April 5, 1932. J. J. HENRY 1,852,411

AUTOMATIC SHOTGUN

Filed June 24, 1931 6 Sheets-Sheet 1

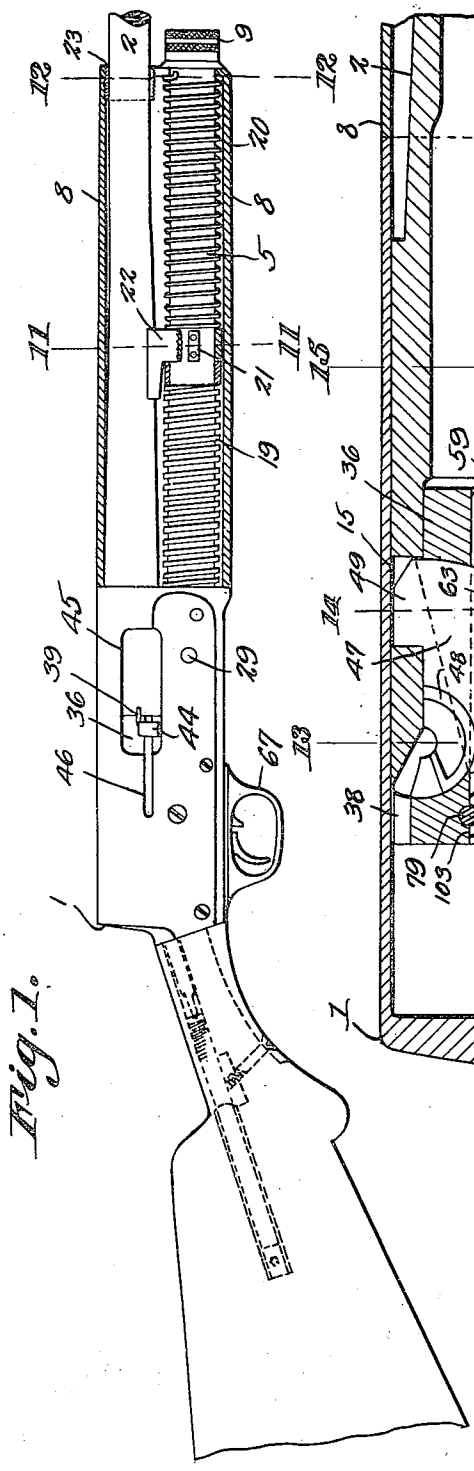


Fig. 1.

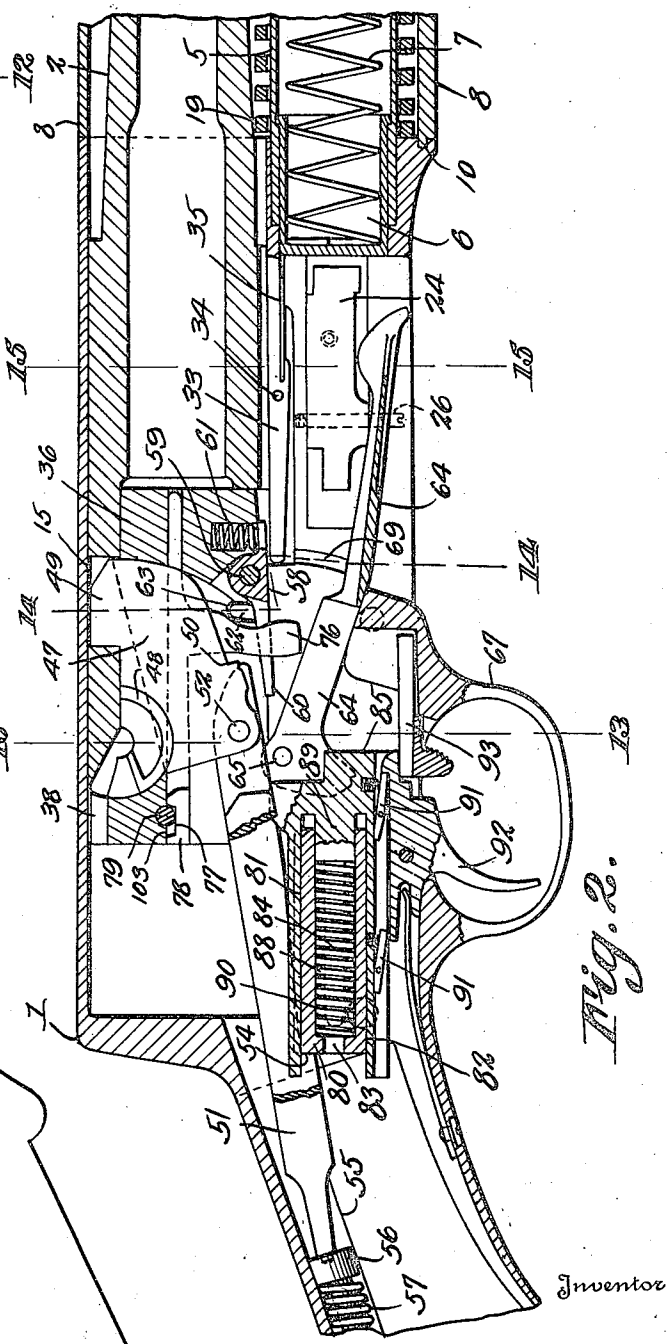


Fig. 2.

Inventor

J. J. Henry

By Chas. Thos. & Co.

Attorneys

April 5, 1932. J. J. HENRY 1,852,411

AUTOMATIC SHOTGUN

Filed June 24, 1931 6 Sheets-Sheet 2

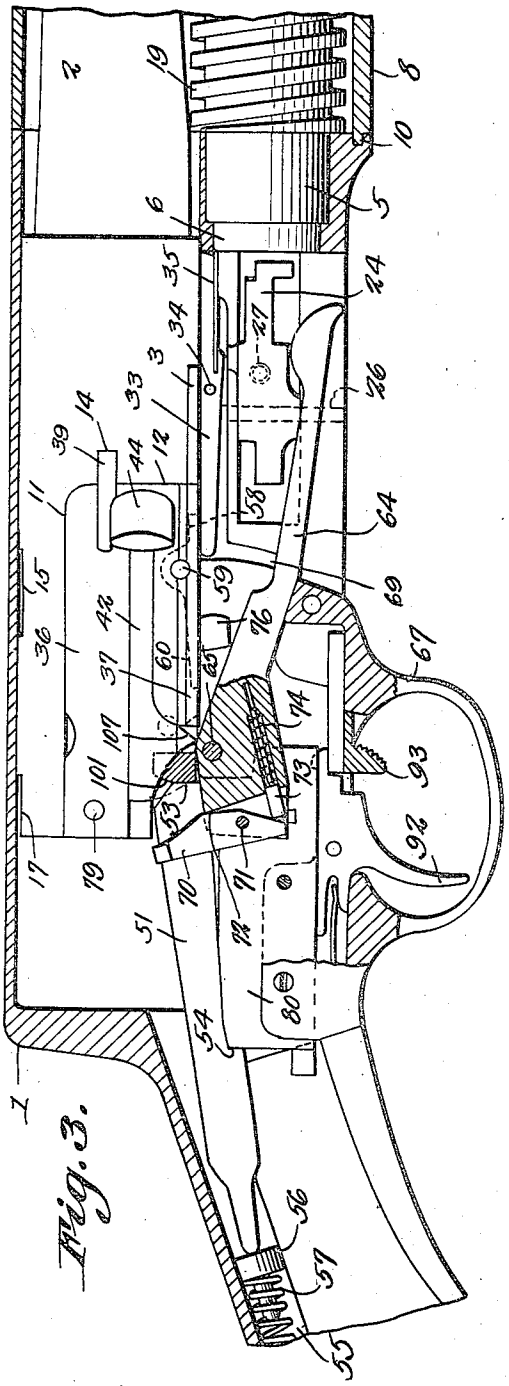


Fig. 3.

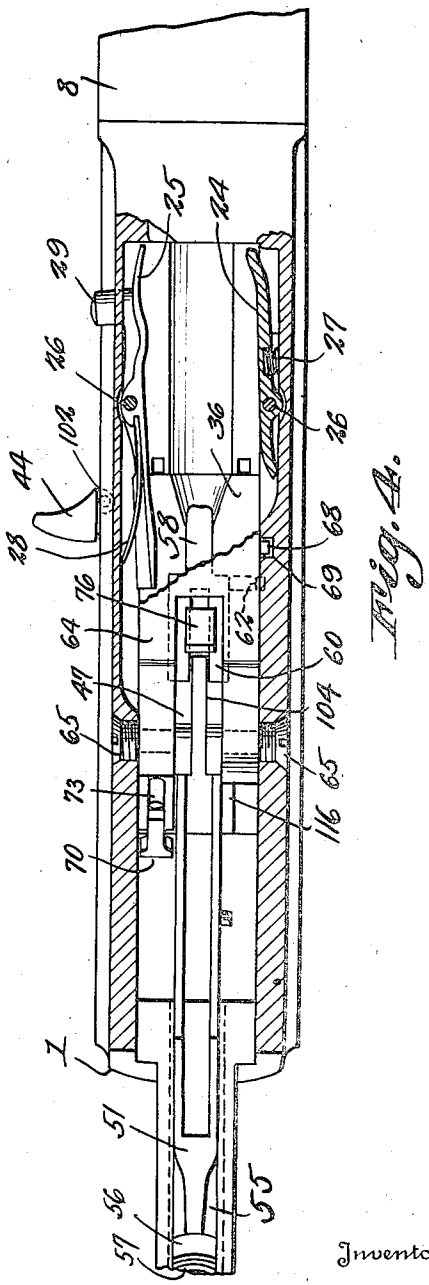


Fig. 4.

Inventor

J. J. Henry

By Atwood & Co.

Attorneys.

April 5, 1932. J. J. HENRY 1,852,411

AUTOMATIC SHOTGUN

Filed June 24, 1931 6 Sheets-Sheet 3

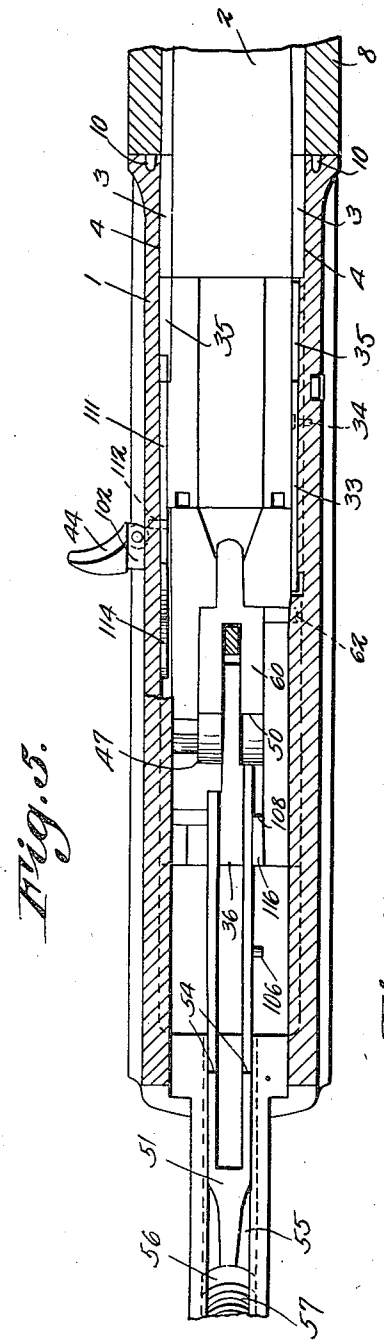


Fig. 5.

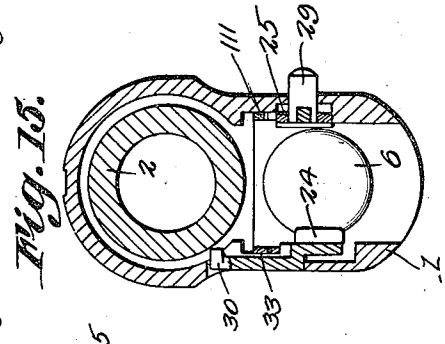


Fig. 15.

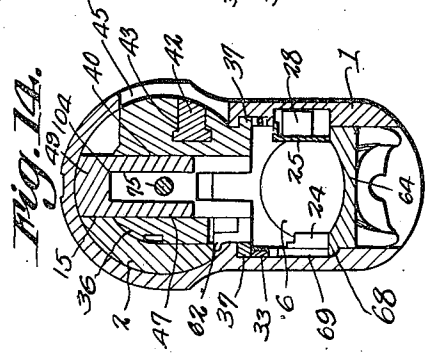


Fig. 14.

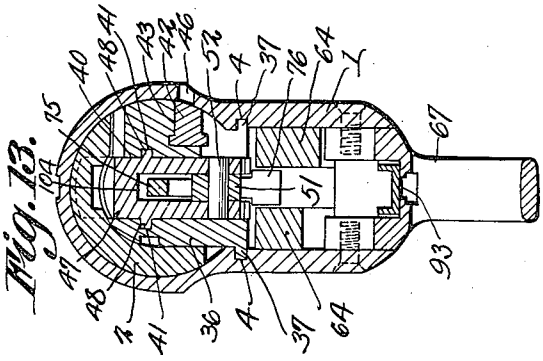


Fig. 13.

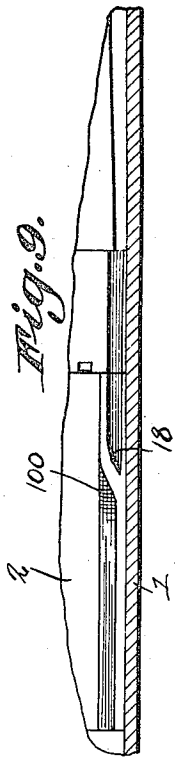


Fig. 9.

Inventor

J. J. Henry

By Atwood & Co.

Attorneys.

April 5, 1932. J. J. HENRY 1,852,411

AUTOMATIC SHOTGUN

Filed June 24, 1931 6 Sheets-Sheet 4

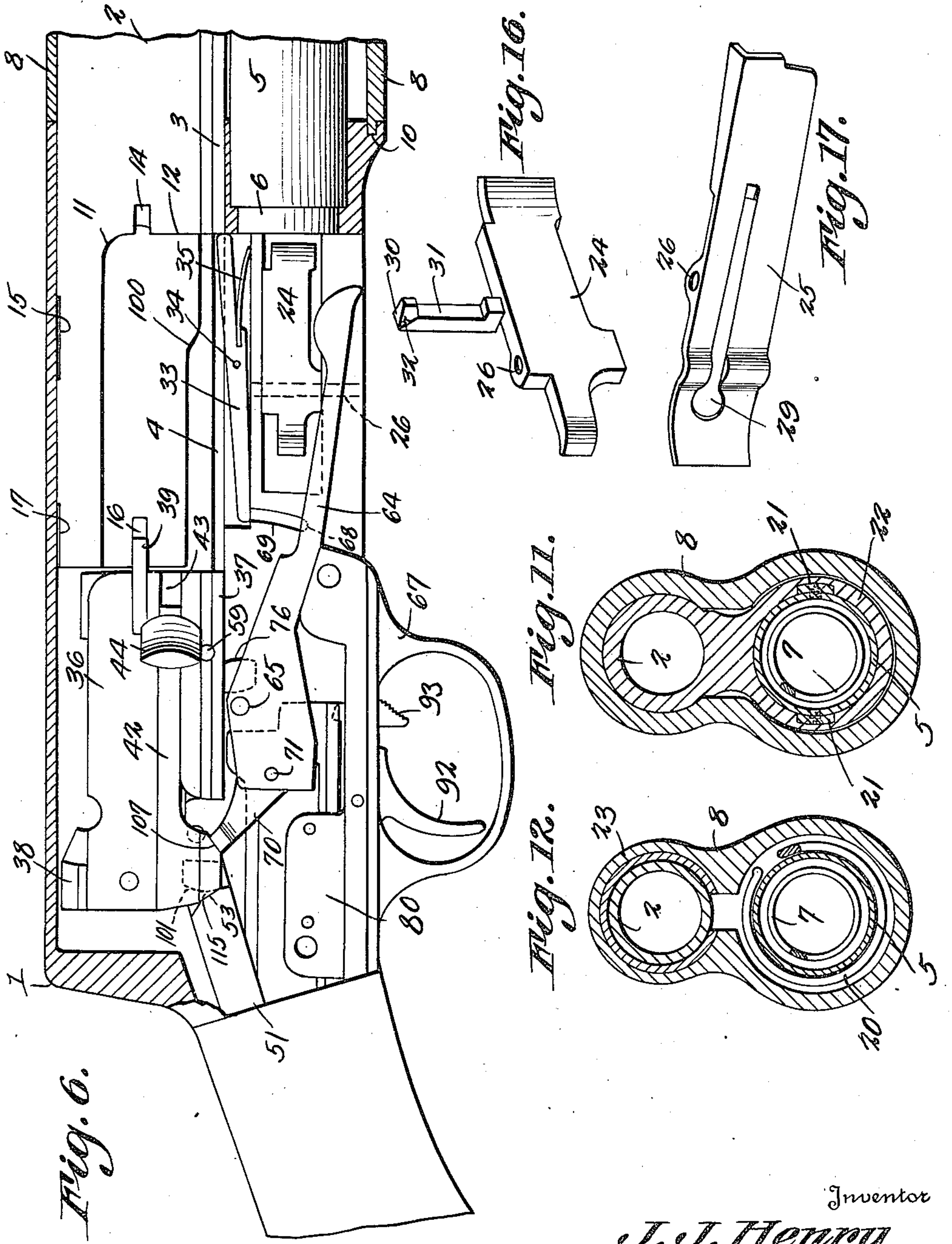


Fig. 6. Fig. 16. Fig. 17. Fig. 11. Fig. 12.

Inventor

J. J. Henry

By C. A. Snow & Co.

Attorneys.

April 5, 1932. J. J. HENRY 1,852,411

AUTOMATIC SHOTGUN

Filed June 24, 1931 6 Sheets-Sheet 5

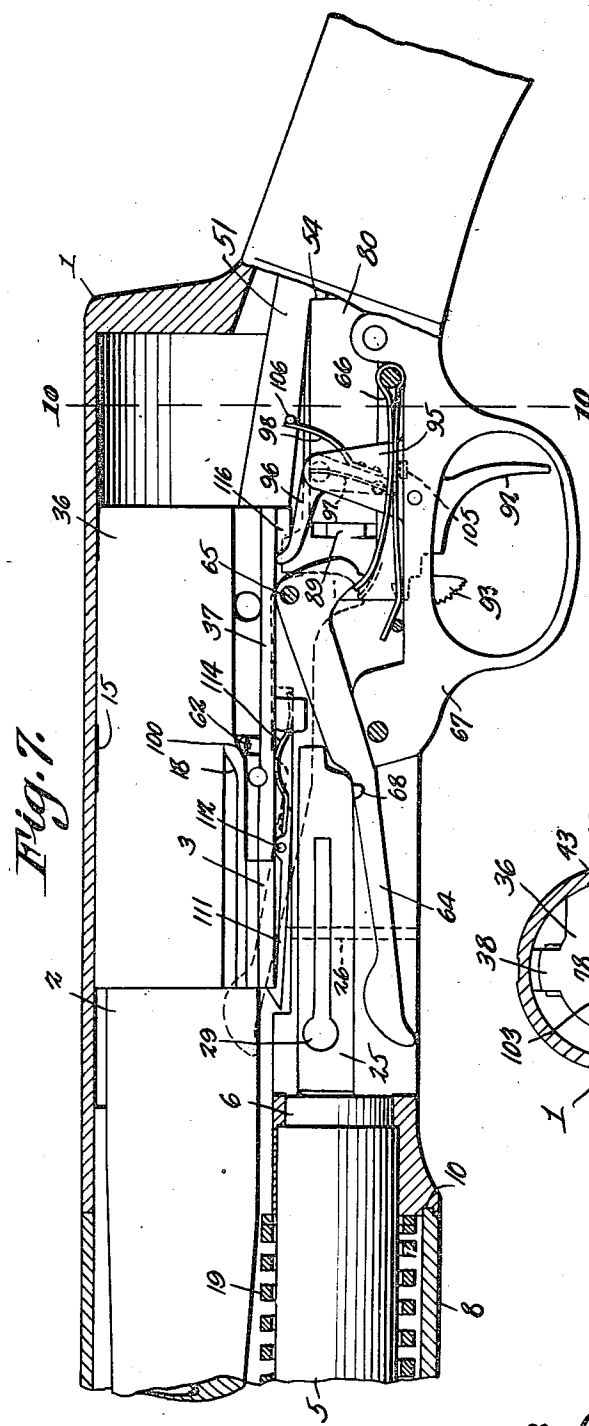


Fig. 7.

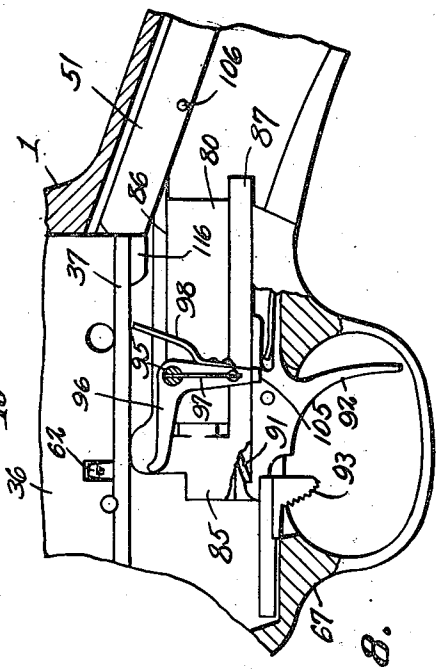


Fig. 8.

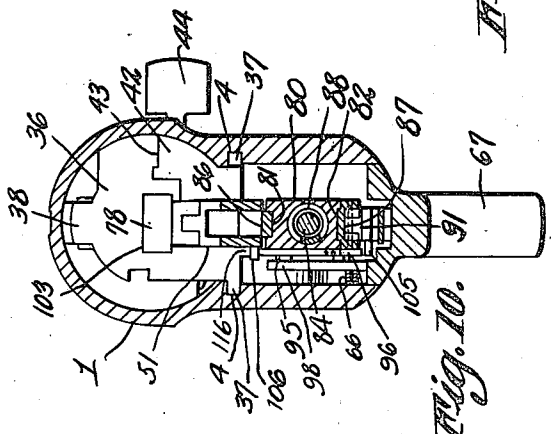


Fig. 10.

Inventor

J. J. Henry

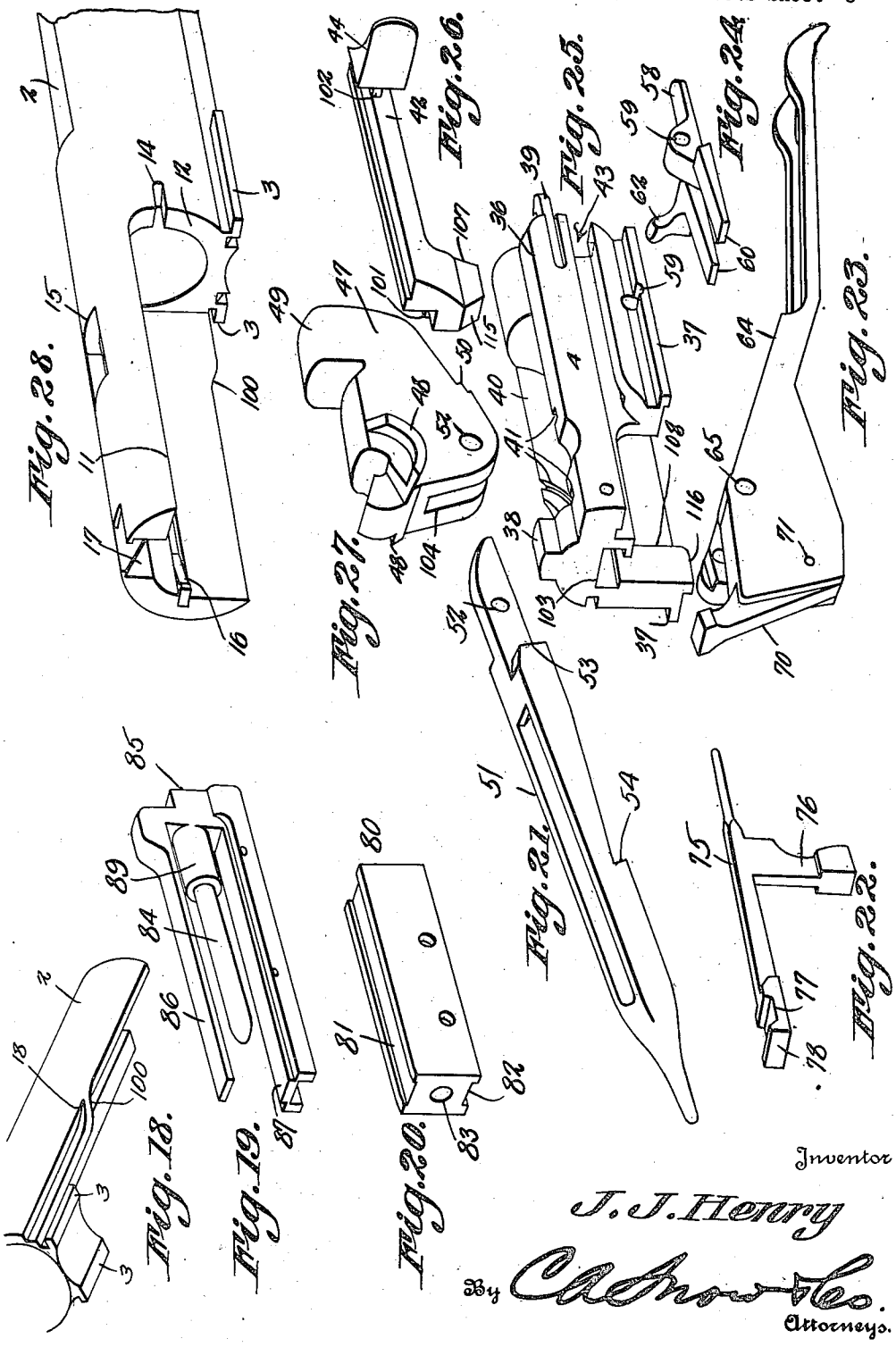
By Atkinson & Co.

Attorneys.

April 5, 1932. J. J. HENRY 1,852,411

AUTOMATIC SHOTGUN

Filed June 24, 1931 6 Sheets-Sheet 6



Inventor

J. J. Henry

By Atkinson & Co.

Attorneys.

Patented Apr. 5, 1932 1,852,411

UNITED STATES PATENT OFFICE

JOHN J. HENRY, OF MASON, ILLINOIS, ASSIGNOR OF ONE-HALF TO HARRY H. O'CONNELL, OF EFFINGHAM, ILLINOIS

AUTOMATIC SHOTGUN

Application filed June 24, 1931. Serial No. 546,574.

The device forming the subject matter of this application is a recoil-operated gun, and one object of the invention is to provide novel means whereby the breech block and the barrel may have relative movement in connection with each other, thereby reducing the movement of the barrel and improving the "balance" of the gun as it is handled in shooting.

Another object of the invention is to improve the means whereby the several instrumentalities which transfer of the shell, operate the lock between the breech block and the barrel, and bring about the firing, may be caused to act in properly timed relation.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in side elevation, a device constructed in accordance with the invention;

Figure 2 is a longitudinal section;

Figure 3 is a longitudinal section showing the opposite side of the gun from that delineated in Figure 2;

Figure 4 is a section at right angles to the cutting plane in Figure 3;

Figure 5 is a longitudinal section showing the parts in positions different from those disclosed in Figure 4;

Figure 6 is a sectional view showing the parts as they will appear when the gun is opened;

Figure 7 is a sectional view showing the opposite side of the gun from that depicted in Figure 6;

Figure 8 is a sectional view taken adjacent to the trigger;

Figure 9 is a fragmental longitudinal section showing one of the releasing mechanisms;

Figure 10 is a transverse section on the line 10—10 of Figure 7;

Figure 11 is a transverse section on the line 11—11 of Figure 1;

Figure 12 is a transverse section on the line 12—12 of Figure 1;

Figure 13 is a transverse section on the line 13—13 of Figure 2;

Figure 14 is a transverse section on the line 14—14 of Figure 2;

Figure 15 is a transverse section on the line 15—15 of Figure 2;

Figure 16 is a perspective view showing one of the latches;

Figure 17 is a perspective view showing another of the latches;

Figure 18 is a perspective view showing the rear portion of the barrel;

Figure 19 is a perspective view of the hammer;

Figure 20 is a perspective view of the guide block;

Figure 21 is a perspective view of the thrust member;

Figure 22 is a perspective view of firing pin;

Figure 23 is a perspective view of the carrier;

Figure 24 is a perspective view showing one of the latches;

Figure 25 is a perspective view of the breech block;

Figure 26 is a perspective view of the slide;

Figure 27 is a perspective view of the locking member;

Figure 28 is a perspective view disclosing the rear end of the barrel.

The frame of the gun is marked by the numeral 1, and carries the stock, which may be considered to be part of the frame. A barrel 2 is mounted to slide longitudinally in the forward end of the frame 1 and has ribs 3 (Figures 28 and 18) slidable in longitudinal grooves 4 (Figures 5 and 13) formed in the frame 1. The magazine appears at 5, and has its rear end (Figures 2 and 7) mounted in the forward end of the frame 1. A follower 6 (Figure 2) is slidable in magazine 5, and is pressed rearwardly by the usual spring 7. A rear spring 19 (Figure 1) surrounds the magazine 5 and abuts at its rear end against the forward end of the frame 1. A front or supplemental spring 20 surrounds the forward portion of the magazine 5 and is weaker than the rear spring 19. Lugs 21 (Figures 1 and 11) are secured to opposite sides of the magazine 5, and are interposed between the inner ends of the springs 19 and 20. The barrel 2 carries a depending ring 22 (Figures 1 and 11), surrounding the magazine 5 and interposed between the inner ends of the springs 19 and 20.

The forearm 8 receives both the rear end of the barrel 2 and the magazine 5, the forearm being provided at its forward end with a bushing 23 (Figures 1 and 12) for the slidable mounting of the barrel 2. The forward end of the spring 20 is engaged with the forward portion of the forearm 8. A cap 9 (Figure 1) is threaded on the forward end of the magazine 5 and holds the forearm 8 in place, the rear end of the forearm abutting against the forward end of the frame 1 (Figure 5) and having projections 10 engaged with the frame. The forearm 8 extends around the barrel 2 and keeps the hand of the shooter from coming into contact with the hot barrel, the forearm preferably being made of wood, or some other material which will not conduct heat readily.

Figures 28 and 3 show that there is an opening 11 in one side of the barrel 2, at the rear end thereof, and this opening forms a shoulder 12 in the barrel, there being a notch 14 in the shoulder, at one side of the barrel. In the lower edge of the overhanging rear part of the barrel 2 there is a cam 100, and in the top of the overhanging rear part of the barrel there is a seat 15 for the locking mechanism that holds the barrel and the breech block together, as will be described hereinafter. At its rear end, the barrel 2 has an inwardly projecting lug 16, which is used in throwing out the shell. There is a notch 17 in the rear end of the barrel 2, and on one side, the barrel has a groove which ends in a cam surface 18, to be seen in Figures 18, 9 and 7.

Referring to Figure 4, latches 24 and 25 are shown, the latch 24 appearing in detail in Figure 16, and the latch 25 appearing in detail in Figure 17. The latches 24 and 25 are located at the rear end of the magazine 5, and are pivotally mounted, as shown at 26, intermediate their ends, on the frame 1 of the gun. The forward end of the latch 24 is carried inwardly by a spring 27, and the rear end of the latch 25 is carried inwardly by a spring 28.

To release a shell from the magazine 5 by hand, after the latch 24 has been moved to inoperative position by the cam 18, the forward end of the latch 25 can be tilted inwardly, and the rear end of the latch can be tilted outwardly, by a button 29 on the latch, the button extending outwardly through the side of the frame 1. The latch 24 has an upstanding projection 30 (Figure 16), provided with a notch 31 in its inner edge, the projection 30 carrying a cam surface 32, which is adapted to cooperate with the cam 18 of the barrel 2. A latch 33, to be seen in Figure 6, is fulcrumed at 34, intermediate its ends, on the frame of the gun. A spring 35 tends to elevate the forward end of the latch 33 so that the latch will engage the rear end of the left hand rib 3 (Figure 28) on the barrel 2 and hold the barrel against movement to the left in Figure 6, when the barrel has been moved to the right in that figure, the gun then being opened. The latch 33 swings in a plane at right angle to the plane in which the latches 24 and 25 operate, and the notch 31 (Figure 16) on the projection 30 of the latch 24 is for the accommodation of the latch 33. The means for swinging the latch 33 from the position of Figure 6 to the position of Figure 3, out of engagement with the barrel 2, is somewhat remote from parts now under discussion, and that means will be alluded to at a more convenient place.

A breech block 36 (Figure 25) is mounted to slide in the frame 1, the breech block having lateral ribs 37 which are received (Figure 13) in the longitudinal grooves 4 of the frame 1. The breech block 36 has a channel 103, and is provided at its rear end with an upstanding lug 38 adapted to be received in the notch 17 which is formed in the rear end of the barrel 2. The breech block 36 has an inside shoulder 108, and a depending rear lug 116. The breech block 36 operates beneath the overhanging rear portion of the barrel 2 in Figure 28, and is adapted to cooperate with the shoulder 12, to retain a shell in the barrel when the gun is in firing condition. A spring-actuated shell catch 39 is mounted on the forward end of the breech block 36 and is adapted to be received in the notch 14 of the barrel 2. The breech block 36 has a recess 40 in its top, and is provided with arcuate grooves 41 which open into the recess 40. A slide 42 (Figure 26) is received in a guideway 43 in the breech block 36 and is provided at its rear end with a downwardly extended shoulder 107 having a cam surface 115 on its rear end. The slide 42 is provided on its inner side with a projection 101. On

its opposite side, the slide 42 has an outstanding fingerpiece 44 connected to the bar by a reduced neck 102. The fingerpiece 44 is adapted to move in the opening 45 (Figure 1) in the frame 1, through which the shell is ejected, and when the bar 42 is pulled backwardly by hand, the neck 102 of the fingerpiece is received in a slot 46 in the frame 1.

Figure 27 shows a locking member 47 that is received in the recess 40 of the breech block 36. The locking member 47 has an upstanding nose 49, adapted to be received in the seat 15 (Figure 28) of the barrel 2, to connect the breech block 36 to the barrel. The locking member 47 has a slot 104 in its lower end. On its lower edge, the locking member 47 has a shoulder 50. On its sides, the locking member 47 is provided with arcuate ribs 48 received in the grooves 41 of the breech block 36, to afford a pivotal connection between the locking member and the breech block.

In Figure 21 there is shown a thrust member 51, which is pivoted at 52 to the locking member 47. The thrust member 51 has a lateral stud 106 (Figures 4, 7 and 8). The thrust member 51 has an offset 53 at one side, which cooperates with the projection 101 on the slide 42, to hold the bar on the breech block 36 for limited sliding movement thereon. In its lower edge, the thrust member 51 is equipped with a shoulder 54. The reduced rear end of the thrust member 51 slides in a guide 55 on the frame of the gun (Figure 2) and engages a head 56 on the forward end of a compression spring 57 mounted in the gun frame, the head 56 being held for sliding movement in the frame.

A latch 58 (Figure 24) is pivotally mounted at 59 (Figure 2) on the breech block 36 and is provided at its rear end with a fork 60. A compression spring 61 is interposed between the forward end of the latch 58 and the breech block 36. The latch 58 has an upstanding arm 62, extended upwardly and laterally through an opening 63 in the breech block 36, into the path of the cam 100 (Figure 28) on the barrel 2.

A carrier 64 (Figure 23) extends lengthwise of the gun and has its forward end disposed adjacent to the follower 6 (Figure 2) in the magazine 5.

Pivot elements 65 (Figure 4) are mounted in the frame 1 and support the carrier 64 for swinging movement. A spring 66 (Figure 7) is mounted on the frame 1 and engages the rear end of the carrier 64, to swing it downwardly against the trigger guard 67, which may be considered as part of the frame, so far as stopping the downward swinging movement of the carrier is concerned. On one side of the carrier 64 there is projection 68 which, as shown in Figure 14, moves in a slot 69 in the frame 1, the slot being of arcuate form, and enabling the projection 68 move upwardly and cooperate with the latch 33.

A latch 70 (Figures 23, 6 and 3) is pivoted at 71 to the rear end of the carrier 64, and abuts at 72 (Figure 3) against the carrier 64 under the action of a plunger 73 slidable in the rear end of the carrier 64 and impelled rearwardly by a compression spring 74. A firing pin 75 (Figures 2 and 22) has sliding movement in the breech block 36, the reduced forward end of the firing pin sliding in the forward portion of the breech block, the firing pin being supplied at its rear end with a rectangular enlargement 78 that slides in the channel 103 (Figure 25) of the breech block. The enlargement 78 has a notch 77 receiving a cross pin 79 (Figure 2) mounted in the rear part of the breech block 36, and connecting the firing pin to the breech block, for limited movement in the breech block. The firing pin 75 moves through the slot 104 of the locking member 47, as Figure 13 will show, and the firing pin has a depending arm 76 which extends downwardly below the locking member 47, as shown in Figure 2, the fork 60 (Figure 24) of the latch 58 being for the reception of the arm 76.

A guide block 80 (Figure 20) is secured in frame of the gun, and has an upper channel 81 and a lower channel 82. In the rear end of the guide block 80 there is a hole 83 which may receive a stem 84 on a hammer 85 (Figure 19) which is adapted to advance and strike the depending arm 76 of the firing pin 75. The hammer 85 has an upper arm 86, slidable in the channel 81 of the guide block 80, and a lower arm 87, which is slidable in the channel 82 of the guide block.

A compression spring 88 (Figure 2) surrounds the stem 84 and abuts at one end against the rear end of the guide block 80, the forward end of the spring abutting against an enlargement 89 on the stem 84, the said enlargement being slidable in a bore 90 in the guide block. The function of the spring 88 is to advance the hammer 85.

Either of a pair of spring-pressed detents 91, pivoted to the lower arm 87 of the hammer 85 (Figure 2) are adapted to engage with the trigger 92, which is pivotally mounted on the trigger guard 67. The trigger 92 has a lateral projection 105 (Figure 8). A safety lock 93 is slidable on the trigger guard 67, and may be engaged with the trigger 90, at the will of an operator, in a manner which will be understood readily from Figure 2.

A standard 94 (Figures 7, 8 and 10) is erected on the frame 1, to one side of the trigger 92, and in the upper end of the standard, a fixed pivot element 95 is mounted. On the pivot element 95, a bell crank lever 96 is mounted to swing a spring strip 97 being secured to the pivot element 95, and having its lower end connected to the depending arm of the bell crank lever 96. The lower end

of the depending arm of the bell crank lever lies above the lateral projection 105 on the trigger 92. The depending arm of the bell crank lever 96 carries an upwardly extended spring finger 98 located in the path of the outwardly projecting stud 106 on the thrust member 51.

A latch 111 (Figure 7) extends lengthwise of the gun, and is fulcrumed at 112, intermediate its ends, on the gun frame. A bowed spring 114 is connected at its forward end to the latch 111 and at its rear end to the frame. The tendency of the spring 114 is to throw the forward end of the latch 111 down, clear of one of the ribs 3 on the barrel 2, but when the piece is in firing condition, one of the ribs 37 on the breech block 36 engages above the bowed spring 114, and throws the front end of the latch 111 up in front of the said rib 3 on the barrel. The spring 20 of Figure 1 is not strong enough to resist the forward movement of the barrel 2, if the gun is picked up by the barrel, but the latch 111, in the position of Figure 7, does prevent the forward sliding movement of the barrel under the conditions stated. The latch 111 has to be depressed from the position of Figure 7, so that the barrel 2 can move forward, during the loading operation, but it will be most convenient to describe the loading operation first, as though the latch 111 did not exist, and after the loading operation has been described, it can be better pointed out how the latch 111 is got out of the way, to let the barrel 2 move forward.

When the trigger 92 is pulled, it is disengaged from the hammer 85, the hammer moving forwardly under the action of the spring 88, the hammer striking the arm 76 of the firing pin 75, and advancing the firing pin to explode the shell. The recoil carries the barrel 2 and breech block 36 back together, the thrust member 51 compressing the spring 57 and the spring 19. As the breech block 36 moves backwardly, the cam surface 115 on the slide 42 moves over the latch 70 on the carrier 64, the latch yields backwardly, the spring 74 of Figure 3 being compressed. The upper end of the latch 70 then snaps in front of the shoulder 107 on the slide 42, as in Figure 6, and holds back the slide, relieving the thrust of the spring 57 on the member 51, because the back end of the slide is against the offset 53 on the member 51. The barrel 2 and the breech block 36 move forward, because they are held together by the nose 49 on the locking member 47, and the breech block 36 moves forwardly a little way, independently of the slide 42. This independent movement swings the locking member 47 down on its pivot 52, and withdraws the nose 49 of the locking member from the seat 15 in the barrel, since the locking member 47 is connected to the thrust member 51, which, at this time, is held back by the trigger 70 on the carrier 64. The shoulder 50 on the locking member 49 engages the back end or fork 60 of the latch 58, the latch being held in engagement with the shoulder 50 by the spring 61, the function of the latch 58 being to hold down the locking member 47, with the nose 49 of the locking member out of engagement with the seat 15 of the barrel 2. The breech block 36 now is held retracted, with the nose 49 of the locking member out of engagement with the barrel 2, because the lower end of the locking member 49 has engaged the shoulder 108 on the breech block 36 (Figure 25). The barrel 2 moves forward under the action of the spring 19, and the ring 22 on the barrel compresses the spring 20, the latch 33 snapping behind one rib 3 of the barrel 2, as in Figure 6, to hold the barrel advanced. As the barrel 2 moves forwardly, the cam 18 on the barrel engages the part 32 on the latch 24 and withdraws the latch from the shell in the magazine 5. The shell moves back on the carrier 64 under the action of the spring 7, and tilts the latch 25 inwardly at its forward end, to hold back the next shell in advance, the rear end of the latch 25 being withdrawn from above the carrier 64, so that the carrier can swing upwardly, with the shell upon it. The thrust member 51 is pushed forward by the spring 57, and, through the shoulder 53, the slide 42, and the latch 70, tilts the carrier 64 upwardly about the pivot point 65, the shell being raised into alignment with the barrel 2. As the front end of the carrier 64 swings upwardly, the projection 68 on the carrier moves in the slot 69 of the frame and tilts the latch 33 clear of the rib 3 on the barrel 2, so that the barrel can move backwardly, under the action of the spring 20, which does not have to work against the stronger spring 19, because the spring 19 is held back by the lugs 21 on the magazine 5. The latch 70 on the back end of the carrier 64 is moved clear of the shoulder 107 on the slide 42, as the back end of the carrier 64 moves downwardly, and the breech block 36 now can move forward, under the action of the spring 57, to meet shoulder 12 on the barrel, as the barrel moves back, the cam 100 on the barrel 2 engaging the arm 62 on the latch 58 to tilt the latch out of engagement with the shoulder 50 on the locking member 47, the breech block 36 moving back a little with respect to the slide 42, this relative movement raising the nose 49 of the locking member 47 into the seat 15 of the barrel 2, so that the barrel and the breech block are locked together in the position of Figure 2. The forward movement of the thrust member 51 is limited by engagement between the shoulder 54 on the thrust member and the back end of the guide block 80, as Figure 3 will show. When the firing pin 75 and the breech block

36 move back with the barrel 2, the arm 76 on the firing pin carries the hammer 85 back on the guide block 80, and the gun is cocked, as in Figure 2.

Passing to Figure 7, as the barrel 2 and the breech block 36 move backwardly, due to recoil, from the position there shown, the rib 37 on the breech block 36 moves clear of the bowed spring 114 of the latch 111, and the rib 3 on the barrel 2 engages the bowed spring and throws up the front end of the latch. This, however, does not prevent the barrel 2 from moving forward, while the breech block 36 is held back, as hereinbefore explained, because, before the barrel 2 has moved forward far enough so that the front end of the rib 3 on the barrel has engaged the front end of the latch 111, the rib 3 on the barrel will have ridden off the bowed spring 114, and the said spring will have reacted to swing the forward end of the latch 111 down out of the path of the rib 3 on the advancing barrel, the rib 37 on the breech block then being back and clear of the spring 114.

Comparing Figure 7 with Figure 8, it will be seen that as the thrust member 51 moves forwardly, the stud 106 on the thrust member engages the spring finger 98 on the bell crank lever 96, and tilts the lower end of the bell crank lever forwardly, off the projection 105 on the trigger 92, so that the trigger can be pulled.

It has been stated hereinbefore that there is a slight forward movement of the breech block 36, independently of the slide 42, to withdraw the nose 49 of the locking member 47 from the seat 15 in the barrel 2, to permit barrel to move forwardly, independently of the breech block, and while the breech block is held back. There is a corresponding backward movement of the breech block, with respect to the slide 42, which moves the locking member 47 into locking engagement with the barrel, as the parts assume firing position. At the time this backward movement of the breech block 36 with respect to the slide 42 begins, the lug 116 on the back end of the breech block is above the forward end of the upper arm of the bell crank lever 96, and the bell crank lever is held in the position of Figure 8, although the lug 116 is not shown in that Figure in the relation stated, with respect to the forward end of the upper arm of the bell crank lever 96. While the bell crank lever 96 is held in the position of Figure 8 by the lug 116 on the breech block 36, the depending arm of the bell crank lever is above the lateral projection 105 on the trigger 92; but when the breech block 36 moves backwardly, independently of the slide 42, to carry the locking member 47 up into the locked position of Figure 2, the lug 116 rides back clear of the bell crank lever 96, and the bell crank lever is made responsive with the action of the stud 106 on the thrust member 51, so far as the moving of the bell crank lever 96 clear of the projection 105 on the trigger 92 is concerned. Stated in few words, the function of the lug 116 is to keep the trigger 92 from being pulled until backward movement of the breech block 36 with respect to slide 42 has moved the locking member 47 to the position of Figure 2, into engagement with the barrel.

By taking hold of the finger piece 44 on the slide 42, the operator can bring about, by hand, the necessary relative movement between the slide and the breech block, which will withdraw the nose 49 of the locking member 47 from the seat 15 of the barrel 2, and permit a manual opening of the gun.

What is claimed is:—

1. In a gun, a frame, a barrel and a breech block having backward right line sliding movement in the frame together, under recoil; a first spring-actuated means for advancing the breech block; a second spring means rendered active by recoil to advance the barrel; mechanism for holding back the breech block, against the action of the first spring-actuated means, while the barrel is moving forward under the action of the second spring means; a third spring means rendered active by the advancing barrel to move the barrel backwardly; and means for releasing said mechanism to permit the breech block to move forward and meet the backwardly moving barrel.

2. A gun constructed as set forth in claim 1, in combination with a latch on the frame and engaging the barrel to hold the barrel temporarily advanced, against the action of the third spring means, a part of the mechanism for holding back the breech block cooperating with the latch to disengage the latch from the barrel.

3. A gun constructed as set forth in claim 1, and further characterized by the fact that the first spring-actuated means embodies a lock pivoted to the breech block and engaging the barrel; a thrust member pivoted to the lock and slidable in the frame; a spring means for advancing the thrust member; a slide having limited movement on the breech block, the slide engaging the thrust member to hold back the thrust member, the releasing means cooperating with the slide; the limited movement between the breech block and the slide permitting the breech block to move forward with respect to the slide for a limited time, with the barrel, and said limited forward movement of the breech block withdrawing the lock from engagement with the barrel.

4. A gun constructed as set forth in claim 1, and further characterized by the fact that the means for releasing said mechanism embodies a shell carrier pivotally mounted on the frame, the first spring-actuated means re-

acting upon the carrier first to raise the carrier and then to cause the carrier to clear the first spring-actuated means, spring means for depressing the carrier, a latch on the frame and holding the carrier against upward movement, and a shell magazine on the frame, the latch lying in the path of a shell moving out of the magazine and upon the carrier.

5. A gun constructed as set forth in claim 1, and further characterized by the fact that the first spring-actuated means embodies a lock pivoted to the breech block and engaging the barrel; a thrust member pivoted to the lock and slidable in the frame; spring means for advancing the thrust member; a slide having limited movement on the breech block, the slide engaging the thrust member to hold back the thrust member, the releasing means cooperating with the slide, the limited movement between the breech block and the slide permitting the breech block to move forward with respect to the slide for a limited time, with the barrel, and said limited forward movement of the breech block withdrawing the lock from engagement with the barrel, a latch carried by the breech block, and engaging the lock to hold the lock out of engagement with the barrel and means on the barrel for releasing the latch from the lock as the barrel moves backwardly.

6. A gun constructed as set forth in claim 1, in combination with a firing device movable on the breech block, a hammer movable on the frame, means for moving the hammer to actuate the firing device, a trigger on the frame and controlling the hammer, and a detent movably mounted on the frame and engaging the trigger to keep the trigger from being pulled, the first spring-actuated means engaging the detent and disengaging it from the trigger as the first spring-actuated means is advanced.

7. A gun constructed as set forth in claim 1, and further characterized by the fact that the first spring-actuated means embodies a lock pivoted to the breech block and engaging the barrel; a thrust member pivoted to the lock and slidable in the frame; spring means for advancing the thrust member; a slide having limited movement on the breech block, the slide engaging the thrust member to hold back the thrust member, the releasing means cooperating with the slide, the limited movement between the breech block and the slide permitting the breech block to move forward with respect to the slide for a limited time, with the barrel, and said limited forward movement of the breech block withdrawing the lock from engagement with the barrel, a trigger for the gun, a detent movable upon the frame and engaging the trigger to prevent the trigger from being pulled, and means on the breech block for engaging the detent and disengaging it from the trigger when said limited movement of the breech block is in a backward direction during the closing of the gun.

8. A gun constructed as set forth in claim 1, in combination with a latch on the frame and engaging the barrel when the gun is in firing condition, to prevent the barrel from compressing the third spring means and sliding forwardly, when the gun is picked up by the barrel, and means for moving the latch out of the path of the barrel as the barrel moves forwardly under the action of the second spring means.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

JOHN J. HENRY.