(No Model.)

J. M. & M. S. BROWNING.

MAGAZINE FIRE ARM.

No. 261,667. Patented July 25, 1882.

Fig. 8.

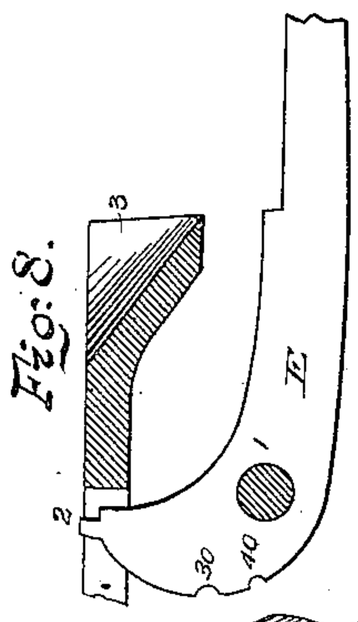


Fig. 7.

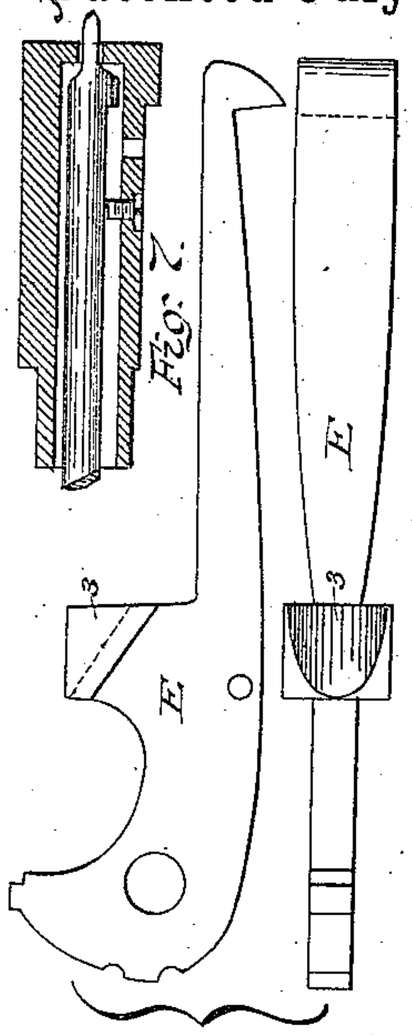


Fig. 6.

Fig. 2.

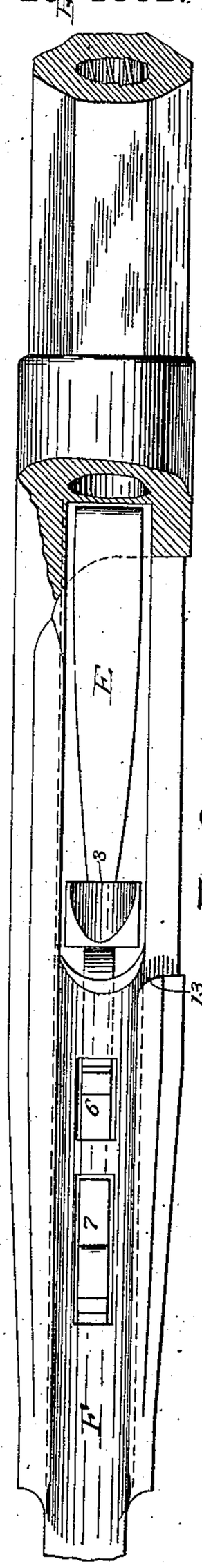


Fig. 3.

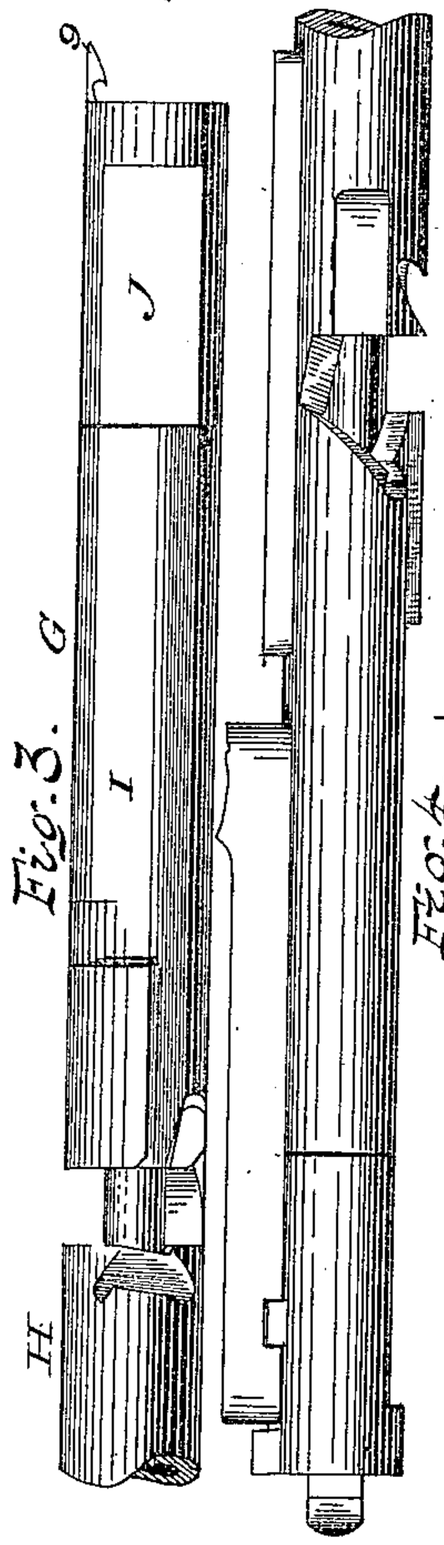


Fig. 4.

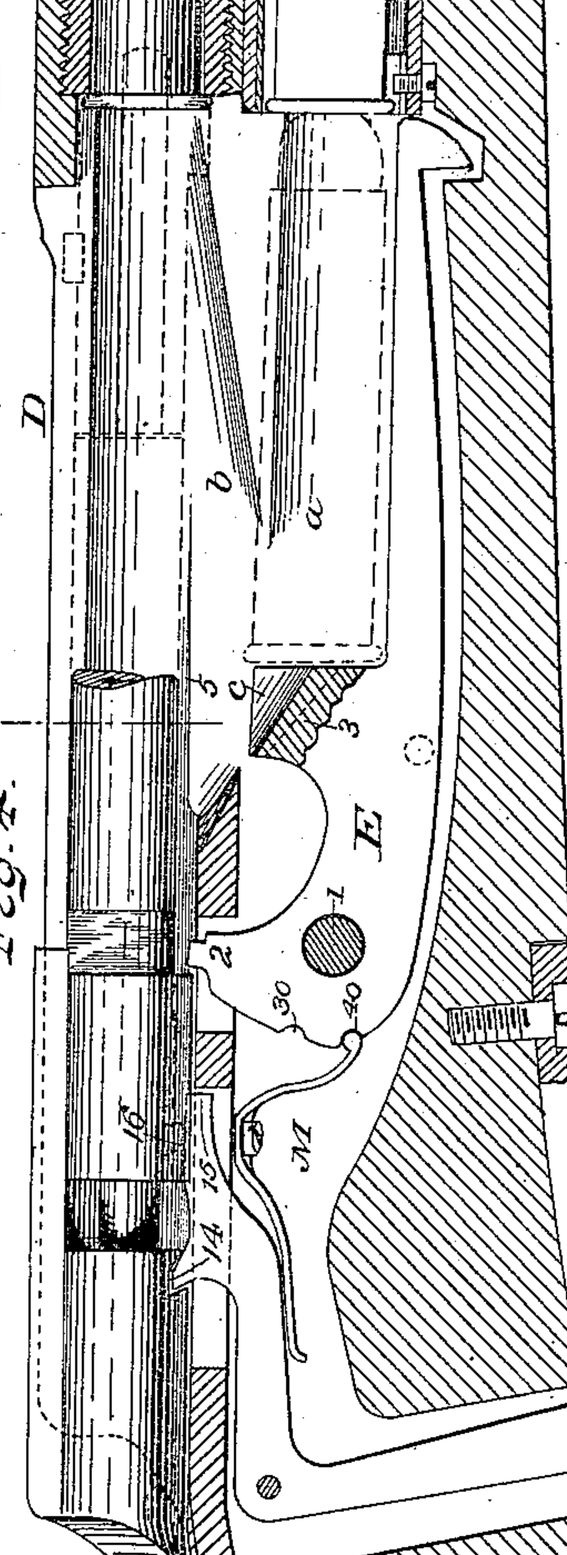


Fig. 5

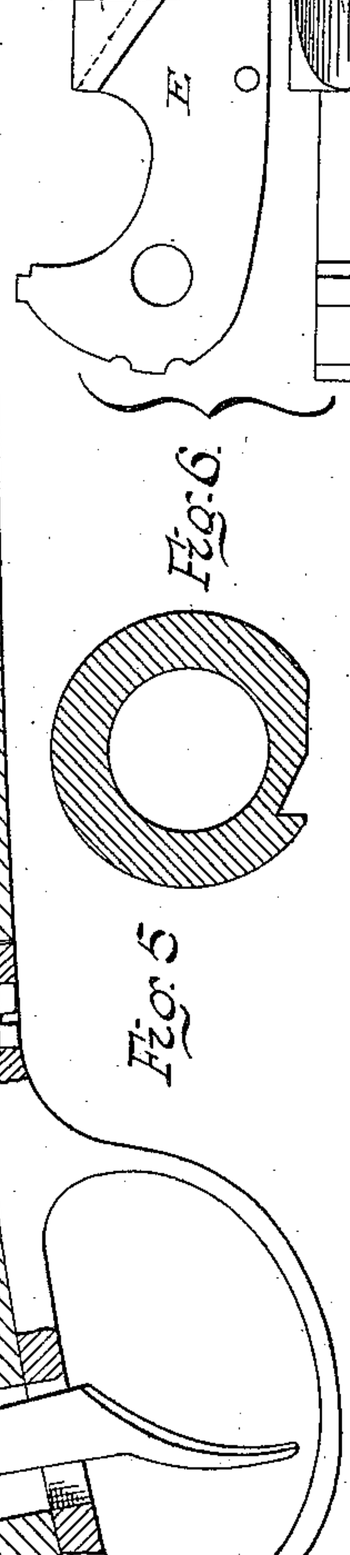
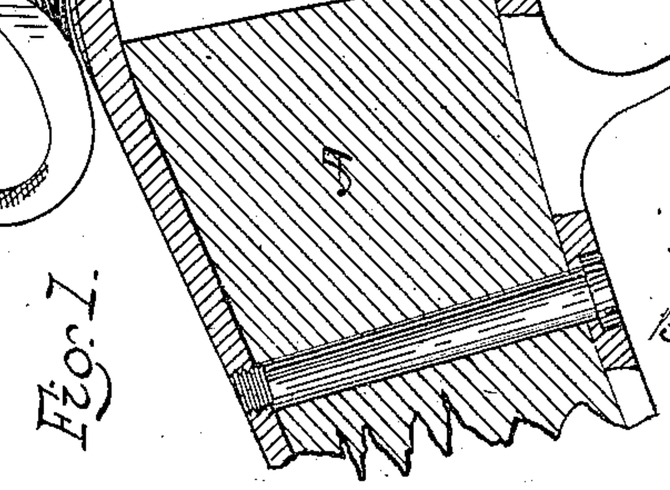


Fig. 1.



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UNITED STATES PATENT OFFICE.

JOHN M. BROWNING AND MATTHEW S. BROWNING, OF OGDEN CITY, UTAH TERRITORY.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 261,667, dated July 25, 1882.

Application filed March 20, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. BROWNING and MATTHEW S. BROWNING, of Ogden City, in the county of Weber and Territory of Utah, have invented a new and useful Improvement in Magazine Fire-Arms; and we do hereby declare that the following is a full, clear, and exact description of the same.

Our invention relates to improvements in that class of breech-loading fire-arms in which the cartridges are contained in a magazine located beneath the barrel, are fed separately to a vibrating carrier operated by a longitudinally-sliding bolt, and are raised by the carrier to a position opposite the chamber of the gun and forced into the chamber by the forward movement of the bolt.

Our invention consists mainly in improved devices for charging the magazine through the receiver; further, in the peculiar construction of the bolt, and generally in improved details of construction, now to be more fully described.

In the drawings, Figure 1 is a longitudinal central section. Fig. 2 is a top view with the bolt removed; Fig. 3, a bottom view of the bolt; Fig. 4, a side view of the same; Fig. 5, a section of the bolt on line *x x;* Fig. 6, a side and top view of the carrier; Fig. 7, a section of the bolt-head; Fig. 8, a modification of the carrier.

In these drawings, the stock of the gun is represented by A, the barrel by B, and the magazine by C. The latter is inclosed within that portion of the stock which partially surrounds the barrel, and is a metallic tube of any desired length, provided with the usual spring and follower for pressing the cartridge constantly backward in the direction of the receiver.

D is the receiver, which is slotted longitudinally from top to bottom a sufficient distance to permit the necessary movement of the carrier in conveying a cartridge from the magazine to the chamber.

The carrier E is pivoted on a transverse pin, 1, secured in the walls of the frame, and extends forward, as usual, to the mouth of the magazine. It is provided with a rearward projection, 2, which extends up through a slot in the bolt-groove. Forged solid with or secured to this carrier at a point just forward of the bolt-groove is a block, 3, which is more particularly illustrated in Figs. 2 and 3.

In the top of the block is a rounded inclined groove, *c*, extending down in the direction of the magazine when the carrier is in position.

The walls of the slotted receiver from the block just described to the chamber and magazine are formed with intersecting grooves *a b*, so that the body and head of a cartridge may be inserted at a point just forward of the block; but beyond this the diameter of the slot is reduced by means of the tongue or portion of wall between the grooves, and will not admit the head. This construction and that of the grooved block 3 are for the purpose of facilitating the charging the magazine directly from the rear, dispensing with the necessity for a spring-carrier, and constituting a marked improvement upon the method of charging from the side or bottom, as usually practiced.

In charging the magazine the bullet of the first cartridge is placed in the groove *c* in the block 3 and pushed forward. The carrier is forced down to its lowest position, and the cartridge, guided by the walls of the receiver, is introduced onto the carrier, the follower acting as soon as the head of the cartridge is pressed down to the carrier to force the cartridge back against the block 3, where it is securely held. The next cartridge is pressed down the incline against the first, and forces it forward into the magazine. Under ordinary circumstances, with a receiver having vertical sides, this would not be practicable, since the following cartridge would pry up the leading one, and by passing under it throw it out of the receiver. It will be seen, however, by reference to Fig. 1, that the groove *a* extends forward from the block 3 to the magazine, against the upper edge of which the head of the leading cartridge will come in contact as it is pushed forward and prevent any upward movement.

Practically an angular groove or way of the diameter of a cartridge-head is formed in the wall of the receiver, extending from the magazine back to the block 3, forming the path of discharge. Successive cartridges are forced

into the magazine in this manner, the last cartridge remaining on the carrier held firmly between the preceding cartridge and the block 3.

By the peculiar form of the receiver we are enabled to dispense with clamps, fingers, or other devices for holding the cartridge upon the carrier.

Immediately above the block 3 are projections 5 5 on the walls of the receiver, against which the head of the cartridge strikes when the forward end is thrown up for insertion into the chamber, and by which the head is held in position to receive the impact of the bolt G.

The bolt-groove F is cylindrical in shape and contains two slots, 6 and 7, as shown in Fig. 2, the forward, 6, to permit the vertical arm of the carrier to project into the path of the bolt, and the rear slot, 7, to permit the dog or trigger to project through in order to engage with the hammer or cocking-piece.

The bolt is represented as a whole by G. It is constructed in three parts—the cocking-piece H, having the central stem and firing-pin attached, the locking-sleeve I, adapted to rotate on the central sleeve, and having the usual lever-handle, and the bolt-head J, which fits over the forward end of the firing-pin, and is bored out centrally to permit the pin to work. The usual stiff coil-spring surrounds the central pin for forcing the firing-pin forward. The stem or firing-pin is flattened on one side.

The extractor 9 is secured in a groove in the side of the bolt-head, and projects forward of said head, and is provided with the usual hook for grasping the flange of the cartridge.

It may happen sometimes that by the bursting of the cap the firing-pin is forced violently back against the spring, by which there is danger of breaking the latter. We avoid this danger in either of two ways—in one by making an offset, 10, on the firing-pin, which, should the latter be forced back, would strike the end of the extractor 9, which projects through the shell of the bolt-head, forming a stop; but we prefer to use the device illustrated separately in Fig. 7. Here the rear end of the extractor does not project into the interior of the bolt-head, but the bore of such head is cylindrical and unobstructed throughout. The forward end of the firing-pin is flattened, as shown, and it is provided with an offset in which the pin slides. A screw-thread is tapped through the shell of the bolt-head, and a screw-stop provided against which the offset bears if the pin should be forced back with undue violence, thus preventing too great compression of the spring. We also drill a small vent-hole, 11, in the shell of the bolt-head, to permit the gases generated by the bursting of the cap to escape.

In arms of this class, so far as we are aware, the carrier has been depressed by the end projecting into the bolt-groove being struck by the bolt as it moves forward.

As an improved construction, we form the locking-sleeve with a longitudinal slot, as shown in Fig. 5, by which the bolt is allowed to slide freely over the projecting end of the carrier on the forward movement.

A cam, 12, is formed on the locking sleeve, (shown in Fig. 5,) which is brought to bear on the projection 2 of the carrier when the locking-sleeve is turned down. The sleeve turns against the incline 13 on the frame, and the combined rotary and forward motion of the sleeve depresses the forward end of the carrier in position to receive a cartridge from the magazine.

The cocking-piece is provided with a deep half-cock notch, 14, which catches the dog when pulled back slightly, and prevents any forward movement of the bolt.

When the piece is at half-cock the sleeve of the bolt is also locked in a closed position by the projection 15 on the trigger locking with the groove or recess 16 on the locking-sleeve, until the bolt is drawn back to full-cock. Therefore the bolt can have no forward and the sleeve no rotary movement.

Instead of the ordinary trigger-spring bolted to the frame behind the trigger and pressing the latter constantly forward, we have devised an improved construction, (shown at M, Fig. 1.) The spring here serves the double purpose of actuating the trigger and steadying the rear end of the carrier, whether elevated or depressed. It is centrally bolted to the frame upon one side of the central slot, and its rear free end bears constantly upon the horizontal arm of the trigger. The forward free end bears upon the periphery of the rounded end of the carrier, which is provided with depressions 30 40. The pressure of the spring in either of the depressions, according to whether the carrier is elevated or depressed, is sufficient to hold such carrier steady and to prevent any possibility of the movement of the carrier except at the proper time. It is not sufficient, however, to impede free movement of the carrier, since the spring yields readily to the back-pressure of the bolt on the projecting rear end of the carrier.

In Fig. 8 is illustrated a modified form of carrier. Here the block 3, formerly described as secured to the carrier, is attached to or forms an integral part of the frame, the groove being formed in the same way, and the head of the cartridge bearing against it in the same manner.

In the operation of the device the magazine is loaded as before described, the last cartridge remaining on the carrier. The bolt is drawn back, the projection on the front striking the projection 2, tilting the carrier on the pivot-pin, and raising the forward end. The front end of the cartridge strikes the frame above the chamber, while the head tips back under the projections 5 5 above the block 3, and the entire cartridge is thus held in position to receive the impact of the bolt. The bolt is pushed forward, forcing the cartridge on the carrier into the chamber, while the ex-

tracting-hook grasps the flange. The locking-sleeve is turned down, the cams acting on the projection 2, depressing the carrier, and another cartridge is forced onto the carrier against the shoulder 3. The rotary movement of the locking-sleeve cocks the piece, which is now ready to be fired. When fired the locking-sleeve is turned up and the bolt withdrawn, the extractor carrying the cartridge, which is thrown out of the chamber by the extractor pressing the head against the side of the receiver. At the same time another cartridge has been elevated, and the gun is ready for reloading.

This arm possesses the merit of simplicity both in construction and action, of accessibility for cleaning and repairing purposes, and is reliable, efficient, and easily operated.

Having thus described our invention, what we claim is—

1. In a magazine-gun, the combination, with the magazine closed except at the rear end thereof, and having the spring-follower, of the receiver D, the carrier pivoted in the bottom of such receiver, and the grooved block 3, against which the head of each cartridge is forced by the magazine-spring in position to be acted on by the succeeding cartridge.

2. The combination, in a magazine-gun, of the receiver D, the magazine situated below the barrel, and having the spring, the pivoted carrier, and the block 3, mounted thereon and having an inclined groove, whereby each cartridge is pressed back against such block and may be forced into the magazine by means of the succeeding cartridge.

3. The combination of the pivoted carrier, the block 3, having inclined groove, and the receiver having grooves *a* in its walls above the carrier when at its lowest position, whereby an angular way is formed for the insertion of cartridges into the magazine from above, substantially as described.

4. In a magazine-gun, the combination of the pivoted carrier having the projection 2, the locking-sleeve having longitudinal groove, the cam 12, and the incline 13 on the frame.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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MATTHEW S. BROWNING.

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