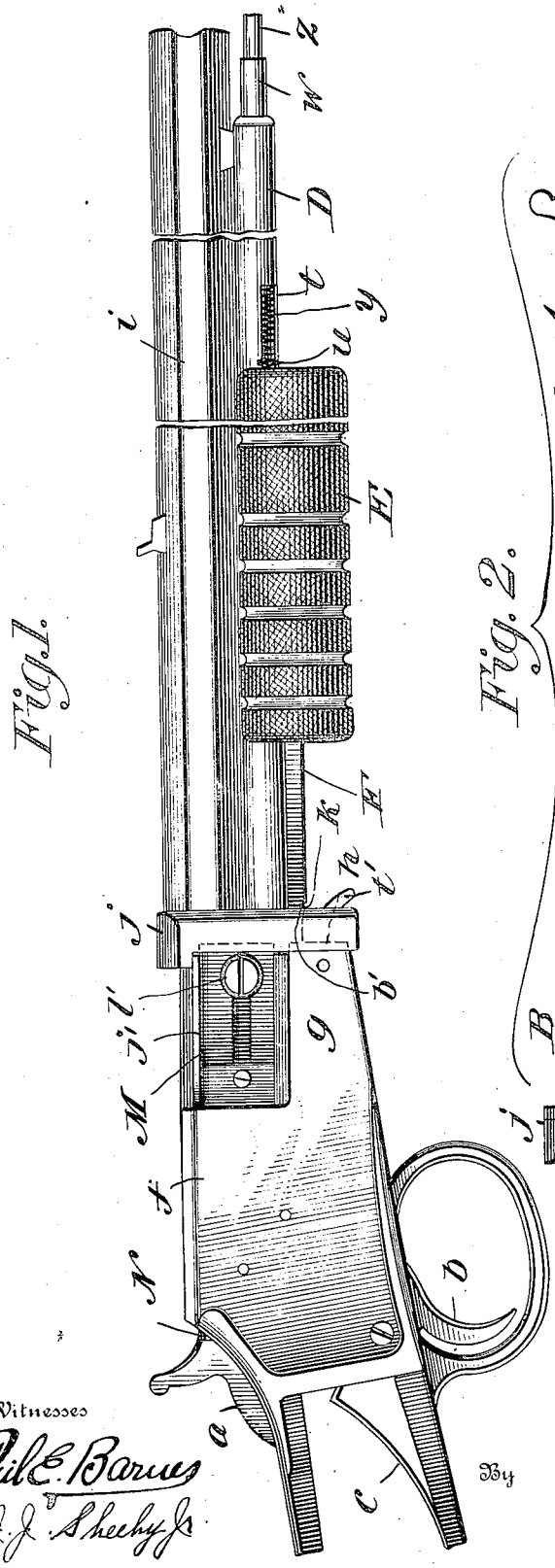


Fig. 1.

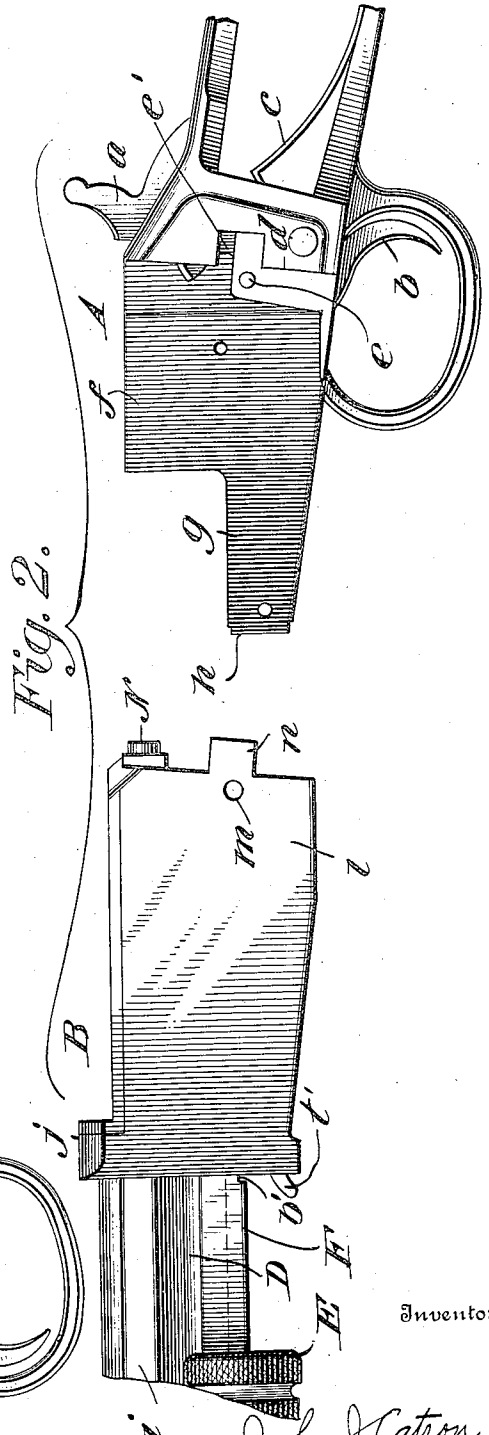


Fig. 2.

Witnesses

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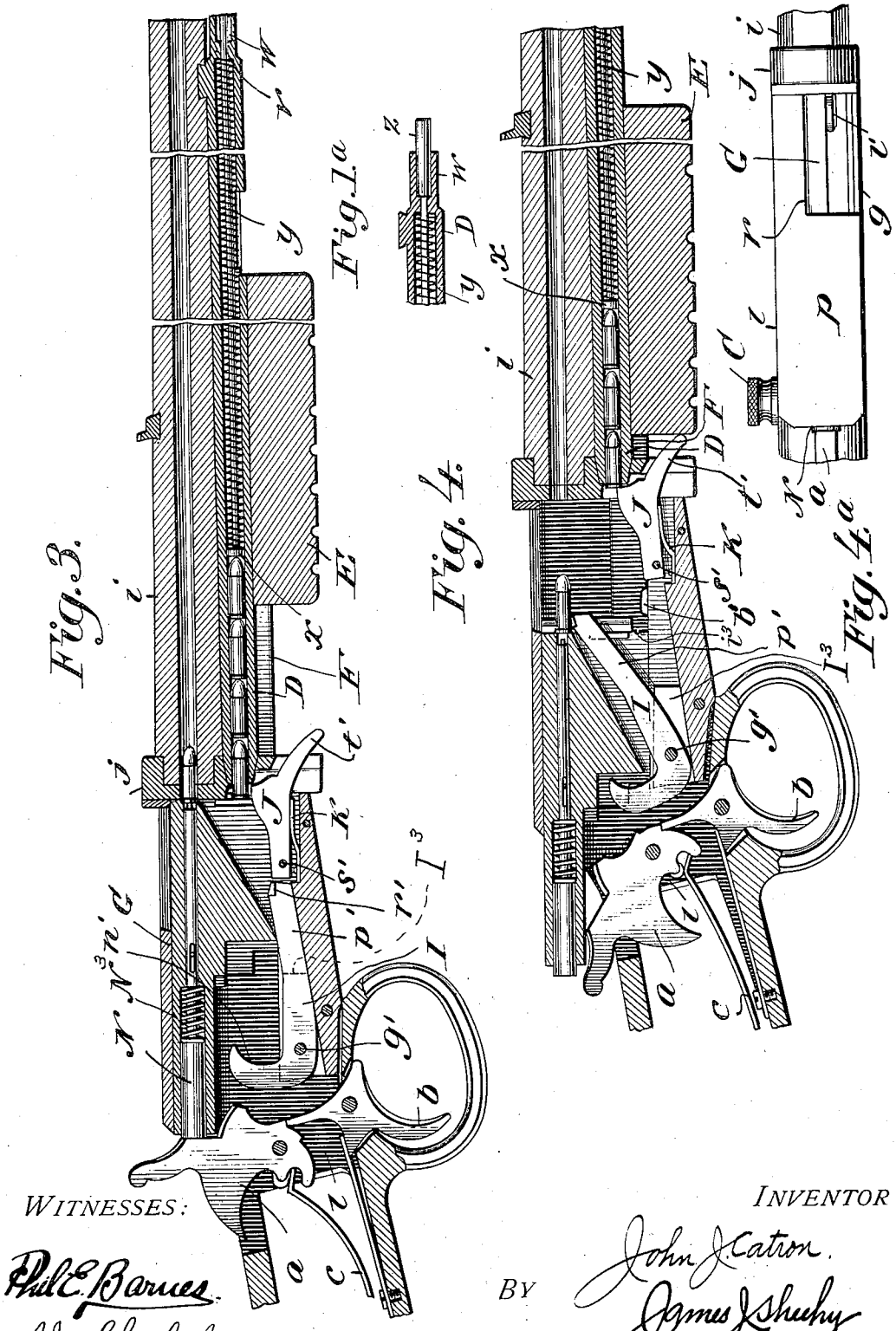


Fig. 3.

Fig. 1a.

Fig. 4.

Fig. 4a.

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3 SHEETS—SHEET 3.

Fig. 5.

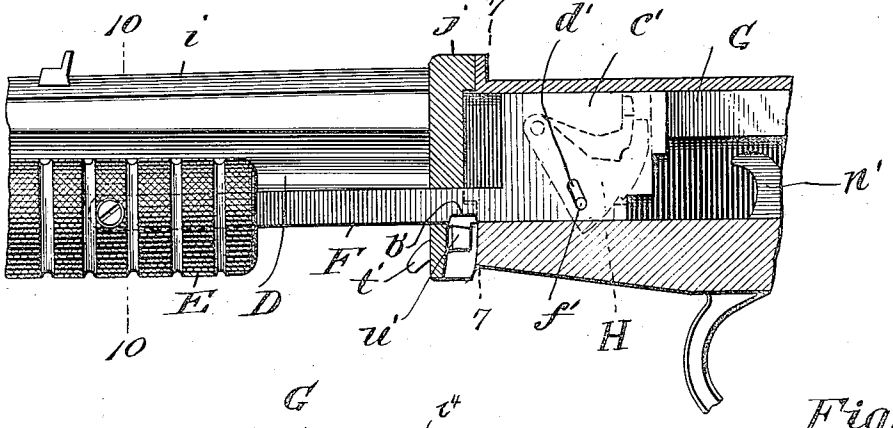


Fig. 6.

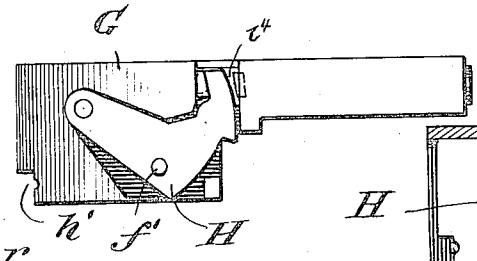


Fig. 6a.

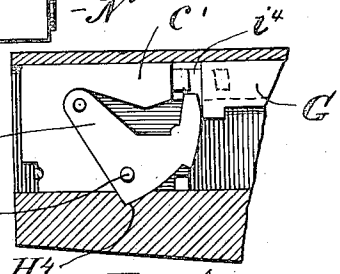


Fig. 7.

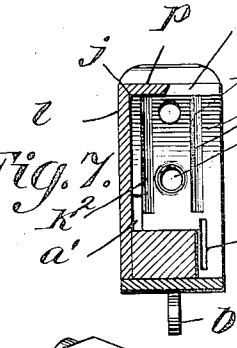


Fig. 9.

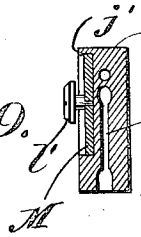


Fig. 10.

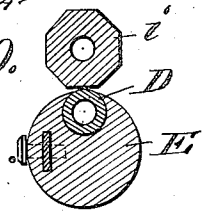


Fig. 8.

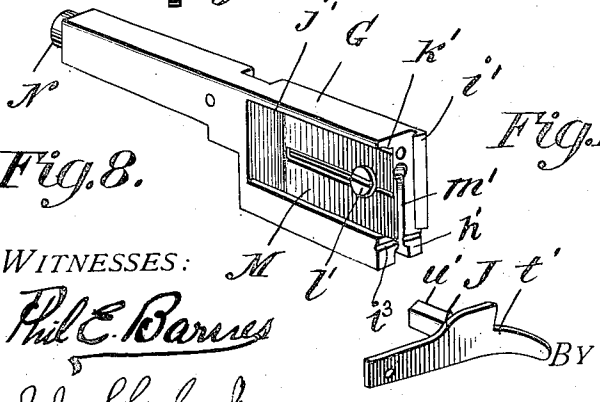


Fig. 11.

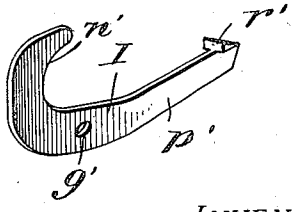


Fig. 12.

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UNITED STATES PATENT OFFICE.

JOHN J. CATRON, OF BONHAM, TEXAS.

MAGAZINE-RIFLE.

No. 882,625. Specification of Letters Patent. Patented March 24, 1908.

Application filed August 13, 1907. Serial No. 388,324.

To all whom it may concern:

Be it known that I, JOHN J. CATRON, a citizen of the United States, residing at Bonham, in the county of Fannin and State of Texas, have invented new and useful Improvements in Magazine-Rifles, of which the following is a specification.

My invention pertains to magazine rifles; and it has for one of its objects to provide a simple, compact and strong magazine rifle embodying a combined breech block and cartridge carrier of such construction that different lengths of cartridges may be used in the rifle without diminution of the efficiency thereof.

Another object of the invention is the provision of a combined breech block and cartridge carrier constructed with a view of gripping a cartridge at opposite points so as to hold the cartridge in a straight line during the withdrawal of the same rearward from the magazine and move the cartridge vertically to a position in alinement with the barrel, and insure perfect extraction of a fired cartridge and the subsequent ejection of the same; the ejection being effected by the vertical movement of a fresh cartridge into position in alinement with the barrel.

Another object is the provision in a magazine rifle, of improved means for securely locking the breech block and cartridge carrier in its closed position before it is possible to explode a cartridge, and improved means for locking the breech block and cartridge carrier when the magazine is exhausted so that the breech block and cartridge carrier cannot be retracted under such condition except when a certain finger piece is manipulated.

Another object is the provision in a magazine rifle, of a magazine which, in proportion to its capacity, is simple in construction and quite short.

Other objects and advantageous features of my invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a broken side elevation of the magazine rifle constituting the best embodiment of my invention of which I am cognizant; the same being shown with the stock removed and with the combined breech block and cartridge carrier in its closed position. Fig. 1[a] is a detail longitudinal section illustrative of the closure at the forward end of the magazine tube. Fig. 2 comprises a detail view in side elevation of the left hand side of the front section of the "take-down" rifle shown, and a similar view of the rear section of said rifle, the said views being separated. Fig. 3 is a detail, broken, longitudinal vertical section of the rifle with the combined breech block and cartridge carrier locked in its closed position. Fig. 4 is a similar view of the same, with the combined breech block and cartridge carrier in its open position. Fig. 4[a] is a detail top plan view. Fig. 5 is a detail longitudinal vertical section showing the means for locking the combined breech block and cartridge carrier in its closed position. Fig. 6 is an elevation of the left hand side of the combined breech block and cartridge carrier, and Fig. 6[a], a detail longitudinal vertical section. Fig. 7 is a cross-section taken in the plane indicated by the line 7—7 of Fig. 5, with the combined breech block and cartridge carrier and the rear section—*i. e.*, the section at the right of Fig. 2, removed. Fig. 8 is a perspective view of the combined breech block and cartridge carrier, removed. Fig. 9 is a cross-section of the same, taken in the plane indicated by the line 9—9 of Fig. 8. Fig. 10 is a transverse section taken in the plane indicated by line 10—10 of Fig. 5. Fig. 11 is a detail perspective view of the cartridge elevator. Fig. 12 is a detail perspective view of the device for locking the combined breech block and cartridge carrier near its closed position, when the magazine is empty.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is the rear section, and B the front section of the "take-down" type of rifle constituting the preferred embodiment of my invention. The rear section A is provided with the usual means for the connection of a stock (not shown), and with the usual or any other suitable hammer *a*, trigger *b* and hammer-impelling spring *c;* and it is also provided with a shoulder *d*, a threaded aperture *e* and a notch *e'* at its left hand side while at its right-hand side is provided a forwardly extending plate *f* having a reduced portion *g* which terminates at its forward end in a toe *h*.

In addition to other elements hereinafter pointed out in detail, the front section B of the "take-down" embodiment comprises a barrel *i* and a frame or housing fixed with

respect to and extending rearward from the barrel; the said frame or housing being made up of a front wall *j* in the rear side of which is a shallow socket *k* and vertical depressions k^2, Fig. 7, a left-hand side plate *l* having a transverse aperture *m* and a rearwardly-extending tongue *n*, and a top wall *p*, cut away as indicated by *r* and best shown in Figs. 4^a and 7. When the sections A and B are put together in proper relation, the toe *h* of section A enters the socket *k* of section B, see dotted lines in Fig. 1, and the tongue *n* of section B snugly occupies the notch *e'* of section A, Fig. 2. A screw C, Fig. 4^a, is then manipulated to put its shank through the aperture *m* of section B and into the threaded aperture *e* of section A, when, as will be readily apparent the sections will be strongly connected together without liability of one section casually moving with respect to the other, and yet when it is desired to take the rifle down—*i. e.*, separate the sections A and B, the same may be easily and expeditiously accomplished after the screw C is removed. At this point I desire to record the fact that while I prefer to employ the "take-down" construction described, I do not wish to be understood as confining myself to the same inasmuch as the main portion or frame of the rifle may, in the discretion of the manufacturer, be made in detachably connected sections or in one section, without involving departure from the scope of my invention as defined in the claims appended.

Fixed to the underside of the barrel *i* and communicating with an opening *s* in the front wall *j* of the breech frame or housing is a tube D, provided at an intermediate point of its length with an opening *t* which is designed for the introduction of cartridges and is enlarged at its rear end, as indicated by *u*, to permit the passage of cartridge flanges. The said tube D has an abutment *v* adjacent to its forward end and a socket *w* at said end, and it serves in combination with a follower *x* and a spring *y* backing the follower, to form the magazine of my novel rifle. At its forward end, the stem of the follower *x* is provided with a finger piece *z* which normally rests in the socket *w*, Figs. 1 and 3, and presents a compact and neat appearance. In charging the magazine, the follower *x* is drawn forward, against the action of spring *y*, to a point in front of the opening *t*, and the cartridges are introduced one by one through said opening. After the cartridges are introduced as stated, the follower is released, when, as will be readily apparent, the tendency of the spring to expand will force the follower *x* and the cartridges rearward subsequent to the removal of the rearmost cartridge from the magazine in the manner hereinafter pointed out.

By virtue of the construction described in the foregoing it will be observed that the magazine may be made quite short without reducing its capacity below the practical point, which is obviously an important advantage.

E is a hand-piece movable rearwardly and forwardly on the magazine tube D and guided by the latter.

F is a bar fixedly connected to the hand-piece E and extending rearward through an opening *a'*, Fig. 7, in the front wall of the breech frame or housing and having a notch *b'*, Fig. 5, in its lower edge, and also having an enlargement *c'*, Fig. 5, at its rear end, movable rectilinearly in the breech frame or housing and slotted at *d'*.

G is the combined breech-block and cartridge carrier to which is pivoted a vertically-swinging piece H, Fig. 6, having a lateral stud *f'*, disposed in the slot *d'* of bar F, whereby the breech-block and carrier derives rectilinear movement from said bar F.

I is the cartridge elevator which is pivoted at *g'* in the breech frame or housing.

J is the device for locking the combined breech block and cartridge carrier in its closed position, when the magazine is empty, and K, Fig. 4, is a spring disposed below said device J and designed to return the same to and normally retain it in the position shown in Fig. 4. The combined breech block and cartridge carrier G is provided on its forward end adjacent to one side, preferably its left hand side, with an inwardly directed flange *i'* which extends upward from a point adjacent to its lower edge, as best shown in Fig. 8. The opposite or right hand side of the combined breech block and cartridge carrier G is recessed, as indicated by *j'*, and in the said recess is arranged a resilient or spring plate M which is fixedly connected at its rear end to the block and carrier, and is provided at its forward end with an inwardly-directed flange *k'* which extends upward from the recess *h'* and is regulated and held against springing outward to an undue extent by a screw *l'* which extends through it and into the block and cartridge carrier. The combined breech block and carrier G is horizontally notched at i^3, immediately below the flanges *i'* and *k'*, and it carries a spring-cushioned firing pin N which is recessed in one side as indicated by i^4, Figs. 6 and 6^a, and is designed to coöperate with the piece H as presently described. Said breech block and cartridge carrier G is also provided in its lower side and forward end with a slot *m'* for the play of the cartridge elevator I. This latter comprises a rear, upwardly extending arm *n'* and a forward and comparatively long arm *p'* having a lip *r'* at its forward end.

The forward end of the said slot *m'* is provided, as shown in Figs. 8 and 9, with an intermediate portion of decreased width—

i. e., a portion too narrow for the passage therethrough of the lip r' on the forward arm of the elevator I. The before mentioned notch i^3 horizontally intersects the said narrow portion of the slot m' at a point slightly above the lower end of said narrow portion.

The operation of the parts just described is as follows: When the rifle is closed and ready to be fired, the elevator I is in the position shown in Fig. 3. After the rifle is fired, the combined breech block and cartridge carrier is drawn rearward whereupon it cooperates with the arm n' of the elevator I to cause the arm p' thereof to rise quickly to the position where the lip r' can pass through the upper enlarged portion i^7 of slot m' on the succeeding forward movement of the combined breech block and cartridge carrier. As soon as the lip r' passes through the said enlarged portion i^7 the rear and major portion of the slot m', which is about as wide as the portion i^7, permits the lip r' to move to the position shown in Fig. 3; the forward movement of the combined breech block and cartridge carrier serving by engaging and depressing the elevator arm p' to move the lip r' to the position last stated.

At the commencement of the described rearward movement of the combined breech block and cartridge carrier, the lip r' on the elevator arm p' passes upward from the lower large portion of the slot m' to a position in front of the lower end of the narrow, intermediate portion of said slot, and should the operator attempt a reversal of the action—*i. e.*, forward movement of the combined breech block and cartridge carrier, before the cartridge that is being raised is high enough to enter the barrel, the notch i^3 will engage the lip r' and thereby prevent such reversal of the action.

A flat spring I^3, shown by dotted lines in Fig. 3 and full lines in Fig. 4, lies against the side of the cartridge elevator I and prevents too free swinging movement of said elevator and thereby assures it remaining in the position in which it is left.

The lower corner H^3 of the swinging piece H is designed to coöperate with a depression H^4 in the breech frame, Fig. 6^a, to lock the breech block and cartridge carrier in its closed position. In this connection, it will be seen that when the hammer *a* is cocked or half cocked while the breech block and cartridge carrier G is in its closed position, the firing pin N is pushed rearward by its spring N^3 so that its portion in front of its recess i^4 rests above the piece H and holds the latter against upward movement. When, however, the hammer acts against the rear end of the firing pin N to force the pin forward and fire the gun, the recess i^4 in the firing pin assumes a position above the upwardly-directed arm of the piece H and consequently the said piece is free to move upward to unlock the breech block and cartridge carrier G from the breech frame. It will also be seen that when the bar F is moved forward to carry the breech block and cartridge carrier G to its closed position, the slot d' in the portion c' coöperates with the stud f' on piece H to draw the arm of said piece down out of the recess in the firing pin N, and on rearward movement of the bar F, said slot d' coöperates with the stud f' to raise the upwardly-reaching arm of the piece H into the recess of the firing pin N.

The locking device J is pivoted at s' in the breech frame or housing, and is provided with a finger-piece t' and a lateral arm u'; the latter being arranged to seat in the notch b' of the translating bar F when the magazine is empty, after the manner shown in Fig. 5; this with a view of preventing the operator working the rifle when there are no cartridges in the magazine.

The vertically disposed portion of the device J is depressed by the breech block and cartridge carrier G on forward movement thereof and lets the rearmost cartridge out of the magazine. Said vertically-disposed portion also extends into the magazine tube a slight distance, Fig. 4, and from this it follows that in the event of the flanges i' k' failing to catch the rearmost cartridge, incident to rearward movement of the breech block and cartridge carrier, the device J, in rising under the action of the spring beneath it, will catch said cartridge and hold it in position to be engaged by the breech block and cartridge carrier on the subsequent forward movement of the latter.

The operation of my novel magazine rifle is as follows: Cartridges are placed in the magazine in the manner before described in detail, and are pressed rearward in the magazine tube D and against the device J by the spring-pressed follower *x*, as shown in Fig. 4. When the combined breech block and cartridge carrier G is moved forward by power applied to the hand-grip E, said block and carrier presses the device J slightly downward, and at the same time the flange k' is pressed outward by bringing up against the beveled surface i^6, Fig. 7, whereupon the head of the rearmost cartridge is pushed between the flanges i' k' by the magazine spring. Then as the breech block and cartridge carrier recedes, the flanges i' k' grip the cartridge. When the combined breech-block and cartridge carrier G is moved rearward by power applied to the hand-grip E, the cartridge mentioned is drawn rearward, and the next forward cartridge assumes the position shown in Fig. 4 relative to the device J. During the rearward movement of the block G, the cartridge elevator I is rocked by the engagement of the block G with the rear arm n' of the elevator with the result that the

forward arm of the elevator will be thrown up and caused to raise the first mentioned cartridge between the opposed flanges *i'* and *k'* of the breech block and cartridge carrier. Incident to the said upward movement of the cartridge first mentioned and while it is moving into alinement with the barrel *i* it serves to eject the empty shell extracted from the barrel on the preceding rearward movement of the breech block and cartridge carrier. Then when the breech block and cartridge carrier is moved forward, the first mentioned cartridge is carried into proper position in the rear end of the barrel, and the device J is depressed to permit the rearmost cartridge in the magazine to assume the position shown in Fig. 3. During the rearward and forward movements of the breech-block and cartridge carrier, the swinging device H and the firing pin N operate in the manner hereinbefore set forth in detail to lock the breech block and cartridge carrier in its closed position and to preclude forward movement of the firing pin under the impact of the hammer *a* until after the breech block and cartridge carrier is locked in said position.

In Figs. 3 and 4 of the drawings, a plurality of cartridges of even length are shown, but because of the comparatively long traverse of the block G, see Fig. 4, it will be observed that my novel rifle is adapted to handle cartridges of even length or cartridges of mixed lengths with equal facility which is an important desideratum.

When the magazine is empty, and it is desired to move the combined breech block and cartridge carrier rearward, the hammer must be let down on the firing pin and the device J be drawn downward by hand, after which the hand-grip E is moved rearward.

It will be gathered from the foregoing that my novel magazine rifle is reliable and safe in operation and at the same time is simple and compact in construction, and is well adapted to withstand the usage to which magazine rifles are ordinarily subjected; and it will also be gathered that the cartridges are in plan view as they enter the barrel *i*.

The rifle herein illustrated and described constitutes the preferred embodiment of my invention, but it is obvious that in practice such changes or modifications may be made as fairly fall within the scope of my invention as defined in the claims appended.

I would have it understood that the term "rifle" as herein employed is intended to comprehend a gun, pistol or any other fire arm in which my improvements may be used to advantage.

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

1. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed with respect thereto, a combined breech block and cartridge carrier movable in said frame, means for translating the combined breech block and cartridge carrier, a device for controlling the rearward feed of cartridges and automatically locking the breech block and cartridge carrier near its foremost position when the magazine is empty, and means for elevating a cartridge in the combined breech block and cartridge carrier.

2. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed to the barrel and magazine, a breech block and cartridge carrier movable in the frame and having a slot in its underside and forward end, the intermediate portion of the forward end of which is comparatively narrow and also having a horizontal notch intersecting the said narrow portion of the slot, and a cartridge elevator mounted in the slot of the frame and arranged to be moved by the block and having a lip for coöperation with the said horizontal notch of the block.

3. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed with respect thereto, a combined breech block and cartridge carrier movable in said frame and arranged to grip a cartridge at opposite sides thereof, means for translating the combined breech block and cartridge carrier, a device for controlling the rearward feed of cartridges and automatically locking the breech block and cartridge carrier near its foremost position, when the magazine is empty, and means for elevating a cartridge in the combined breech block and cartridge carrier.

4. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed with respect thereto, a combined breech block and cartridge carrier movable in said frame and arranged to grip a cartridge at opposite sides thereof, means for translating the combined breech block and cartridge carrier, a device for controlling the rearward feed of cartridges and automatically locking the breech block and cartridge carrier near its foremost position, when the magazine is empty, and a device mounted in the breech frame and operated by the combined breech block and cartridge carrier for elevating a cartridge in said block and carrier incident to rearward movement thereof.

5. In a magazine rifle, the combination of a barrel, a magazine arranged under the barrel, a breech frame fixed with respect to the barrel and magazine; a hand-grip movable on and guided by the magazine, a bar connected to and movable with the hand grip and extending through an opening in the front wall of the breech frame and having a notch, a combined breech-block and cartridge carrier arranged in said frame and connected and movable with said bar; said breech block and cartridge carrier having flanges for

engaging opposite sides of a cartridge, a pivoted locking device arranged in the breech frame below and in rear of the magazine and having an arm for engaging the notch in the said bar, when the magazine is empty; said device being also arranged to control the rearward feed of cartridges, and a device mounted in the breech frame and operated by the breech block and cartridge carrier for elevating a cartridge in said block and carrier incident to rearward movement thereof.

6. In a magazine rifle, the combination of a barrel, a magazine arranged thereunder, a breech frame fixed with respect to the barrel and magazine, a combined breech block and cartridge carrier arranged in the frame; said block and carrier having a fixed inwardly directed flange at one side of its forward end and a resilient inwardly directed flange at the other side of said end, means for translating the block and carrier, means for moving a cartridge from a position in alinement with the magazine to a position in alinement with the barrel, and means for checking the rearward movement of cartridges in the magazine and for locking the breech block and cartridge carrier near its foremost position, when the magazine is empty.

7. In a magazine rifle, the combination of a barrel, a magazine arranged thereunder, a breech frame fixed with respect to the barrel and magazine, a reciprocatory breech block and cartridge carrier for taking cartridges from the magazine and putting the same in the barrel, a cartridge elevating lever mounted in the breech frame and having a forward arm movable in the breech block and carrier and a rear arm arranged to be engaged by said block and carrier, and means for checking rearward movement of cartridges in the magazine and for locking the breech block and carrier near its closed position, when the magazine is empty.

8. In a magazine rifle, the combination of a barrel, a magazine arranged thereunder, a breech frame fixed with respect to the barrel and magazine, a reciprocatory breech block and cartridge carrier having a slot in its lower edge and forward end and also having inwardly directed flanges on its forward end; one of said flanges being resilient, a cartridge elevating lever mounted in the breech frame and having a forward arm movable up and down in the slot of the block or carrier and a rear, upwardly-extending arm arranged in rear of and adapted to be moved by the block and carrier, and means for checking rearward movement of cartridges in the magazine and for locking the block and carrier near its closed position, when the magazine is empty.

9. A breech block and cartridge carrier for a magazine rifle, comprising a body having a vertical flange at its forward end and adjacent to one of its sides, a resilient plate attached at its rear end to the opposite side of the body and having its forward end extended beyond the body and provided with an inwardly directed flange, and a regulating screw for said resilient plate.

10. In a magazine rifle, the combination of a barrel, a magazine arranged under the barrel, a breech frame fixed with respect to the barrel and magazine, a hand-grip movable on and guided by the magazine, a bar connected to and movable with the hand-grip and extending through an opening in the front wall of the breech frame and having a notch, a combined breech block and cartridge carrier arranged in said frame and connected and movable with said bar, a pivoted locking device arranged in the breech frame below and in rear of the magazine and having an arm for engaging the notch in the said bar when the magazine is empty; said device being also arranged to control the rearward feed of cartridges, and means for elevating a cartridge in the breech block and cartridge carrier.

11. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed with respect thereto, a combined breech block and cartridge carrier movable in said frame, means for translating the combined breech block and cartridge carrier, a firing pin carried by the combined breech block and cartridge carrier, a device for controlling the rearward feed of cartridges and automatically locking the breech block and cartridge carrier near its foremost position when the magazine is empty, means for elevating a cartridge in the combined breech block and cartridge carrier, and means arranged in one position to lock the combined breech block and cartridge carrier in its closed position to the breech frame, and in another position to lock the firing pin against forward movement with respect to the combined breech block and cartridge carrier.

12. In a rifle of the magazine type, the combination of a barrel, a magazine, a breech frame fixed with respect thereto and having a depression in the inner side of its lower portion, a combined breech block and cartridge carrier movable in said frame, a spring-cushioned firing pin carried by the combined breech block and cartridge carrier and having a recess, a device for controlling the rearward feed of cartridges and automatically locking the combined breech block and cartridge carrier near its foremost position when the magazine is empty, means for elevating a cartridge in the combined breech block and cartridge carrier, a vertically swinging piece for locking the combined breech block and cartridge carrier and the firing pin; the said piece being pivoted to the said combined breech block and cartridge carrier and having a lateral pin, and a bar to which the combined breech block and cartridge carrier is

translated, having an inclined slot receiving the pin on the swinging piece.

13. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed to the barrel and magazine, a breech block and cartridge carrier movable in the frame and having vertical flanges, one of which is resilient, provided with inwardly-directed portions, and also having a slot in its underside and forward end, the intermediate portion of the forward end of which is comparatively narrow, and a horizontal notch intersecting said narrow portion of the slot at a point below said flanges, and a cartridge elevator mounted in the slot of the frame and arranged to be moved by the block and having a lip for coöperation with the said horizontal notch of the block.

14. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed with respect thereto and having a beveled portion at one side of the mouth of the magazine, and a breech block and cartridge carrier movable in the frame and having cartridge engaging flanges; one of which is resilient, whereby it is capable of moving laterally, and is provided with a beveled portion to engage the beveled portion at the forward end of the breech frame.

15. In a magazine rifle, the combination of a barrel, a magazine, a breech frame fixed with respect thereto and having a beveled portion at one side of the mouth of the magazine, and a breech block and cartridge carrier movable in the frame and having cartridge engaging flanges, one of which is resilient, whereby it is capable of moving laterally, and is provided with a beveled portion to engage the beveled portion at the forward end of the breech frame, and a cartridge elevator mounted in the frame and movable by the breech block and cartridge carrier.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN J. CATRON.

Witnesses:
R. T. LIPSCOMB,
R. M. BOHANNON.