

(No Model.)

G. W. HADLEY.
BREECH LOADING GUNS.

No. 275,377.

Patented Apr. 10, 1883.

Fig. 1.

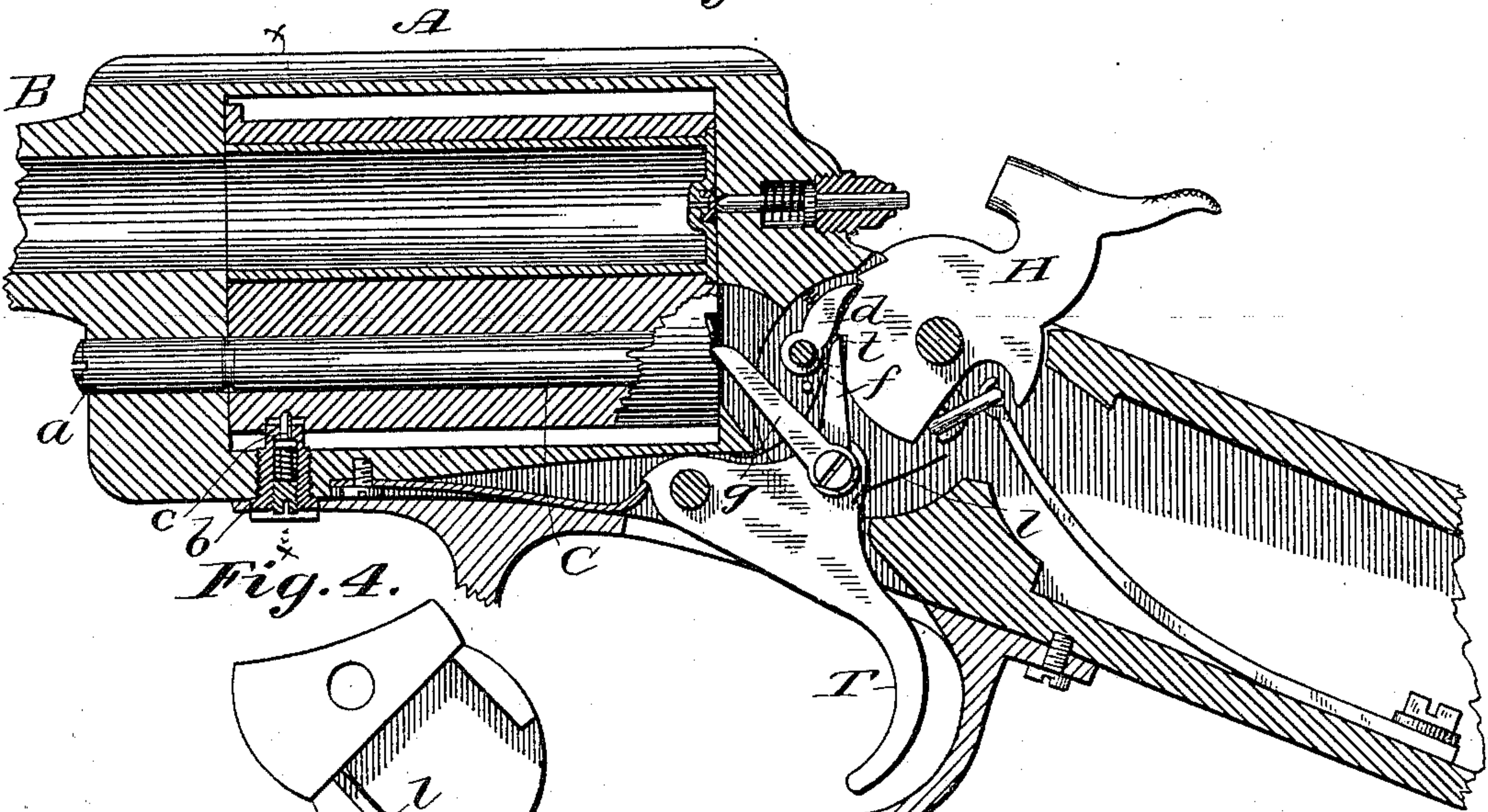


Fig. 4.

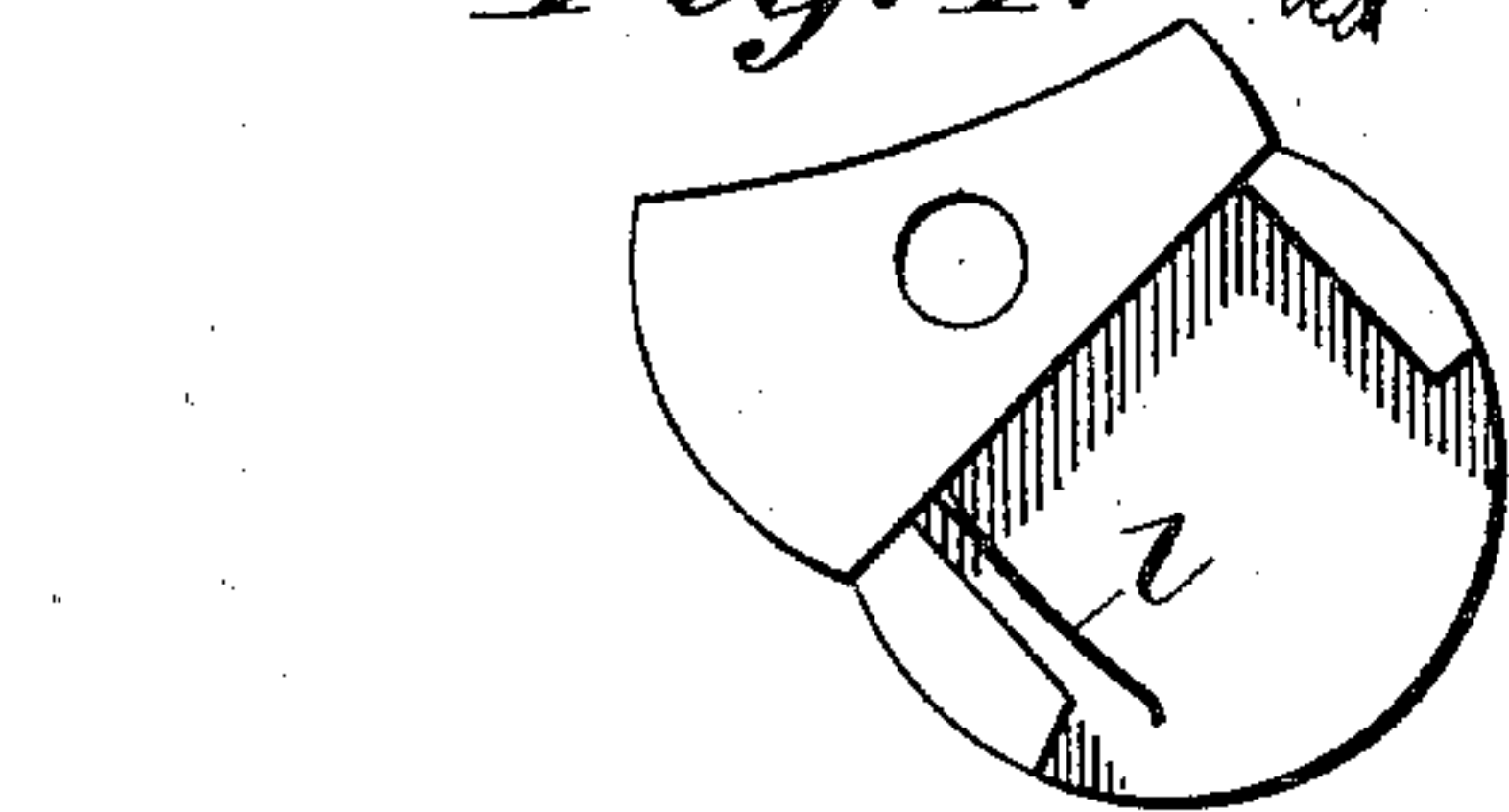


Fig. 2.

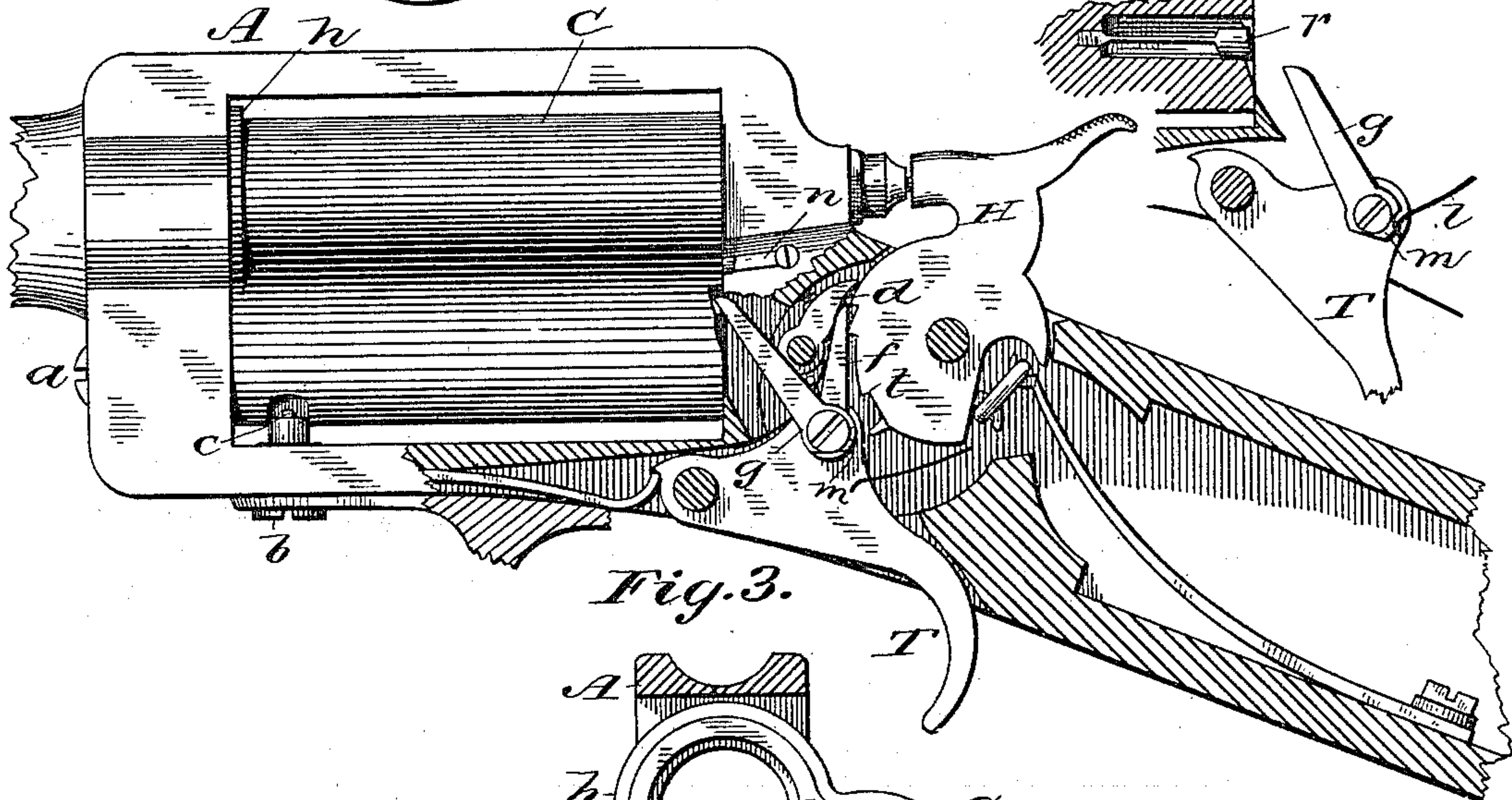


Fig. 5.

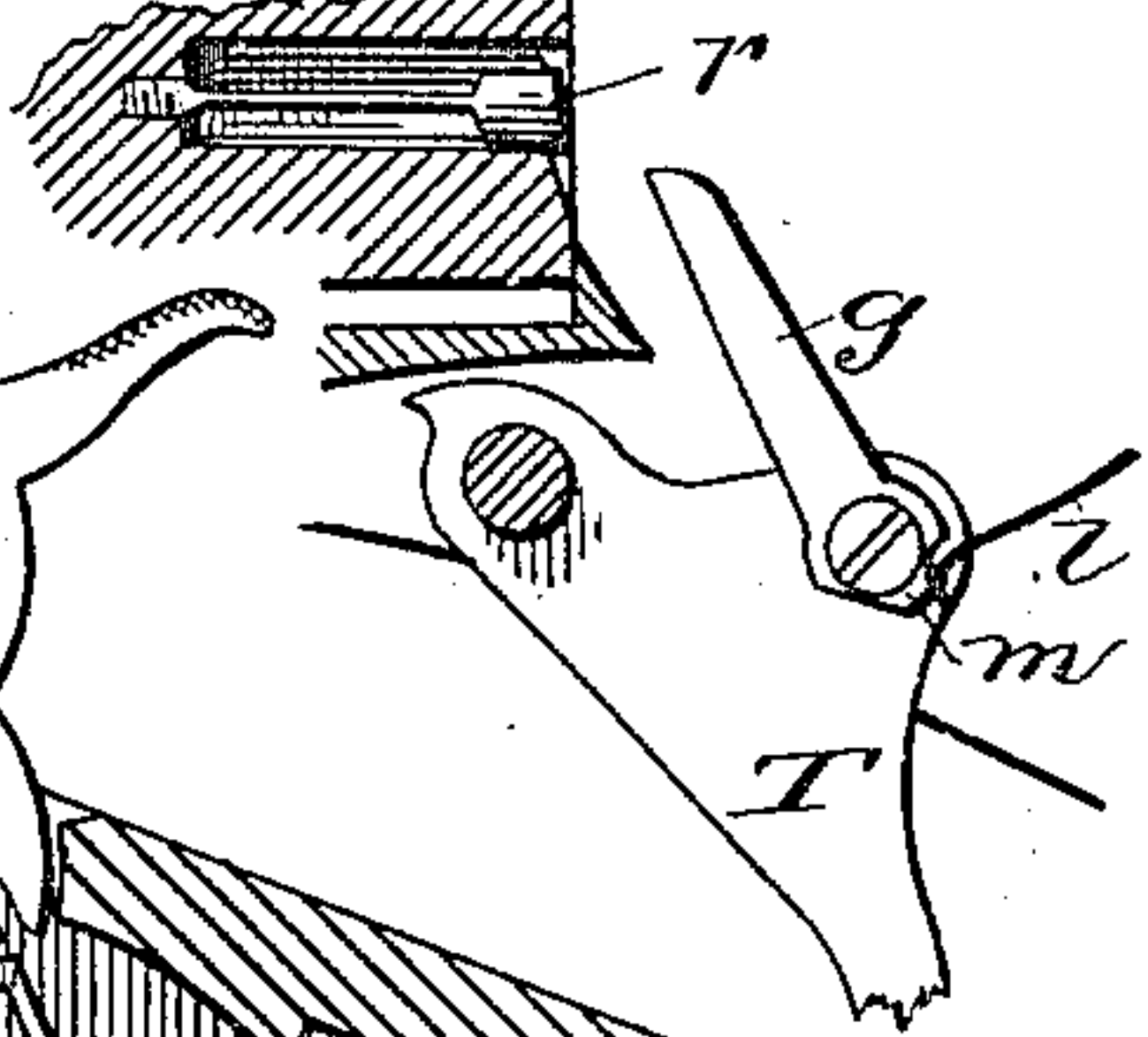
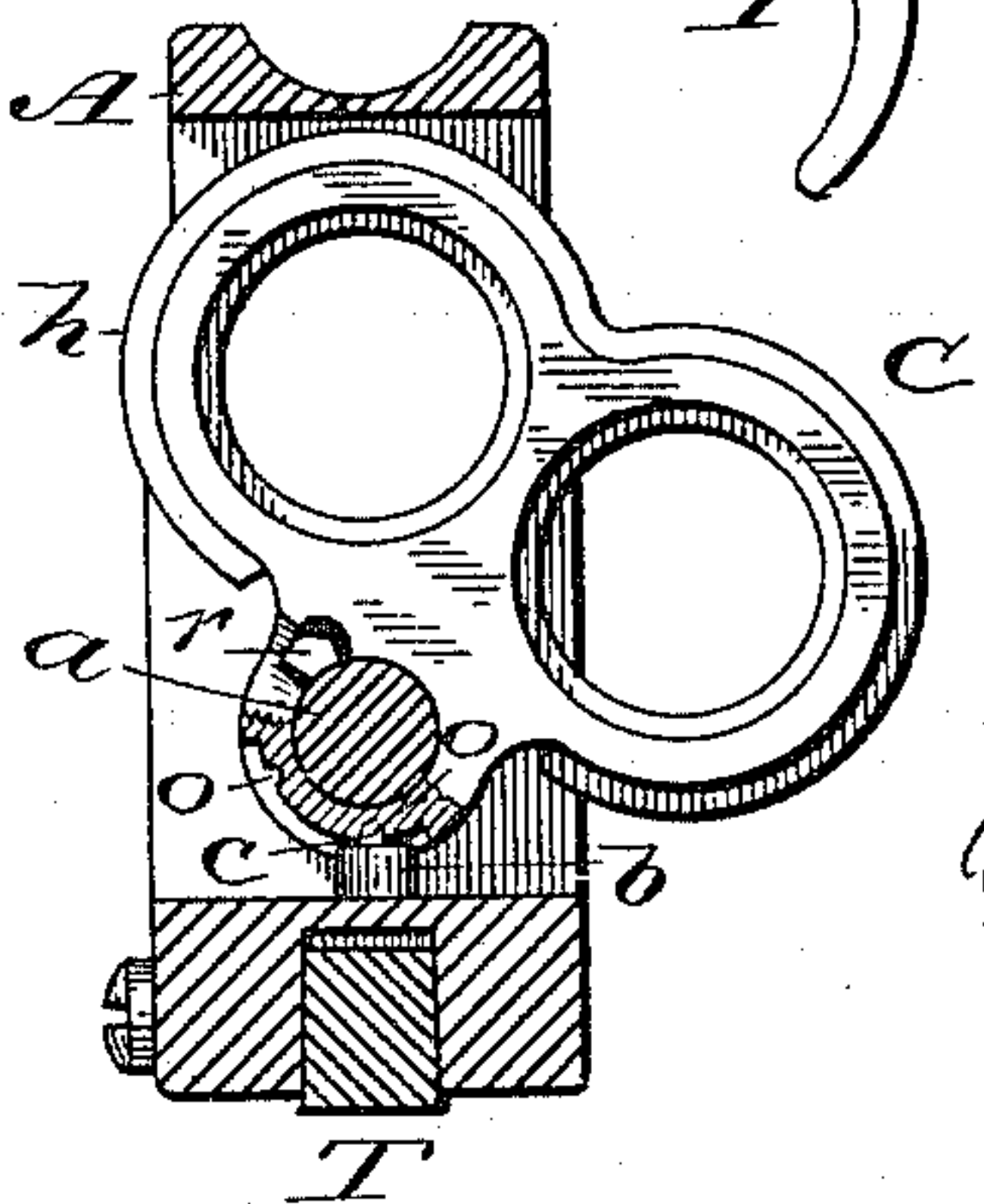


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. HADLEY, OF CHICOPEE FALLS, MASSACHUSETTS, ASSIGNOR
OF ONE-HALF TO T. C. PAGE, OF SAME PLACE.

BREECH-LOADING GUN.

SPECIFICATION forming part of Letters Patent No. 275,377, dated April 10, 1883.

Application filed September 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HADLEY, of Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented certain
5 Improvements in Breech-Loading Guns, of which the following is a specification.

This invention relates to breech-loading fire-arms; and the invention consists in a laterally-oscillating chamber or breech piece having
10 two chambers therein arranged to be brought successively in line with a single barrel, and in a self-cocking or double-action lock of peculiar construction arranged to oscillate the chamber-piece in one direction and fire the charges
15 as they are brought into line with the barrel, and also in certain details, all as hereinafter more fully set forth.

Figure 1 is a longitudinal vertical section. Fig. 2 is a side elevation, partly in section.
20 Fig. 3 is a transverse vertical section on the line *x x* of Fig. 1, and Figs. 4 and 5 represent portions detached.

The object of my present invention is to produce a single-barreled gun that can be fired
25 as quickly as the ordinary double-barreled gun, thus giving it the same or greater capacity without the expense and weight of the two barrels ordinarily used in shotguns.

To make a gun on my plan I provide a breech-frame, A, having an opening transversely
30 through it of sufficient size to admit the oscillating chambers C, as shown in Figs. 1, 2, and 3, a single barrel, B, being secured to the front of this frame in any suitable manner.

The oscillating breech or chamber piece C is made of the proper length to receive the cartridge and of a relatively V form transversely, the two chambers being formed side
35 by side in its upper part, while at its lower part it is provided with a longitudinal hole for the reception of a bolt or pin, *a*, which is held at each end in the frame A, and on which the part C oscillates or swings from side to side, as shown in Fig. 3. In order to hold this
40 chamber-piece securely in position when moved to one or the other side, I provide a spring-pin, *c*, which is inserted through a hole in the lower part of the frame A, in such a position that its free end will engage in a recess, *o*, formed in
45 the under side of the swinging chamber-piece

when thrown to one side, as shown in Fig. 3. There are of course two of these recesses *o*—one on each side. The spring-pin *c*, I have for convenience represented as being inserted within the screw *b*, which secures the front end of the
55 guard, this screw being made tubular to form a seat for the pin *c* and its spring, as shown in Fig. 1; but it is obvious that it may be seated in the frame itself, if desired; and it is further obvious that a flat or curved spring may be
60 used instead of the pin with its spiral spring, if desired; but the plan shown is preferred. The recesses in which the pin or spring-arm engages should be so constructed as to permit the breech-piece to be pushed over without
65 stopping to release the pin, and which is readily done by beveling or inclining the sides of the recess and rounding the bearing-point of the pin or spring-arm. This spring device will
70 bear with sufficient force to hold the block from moving accidentally in turning or handling the gun, and yet will permit it to be moved when desired.

The lock is of that class denominated as "double-action" locks, and which are so constructed that the hammer can be cocked by
75 pulling on the trigger or by raising it by the thumb in the usual manner. Ordinarily these locks are so constructed that when the trigger is pulled the hammer is first raised and then
80 permitted to fall instantly; and usually they have no provision by which they can be securely held at either half or full cock, which is very desirable in a gun for sporting purposes. As shown in Figs. 1 and 2, the ham-
85 mer in this case is provided with the ordinary shoulder, *t*, against which the cocking-pawl *f* takes to raise the hammer, and from which it is forced as the pawl is raised beyond a certain point, as usual, and it also has a small
90 hook shown in dotted lines in Fig. 1, which engages in a slot in the pawl *f*, so as to raise the latter with the hammer when the latter is cocked by hand. Above this shoulder *t* two
95 other notches are made in the face of the tumbler portion of the hammer, as shown in Figs. 1 and 2, and a small sear or dog, *d*, is pivoted in front of the hammer at such a point that when the hammer is raised this dog or sear *d*
100 will engage first in one and then in the other

of said notches, and thereby serve to hold the hammer either at half or full cock, as the case may be. The position of this sear *d* is such in relation to the cocking-pawl *f* that when the latter has been raised far enough to put the hammer at full-cock, as represented in Fig. 1, the point of the pawl will be just under and in rear of the sear, as there shown, and in that condition the parts can be left in perfect safety, the hammer being held at full-cock, and also at half-cock if stopped at that point, with as much safety as is the case with the ordinary single-action locks, and this may be done whether the hammer be cocked by the thumb or by pulling the trigger. When it is desired to fire the arm it is only necessary to pull on the trigger, which action will throw the pawl *f* off from the ratchet or shoulder *t* and force its point up against the sear *d*, and between it and the front edge of the tumbler, which will force the sear out of its notch, thus letting the hammer fall, there being of course a spring (in this case a small spiral one, though a flat one may be used) to bear upon the sear and cause it to engage with certainty in the half or full cock notch, as the case may be.

In order to throw the chamber-piece *C* over after the right-hand barrel has been fired, a pawl, *g*, is secured to the trigger *T*, and has its point arranged to engage against a shoulder, *r*, on the plan of the ratchet ordinarily used in revolvers, but differently constructed, as hereinafter explained. In order, however, to prevent the pawl from having its point protrude from the face of the breech-frame when it is desired to throw the chamber-piece *C* back to the left after both chambers have been fired, this pawl *g* is so constructed that when the trigger is raised far enough to put the hammer at half-cock the point of the pawl *g* will be thrown back out of the way of the swinging chamber-piece *C*, as shown in Fig. 5. This is effected by forming a cam or projection, *m*, on the rear end of the pawl *g*, and arranging a spring, *l*, so as to act alternately on opposite sides of said cam or projection as the trigger, with the pawl *g*, is raised and lowered. As shown in Fig. 5, the end of spring *l* bears against the upper side of the projection *n*, and thereby operates to throw the point of the pawl back, as shown, entirely within the rear part of the frame, thus permitting the chamber-piece *C* to be swung past it to the left without interference. The spring *l* and the projection *m* are so arranged that the pawl is made to assume the position shown in Fig. 5 just as the hammer is brought to half-cock, so that the trigger can be carried on far enough to fire the right-hand chamber without the pawl *g* engaging with the ratchet-shoulder *r*, which at that time will be below the point of the pawl; but when the trigger is let down after firing the first or right-hand chamber, then the point of the pawl *g* will drop low enough to engage with the shoulder *r* as the trigger is again raised, and as the point of the pawl *g* will be held under the shoulder *r* with sufficient force to overcome the bearing of

spring *l* on the upper side of the cam *m*, it follows that the pawl *g* will operate to throw the chamber-block *C* over to the right before the hammer has been raised far enough to fire the left-hand chamber, which is thus brought in line with the barrel; but by continuing the pull on the trigger after the chamber-piece *C* has been thus swung over to the right the hammer will be raised to full-cock, the sear *d* be disengaged, and the left-hand chamber be fired all at one pull of the trigger. As shown in Fig. 4, the spring *l* is secured to the inside of the side plate of the frame, so that it remains stationary, while the adjacent end of pawl *g*, being connected to the trigger, moves up and down past the end of spring *l*. As the trigger must continue its upward movement after the chamber-piece *C* has reached the limit of its movement to the right, to raise the hammer to its full height and then disengage the sear, as before explained, it is obvious that the shoulder *r*, against which the point of pawl *g* engages, cannot be a fixed or rigid shoulder, because if it were the trigger could not continue its movement after the chamber-piece *C* had reached the limit of its movement and come to a state of rest, and therefore I make the shoulder or ratchet *r* a spring or yielding shoulder, to permit of a further or continued movement of the trigger and its pawls *f* and *g*. This may be done in various ways; but the plan shown in Fig. 5, in which the shoulder *r* consists of a small spring-rod inserted in a longitudinal cavity formed in the end of the chamber-piece, I find to operate well. In this the body of the rod is made sufficiently rigid or stiff to swing the chamber over, and then to yield sufficiently before striking the wall of the cavity in which it is located to permit the trigger, with its pawls, to continue its movement far enough to discharge the arm, as before explained. This construction of yielding ratchet and pawl, as also the peculiar formation of lock, while specially adapted to an oscillating chamber-block such as shown, may obviously be used in revolvers also with advantage, and I so propose to use them.

In order to prevent the possibility of accident by the gas or flame passing backward from the joint at the front end of the chamber-block *C* when either chamber is fired, I provide a laterally-projecting flange, *h*, around each chamber, as shown in Figs. 2 and 3, and which will serve to deflect any gas which may escape at that point. The frame is grooved out on each side directly in rear of the chambers, so as to permit a cartridge to be inserted and the shell removed without difficulty; and to prevent the cartridges from dropping out or projecting so as to interfere with the lateral movements of the chamber-piece I secure a small flat spring, *n*, Fig. 2, in a recess in the grooved sides of the frame in such a position that it will yield to permit the shell to be shoved into the chamber, when its point will spring out behind the shell, and thus hold the latter in the chamber or prevent it from

sliding back. The shells can be readily pushed out by a small stick; or, if preferred, a sliding extractor can be arranged on the sides of the chamber-piece and be operated by hand.

5 By this construction and arrangement of the parts I am enabled to produce a gun using a single barrel, and which can be loaded with as much if not greater ease and rapidity than a double-barreled gun.

10 I am aware that an oscillating block having two chambers in it has before been used in connection with a single barrel, and therefore I do not claim such, broadly; but,

15 Having thus fully described my invention, what I claim is—

1. The combination, in a breech-loading gun, of the oscillating breech-piece C, provided with the recess *o o*, with the beveled or pointed spring-pin *c*, arranged to engage therein, and 20 the pawl *g*, arranged to engage with the oscillating breech-piece, all constructed and arranged to operate substantially as described, whereby the breech-piece is moved in one direction by the pawl and in the opposite direction by hand without releasing the spring-pin from its bearing on the breech-piece, as 25 set forth.

2. In combination with the oscillating breech-

piece C, the trigger T, having the pawl *g*, provided with the cam *m*, pivoted thereto, and the 30 spring *l*, said parts being arranged to operate as and for the purpose set forth.

3. In combination with an oscillating or rotating chamber-block for fire-arms, the yielding ratchet or shoulder *r* and an operating- 35 pawl, *g*, all arranged to operate substantially as set forth.

4. The combination of the hammer H, sear *d*, trigger T, with its cocking-pawl *f*, and pawl *g*, with the oscillating chamber-block or its 40 equivalent, provided with the yielding ratchet or shoulder *r*, all arranged to operate substantially as described.

5. The oscillating breech-piece C, provided with the laterally-projecting flanges *h* at the 45 front end of its chambers, said flanges being so constructed and arranged in relation to the rear end of the barrel as to be concentric therewith, and to project laterally beyond the 50 side of the frame when in position for firing, substantially as and for the purpose set forth.

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Witnesses:

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