

(No Model.)

2 Sheets—Sheet 1.

J. H. McLEAN.
MAGAZINE GUN.

No. 282,554.

Patented Aug. 7, 1883.

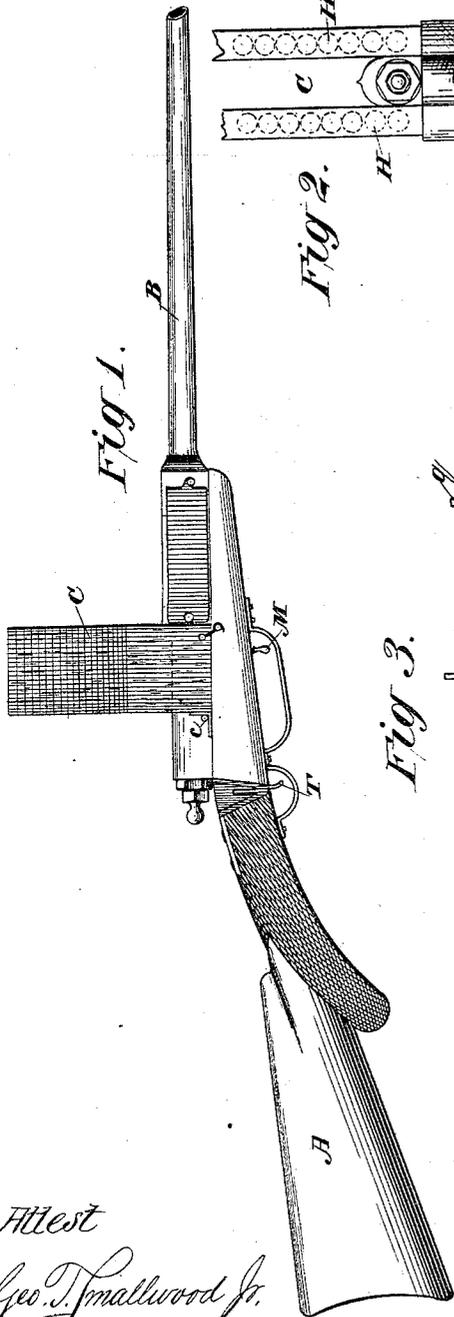


Fig. 2.

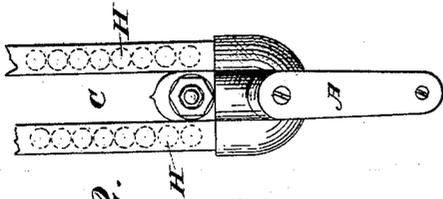


Fig. 3.

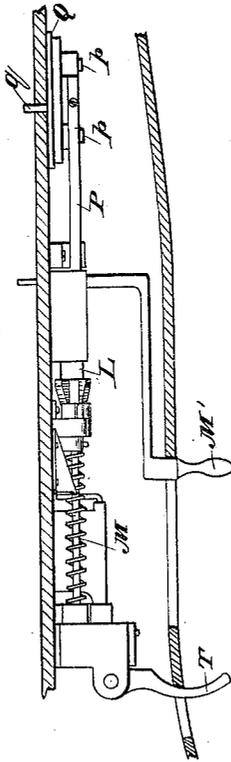
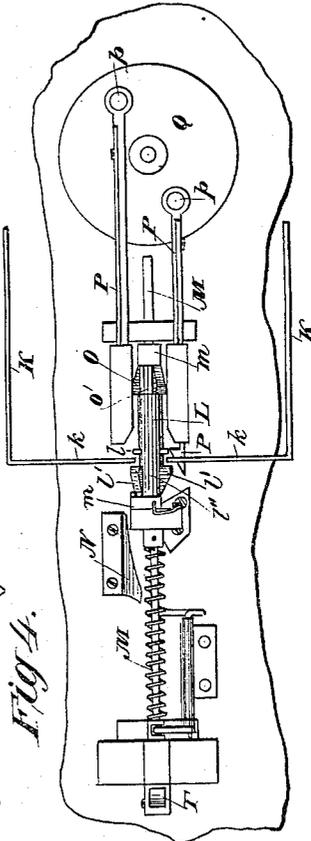
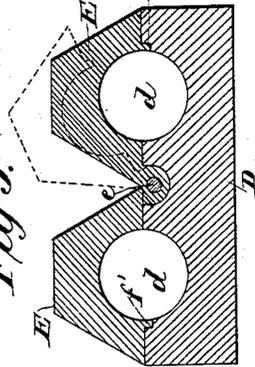


Fig. 5.



Attest
 Geo. D. Smallwood Jr.
 L. M. Hopkins

Inventor
 James Henry McLean
 By Knight

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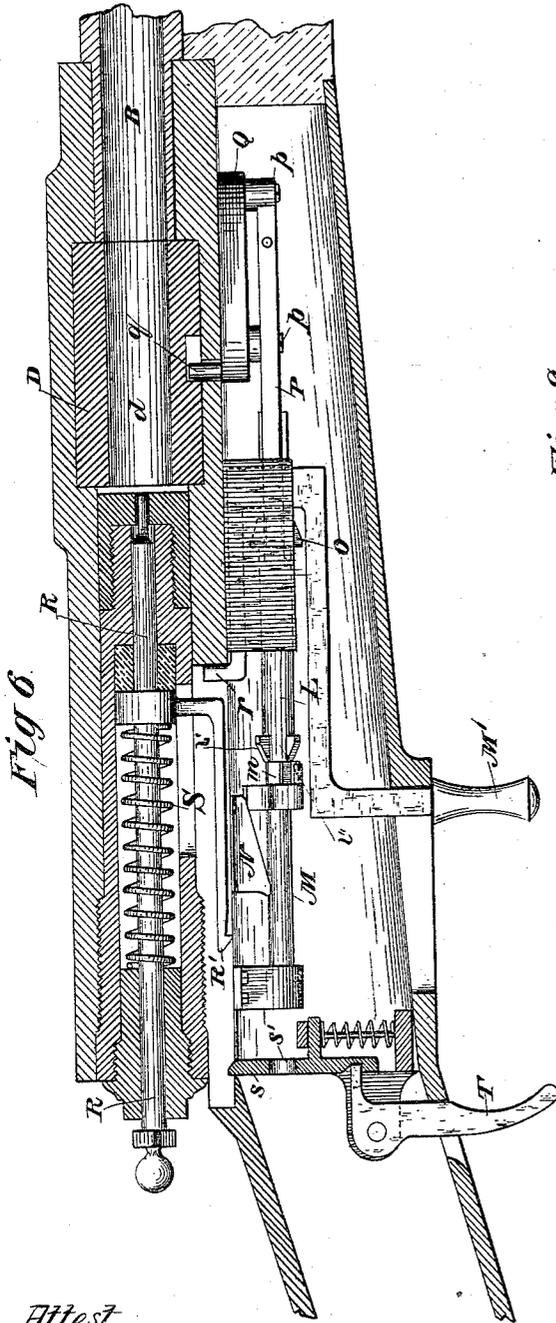


Fig. 6.

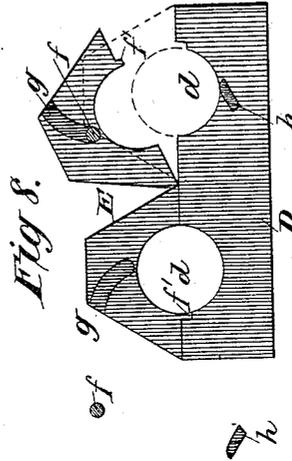
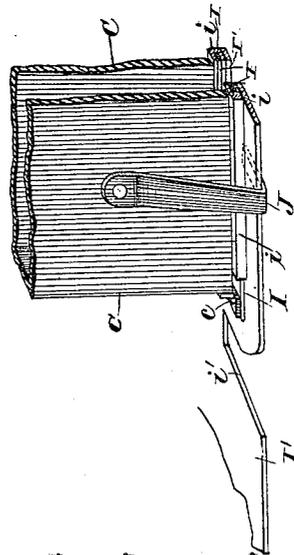


Fig. 8.

Fig. 7.



Attest
 Geo. T. Smallwood Jr.
 L. M. Hopkins

Inventor
 James Henry McLean
 BY Knights Bros atty

UNITED STATES PATENT OFFICE.

JAMES H. McLEAN, OF ST. LOUIS, MISSOURI.

MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 282,554, dated August 7, 1883.

Application filed June 6, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES HENRY McLEAN, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain Improvements in Magazine Fire-Arms, of which the following is a specification.

My invention principally relates to arms in which a chambered slide is used, adapted by either a horizontal or vertical or oblique movement, as the construction of the piece and the location of the magazines may require, to receive the successive cartridges from the magazines and convey them to firing position in rear of the barrel. As I have described in other applications various modes of operating such slides, a detailed description of the movements is not necessary here.

My present improvements principally consist in a novel construction of the slide and certain details used in connection therewith to adapt such a slide to be used in connection with flanged cartridges. To this end I provide the slide-chambers with hinged caps adapted to open to allow the empty cartridge to be pushed out, and the cartridge-flange to pass in the act of loading, and when carried to firing position to be closed on the cartridge, so as to support the same firmly on all sides, as required.

The invention further relates to a novel construction of vertical magazine, adapted to feed the cartridges by gravity to loading position and to be tipped back into horizontal position when not in use, said magazine having suitable appliances to prevent the escape of cartridges when not in loading position. The mounting of the magazine in a slide adapts it to be readily removed when depleted and replaced by a full one, any sufficient number of the magazines being carried by the soldier. The detachment of the magazines also enables the soldier to disable the gun and carry away the ammunition with him if compelled to leave it. The magazines are made of cheap material, so that in rapid action they can be removed and thrown away as fast as emptied and their places instantly supplied by full ones.

The invention further relates to slide and trigger movements for actuating the breech-

slide and loading and firing mechanism, as hereinafter described.

In the accompanying drawings, Figure 1 is a side view of a gun illustrating my invention: Fig. 2 is a rear view thereof. Fig. 3 is a vertical longitudinal section of the slide mechanism. Fig. 4 is an under side view of the same. Fig. 5 is a transverse section of the divided breech-slide. Fig. 6 is a longitudinal section of the breech of the gun on a larger scale. Fig. 7 is a perspective view, partly in section, of one of the feeding-hoppers. Fig. 8 is an end view of the breech-slide, showing the mechanism for opening the caps thereof.

A is the stock; B, the barrel; C C, the magazines, and D the reciprocating chambered breech-slide. The load-chambers *d d* in this slide are covered by caps E E, hinged at *ee*, and arranged to be raised alternately to open the respective chambers as they are moved from firing to loading position. This raising of the caps may be effected by lugs thereon engaging with stationary cams or tappets, or by means of pins *ff* upon the body of the piece engaging in oblique grooves *g g*, formed on the slide, as shown, or in any other suitable manner.

The cartridges are shown at H. *f' f'* represent lips on the caps to sustain them laterally against the force of the explosion.

h h are pins or oblique guides arranged in suitable position upon the body of the piece to raise the flanged end of each cartridge-shell as the chamber containing it is moved out of firing into loading position, so as to detach the cartridge-shell from its seat in readiness for its expulsion in front of the new cartridge. If the cartridge stick within the cap, it is expelled by the contact of the flange with the pin *f*.

C C are vertical hoppers, hinged at *c* to slides I, moving between guides *i* on the bed-plate I', so as to permit the hoppers to be moved into or out of feeding position, as required. The said hoppers are furnished with catches J, which, when they are moved out of loading position, engage beneath lower ends of said hoppers, so as to prevent the escape of cartridges therefrom, at which time notches *i'*

in the bed-plate I' permit the catches J of the reciprocating hoppers to pass while the hopper is turned back on its hinge *c* in horizontal position. When the hopper is erect and moved forward into feeding position, the said catches J are retracted by the projecting edges of the bed-plate I', so as to permit the cartridges to feed, in which case the bottom cartridge falls into position in the rear of the reciprocating breech-slide D, in readiness to be forced into the chamber thereof by the forward movement of the follower K. The followers K are operated by studs *k*, which are engaged alternately by the paired teeth *ll* on a sleeve, L, which is fitted to rotate on a rod, M, but is carried longitudinally in the motion of the latter by collars *m*, between which the said sleeve L is confined endwise. The rod M is moved forward and backward by a handle, M'.

N is a stationary cam to move the sleeve L part of a revolution around the rod M by contact of the oblique-faced teeth *l' l'* successively with the oblique edge of said stationary cam N. In the present illustration the paired oblique-faced teeth *l' l'* are three in number, arranged equidistantly around the sleeve, so that one-third of a revolution will be imparted to said sleeve each time it is drawn back by the rod M. Hence at each forward movement there will be on one side of the sleeve a pair of teeth, *ll*, engaging with one of the studs *k*, and on the opposite side an interdental space, *l'*, to avoid engagement with the stud *k* of the other follower. On the forward end of the sleeve are an equal number of oblique-faced teeth, *o*, having spaces *o'* between them. The teeth at both ends of the sleeve are equal in width to the interdental spaces. The oblique teeth *o* in front are employed to engage alternately in the backward movement of the sleeve with hooks P, hinged at *p* to the oscillating disk Q, which carries a stud, *q*, working in a slot on the under face of the breech-slide D, said slot being transverse to the breech-slide and longitudinal to the gun, so that the oscillation of the disk Q, imparting a transverse vibration to the stud *q*, will reciprocate the breech-slide D in the direction of its own length transversely to the gun, in order to bring the loading-chambers of said slide alternately into loading and firing position. At each backward movement of the rod M a stud, *r*, thereon retracts the firing-pin R to cocked position, where it is caught and held by a sear or pin, *s*, engaging with its latch-rod R', until released by the trigger T.

The spring for imparting the effective stroke to the firing-pin is shown at S. Upon drawing back the handle M' to bring the firing-pin to cocked position, the rod M passes through the opening *s'* in the sear *s*, and holds it firmly, so that it cannot be withdrawn to release the firing-pin until the handle M shall have been again pushed forward.

I am aware that heretofore fire-arms have been provided with cartridge-chambers having hinged covers, which covers are adapted to be manipulated by hand; and I am also aware that heretofore sliding blocks have been used in fire-arms as a means for holding the cartridges in firing position. Hence I claim my invention as distinguished from such previous structures.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A reciprocating breech-slide having one or more hinged covers arranged to close over the chambers of said slide, and provided with devices for producing automatic movements of said cover or covers, substantially as and for the purposes specified.

2. A reciprocating breech-slide having one or more hinged covers, closing over the chambers of said slide, and provided with devices for producing automatic movements of said cover or covers, in combination with a device or devices attached to the gun and engaging with the devices upon the slide cover or covers, for effecting, by such engagement, the automatic movement of the said cover or covers.

3. The combination, with a reciprocating rod, M, carrying a rotating sleeve, L, provided with oblique-faced teeth on its rear and front portions, of a fixed cam engaging with the rear teeth of the said sleeve, and an oscillating slide-actuating disk, having hooked arms arranged to engage with the front oblique-faced teeth of the rotating sleeve.

4. The combination, with the reciprocating rod M, carrying a rotating sleeve, L, provided with oblique-faced teeth and radial studs on its periphery, in combination with a fixed cam engaging with the oblique-faced teeth and a pair of plungers, K, arranged to be alternately engaged and pushed forward by the said radial studs.

5. The rotating sleeve L, provided at its rear end with paired teeth *l* and interdental spaces *l'*, in combination with a cam or tappet, N, for imparting partial rotation to said sleeve, and the slides or push-rods K, having pins or lugs to be engaged by said paired teeth, so as to load the breech-chambers *d d* alternately, in the manner described.

6. The combination, with the base-plate of a gun provided with a feed aperture or slot for the cartridges, a recess or notch for the retaining-spring of said magazine, and with guides for the slide of said magazine, of a vertical magazine hinged to a slotted bottom piece or slide arranged to slide between the said guides, and a retaining-spring secured to said magazine, and arranged to pass beneath the bottom of the magazine or hopper, substantially as and for the purposes set forth.

7. The combination of the firing-pin R,

latch-rod R', sear s, and the operating-rod M, engaging with the said sear to lock it while the said rod M is drawn back.

5 8. The combination, with a chambered reciprocating breech-slide, of one or more oblique studs secured to the body of the gun, and arranged to engage the flange of the car-

tridge as the slide reciprocates, substantially as and for the purpose set forth.

JAMES HENRY McLEAN.

Witnesses:

OCTAVIUS KNIGHT,
CLEMENT N. SMALLWOOD.