

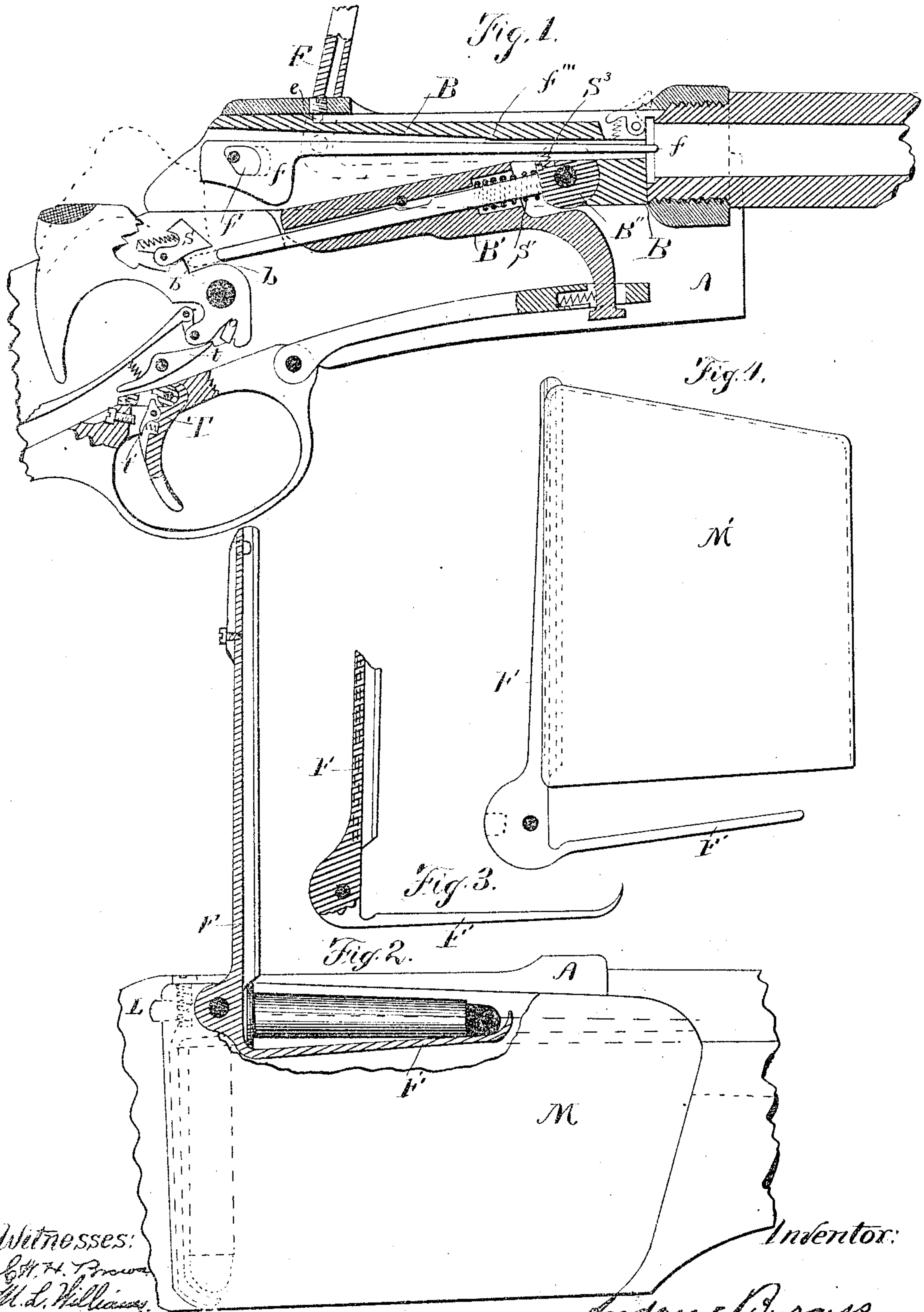
(No Model.)

2 Sheets—Sheet 1:

A. BURGESS.
MAGAZINE FIRE ARM.

No. 366,560.

Patented July 12, 1887.



Witnesses: }
 E. H. Brown
 M. L. Williams.

Inventor:

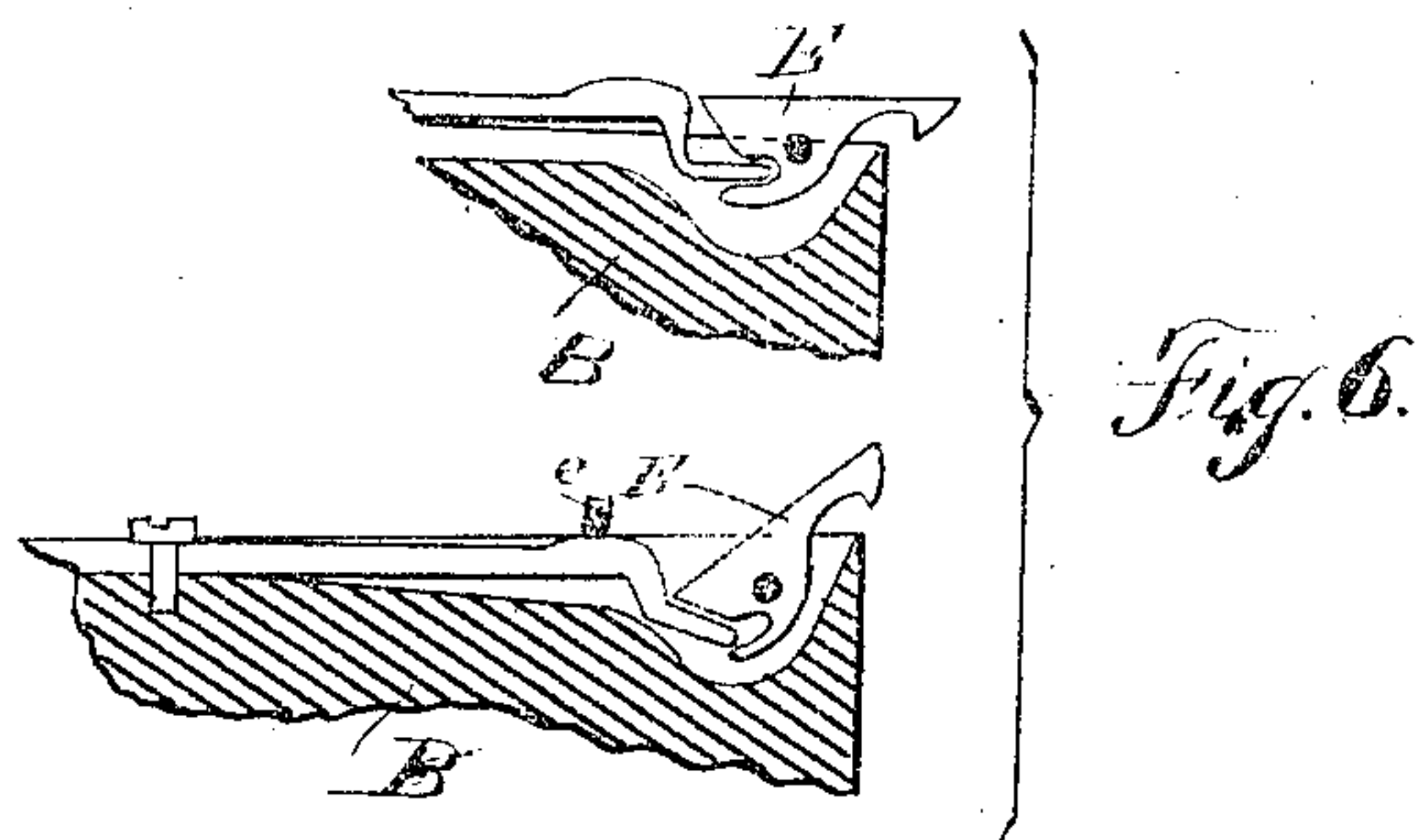
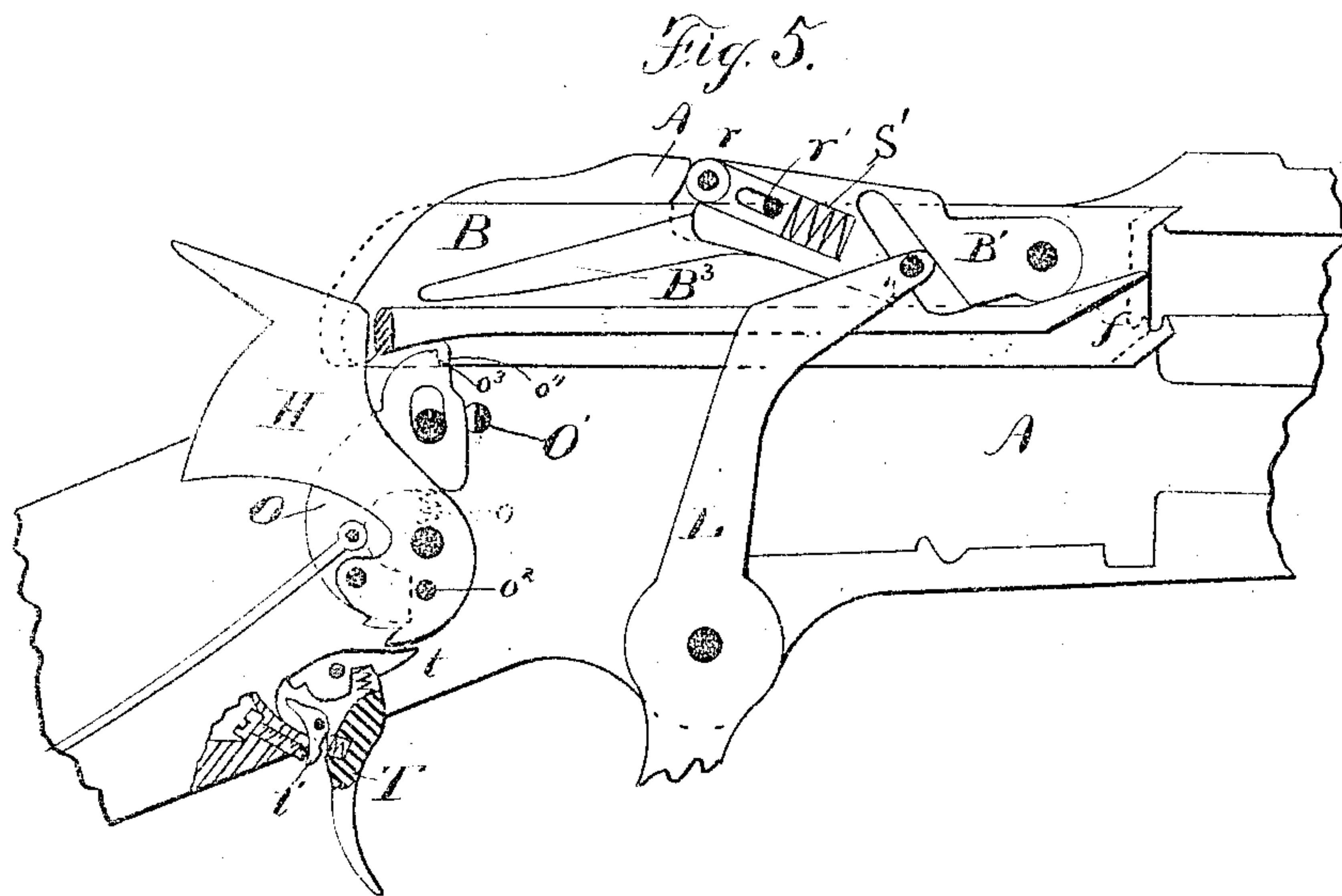
Andrew Burgess

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UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK

MAGAZINE FIRE-ARM

SPECIFICATION forming part of Letters Patent No. 366,560, dated July 12, 1887.

Application filed June 15, 1885. Serial No. 168,819. (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.

My invention relates to breech-loading and magazine fire-arms, having for its object easy and rapid manipulation; and it consists in means for operating the breech and lock and the magazine and cartridge-feeder, together with other combinations and arrangement of parts, hereinafter more fully set forth and described.

Figure 1 is a longitudinal horizontal elevation of this arm in section through the frame. Fig. 2 shows the magazine-box and feeder attached to the side of the gun. Fig. 3 is a sectional view of the feeder detached. Fig. 4 shows a modification of the feeder and magazine-box. Fig. 5 is a modification of the arrangement for cocking the gun, and Fig. 6 is a detached view of the extractor.

Similar letters of reference indicate corresponding parts.

A is the frame of the gun; B, the bolt; B', the locking-brace which engages the shoulder in the frame; B'', the part of locking-brace which serves as a dog to cock the hammer. E is the extractor, and *f* the firing-pin. M is the magazine-box fixed to the gun; M', a detachable cartridge guard or carrier.

In this gun a reciprocating breech is moved and locked by a brace pivoted in the bolt in a similar manner to that shown in my Patent No. 290,529, but the operating projection of the brace is engaged by or connected to a sliding guard, by which it is operated, as shown in some of my later applications; but the sliding guard is not a feature of this invention, as a slide forward of the frame connected to the locking-brace, or any other known way to operate it, may be substituted for the sliding guard, and the magazine-box, the cartridge-feeder, and the extractor may be applied to various kinds of breech-loading fire-arms.

In Fig. 1 it will be seen the locking-brace is made in two parts, the part B'' being pivoted or hung in the bolt B and the part B' having a limited independent movement on the part

B''. The part B' is connected to the operating-handle. The pivoted part B'' of the brace extends back to terminate in the rod or dog *b*, to engage a shoulder in the hammer above its pivot to cock it, and said rod is wide at its rear, so that the bolt is closed "home" by the dog *b* closing down against the swinging cam or fly S, hung in the frame, or by the spring S', or both, when the bolt moves so far forward that the inclined rear of the part B' of the brace reaches the inclined locking-shoulders in the frame, or the dog *b* reaches the inclined top of the cam-fly S, the part B' pushing the bolt forward by the spring S' and the dog or arm *b* camming forward on the incline of the fly S, so that when the breech is closed the parts take the position shown in Fig. 1 (the forward position of the hammer being shown in dotted lines) until the discharge takes place. When the gun is fired, the cartridge, recoiling against the bolt, drives it forcibly back, and the part B'' of the brace is carried by it, so that the rear end of part B'', constituting the dog *b*, engaging the notch *b'* above the pivot of the hammer, drives back the hammer to cock it, as shown in full lines; but the part B' of the brace remains unchanged in its locking position and receives the force of the recoil of the bolt (after it has compressed the spring S') by its forward end or shoulder receiving the impact of the corresponding shoulder on the part B''. The reaction of the spring S' will usually return the bolt forward to nearly or quite its closed position, driving the exploded shell again forward; but that is immaterial in the action of the arm, as the usual movement of unlocking the bolt raises the rear of part B' of the brace above the locking-shoulders in the frame, and also the rear of part B'' or dog *b* up against the cam-fly, turning it up to allow said dog to rise above its point, when its spring will return the fly to the position here shown, to be ready to again cam home the bolt when being closed, as before described.

The firing-pin *f* is held in the bolt by a pin in the slot *f'*, whose rear wall is inclined forward, as shown, so that when the firing-pin is forced upward—as by the unlocking of the brace—the said incline forces the firing-pin rearward, and the rear of said firing-pin is raised above the striking part of the hammer,

so the firing-pin can neither be driven forward (as it is held back by the pin) nor struck by the hammer, except when the brace is in its locking position.

5 The rear of the firing-pin is arranged to spring downward, as here shown, in position to receive the blow of the hammer. This is here effected by the spring S^2 bearing its forward end upward against the fulcrum f''' in the bolt to press the rear of the firing-pin downward, and the spring S^1 also bears downward on the locking-brace with a constant pressure, which has the effect of assisting the locking movement of the brace, and also to hold it with sufficient force when in its locked position to retain it there, and thereby hold the operating-handle in its forward or locking position against its own weight and the jar of carrying the gun, but yielding to greater force when the handle is moved to operate the breech mechanism.

The extractor E is hung in the top of the face of the bolt to spring downward toward the axis of the bolt to grasp and withdraw the cartridge; but when in withdrawing the bolt it reaches nearly to its rearmost position the extractor strikes a projection, as e , in the frame, which turns the forward end of the extractor up and backward to allow the cartridge-shell to rise upward out of the frame.

The brace may be made in one piece, and having movement in the bolt, and the spring, as S^1 , arranged forward of the brace to press it toward its rear position in the bolt and operate to cock the hammer in a manner similar to the double brace; but in that case I prefer to arrange a spring between the operating-handle and its engaging-point on the brace to prevent the recoil of the brace from forcibly driving back the handle.

In Fig. 2 the cartridge-feeder F and magazine-box M are attached to the right-hand side of the gun; but they may be arranged at the other side, as partly shown in Fig. 1, when preferred, or when applied to ordinary bolt-guns. The upright part or long arm of feeder F is hollowed out in front, and grooved to receive the heads of the cartridges (in a manner well known in machine-guns) and hold them in position to feed downward by gravity to an opening in the side of the frame, into which they are forced by a lever in a manner similar to that shown in my Patent No. 303,262. The feeder has a short arm, F' , extending forward (when the feeder is in operative position) beneath the opening in the frame of the gun to stop the cartridges opposite said opening. The feeder is pivoted to the frame, and a spring-catch or other known means holds it in its upright position when in use, or in a horizontal position when not in use, to feed the cartridges.

A magazine-box M, open at the top, is fixed to the side of the frame, of capacity to hold the cartridges that the feeder is arranged to carry, and in such position that its top will be closed or covered by the long arm of the feeder

when turned forward, and the cartridges held by their flanges by the feeder will enter and hang pendent in the magazine-box, which then protects them from shocks and exposure when the arm is being carried or used as a single-loader. The outside of the magazine-box may be corrugated to stiffen it, and the bottom perforated to allow sand or water to escape through, and I prefer to carry the wood of the bottom of the stock as far down as the bottom of the box to protect it.

In the modification shown in Fig. 4 I have shown an auxiliary or supplementary cartridge box or holder, M' , which can be used, if desired, and may serve to carry the cartridges in, and, while it may be preferable, it is not essential that the feeder or standard F have the grooves for guiding the flanges of the cartridges, (or only near the bottom,) as the box M' may be sufficient for that purpose; but vertical grooves are made in the outside of the standard, as shown, to receive the inbent ends of the sides of the magazine-box M' to hold the box in place, and also spring apart the sides of the box, so the cartridges can fall freely.

I may hang the feeder or standard F to turn down as before, and the detachable box M' will turn down with it, and the fixed magazine-box M may be retained to protect the detachable box and standard.

The detachable magazine or box M' is made, preferably, of spring-tempered steel and open at the bottom, and at its rear lower end springing inward to hold the cartridges by spring-pressure from falling out until the sides are sprung apart by the feeder or standard, as above described, and the rear ends of the sides are bent inward at about a right angle to form inner projecting ribs to enter the outside grooves of the standard. When the inner grooves for the cartridge-flanges are retained in the standard F, the inner top of the standard, being slightly beveled, will push the flanges of the cartridges a little forward as the box is being forced down the standard into position, so the flanges will enter the grooves, and if the box should then be detached the cartridges will feed downward, as at first described, so the lower cartridge will lie opposite the opening in the frame.

The trigger T is hung in the guard-strap and has pivoted thereto a dog or sear, t , Figs. 4 and 5, which is engaged by a pawl or spring-catch, t' , to pull off the gun, but released immediately thereafter by the set-screw t'' , which stops the catch t' to release it as the trigger is pulled back, when the dog or sear t will be free to spring back and engage the hammer to hold it as it is cocked by the recoil of the bolt.

In the modification of the cocking device, Fig. 5, the recoiling bolt has a shoulder, o' , arranged to engage the short arm o'' of the lever O, which is hung in the frame to spring upward, and has a long arm to engage the pin

6" in the hammer below its pivot when turned by the bolt. An arm, B'', is extended from the locking-block to bear down on and release lever O from engagement with the bolt and hammer, so that the hammer may then be cocked in the ordinary way, and cam-pin O' may be turned to hold said lever O out of operative engagement.

The fly S, Fig. 1, may be modified in various ways, as will be evident to a skilled mechanic.

The hammer may be moved either to half or full cock by mechanism of the same general character.

I do not limit my claims to the particular construction shown, but desire to cover, broadly, the movement of the hammer to half or full cock by a limited recoil of the bolt while in locked position.

I do not claim herein the peculiar construction of trigger, the same forming part of my application of July 18, 1885, No. 171,940.

I do not confine myself to the precise constructions shown, as I consider myself entitled to equivalent constructions, and to apply the novel features herein pointed out to guns of other construction, so far as they are applicable.

I claim—

1. In a breech-loading fire-arm, a longitudinally-reciprocating breech-piece, a locking-brace therefor, an abutment in the frame, against which said brace bears when the bolt is a little in rear of its forward position, a hammer, and a piece between the hammer and breech-piece which is forced into engagement with the hammer on the firing of the gun, to force the hammer back by the limited recoil of the breech-piece, all in combination substantially as described.

2. A reciprocating bolt, and a cocking-dog which connects the bolt and hammer, to cock the hammer by the limited recoil of the bolt, in combination with a locking-piece which, while engaging its locking-shoulder in the frame, carries the bolt forward of its locking position, by means substantially as specified.

3. A breech-piece having reciprocating movement, and a cocking-dog attached to said breech-piece, substantially as described, in combination with a cam-fly in position to form a bearing between the body of the gun and breech-piece, so as to force the breech-piece forward, substantially as set forth.

4. In combination, in the frame of a breech-loading fire-arm, a longitudinally-reciprocating bolt, a brace which swings outward from the axis of the bolt to lock the breech against a shoulder in the frame, and a cocking-dog arranged in the brace to bear against the hammer above its pivot when the breech is closed and the hammer down, the bolt having space affording a lost motion between its forward

position and its locking position, through which it is forced to move rearward by the explosion of the charge to press back the hammer, substantially as described.

5. In combination, in the frame of a gun, a reciprocating bolt, a locking-brace formed in two parts, substantially as described, a spring to separate the parts of said brace, and a locking-shoulder in the frame, against which that part of the brace to which the operative handle is connected bears, substantially as specified.

6. In a reciprocating bolt, a firing-pin arranged to be sprung into position to receive the blow of the hammer, in combination with a brace which swings outward from the axis of the bolt to lock the breech and inward to unlock the breech, said brace being arranged to strike the rear of the firing-pin and swing it out of range of the hammer in unlocking the breech, substantially as set forth.

7. A reciprocating bolt, a brace which swings outward from the axis of the bolt to lock the breech, an operating sliding handle connected to said brace, by which it is moved to lock, unlock, and move the bolt, and a spring bearing against the brace to press it into its locking position and hold it and its operating-handle by elastic force in their locking position, substantially as and for the purpose set forth.

8. A reciprocating bolt, an extractor-hook hung in the face of said bolt, and a spring to press said extractor-hook toward the axis of the bolt to grasp the cartridge, in combination with a projection in the frame to engage the extractor and turn it back vertically with the axis of the bolt, substantially as described, to release the cartridge in the last part of the opening movement of the breech.

9. A cartridge-feeder pivoted to the frame and turning down at the side thereof, substantially as described, and having the grooves to receive and guide the cartridges by their flanges, in combination with a magazine box or casing secured to the side of the breech-frame to receive and cover the cartridges while held by their flanges.

10. A pivoted cartridge-feeder having an arm to support the cartridges and a short arm to stop the cartridges, substantially as described, and a box independently attached to the gun below the feeder, in combination, whereby the feeder can be turned down to house the cartridges in the box, or turned up without moving the box.

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

ANDREW BURGESS.

Witnesses:

A. SHELMON WARNER,
A. W. OAKLEY.