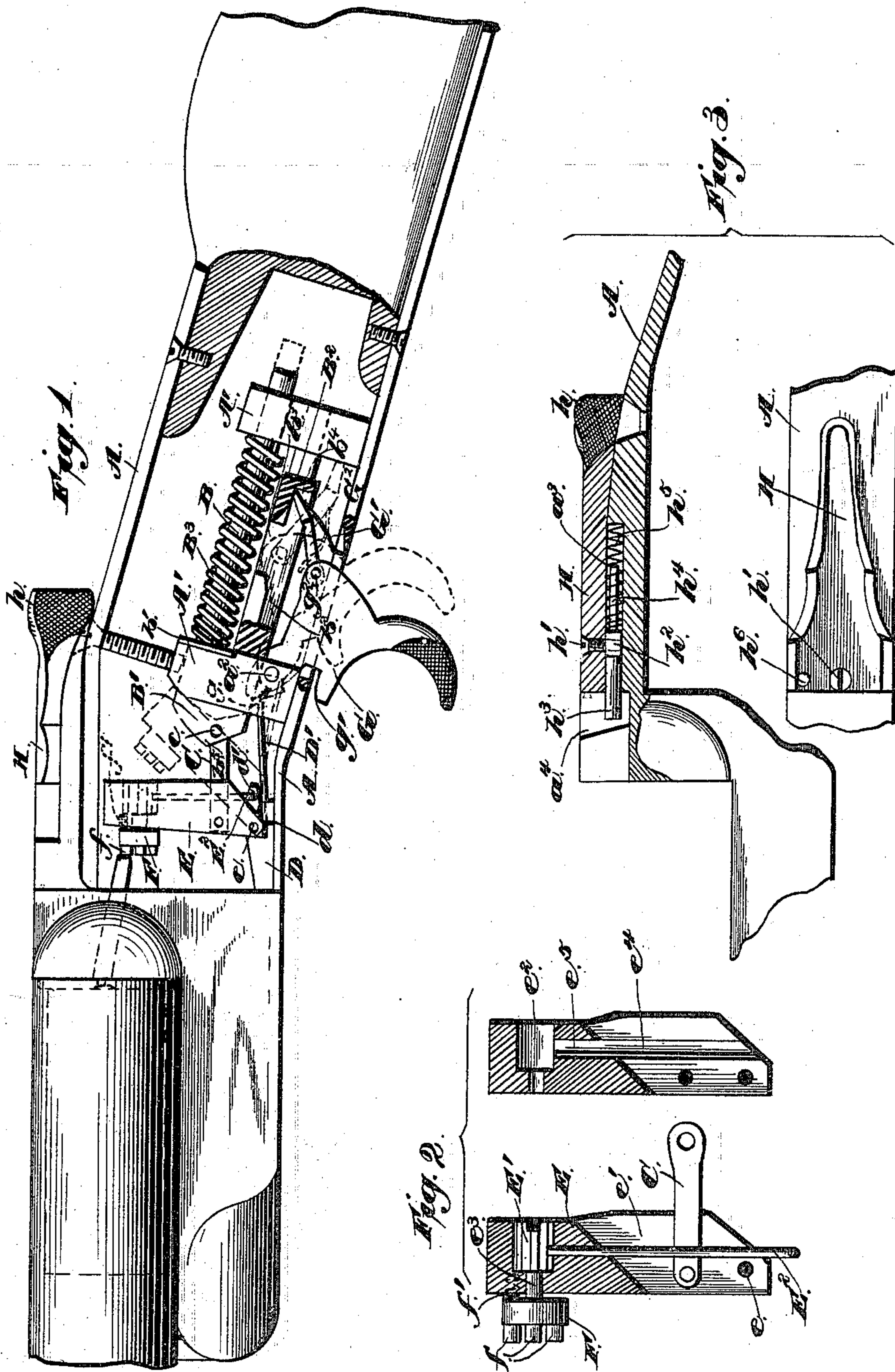


(No Model.)

J. C. BROYLES.
BREECH LOADING FIRE ARM.

No. 338,247.

Patented Mar. 23, 1886.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES C. BROYLES, OF TUPELO, MISSISSIPPI.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 338,247, dated March 23, 1886.

Application filed November 30, 1885. Serial No. 184,324. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. BROYLES, a citizen of the United States, residing at Tupelo, in the county of Lee, State of Mississippi, have
5 invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to breech-loading fire-
10 arms having an internal hammer; and it consists in the construction and arrangement of the parts which will be more fully herein-
after described, and definitely pointed out in the claims.

15 Heretofore fire-arms of this class have generally been constructed with a hammer for each barrel, employing mechanism for operating the same which was complicated and intricate in its construction and easily broken
20 or disarranged, and therefore impractical in their use.

The object of my invention is to provide a breech-loading fire-arm with a lock having a single internal hammer, which is adapted to
25 operate the firing-pins of a single or double barreled gun by means of a suitable revolving firing-center situated on the upper end of the hammer, the mechanism for actuating said hammer being simple, efficient, and durable
30 in its construction, easily operated, and readily understood. I attain these objects by the mechanism illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and
35 in which—

Figure 1 is a side elevation of a double-barreled breech-loading gun with the casing of the lock removed, and illustrating the two
40 positions of the lock by positive and dotted lines. Fig. 2 is a longitudinal vertical section of the hammer, illustrating the two parts and their internal construction. Fig. 3 is a sectional and top plan view of the locking device for securing or releasing the barrel and open-
45 ing or closing the breech.

The drawings illustrate the lock as applied to a double-barreled breech-loading gun, but it is obvious that it is adapted to be used in
50 connection with any other style of fire-arms of this class with equal efficiency.

A indicates the breech-frame of an ordinary

breech-loading fire-arm which has bearing-frames A' A' for the sliding bolt. The sliding bolt consists of two parts, the round bolt B, secured to or cast integral with the head B', 55 and the square bolt B², formed with the said head B'. The bolts B and B² are mounted in the bearing-frames A' A', in which they have a longitudinal sliding movement slightly on the incline. The portion B of the double slid- 60 ing bolt is surrounded by a coiled spring, B³, which rests against the bearing-frames A' at each of its ends, a washer-plate being provided in the forward frame A', against which the spring rests, and keeps it from interfering 65 with the sliding movement of that part of the bolt by slipping into the recess or aperture in which the said bolt enters. This plate also prevents the hammer from being pressed upon the cap by the power of the spring B³ when at 70 rest. The bolt B extends through the rear bearing-frame A' a short distance, and has free backward and forward movement therein. The portion B² of the sliding bolt is formed integral with the head B', and is rectangular 75 in shape its entire length, except a short distance from the rear bearing-frame A', where it is rounded, so as to more easily move in the said bearing-frame. A slot, b², is formed in this portion B² of the bolt, which extends 80 through the said portion and forms a small rectangular opening, b³. This slot b² extends rearwardly to the point b⁴, where a shoulder is formed for purposes which will be herein-
after described. 85

As heretofore described, the forward part of the sliding bolt is formed with a head, B'. This head B' has a slot cut in its forward portion, in which one end of a link, C, is hinged, as at c. The upper and lower parts of this 90 head B' are cut away to form a point, b⁵, below which the link C is hinged.

Formed integral with the breech-frame A, and in the forward lower portion thereof, is a metallic lug, D, which is recessed, as at d, in 95 its rear portion. Hinged to this lug D at the point e is a hammer, E, which is constructed of such shape as to conform to and not interfere with any of the other working parts of the lock with which it may come in contact when set 100 for firing. As illustrated in Fig. 2, this hammer is formed with a recess, e', which strad-

dles the lug D. The other end of the link C is hinged in this recess e' , and has free movement therein.

In a recess, e^2 , formed in the upper portion 5 of the hammer E, a ratchet-wheel, E' , is mounted on one end of a shaft, e^3 . This shaft extends through the upper part of the hammer E to the outside thereof, and has mounted on its end a centering firing-disk, F. This centering firing-disk F has a series of nipples, f , 10 cast integral with its face. In the drawings three nipples are represented, but as many may be used as are necessary.

At the point d' in the lug D a wire spring, 15 E^2 , is pivoted, which extends upwardly through the hammer E, and has movement in a concave recess, e^4 , formed therein. It then passes through a hole, e^5 , bored in the upper portion of the hammer E, its point engaging with the 20 teeth of the ratchet-wheel E' , which it turns, and therewith the centering firing-disk F is turned, alternately presenting one of the nipples f , so that it will strike one of the firing-pins. Seated in the upper part of the hammer E, and directly behind the firing-disk F, 25 is a small coiled spring, f' , which acts as a cushion for said firing-disk F, and prevents injury to the hammer and its parts by the rebound of the disk F when it strikes the firing-pin, and also acts to keep the said disk F con- 30 fined in its proper place and prevent it from being drawn back by the retraction of the spring E^2 .

To the point a^2 of the forward bearing- 35 frame A' a portion of a combined trigger and sear is pivoted. The sear portion G has a recess, g , formed near its forward extremity, which engages with a spring, D', the other end resting in a recess, d' , formed in the lug D. 40 Another recess, g' is formed in the sear G a short distance below the recess g , for the purpose of allowing said sear to have an easy motion, and not be caught or checked by the lower part of the breech-frame, through a slot 45 in which it operates. The point g^2 of the sear has a dog, G', pivoted and operating in a slot formed therein, said dog being actuated and held in a raised position by a spring, G², secured to the under side of said dog, its other 50 or free end engaging with the lower portion of the breech-frame A.

In Fig. 3 a section and plan view of a top snap-lever is illustrated. This lever consists of a top plate, H, which has a suitable milled 55 end, h . A screw, h' , passes through the center of the forward part of said plate and down through the central portion, h^2 , of a spring-actuated sliding bolt situated and having free movement in a recess, a^3 , formed in the top 60 portion of the breech-frame A. The portion h^2 is square in form, and a bolt, h^3 , extends horizontally outward from the front portion into a recess, a^4 , into which a projection on the barrel fits, and the portion h^3 of the bolt fits into 65 an aperture formed in the projection.

Extending rearwardly from the square por-

tion h^2 is another bolt, h^4 , which is encircled and actuated by a spiral spring, h^5 .

To one side of the screw h' a fulcrum-pin, h^6 , passes through the plate H, said pin being 70 situated near one of the outer corners of the said plate. By forcing the plate H to one side against the pin h^6 by means of the milled end h the bolt h^3 is drawn backward by means of the screw h' being turned, said bolt pressing 75 against the force of the spring h^5 . This device allows the barrels to lock themselves automatically, and is effective and durable in its operation and construction.

The operation of this device is simple, being 80 shown in full and dotted lines in Fig. 1, and is as follows: It being desired to discharge the contents of one of the barrels of the gun, the combined sear and trigger G is drawn back until the point of the pivoted dog G' engages 85 with the shoulder b^3 of the slot b^2 in the lower portion, B², of the sliding bolt. The trigger and sear G are drawn around until the rear point of the sear reaches the position shown in dotted lines. While the sear has been 90 turning the dog G' pushes against the shoulder b^3 , forcing the bolts B and B² and head B' backward. The head B' through the medium of the link C in being drawn rearwardly draws the hammer E back also until it reaches the 95 position indicated by dotted lines, resting upon the upper part of the head B'. The recess g in the upper portion of the combined trigger and sear G engages with the end of the spring D', and while the said sear has been turned on 100 its pivot a^2 the said recessed portion g has continually held the spring D' and pressed it down and holds it when in the position shown in dotted lines. When the hammer E is drawn back or in cocked position for firing, as shown, 105 it is held in this position by the pivots a^2 and g^2 , and the shoulder b^4 being practically in line or on a dead-center. A little further pressure of the trigger releases the point of the dog G' from against the shoulder b^4 , and the dog G' 110 drops down out of the way of the bolt B², which is shot forward by the action of the spring B³, and the gun is discharged. The spring D' brings the combined trigger and sear G back to its normal position, ready for 115 another operation. When the hammer E is drawn back, the spring E^2 engages with a tooth of the ratchet-wheel E' and shoves it around, presenting a nipple, f , of the disk F, so that it will strike one of the firing-pins of the barrels 120 of the gun, and as the hammer E is shot forward the spring E^2 is disengaged from the tooth of the ratchet-wheel E' . This movement is so timed and the nipples f so arranged that the firing of the barrels may be desirably 125 controlled, and prevent the discharge of a barrel not intended to be discharged or a miss striking of either of the firing-pins.

It is obvious that many minor details in the construction and arrangement of the parts 130 could be made and substituted for those shown and described without in the least departing

from the nature and principle of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a breech-loading gun having an internal hammer, the combination, with a sliding two-part bolt, a hammer connected to the head of the bolt and pivoted in the frame, and a combined trigger and sear adapted to engage with one part of the bolt, and thereby to set and impel the bolt and pivoted hammer, substantially as described.

2. In a breech-loading gun having an internal hammer, the combination of a double sliding spring-actuated bolt, a hammer pivoted to the breech-frame and connected to the head of said bolt, a combined trigger and sear pivoted in the frame, a dog pivoted to the trigger and sear and adapted to engage with the bolt, and a firing-disk on the hammer, substantially as described.

3. In a breech-loading gun having an internal hammer, the combination of a double sliding bolt the upper portion of which is rounded and encircled and actuated by a spring, a recessed hammer pivoted to a lug on the breech-frame and connected to the head of said double bolt by a link, a spring fitted in a recess in a lug cast integral with the breech-frame, and a combined trigger and sear upon which the spring bears, the sear portion thereof being pivoted at one side to the bearing-frame and having a dog pivoted in a slot at its other side for retracting the bolt, substantially as described.

4. In a breech-loading gun having an internal hammer, the combination of a double sliding bolt, the upper part of which is rounded and encircled and actuated by a spring, and the lower part rectangular in form and provided with a slot, said bolts uniting in a common head, suitable bearing-frames in which said bolts are mounted and have free movement, a hammer pivoted to a lug on the breech-frame, suitably connected to the head of the bolts, a centering firing-disk having nipples on its face mounted on the forward upper end of the hammer, and a combined trigger and sear, the sear portion of which is pivoted to one of the bearing-frames at one end and having a dog pivoted in a slot formed at the other end, substantially as described.

5. In a breech-loading gun, the combination of a double sliding bolt situated in suitable bearing-frames, a spring encircling the upper part of said bolt, a recess in the lower rectangular portion of the bolt, a sear pivoted to a bearing-frame in its forward part and hav-

ing a spring-actuated dog pivoted in a slot in its rear portion, said dog engaging with the shoulder formed by the rear end of the recess in the lower rectangular bolt, an internal recess hammer straddling and pivoted to a lug cast integral with the lower breech-frame, a link connecting said hammer and the double bolt-head, a centering firing-disk having nipples on the forward upper side of said internal hammer, and means for operating said firing-disk, substantially as described.

6. In a breech-loading gun, the combination, with an internal recessed hammer straddling and pivoted to a lug cast integral with the lower breech-frame, of a ratchet-wheel situated in the rear upper portion thereof, a shaft secured at one end to the said ratchet-wheel and passing through to the forward outside portion of the hammer, a centering firing-disk having suitable nipples on the face mounted on the end of this shaft, a vertical spring connected to the rear portion of the lug on the lower breech-frame, said spring engaging with the teeth in the ratchet-wheel and acting to turn the firing-center, and a cushion-spring situated in the upper forward part of the hammer, the firing-disk resting against said cushion-spring, any injury being thereby prevented to the other parts of the back by the rebound, substantially as described.

7. In a breech-loading gun, a top snap or catch consisting of a plate mounted on the upper part of the breech-frame, a screw passing through the said plate and the squared portion of a sliding bolt, a spring encircling the part of said bolt extending rearwardly from said squared portion, the forward portion of the bolt engaging the projection on the gun-barrels, a fulcrum-pin situated to one side of the central screw, and suitable recesses formed in the breech-frame for the reception of the parts of this top snap-lever, substantially as described.

8. In a breech-loading gun, the combination of a double bolt consisting of parts B and B' and having a head, B', supported and moving in suitable bearing-frames, A', an internal hammer, E, a link, C, connecting said hammer E to the head B', a centering firing-disk, F, mounted on the upper forward end of the hammer, and a combined trigger and sear, G, having a dog, G', for operating the parts, substantially as described.

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

JAMES C. BROYLES.

Witnesses:

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