(No Model.)

A. BURGESS.

MAGAZINE FIRE ARM.

No. 366,561. Patented July 12, 1887.

Fig. 1.

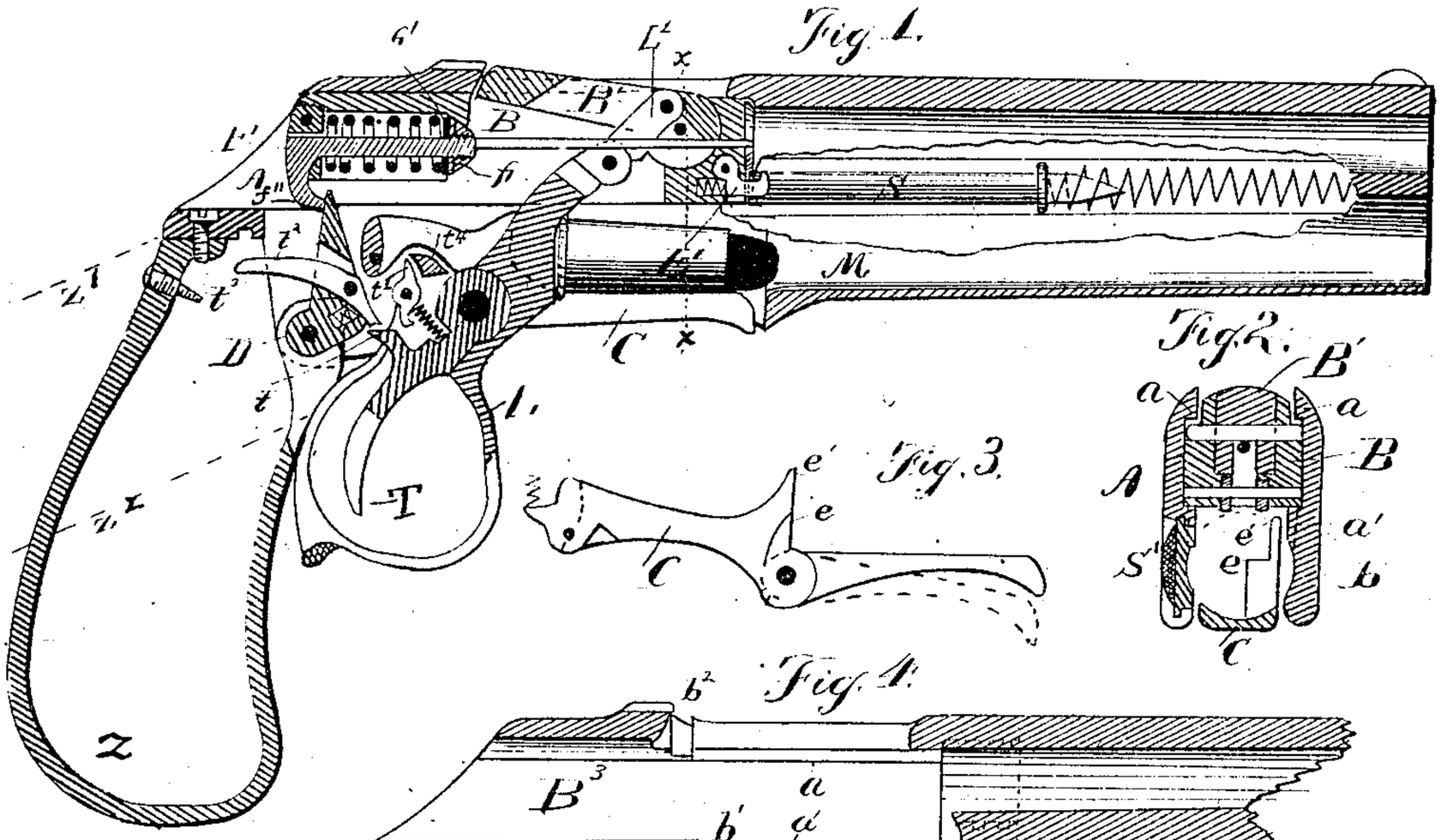

Fig. 2.

Fig. 3.

Fig. 4.

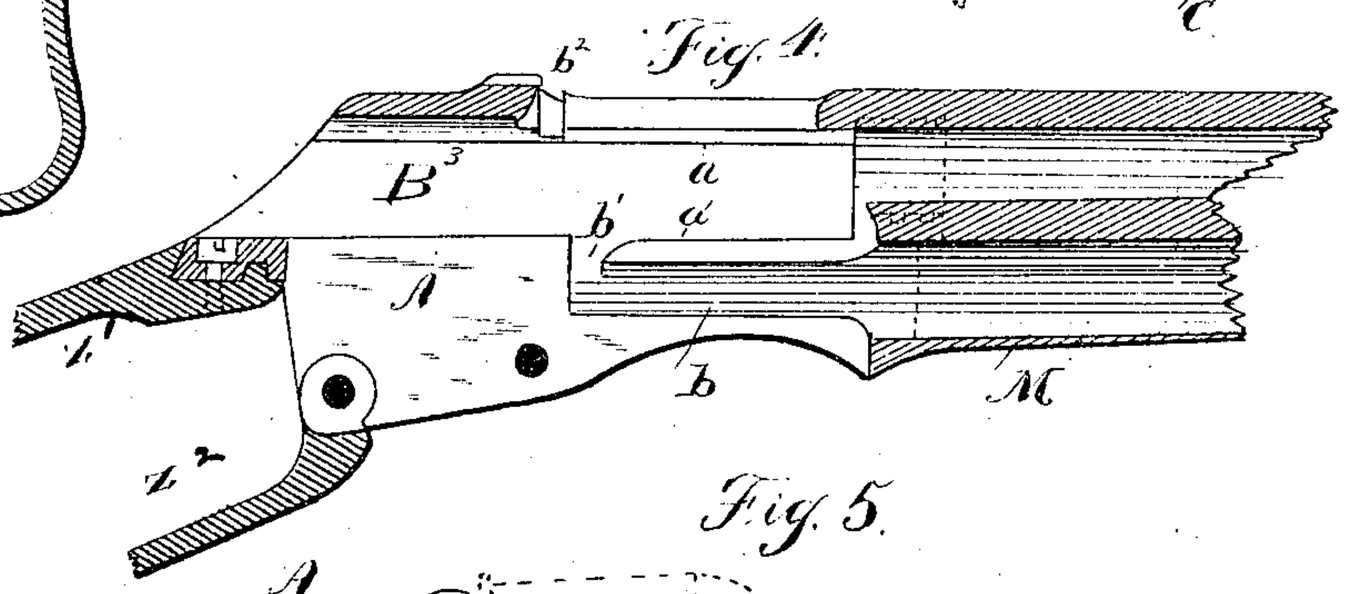

Fig. 5.

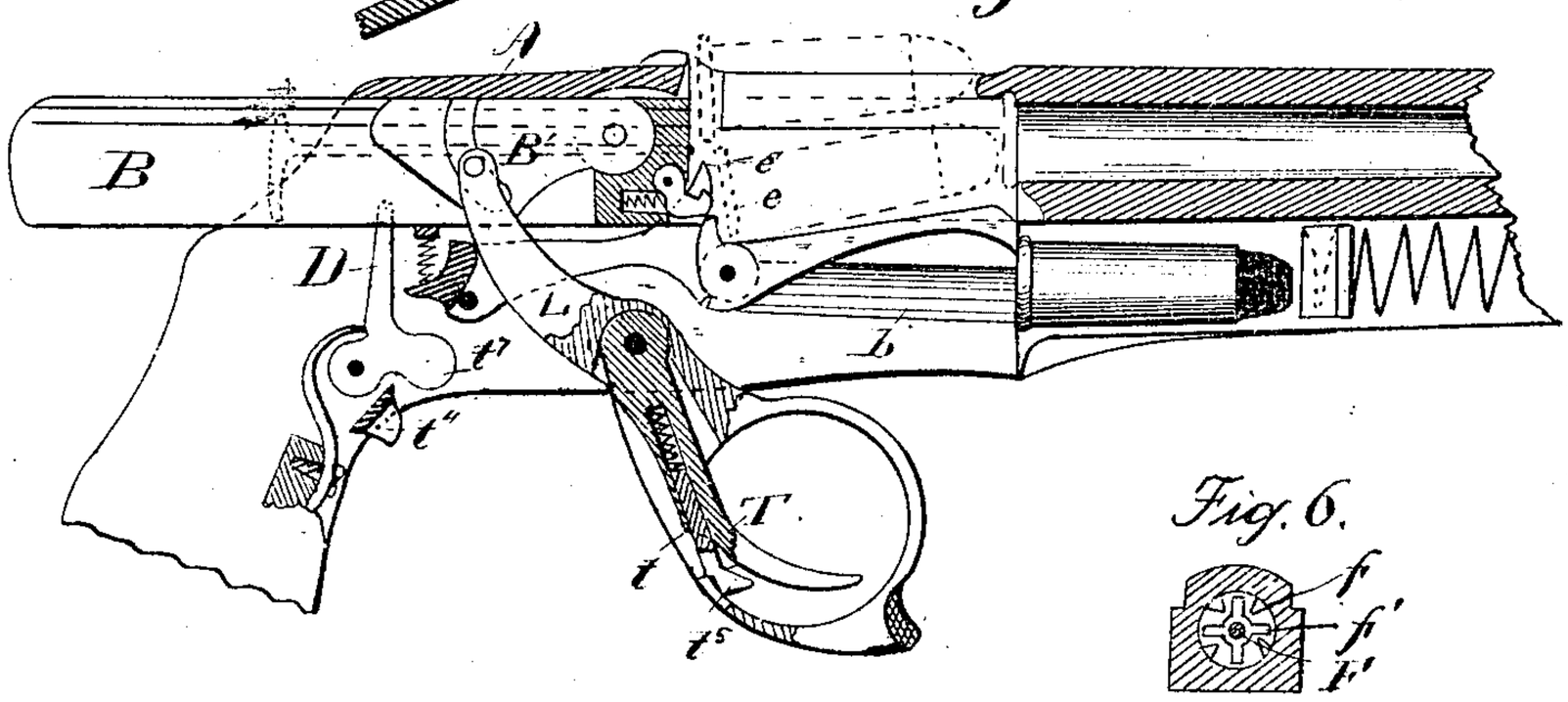

Fig. 6.

Witnesses:
H. H. Brown,
George T. Andrews.

Inventor:
Andrew Burgess.

UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 366,561, dated July 12, 1887.

Original application filed August 14, 1884, Serial No. 140,499. Divided and this application filed July 13, 1885. Serial No. 171,533.

(No model.)

To all whom it may concern:

Be it known that I, ANDREW BURGESS, a citizen of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Magazine Fire-Arms, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide a simple and rapid magazine arm which can be operated by the fingers of one hand; and it consists in various improvements, some of which were applied for by me August 14, 1884, Serial No. 140,499, and of which case this is in part a division.

Figure 1 is a longitudinal sectional elevation of this arm, showing the general arrangement of parts, with a link-connection of operating-lever and brace. Fig. 2 is a view from the front of a cross section on the line *x x*, without the cartridge, of Fig. 1; Fig. 3, a view of the carrier detached; Fig. 4, a horizontal side section of the frame; Fig. 5, an open view of the arm, partly in section, with some modifications. Fig. 6 shows a cross-section of bolt and firing-pin with its washer.

A is the frame; B, the bolt; B′, the locking-brace; C, the carrier; L, the lever; F, the firing-pin; E, the extractor; D, the cocking-piece; T, the trigger; *t*, the shoulder on trigger-lever to engage the cocking-dog; *t′*, the dog that holds the trigger forward in the lever; *t⁴*, a shoulder to release it; *t²*, a lever to release the hammer or cocking-dog. *t³* is a stop for the same.

S is a spring-rod to press open the breech; S′, the loading-trap, and M the magazine. *e* and *e′* are projections on the carrier to eject the cartridges; and *z*, *z′*, and *z²*, the tang-straps to attach the stocks to the frame.

a a are projections on inside of frame near its top, which project into grooves in the bolt.

a′ a′ are ledges on inside of frame to support the bottom of the bolt.

b is an enlarged passage from the magazine into the frame; *b′*, an upward continuation of said passage, and *b²* a groove to allow the passage of the cartridge-flange up through the top of the frame.

f shows projections in the bolt to rebound the firing-pin, and *f′* the star-shaped washer on firing-pin. (See Fig. 6.)

A reciprocating bolt is housed on the frame to be locked and moved through its brace B′ by a lever, as L, which forms a handle and guard and carries the trigger T. The guard-lever is connected to the brace by the link L′, as in Fig. 1, or by a slot and pin, as shown in Fig. 5, so the backward movement of the upper arm of the guard-lever unlocks the brace by its connection, which pulls obliquely back and downward on said brace, and then moves back the bolt to open the breech, which may then be closed and locked by a reversal of this movement.

The firing-pin F is arranged in the bolt to be propelled forward by a spiral spring, as in Fig. 1, and projections, as *f*, are fixed inside the front of the hollow of the bolt which contains the spring to stop said spring when it reaches near its foremost position, so the firing-pin may have a slight rebound and will bear on the cartridge only by momentum acquired by the quick force of the spring before it reaches the stop *f*, and in a manner well known in rebounding-locks.

The washer *f′*, fixed to the firing-pin, has two or more projections, which support the forward end of the spring, that it may thereby drive the pin forward until the spring stops against the projections *f* of the bolt.

The trigger T is pivoted in the operating-lever L. The trigger is normally locked to the lever, so as to be rigid therewith, by means of a spring-dog, *t′*, shown in Fig. 1 as pivoted and in Fig. 5 as a sliding dog, *t⁵*. When the lever is swung back, the spring-dog engages an incline, *t⁴*, on the frame, which trips it, so as to permit the trigger to rock in the lever on its pivot. The farther backward movement of the trigger brings its shoulder *t* against a cocking-lever, D, pivoted in the frame.

As shown in Fig. 1, the lever D bears against the firing-pin, and has a lever, *t²*, pivoted in itself. The engagement of the trigger is by the shoulder *t* bearing against the lower end of the lever *t²*, and, as said lever *t²* has a bearing against the lever D, the lever D must rock with it. When the end of the lever *t²* strikes

the bearing t^3 in the frame, the lever t^2 is rocked on its pivot until it is out of contact with the trigger, when the lever D is free to move and permits the firing-pin to fall.

In Fig. 5 the lever t^2 is omitted, and the backward movement of the cocking-lever D is effected by direct engagement with the trigger. The lever D turns back so far as to rock out of engagement with the firing-pin to release the same.

I do not specifically claim the mechanism for drawing back the firing-pin or hammer.

A spring-rod, S, is arranged alongside and parallel with the barrel, with its rear end in engagement with the front of the cartridge-flange or face of the bolt, so that when the bolt is unlocked the pressure of the spring-rod S drives back or assists to drive back the bolt to open the breech, so that less power is required to open the arm, and the spring-pin S will be again forced forward by the closing breech.

The frame is constructed narrow at the rear of magazine and barrel, so as to admit only the body and not the flange of a cartridge, excepting in the enlarged portions b b' b^2 and the space for the flat sides of the bolt, so that the cartridge in feeding rearward from the magazine is first guided back onto the carrier by its flanges, which moves in the depression b, and is held therein by the narrow part above until the flange reaches the vertical depression b', through which it is then raised by the carrier into the wider part of the frame, (which is the path of the bolt,) and it is prevented from flying out of the frame by the flange striking the projections a a, or narrowing part of said top, and the solid part forward stops the point of the cartridge, and the ledges a' a' will support the flange of the cartridge as it starts forward, (if the carrier falls,) and the inclined parts of the said ledges raise the rear of the cartridge as it moves forward to enter the barrel. Grooves are made in the sides of the top of the bolt to admit the projections a a of the frame.

The exploded shell is extracted as the breech is opened by a spring-hook at the bottom of the bolt, and as the flange bears against the narrow part or projections a a in the top of the frame it is held down thereby until it reaches the depression b^2, which forms an upward passage, through which it is ejected by the extractor, or the raised part e' of the carrier springing up against the bottom of the flange, or by another cartridge rising upward on the carrier against it.

It will be seen that the passage b^2 through the top of the frame is so far rearward of the passage b', (above the magazine,) that the feeding cartridge is kept so far forward by the extractor that its flange cannot enter the expelling-passage b^2, but will be stopped from rising too far by the projection a a, as aforesaid.

Another projection, e, is formed on the top of the carrier to strike the extractor when the carrier rises to expel the shell. This may be used in conjunction with the projection e', (which strikes the bottom of the shell,) or as a substitute therefor. In this construction of the frame the narrow part a a holds the cartridge down against the extractor in lieu of the ordinary stud projecting from the face of the bolt and permits the direct expulsion sidewise of the cartridge or shell without the usual tripping movement, and this arrangement may be used in substantially the same manner through the side instead of the top of the frame.

The carrier is pivoted in the frame rearward of the lever and has one side cut away or a vertical slot for the lever to work in. The carrier has a joint of limited movement, as shown in Fig. 3, at or about the rearmost point reached by the cartridge-head, so that the forward part of the carrier may remain down while the middle part is raised a little, and by raising the middle part or joint of the carrier to align the head of the cartridge with the barrel, the forward part taking a lower position than in case of a rigid carrier, thus presenting the cartridge less obliquely to the chamber of the arm.

I construct this arm to be used interchangeably as a pistol, carbine, or other gun by arranging the frame with points of attachment whereby a pistol-handle strap, as z in Fig. 1, may be fastened to the frame or a gunstock by the tangs z' z^2, as in Fig. 4. The top of the frame has a solid part under the rear of the bolt through which it is screwed vertically to the upper or rear tang or strap, and the lower tang or end of strap is inserted in the mortise of the frame and held by a removable horizontal screw or pin.

For greater strength, I show the frame and barrel constructed in one piece. This is effected by making hollow blanks and rolling said blanks hot over dies or mandrels, or for short frames, as pistols, by stamping in dies. The magazine may be included or formed separately. The brace locks the bolt by bearing obliquely upward against the top of the frame, and the ledges a' a' in the frame support the bolt against the downward pressure of the brace, and thereby assist the brace to resist the discharge.

I do not confine myself to the particular construction of arm herein shown, as some parts of this invention may be applied to various kinds of breech-loading and magazine arms.

I claim—

1. In a fire-arm, a breech-piece, a guard-lever pivoted in the frame, which moves said breech-piece to open and close the breech, and having a handle which forms a trigger-guard, in combination with a trigger hung in the said guard-lever to move with it, and a spring-dog to lock it forward in the guard-lever.

2. In a fire-arm, a breech-piece, a guard-lever pivoted in the frame, which moves said breech-piece to open and close the breech, and

having a handle which forms a trigger-guard, in combination with a trigger hung in the said guard-lever to move with it, and a device, substantially as described, to lock it forward in the guard-lever, and an abutment in the frame by which the trigger is released from its lock in the lever by engagement of said abutment with the said device in the closing movement of the breech, substantially as set forth.

3. A reciprocating breech-bolt, and a guard-lever to operate it, in combination with a trigger which swings with said guard-lever, and a firing device arranged in line of movement of said trigger, so as to be cocked thereby and released by the continued movement of the trigger, all in combination, to cock and fire the arm by the pulling of the trigger, substantially as specified.

4. A reciprocating bolt, a locking-brace pivoted in said bolt and swinging upward to lock the breech by engaging a shoulder in the top of the frame, in combination with a lever hung in the frame below the bolt and brace, and whose upper end is connected to the brace, substantially as described, to pull obliquely down and backward, and whose lower end forms a guard and operating-handle.

5. A reciprocating bolt, a locking-brace pivoted in said bolt, and swinging upward to lock the breech by engaging a shoulder in the top of the frame, in combination with the ledges a' a' in the frame to support the bolt against the downward pressure of the brace, as set forth.

6. In a gun, a breech-piece, a firing-pin carried thereby, said pin having a projecting collar, a spring bearing against said collar to press the firing-pin forward, and a fixed projection in the breech-piece, extending into the path of movement of the spring, but not of the collar or firing-pin, whereby the spring is stopped by said projection, but the firing-pin and collar are permitted to move forward, all in combination, substantially as described.

7. In a fire arm, a reciprocating bolt, in combination with a spring-rod located alongside the barrel and arranged to engage the cartridge or bolt, substantially as described, and press backward in the line of movement of the bolt to open or assist to open the breech.

8. The frame of a magazine fire-arm, having a depression, b, of depth to pass the head of a cartridge, and ribs above the same, and having an upward passage, b', for the head of a cartridge in rear of said ribs, in combination with a magazine-carrier and longitudinally-reciprocating breech-piece, substantially as described.

9. In the frame of a magazine fire-arm, having the depression b, which extends backward from the magazine, and a shoulder above said depression to hold down and guide the cartridge-flange longitudinally in the frame, in combination with the passage b' in the frame, to guide the flange upward, and the ledge with inclined rear to raise the cartridge-flange and the carrier, magazine, and reciprocating breech-piece, substantially as described.

10. A reciprocating bolt, an extractor carried by the face of said bolt, an opening in the frame, substantially as described, opposite the path of movement of the extractor, in combination with the projections a a, to support the flange of the extracting-shell against the extractor, and the widening b^2, forming a lateral passage to allow the flange to be thrown through it by means, substantially as described, for the sidewise expulsion of the shell.

11. In a magazine-gun, a frame having ledges over the rear prolongation of the magazine to prevent the passage of the flange of a cartridge, but permit the passage of the cartridge-body, the ledges being cut away at the rear to permit the upward passage of the cartridge-flange, and similar ridges above the rear prolongation of the barrel, the upper ledges being cut away in rear of the cut-away portion of the lower ledges.

12. In combination with the frame of a magazine fire-arm, a carrier having its rear part pivoted in the frame, and a front part hinged to said rear part by a joint of limited movement, said front part dropping by its own weight as the rear part rises, thereby dropping the point of the cartridge, substantially as described.

13. In a bolt-gun, an integral frame having a cross-rib at the bottom of the part which lies beneath the bolt, and a cross-mortise in the lower part of said frame, combined with forwardly-extending tangs from the stock, having an upper cross rib to engage the rib on the frame and a lower tenon to enter the mortise in the frame, substantially as described.

In testimony whereof I herewith affix my signature in presence of two witnesses.

ANDREW BURGESS.

Witnesses:
J. J. VAN KLEECK,
THOMAS BRADY.