

(No Model.)

W. H. OSTRANDER.
MAGAZINE GUN.

4 Sheets—Sheet 1.

No. 531,132.

Patented Dec. 18, 1894.

Fig. 1.

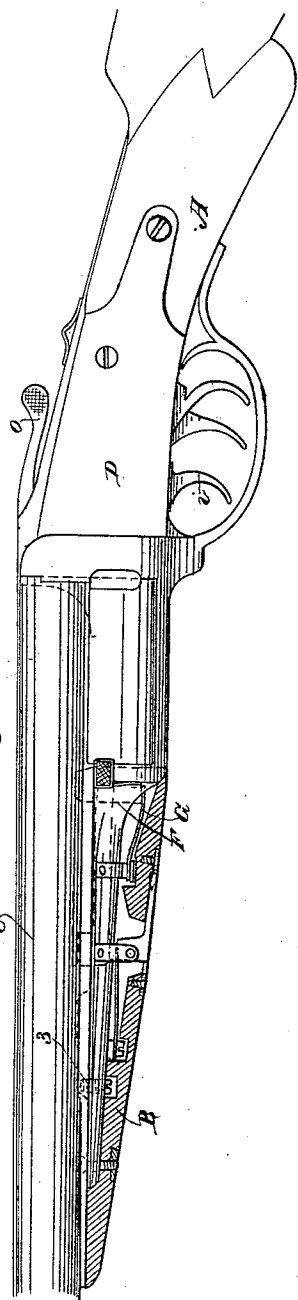
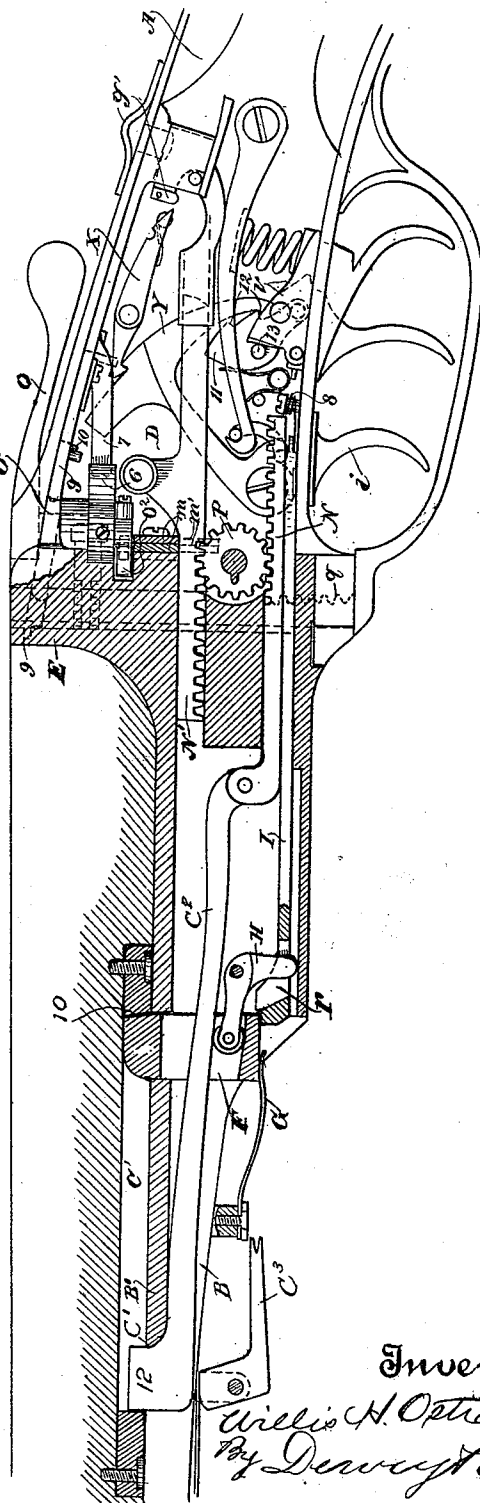


Fig. 2.



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Fig. 3.

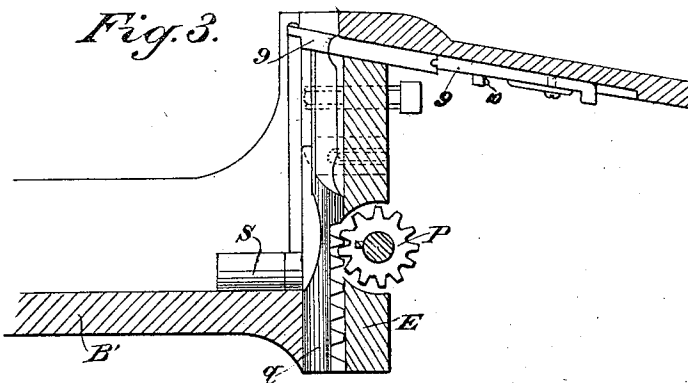


Fig. 4.

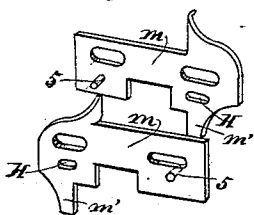


Fig. 5.

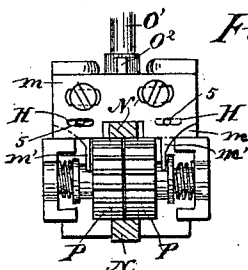
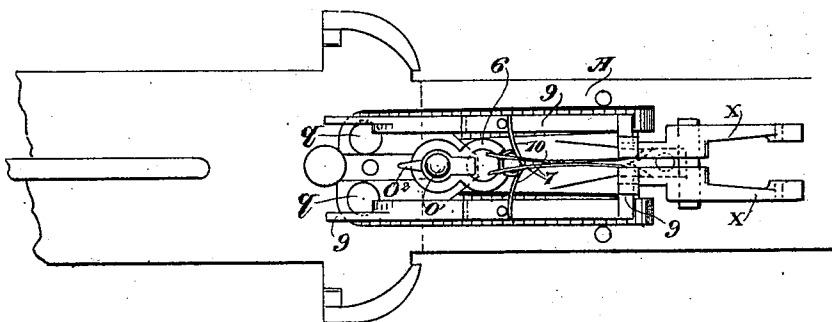


Fig. 6.



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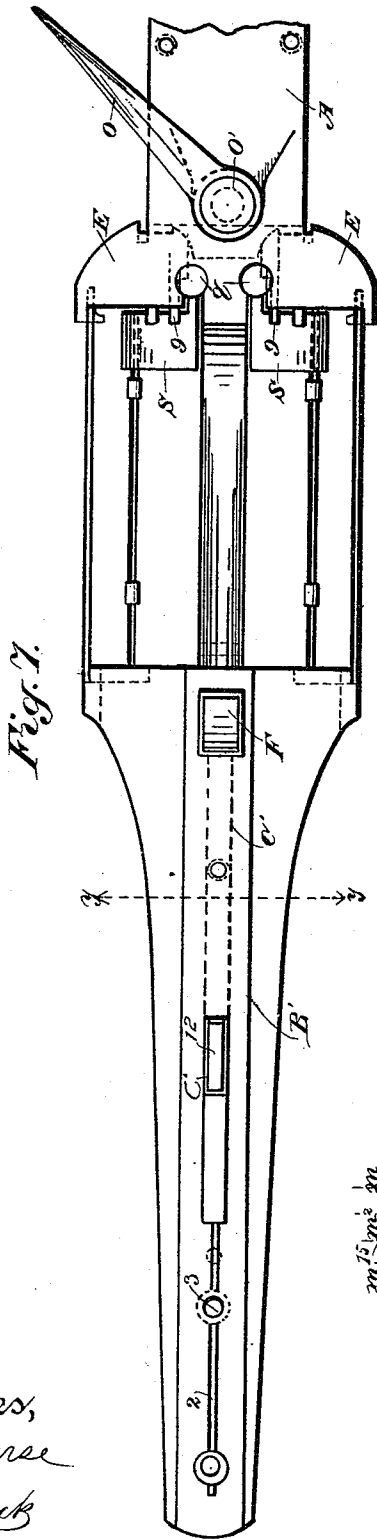


Fig. 7.

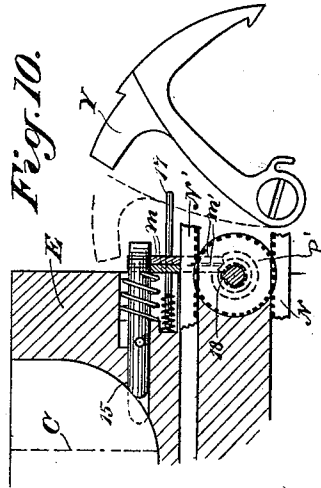


Fig. 10.



Fig. 8.

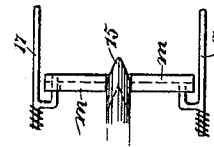


Fig. 11.

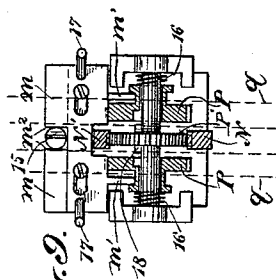


Fig. 9.

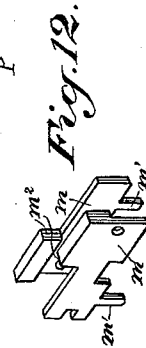


Fig. 12.

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(No Model.)

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Fig. 13.

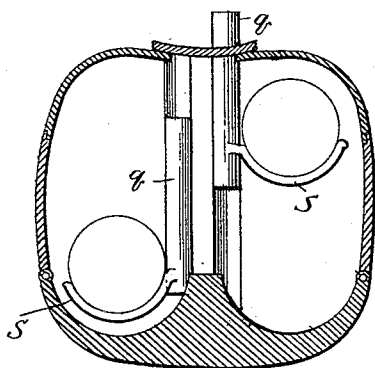


Fig. 14.

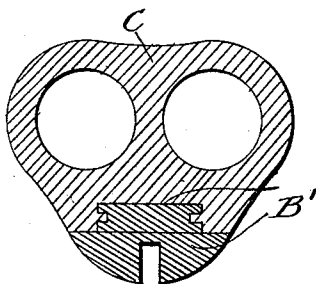


Fig. 15.

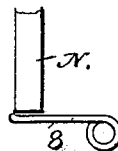
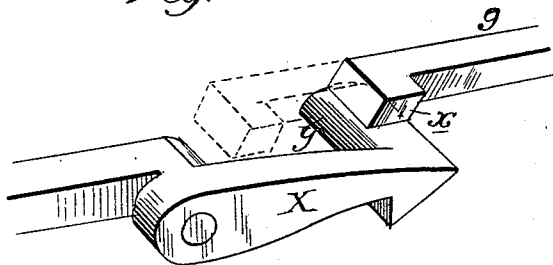


Fig. 16.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIS H. OSTRANDER, OF SAN FRANCISCO, CALIFORNIA.

MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 531,132, dated December 18, 1894.

Application filed April 2, 1894. Serial No. 506,092. (No model.)

To all whom it may concern:

Be it known that I, WILLIS H. OSTRANDER, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Repeating-Guns; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in repeating guns.

It consists essentially in details of construction and combination of parts which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the gun with a vertical section of the fore end. Fig. 2 is a vertical section with the barrels removed showing the interior breech mechanism. Fig. 3 is a partial section through the center of the breech and connections. Fig. 4 is a view of the sliding plates to operate the pinions. Fig. 5 is a front view of the same properly connected with the pinions. Fig. 6 is a view from below of the upper part of the casing D. Fig. 7 is a plan view of the fore stock and frame with the barrels removed. Fig. 8 is a section of the tongue piece on the line $y-y$ Fig. 7. Fig. 9 is a rear view of the transverse pinion actuating plates and connected parts. Fig. 10 is a section of part of the breech, showing racks, pinions and connected parts. Figs. 11 and 12 are views of the transverse plates with holes and locking pins. Fig. 13 is a transverse section showing the magazine and carrier. Fig. 14 is a transverse section showing the barrels and the guiding tongue or rib B'. Fig. 15 is an enlarged detail showing the engagement of the bar N with the spring 8. Fig. 16 is a detail to be referred to.

The object of this invention is to provide certain improvements in that class of magazine guns or repeaters having two barrels upon a single stock like a shot gun, with magazines beneath, and mechanism whereby the supplemental cartridges carried in these magazines may be elevated and introduced into the barrels after the previous cartridges have been discharged therefrom.

A is the stock of the gun.

B is the front extension of the stock, called the fore end, within which a pair of barrels C is adapted to slide forward and back.

D is a casing within which the operating mechanism is contained.

E is a standing breech against which the rear end of the barrels abut when they are closed and locked in position.

F is a locking latch by which the barrels are held in place when the breech is closed. This latch engages a groove C' in the web between the barrels, and is held up by a spring G.

The latch is connected with the front end of the bell crank lever H which is fulcrumed in the space beneath. One arm of the bell crank lever enters a groove or channel in the latch having an anti-friction roller on its end, and when the lever is moved about its fulcrum point, it acts to draw the latch downward until it is disengaged and allows the barrels to be moved forward, sliding upon the fore end.

When the bell crank lever is released the latch is forced up by the spring. The other arm of the bell crank lever enters a slot or channel I' made in the sliding rod I. This sliding rod extends back and is connected with the trigger which is pulled and draws the rod back, thus causing it to act upon the bell crank lever and the bolt or latch F.

In my present invention, the front end of the rod I extends beneath the locking bolt or latch F when the parts are in their normal position, and thus prevents the bolt from being moved downward to unlatch the barrels.

The slot in the rod I is of sufficient length to allow the rod to be pulled back until it is disengaged from the latch F before the rear end of the slot engages the bell crank lever to draw the latch down, and when the parts have been released and the latch has been forced upward by its spring, the rod will pass beneath the latch and thus lock it in place.

The rear upper end of the latch is beveled off slightly so that as it is moved upward, it acts on the wedge-shaped or inclined shoulder 10 to lock against the rear of the groove between the barrels and hold them firmly in place, and for the same reason when the latch begins to move downward, it moves away from this shoulder, so that the latch will move freely and without binding, which would be the case if it were perfectly straight.

The guiding tongue or rib B' upon which the barrels slide and are guided in their slid-

ing movements, is preferably made separate from the fore end and attached thereto by screws or otherwise, so that it is more easily manufactured, and easily replaced if necessary. This part is also split or slotted longitudinally, as shown at 2, and has a tapering hole made in it for the head of a screw 3, so that by turning this screw up, the sides of the rib are spread out or expanded, thus compensating for any wear that may have taken place in the working of the gun, and keeping it always tight.

In my present construction, I make the vertically sliding posts or bars *q* which carry the segments *S*, cylindrical, and the channels or openings for them are quickly and accurately made, by simply boring them out of a cylindrical form.

The cylindrical vertical carrier posts *q*, have teeth made upon the rear adapted to engage the rotary pinions *P* by which they are raised and depressed.

N is the reciprocating rack, and *C*² is a bar extending forward from the same, having an upturned lug 12 at its front end, this bar serving as a stop against which the rear end of the slot strikes to limit the forward movement of the barrels. The pivoted L-shaped lever *C*³ normally holds this bar *C*² in place, but when this lever is turned about its fulcrum to relieve the locking bar, the latter is allowed to drop and disengage its lug 12 from the slot *C*¹ and this allows the barrels to be slipped off the fore end, and entirely disengaged.

In order to disengage either of the pinions from the central horizontal reciprocating rack *N*, by which they are rotated, and by which the mechanisms for raising the cartridges from the magazine are operated, I employ a top lever *O* which is turned from side to side, and acts through a vertical turning post *o*¹ to which it is attached, and transversely sliding plates *m*, with lugs *m*¹, to shift the pinions to one side or the other as may be desired.

A pin *O*² projecting from the front of the top lever post engages either one or the other of these plates. When moved in one direction it engages one of the plates and moves the pinion upon that side out of engagement with the rack bar, leaving the other one in engagement so that the particular carrier actuated by it may be moved while the other one remains quiescent.

When the lever is moved to the opposite side, it acts upon the other plate to move the other pinion out. Now, in order to insure the return of either pinion after it has been thus forced out of engagement with the rack, I slot each of these plates, making horizontal slots *H* upon opposite ends, and each plate has a corresponding pin 5 entering the slot of the other plate. The amount of space in each slot is sufficient to allow the plate to be moved as far as may be necessary to disengage the pinion from the rack, but when the movement

in the opposite direction takes place, the pin will strike against the end of the slot, thus drawing the plate in the direction in which the other plate is moving, and this brings the pinion back into engagement with the rack bar before the other one is thrown out of engagement. This prevents the two pinions being thrown out of engagement at the same time, and always insures the bringing back of one of them after it has been thrown out.

In Figs. 9 and 10 the horizontally sliding rack *N* is connected with the sliding barrels so as to be moved forward and back with them. It engages a central pinion *P*¹ and rotates it alternately in one direction and the other. The two pinions *P* upon the same shaft with the pinion *P*¹, which engage and move the vertically sliding racks *q*, are normally moved out of engagement with the pinion *P*¹ by means of the points *m*¹ on the transversely sliding plates *m* (the points *m*¹ engaging grooves made around the hubs of the pinions), and a longitudinally sliding spring-actuated pin which has its rear end made wedge-shaped as shown at 15, Fig. 11. This end enters between the inner edges *m*² of the plates *m*, thus forcing them apart and through the lugs or projections *m*¹, acts upon the pinions to slide them outwardly against the coil springs 16. These springs force the pinions inwardly and into engagement with the feathers or clutch members 18 of the pinion *P*¹ whenever released by withdrawing the pin 15 from between the plates *m*, and unlocking the plates.

The pinions *P* when forced inwardly by their springs 16 will engage the pinion *P*¹ by means of interlocking clutch devices 18, and be rotated thereby, and they also engage the vertically moving rack bars *q* which lift the carriers *S* to raise cartridges from the magazine up to a position to enter the barrels of the gun. When moved outwardly upon their shafts, these pinions *P* are disengaged from the pinion *P*¹ and do not actuate the carriers. The horizontally sliding pin 15 is moved backward between the sliding plates *m*, and is retained in this position against the action of its spring, whenever the barrels are closed, by reason of the barrels striking its front end where it normally projects a little as indicated in dotted lines in Fig. 10, and when the sliding plates *m* are thus separated, they are locked by sliding spurs 17, which are actuated by springs so that the spurs enter corresponding holes in the outer edges of the plates *m*.

While the plates *m* are locked, the barrels may be disengaged and moved forward, thus allowing the pin 15 to be moved forward by its spring and disengaged from the plates *m* without allowing the plates to approach each other, and the pinions *P* will thus continue to remain out of contact with the pinion *P*¹. When, however, either of the hammers *Y* falls to discharge a cartridge in

the corresponding barrel of the gun, it will strike the pin 17 upon that side, and thus unlock the corresponding plate *m*.

As soon as the barrels are released and caused to slide forward, the spring 16 acting upon the pinion P upon that side, forces it inwardly, carrying with it its sliding plate *m*, and the clutch member will engage that of the pinion P' and be actuated with it, and through its connection with the vertical rack *q* and the carrier S, it will raise a cartridge from the magazine, and deposit it in the barrel from which the discharged cartridge has been ejected. The hammer upon this side is again drawn back into position for firing by the action of the upper rack bar N' releasing the locking pin 17 which, actuated by its spring, is pressed against the plate *m*, and as soon as the pin 15 is pressed back between the plates *m* by the closing of the barrels against the breech, the plate *m* will be forced outwardly to its normal position, and the locking pin 17 will engage the hole in the plate and hold it and its pinion again out of engagement with the rack bar. The vertical turning post of the top snap by which these plates are moved to one side or the other for the purpose of disengaging either of the pinions from the rack bar has two arms forming a ring extending backward from it as shown at 6 and having an open slot between the rear ends.

The spring 7 by which the post is always returned to its central position as soon as the lever is released, is shown as formed with two parallel blades, the rear end being secured to the upper part of the casing within which the breech operating mechanism is contained. The front ends of these springs extend into the open slot at the rear of the ring 6, and normally retain it and the post and lever in the central position.

Whenever the post is returned in either direction, the part of the ring upon the opposite side will press upon the spring, and force it to the same side to which the lever has been turned, and when the lever has been released, the spring will return the post as previously described.

The rod or bar I which is connected with the trigger *i* and by which the locking bolt or latch F is actuated, has its rear end engaged by a spring 8 (Figs. 2 and 15) which is compressed when the rod is drawn back and which acts to force the rod forward to its normal position when the trigger is released.

9 are two sliding bars fitting in the upper part of the casings and having their rear ends engaged by springs 10 which normally force them forward. The front ends of these bars project through the standing breech, as shown, in such position that when the barrels are moved back and locked, they strike these projecting points and force the sliding bars 9 back. When the barrels are released and move forward the springs act to force the bars forward. These bars project above the safety catches X in such a manner that

when they are moved forward they prevent the safety catches from being lifted by the movement of the thumb pieces *g'*. The bar 9 and its lug *x* are in the position shown in dotted lines in Fig. 16 when the barrels are closed and locked, but when they are opened, the bar moves forward up the incline until the lug *x* lies upon the lug *y* which projects from the side of the safety catches X and thus holds it down, and locks the hammer. These thumb pieces are slidable upon the top and outside of the tang or the stock, and when pressed forward act to press down the rear ends of the safety catches, thus lifting the front ends and disengaging them from the hammers, so as to allow the hammers to fall when the triggers are pulled. This is the condition of the parts when the barrels are closed and locked, because the sliding bars 9 are then pushed back by the contact of the barrels with their front ends, far enough to allow the safety catches to be lifted by the action of the thumb pieces. When the barrels are moved forward, however, the sliding bars 9 are pressed forward by their springs, and stand above the safety catches in such a manner as to prevent their being disengaged from the hammers while the barrels are opened. This prevents the hammers being released by the trigger pull at any time except when the barrels are properly closed.

Between the hammers Y and the trigger plates V are fulcrumed independent tumblers 11 having upon the upper ends the projecting hooks 12 which engage corresponding hooks or notches on the rear ends of the hammers, and thus retain them when they are drawn back to position of full cock. Upon the sides of these tumblers are pins 13 which are engaged by the trigger plates when the triggers are pulled, so as to turn the tumblers about their fulcrum points until the hammers are released.

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

1. In a magazine gun having a barrel slidable upon the stock, a vertically moving locking bolt or latch, a bell crank lever fulcrumed behind the latch having one arm projecting into a slot or channel in the latch, a horizontally sliding bar and a trigger by which it is drawn backward, said bar having an elongated slot in the front end into which the second arm of the bell crank lever projects, and an extension which normally stands beneath the locking latch and prevents its being withdrawn, the slot allowing this extension to be withdrawn from beneath the latch before the bell crank lever is engaged to depress the latch.

2. In a magazine gun, the vertically movable locking bolt or latch, a horizontally slidable bar, the front end of which extends beneath the latch when the barrels are closed and locked, a bell crank lever fulcrumed behind the latch having one arm extending for-

wardly into a slot or channel in the latch, and the other arm extending downwardly into a channel in the sliding bar, the length of which allows the bar to be drawn backward until it releases the locking latch before the sliding bar commences to act upon the bell crank lever whereby the latch is depressed.

3. In a magazine gun, a vertically moving locking latch, a horizontally slidable bar and a bell crank lever whereby the latch is withdrawn to release the barrels, said latch having its rear face inclined and adapted to engage the corresponding inclined face against which it locks whereby the barrels are locked and looseness prevented by the wedge action of these faces when the latch is thrown upward, and the faces are disengaged and released by the first downward movement of the latch.

4. In a magazine gun, the horizontally slidable barrels, the vertically locking latch, the horizontally slidable bar and bell crank lever by which the latch is actuated, the rack and pinion mechanism and the link or bar extending to the front and having the up-turned end adapted to be engaged so as to actuate the cartridge carrying mechanism when the barrels are moved forward, in combination with a hinged latch adapted to hold said link in place or to disengage it for the removal of the barrels as described.

5. In a gun having the barrels slidable horizontally upon the fore end, a guiding tongue upon which the rib of the barrel slides and is guided, said tongue being removably attached to the fore end and being split or slotted in the direction of its length, and means for expanding the sides of the tongue.

6. In a gun having the barrels slidable upon the fore end, a guiding rib upon which they travel, said rib having expansible sides, and a screw whereby the sides are separated to fit in the channel on the rib and compensate for wear.

7. In a magazine gun having the barrels slidable upon the fore end, a mechanism consisting of slidable racks, pinions engaged by said racks to actuate the carriers by which the cartridges are lifted from the magazine to a position opposite the open rear end of the barrel, a rotating post, a lever by which it is turned from side to side, plates slidable transversely and adapted to move the pinions correspondingly so as to disengage either pinion from the rack bar to allow one mechanism to be actuated independently, slots made in the transversely moving plates and pins projecting respectively from the opposing plates into these slots, so that either pinion will be returned into engagement with the rack, by the movement of the other plate to disengage the other pinion.

8. In a gun, the combination, of the longitudinally sliding racks, pinions turning upon a shaft, and movable transversely to disengage them from the rack, transversely sliding plates, each of which engages one of the pin-

ions and a rotary post and top lever by which said plates are moved to right or left, slots made in each of the plates and pins projecting into the slots from the opposing plates, so that when either plate is moved to disengage its pinion, the other plate will be drawn in the same direction to insure the re-engagement of the other pinion.

9. The safety catches adapted to engage the hammers when drawn back and the thumb pieces slidable upon the stock and adapted to disengage the catches from the hammers, bars slidable in the upper part of the casing having stops to engage the safety catches and prevent their being lifted when the barrels are unlocked and moved forward, and projections from the front end of said bars to be engaged by the barrels when the latter are closed and locked, whereby the sliding barrels are moved backwardly to release the safety catches and allow them to be raised by the thumb pieces.

10. In a gun, the combination, of the vertical rotary post having a top lever by which it is actuated for the purpose of disengaging either of the pinions from the rack bars, said post having rearwardly extending arms or an open ring between their rear ends, a spring or springs having the rear end attached to the casing and the front end extending between said arms to return the post and lever to a central position after it has been turned to either side.

11. A central revolving pinion actuated by a longitudinally sliding rack bar connected with the slidable barrels of a gun, loose pinions mounted upon the same shaft, engaging the cartridge carriers and movable into engagement with the central pinion by pressure from their outer sides, transversely sliding plates with lugs engaging grooves in the hubs of the movable pinions, a longitudinal pin slidable to disengage the movable pinions from the central one when the breech is closed, and allow them to be moved into engagement when the breech is opened.

12. A central revolving pinion actuated by a longitudinally sliding rack bar connected with the slidable barrels of a gun, loose pinions mounted upon the same shaft, engaging the cartridge carriers and movable into engagement with the central pinion by pressure from the outer sides, transversely sliding plates with lugs engaging grooves in the hubs of the movable pinions, a longitudinal tapering pin slidable between the plates to separate them and the pinions, and locking pins, whereby the plates are retained apart and the movable pinions out of engagement with the one by which they are rotated.

13. A central pinion revoluble by the reciprocation of the slidable barrels of a gun, pinions turning loosely upon the same shaft with the first named pinion, and slidable into or out of engagement with clutches upon opposite sides thereof by means of transversely

sliding plates having lugs engaging channels | into engagement when the hammer is down 10
in the hubs of the movable pinions, a wedge | and the corresponding barrel discharged.
or taper pin movable between the sliding | In witness whereof I have hereunto set my
plates to separate them and disengage the | hand.
5 pinions when the breech of the gun is closed,
spring-actuated locking pins by which the
plates and pinions are retained separate while
the hammers are drawn back, and either one
is disengaged to allow its pinion to be thrown

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