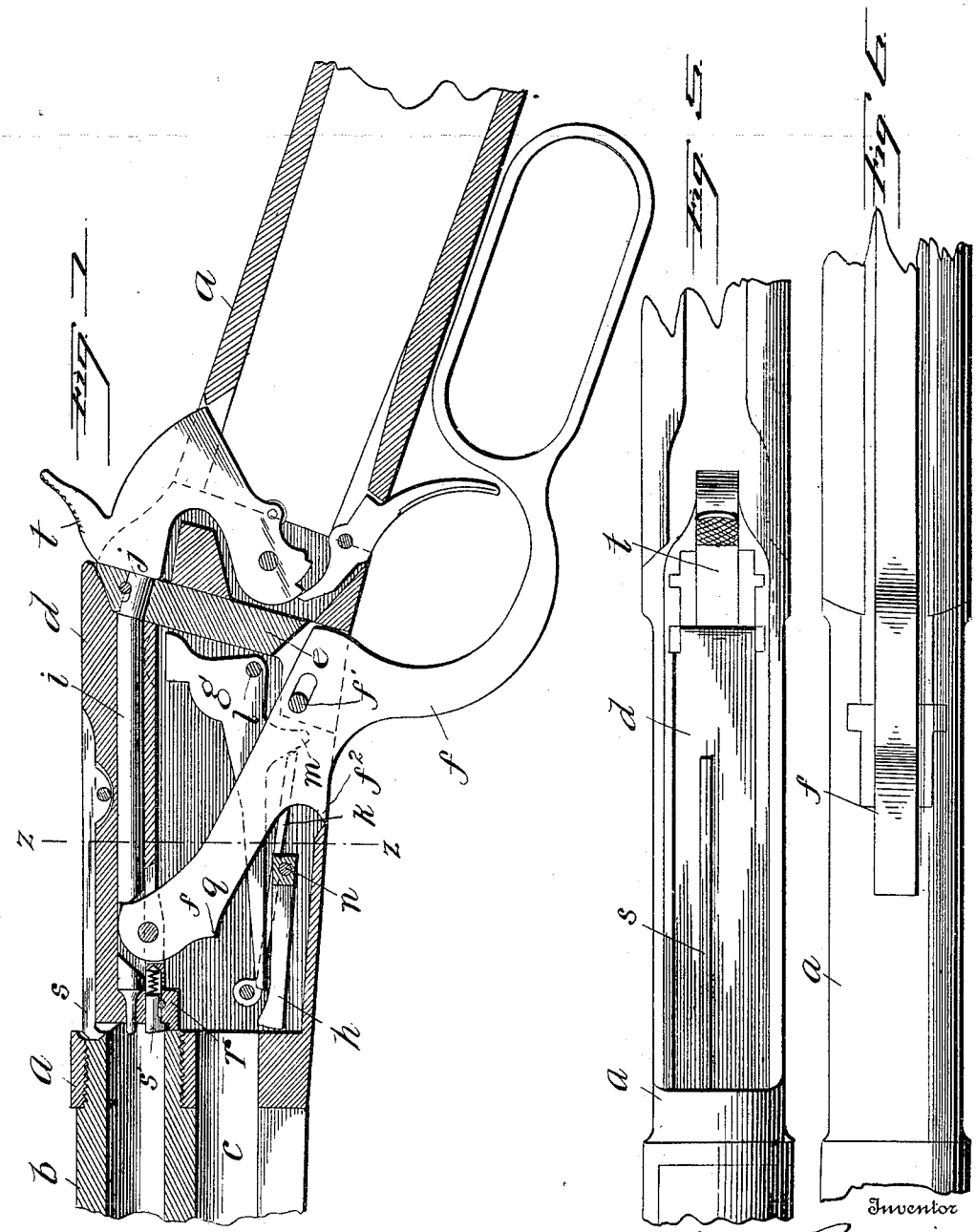
No. 864,608. PATENTED AUG. 27, 1907.

J. M. BROWNING.

MAGAZINE GUN.

APPLICATION FILED AUG. 3, 1906.

2 SHEETS—SHEET 1.



Witnesses
Chas. H. Davies
Lilian Brock

Inventor
John M. Browning

By Bartlett & Brock

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

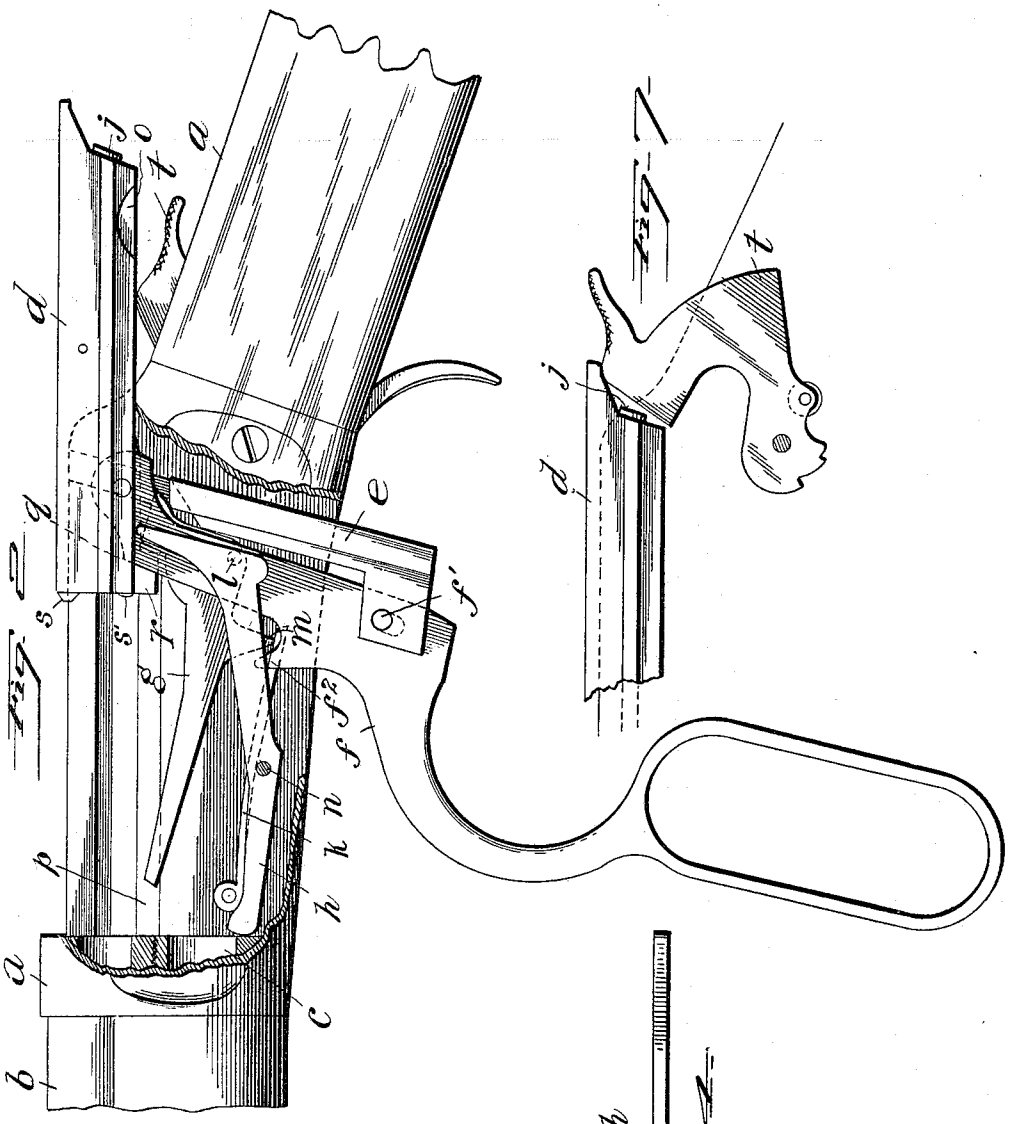
No. 864,608. PATENTED AUG. 27, 1907.

J. M. BROWNING.

MAGAZINE GUN.

APPLICATION FILED AUG. 3, 1906.

2 SHEETS—SHEET 2.



Witnesses
Lilian Brock
Nancey E. Costello.

Inventor
John M. Browning
By Bartlett & Brock
Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN M. BROWNING, OF OGDEN, UTAH.

MAGAZINE-GUN.

No. 864,608. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed August 3, 1906. Serial No. 329,068.

To all whom it may concern:

Be it known that I, JOHN M. BROWNING, a citizen of the United States, and a resident of Ogden, in the county of Weber and State of Utah, have invented a new and useful Magazine-Gun, of which the following is a specification.

This invention relates to magazine firearms; the object being to produce a gun in which a long cartridge and heavy powder charge may be used, and yet that the gun may be light, strong, compact, simple in construction, safe and positive in action, and low in cost.

Figure 1 represents a longitudinal sectional view of the breech mechanism of a gun with action closed; Fig. 2 show sreceiver broken away and parts in the open position; Fig. 3 shows a cross section through receiver at *z z*, Fig. 1; Fig. 4 shows detached view of magazine cut off; Fig. 5, a top view; Fig. 6, a bottom view; and Fig. 7, a detail view showing the manner in which the cocking lip on breech bolt cocks the hammer and prevents the hammer from coming in contact with firing pin.

My improvements are applied to a gun having a receiver, barrel, magazine, stock, and firing mechanism which, being all well known constructions, will need no special description.

My invention embodies a horizontally sliding breech bolt which is locked against the explosion of the cartridge by a solid locking block, which block covers the rear end of the breech bolt; this locking block slides in grooves in the receiver and is provided on its lower end with a forward extension, to which the lever is pivoted; this extension on the locking block is a very important part of my invention, for it enables me to use a solid locking block at the rear end of the breech bolt and connect the lever to the breech bolt and locking block without additional parts. This is held to be a much better and more simple construction than having two blocks, or connecting the lever to a link and the link to the block, as I have done heretofore in some well-known guns.

It will be understood that in order to use a solid locking block, said block must be located far enough in the rear to allow the breech bolt to move to the rear its full distance before the upper end of the lever comes in contact with it; when thus located, if the lever should be pivoted to the block, the forward end of said lever, or the part forward of its pivot, would be so long that in the opening movement, when the lever turned so far that its upper pivot stood directly over the lower pivot, the locking block would be drawn nearly out of the receiver; this construction would not be practical, and also there would not be sufficient leverage for the easy operation of the mechanism; but by pivoting the lever to the forward projections on the lower end of the locking block, I am able to use a solid block in rear of the bolt, and have room for the swing of the lever; this construction also permits pivoting the lever as far forward as may be necessary, thus giving ample leverage and great simplicity and strength. The forward extension on the lower end of the locking block is also very important, inasmuch as it allows me to make a gun adapted to take a long cartridge, and yet have a very short receiver. The lever is pivoted to the breech bolt, and where it is pivoted to the locking block its pivot hole is elongated, to allow the lost motion necessary, as in my Patents No. 306,577 of October 14, 1884, and No. 524,702 of August 21, 1894. The upper end of the locking block is beveled on its front side, and a portion of the bolt extends rearward over the rear end of the locking block, and engages the hammer when the bolt is moved rearward; such construction prevents any possibility of the hammer striking the firing pin while the breech bolt is unlocked. The breech bolt carries the firing pin, and the locking block carries a pin which receives and transmits the blow of the hammer to the firing pin.

In the drawing, *a* indicates the frame or receiver, *b* the barrel, and *c* the magazine, all being of a character well known in this art. The longitudinally reciprocating breech bolt *d* is guided in the frame by ribs entering grooves in the sides of the frame, as is common. The operating lever *f* is pivoted in the bolt *d*, near the front end thereof. The locking block *e* is pivoted to the lever *f* at *f'*, in such manner as to permit a lost motion between these parts. The locking block *e* is guided in its sliding movement by grooves in the frame, and when in locking position the upper end of the locking block is in rear of the breech bolt *d*. As the locking block is solidly supported in the frame in such position, the bolt cannot move to the rearward when the locking block is closed. (See Fig. 1.)

The first downward movement of lever *f*, when the gun breech is closed, withdraws the locking block *e* from behind the breech bolt *d*. A shoulder f^2 on the lever rides under an extension a^2 of the frame. The downward movement of the locking block *e* in its grooves causes the pivot at *f'* to act as a shifting fulcrum, and this fulcrum falls below the frame as the lower end of the lever is swung forward, (as in Fig. 2), the lever action forcing the breech bolt to the rear, over the top of the locking block. In closing the breech, a reverse movement takes place. The locking block carries a separate pin *j*, which serves as an extension of firing pin *i*. The locking block is beveled at its top, and the rear end of the breech bolt corresponds therewith. As seen in Fig. 7 the hammer *t* cannot strike the firing pin, by reason of the bevel form of the breech block, and can only strike pin *j* when the breech is locked.

The extractor is of the well known spring hook kind, but in order to throw the empty shell further to one side of the gunner's face, I make a cut in the right hand

side of the receiver, about the length of the cartridge, back from the front of the receiver; this cut widens the opening in the top of the receiver on the right side, so the shell can be ejected more to the right than in the usual construction: In carrying out this idea the extractor is located on the upper right hand side of the bolt, and a lip on the side of the bolt extends over the cut in the side of the receiver, and closes it when the bolt is in its forward position.

The ejector is a stud *s'* located in the lower face of the breech bolt and is provided with a spring which forces it outward as usual. As a result of this arrangement, when the bolt is drawn back to open the breech if there is a shell or empty cartridge in the chamber, the ejector, through its pressure on the under side of the head of the shell, will force the front end of said shell upward as soon as it leaves the chamber; and as the extractor is on one side of the center, and the opening in the frame is made wider on the same side, the shell is thrown upward and to one side instead of straight up.

The carrier *g* is pivoted at *l* just forward of the locking block. Its upper rear end extends back so that when the parts are in the closed position this upward extension of the carrier touches the front face of the locking block. When the parts are in the open position and the carrier raised, this rearward extension moves back into the path of the locking block, which locking block, as it moves upward, to lock the breech bolt, cams the carrier down and holds it. This prevents any possibility of the carrier getting jolted up so it might interfere with the movement of the loading spring in loading the magazine. A carrier spring *k* acts upon a spur *m* on the lower side of the carrier and holds it in its up or loading position, when permitted by the locking block. A cartridge stop *h* is pivoted to the receiver at *n* and extends forward from its pivot to the rear end of the magazine. It also extends rearward on the left hand side of the receiver, and in closed position of the parts its forward end is down just even with the lower side of the magazine, and its rear end extends upward and enters a cut *o* in the lower side of the breech bolt, where it is held by the forward extension on the lower end of the locking block. The inside of the receiver is provided with two cartridge guides (*p*, *p*, Fig. 3) which holds the cartridge from being thrown out of the receiver when elevated by the carrier; and the magazine is loaded through an opening in the right hand side of the receiver when the action is closed; this opening is provided with a spring cover in the usual manner.

The operation of the gun is as follows: Supposing the magazine is loaded and the last cartridge partly on the carrier resting against the shoulder *q* on the lower front end of the lever; the rear end of the lever is forced downward and forward. The first part of this movement carries the locking block down and unlocks the breech bolt, which then commences to move to the rear; the first part of the rearward movement of the breech bolt forces down the rear end of the cartridge stop *h* which raises its front end so the cartridge following in the magazine will be stopped when its head reaches the front end of the cartridge stop; at the same time the cocking lip on the rear end of the breech bolt is forcing the hammer to the rear, and thus cocking the same very easily and preventing any contact of the hammer with the firing pin. When near the limit of its rearward movement the shoulder *r* on the under side of the forward end of the breech bolt strikes the upwardly extending arm of the carrier *g*, forcing this arm to the rear which raises the carrier together with the cartridge, which has moved onto it, in line with the cartridge chamber in the barrel. The carrier is held in its elevated position by the carrier spring, the cartridge being held on the carrier by the cartridge guide *p*, *p*. The return movement of the lever forces the cartridge on the carrier into the chamber, and as the locking block rises to move in behind the breech bolt it first comes in contact with the upper rear end of the carrier and forces the carrier down to its lower position, at the same time the forward extension on the locking block comes up under the rear end of the cartridge stop and allows another cartridge to jump rearward from the magazine onto the carrier against shoulder *q* on lever.

It will be noticed that the breech bolt is forward and the extractor snapped over the head of the cartridge in the chamber before the forward extension on the locking block comes in contact with the cartridge stop to release another cartridge from the magazine. This does away with one source of trouble in this class of arms, that is, allowing two cartridges to get jammed in the receiver at once. When the lever is in its closed position the gun is ready to fire by pressure on the trigger; then when the bolt is thrown back the shell will be ejected, as explained, upward and to the right.

It will be noted that in my improved gun I bevel the upper end of the locking block, and get the recoil on the lower half of the breech bolt instead of the upper half; this adds greatly to the strength of the receiver, permitting it to be made lighter than is possible where the recoil is taken on the upper half. It will be understood that the center of the receiver is the ideal place to take the strain, but as this is impossible, it is very desirable to apply the strain as far from the outer edge as possible.

I know that locking on the lower half of the bolt is not broadly new, but I am not aware of any gun of this class in which the locking block practically covers the rear end of the breech bolt and locks on its under side.

What I claim is:

1. In a firearm, the combination of a sliding breech bolt, a solid sliding locking block which practically covers the rear end of the breech bolt, said locking block being beveled at its upper end so it locks on the lower half of the bolt and provided at its lower end with a forward extension, and the lever pivoted to said extension.

2. In a firearm having a sliding breech bolt and a sliding locking block which practically covers the rear end of the breech bolt, a rearwardly projecting safety cocking lip which assists in the easy cocking of the hammer and also prevents the hammer from coming in contact with the firing pin while the bolt is unlocked.

3. In a firearm having a sliding breech bolt and a sliding locking block the latter having a forward extension, a lever pivoted to the breech bolt and to the forward extension of the locking block, a firing pin carried by the breech bolt, and a movable pin carried by the locking block to receive and transmit the blow of the hammer to the firing pin, and a rearwardly projecting safety cocking lip carried by the breech bolt which assists in the easy cocking of the hammer and also prevents the hammer from coming in contact with the firing pin while the bolt is unlocked, all combined.

4. In a firearm having a magazine under the barrel and a carrier for transferring the cartridge from the magazine

to the barrel, a sliding breech bolt and a sliding locking block, the latter located to the rear of the pivot of the carrier and so arranged that as the locking block is moved upward to lock the breech bolt it comes in contact with the carrier and forces it from its elevated or loading position to its lower or receiving position and locks it.

5. In a magazine firearm having a sliding breech bolt and a sliding locking block, a lever pivoted to the breech bolt and locking block, a carrier pivoted to the receiver in front of the locking block and having an arm extending upward and to the rear of its pivot, said arm arranged to be engaged by the breech bolt in its opening movement to raise the carrier and by the locking block in its closing movement to press the carrier down and hold it in its down position, all combined.

6. In a magazine firearm having a sliding breech bolt and a sliding locking block, the locking block being beveled at the top to form a cam, a carrier pivoted in front of the locking block and having an arm extending upward and rearward and arranged so that when the carrier is raised by the opening movement of the breech bolt, the upwardly extending arm will be moved into the path of the locking block and above it, so that as the locking block moves upward in closing the bevel on its upper end cams the carrier down, all combined.

7. In a firearm having a magazine under the barrel, a sliding breech bolt and a sliding locking block, a cartridge stop pivoted in the lower part of the receiver and having a part extending forward from its pivot and a part extending rearward from its pivot, the rearward part arranged to be forced down by the breech bolt in its opening movement and forced up by the locking block in its upward or closing movement.

8. In a firearm having a magazine under the barrel, the combination of a sliding breech bolt, a sliding locking block, and a cartridge stop acted on by the breech bolt in opening so that it stops the cartridge following in the magazine and acted on by the locking block in closing so that it releases the cartridge in the magazine.

9. In a firearm having a magazine under the barrel and sliding breech bolt and sliding locking block, said locking block having a forward extension and a lever pivoted to the breech bolt and to the forward extension of the locking block, a cartridge stop pivoted to the lower part of the receiver and having a part extending forward from its pivot to act as a cartridge stop, and having a part extending to the rear and upward, the upper extension adapted to enter a seat in the breech bolt and a lower part to rest on the forward extension of the locking block when the parts are in their closed position to the end that when the bolt is moved to the rear it forces the rear end of the cartridge stop down and as the locking block moves up in closing its forward extension lifts the cartridge stop up and holds it in that position, as and for the purpose described.

10. In a firearm having an opening in the top of the receiver from which the shells are ejected, a sliding breech bolt moving in this opening, an extractor located to one side of the center of the breech bolt, and an ejector located in the lower face of the breech bolt, the opening in the receiver being of greater width a certain distance on one side, and a lip on the side of the breech bolt which covers the enlarged opening, as and for the purpose described.

In testimony whereof I have affixed my signature in the presence of two witnesses.

JOHN M. BROWNING.

Witnesses:
THEO. D. W. MOORE,
JOSEPH BUTLER.