May 26, 1931. J. M. BROWNING 1,806,736

FIREARM

Filed Feb. 24, 1928 2 Sheets-Sheet 1

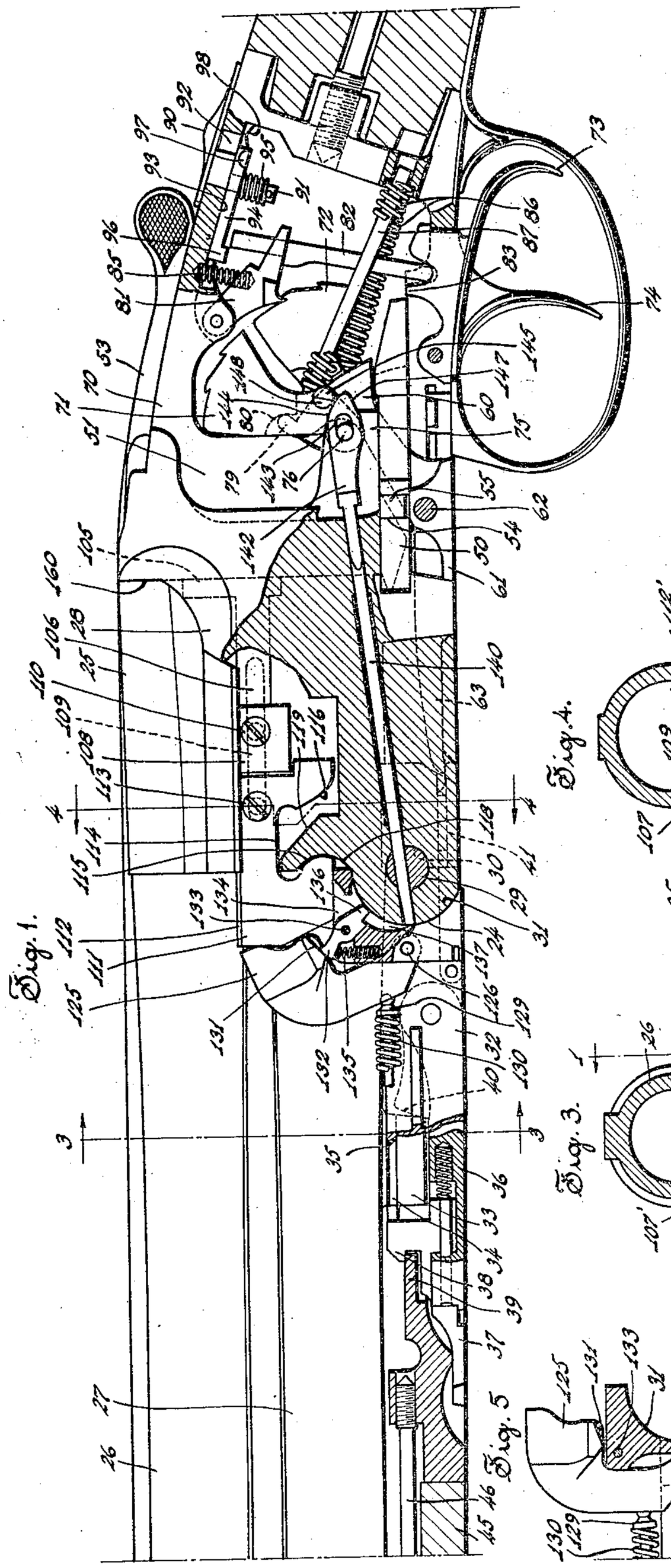

Fig. 1.

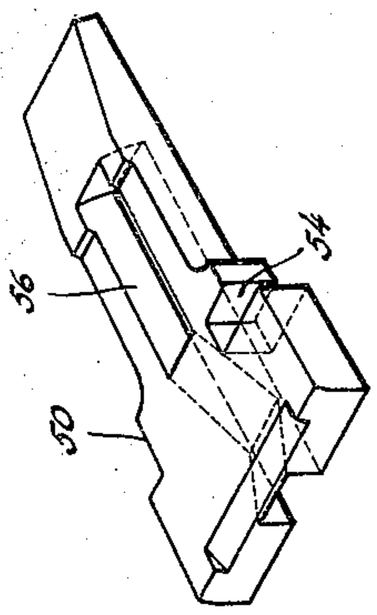

Fig. 6

Fig. 4.

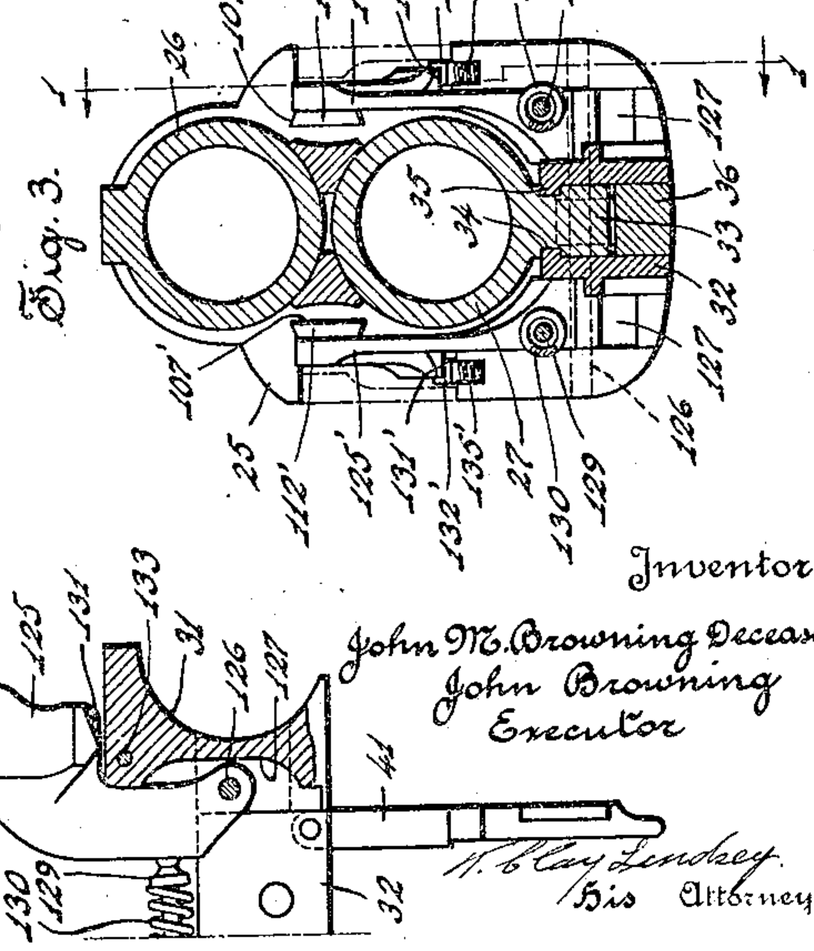

Fig. 3.

Fig. 5

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FIREARM

Filed Feb. 24, 1928 2 Sheets-Sheet 2

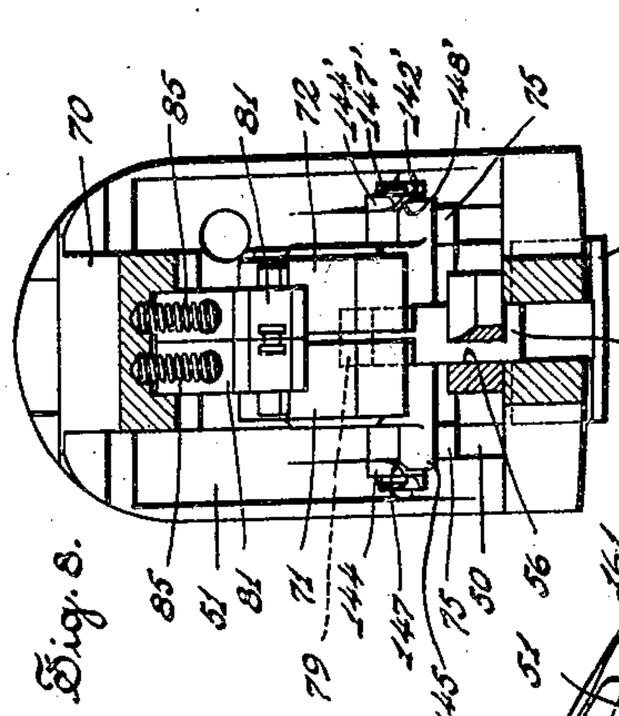

Fig. 8.

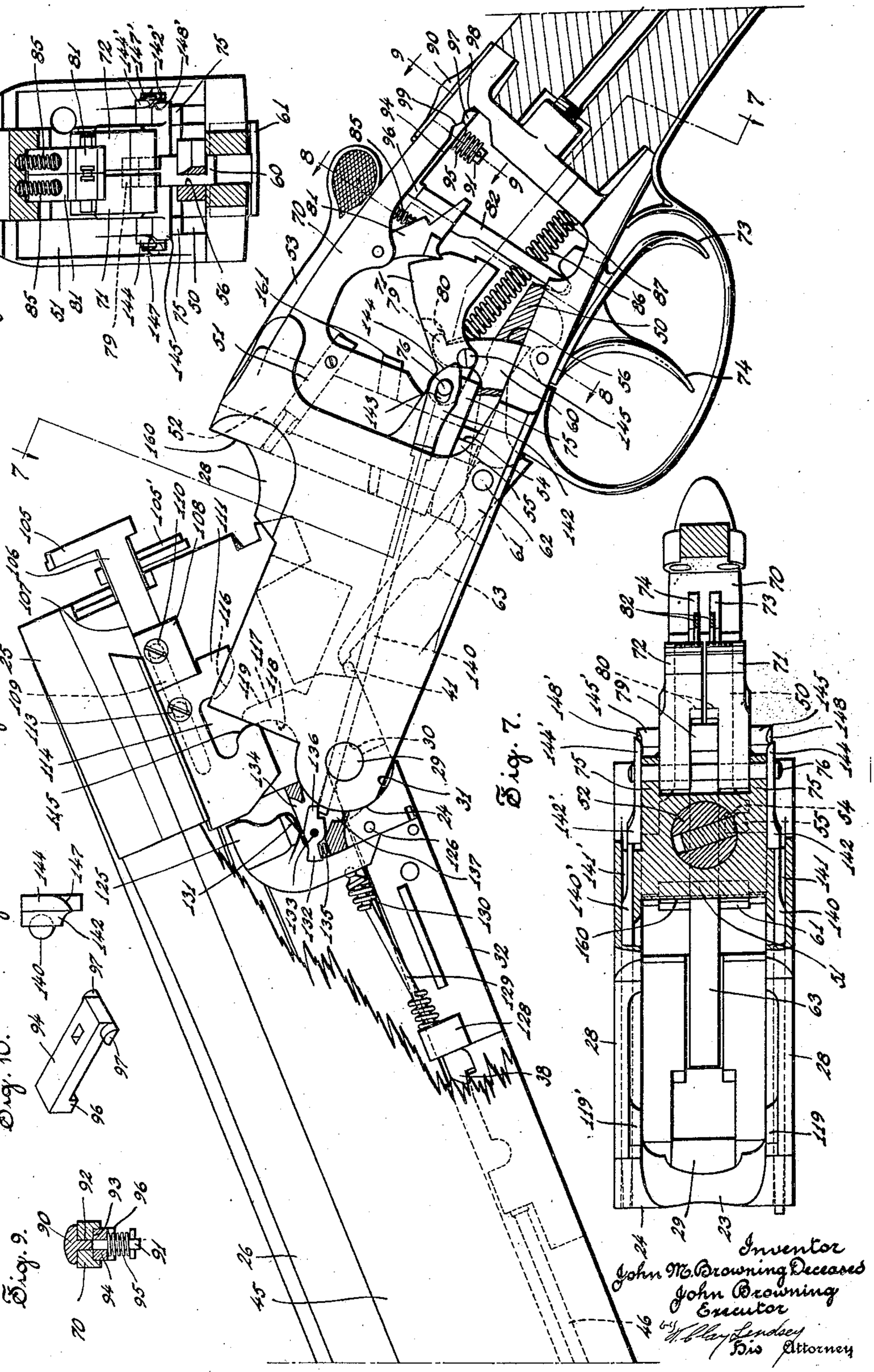

Fig. 2.

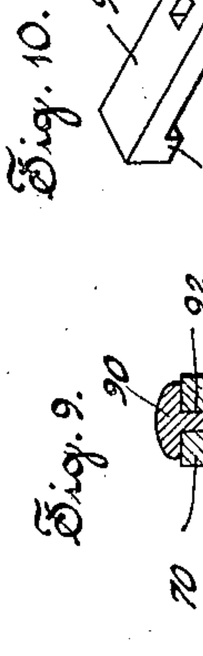

Fig. 11.

Fig. 10.

Fig. 9.

Fig. 7.

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UNITED STATES PATENT OFFICE

JOHN M. BROWNING, DECEASED, LATE OF OGDEN, UTAH, BY JOHN BROWNING, ADMINISTRATOR, OF OGDEN, UTAH, ASSIGNOR TO J. M. & M. S. BROWNING COMPANY, OF OGDEN, UTAH, A CORPORATION OF UTAH

FIREARM

Application filed February 24, 1928. Serial No. 256,754.

This invention relates to firearms of the shotgun type, and certain features of the invention find peculiar adaptation in firearms of the over and under type, such as disclosed in the John M. Browning Patents Nos 1,578,638–9.

The aim of the invention is to provide a firearm of the character described with various features of novelty and advantage, thereby providing a better firearm and reducing its cost of manufacture.

An important object of the invention is to provide, in a gun of the over and under type, an improved, simplified and effective arrangement by means of which the extraction of a discharged shell from the barrel in which it has been fired, and the retraction (but not the ejection) of an unfired shell are effected when the gun is broken.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the appended claims.

In the accompanying drawings, wherein is shown, for illustrative purposes, one of the many embodiments which the present invention may take:

Figure 1 is a view looking at the left hand side of the firearm, the stock being broken away to show the firing mechanism within the receiver, the left hand side wall of the receiver being taken in longitudinal vertical section substantially on line 1—1 of Fig. 3, parts of the take-down bracket being broken away;

Fig. 2 is a view similar to Fig. 1, but showing the gun in broken condition;

Fig. 3 is a transverse sectional view taken substantially on line 3—3 of Fig. 1;

Fig. 4 is a similar view taken on line 4—4 of Fig. 1;

Fig. 5 is a detailed view showing the rearward end of the take-down bracket and one of the actuators carried thereby;

Fig. 6 is a perspective view of the locking bolt;

Fig. 7 is a longitudinal sectional view through the receiver, this view being taken substantially on line 7—7 of Fig. 2;

Fig. 8 is a vertical sectional view taken substantially on line 8—8 of Fig. 2, the top post lever and the triggers being omitted;

Fig. 9 is a view showing, in section, the safety device, this view being taken substantially on line 9—9 of Fig. 2;

Fig. 10 is a perspective view of the latching block of the safety device; and

Fig. 11 is an enlarged detail view of the rear end of one of the rods through which a hammer controls the ejecting mechanism.

Referring to the drawings in detail, the "barrel section" and the receiver are generally similar in construction to the corresponding parts illustrated in the said Browning patents. The barrel section (so termed for convenience) has a breech piece 25, an over barrel 26, and an under barrel 27. The receiver has a pair of forwardly extending parallel side walls 28 at the forward lower corners of which is a hinge element comprising a hinge pin 29 and a cross portion 23 having a curved bearing surface 24. The bearing element is adapted to be received by a two-part bearing on the barrel section. One of these parts is provided by the forwardly facing recess or groove 30 at the forward lower corner of the breech piece and adapted to receive the pin 29. The other part of the bearing is provided by a semi-circular recess 31 on the rear end of the take-down bracket 32 and adapted to receive the correspondingly curved surface 24 of the receiver. This take-down bracket is generally similar in construction, arrangement and operation to that disclosed in the said Browning patents. It comprises a relatively narrow rectangular piece or block slidably mounted on the barrel section so as to permit of separation of the bearing parts for the hinge element. To this end, there is provided on the under barrel, just forwardly of the breech piece, a depending lug 33 having a longitudinal groove 34 at each side. Slidably engaging in these grooves are ribs 35 on the bracket. Pivoted to the bracket is

a take-down lever 36, the forward end of which has a sliding catch 37 provided with a hook 38 adapted to cooperate with a ledge 39 on the bracket. The lever has a locking lug 40 which is adapted to take in behind the lug 33 when the lever is in the locking position shown in Fig. 1. Pivoted to the rear end of, and extending rearwardly from the bracket, is a cocking lever link 41 which is generally similar in construction and function to the corresponding link, designated by the numeral 8, in the Browning Patent No. 1,578,638. The numeral 45 designates the forearm which is connected to, so as to slide with, the take-down bracket by a screw or bolt 46.

The gun is locked in its closed position by a locking bolt 50 mounted for sliding movement in the receiver beneath the portion 51 which forms a vertical bearing in which the stem or post 52 of the top lever 53 is journalled. The locking bolt is provided with a transverse notch 54 which receives an eccentrically positioned pin 55 depending from the lower end of the top lever post 52. This arrangement is generally similar to that shown in the said Browning Patent No. 1,578,638. The locking bolt further has a longitudinally extending and centrally positioned slot 56 through which extends the rear end or arm 60 of a cocking lever 61. This cocking lever is pivoted on a pin 62 beneath the top lever post and has a forwardly extending arm 63 which is adapted to cooperate with the heretofore described link 41 in a manner similar to that disclosed in the said Browning patents.

Reference will now be had to the firing mechanism which is located in an opening of the frame-like portion 70 of the receiver. In the present instance, this firing mechanism is shown as having a left hand hammer 71 and a right hand hammer 72 which are respectively controlled by separate triggers 73 and 74. It is to be understood, however, that this disclosure is by way of illustration only and, if desired, a single trigger, such as shown in the said Browning patents, may be employed for controlling both of the hammers. The hammers are pivotally mounted between a pair of ears 75 on a pintle 76.

The opposed faces of the hammers are recessed so as to accommodate the rear upwardly extending end of the cocking lever which is rearwardly of the pintle 76, as clearly shown in Figs. 1 and 2. The rear end of the cocking lever has a toe 79 which is adapted to engage shoulders 80 on the hammers so that, when the gun is broken, each hammer, in the event that it has been fired, will be moved to cocked position, shown in Fig. 2. The rear end of the cocking lever, when the gun is broken, engages in the slot 56 in the locking bolt so as to hold the locking bolt in retracted position (see Fig. 2).

Associated with each hammer is a sear 81 respectively controlled by means of the triggers through connectors 82. It will be noted that each trigger has a lug 83 which is beneath the rear end of the locking bolt when the latter is retracted so that the triggers cannot be pulled when the gun is broken. The sears are urged into operative position by springs 85, and the hammers are actioned, when released, by springs 86 about the plungers 87.

Slidably mounted on the frame rearwardly of the top lever 53 is a safety device which has a particularly simple and effective arrangement. It has a thumb-piece 90 with a pin 91 extending through a slot 92 in the top portion of the frame. On the under side of this top portion is a groove 93 in which is slidably mounted a latch block 94 which is resiliently held in place by a spring 95 about the pin 91. The block has, at its forward end, a depending lug 96 which, when the safety device is in "safe" or "on" position (as shown in Fig. 2) lies above the upper ends of the connectors so that the triggers cannot be pulled. When the safety device is moved forwardly to the "off" position shown in Fig. 1, this lug is forwardly of the connectors so that the triggers may be pulled to fire the gun. The rear end of the block has aligned projections 97 (see Fig. 10) which are adapted to engage in a notch 98 when the safety is in "on" position and to engage in a forward notch 99 when the safety is in "off" position.

Reference will now be had to the mechanisms for ejecting fired shells and retracting, without ejecting, unfired shells from the bores of the breech piece when the gun is broken. Separate ejecting mechanism is provided for each barrel, but as these mechanisms are similar in construction and operation, a description of one will apply to the other. For convenience, the ejecting mechanism, associated with the over barrel, will here be described, and the corresponding parts of the ejecting mechanism for the under barrel will be designated by similar reference numerals primed. The extractor proper for the over barrel has a plate 105 of the usual form with a flat stem 106 which fits in a longitudinally extending dovetail groove 107 in the breech piece. Both the groove 107 and the stem or shank 106 are dovetailed or undercut so as to hold the extractor in position for sliding movement. The forward end of the stem 106 has an enlarged portion 108 which overlies and engages the side of the breech piece so as to prevent excessive wobbling or canting movement of the extractor, it being necessary to have sufficient play between the stem of the extractor and the groove 107 to prevent sticking. In order to prevent the extractor from being withdrawn lengthwise

from the groove, the bottom of the groove has an elongated recess 109 and extending through the enlarged portion 108 of the stem is a screw 110, the inner end of which engages in this recess. Immediately in front of the extractor and mounted for sliding movement in the same groove 107 is an auxiliary piece 111 through which the extractor is operated. In the present illustrative disclosure, this auxiliary piece has an undercut rib 112 slidably engaging in the groove 107 and the extent of movement of this piece is limited by a screw 113 which engages in the recess 109. The auxiliary piece has a notch or cutaway portion 114 in its lower edge providing a rearwardly facing cam surface 115 and a forwardly facing cam surface 116. On the inner side of the left hand wall 28 of the receiver and at the forward end thereof is a cam portion 117 adapted to extend into the notch 114 of the auxiliary piece when the gun is closed. This cam portion 117 has cam surfaces 118 and 119 adapted to respectively engage the cam surfaces 115 and 116 on the auxiliary piece. It will be understood that, when the gun is opened or broken, the rear cam surface 119 will engage the cam surface 116 on the auxiliary piece so as to move the auxiliary piece and the extractor rearwardly and, during the operation of closing the gun, the cam surface 118 will engage the cam surface 115 so that the auxiliary piece will be cammed forwardly to the position shown in Fig. 1.

Provided on the barrel section, and, more especially, upon the take-down bracket 32, are actuators 125 and 125′, one for each extractor. These actuators are pivoted to the rearward end of the bracket 32 and straddle the barrels, as illustrated in Fig. 3. It will only be necessary to describe the left hand actuator 125 for, as stated, the ejecting mechanisms for the two barrels are similar. The actuator 125 is pivoted, at its lower end, on a pin 126, the take-down lever being notched as at 127 so as to accommodate the actuator. Between the actuator 125 and a lug 128 on the bracket 32 is a plunger 129 and a spring 130 which normally tend to throw the actuator to the "operated" position shown in Figs. 2 and 5. The actuator is adapted to engage the forward end of the auxiliary piece. It has a shoulder 131 with which a sear 132 is adapted to cooperate to hold the actuator in the "operative" or "cocked" position shown in Fig. 1. This sear is pivoted on a pin 133 in a notch or slot 134 in the bracket 32 and is normally urged into operative position by a spring 135. The sear 132 has a rearwardly and downwardly projecting finger 136 which extends into a recess or groove 137 in the curved face 31 on the rear end of the take-down bracket. The bottom surface of this groove 137 constitutes a cam.

The sear for the actuator 125 is controlled by the left hand hammer 71 acting through a rod 140. This rod is made of spring material and is located for sliding movement in an opening or bore 141 in the left hand side wall 28 of the receiver. It, owing to its own flexibility, frictionally holds itself in any position of adjustment. The forward end of the rod is adapted to project beyond the curved face 24 at the forward lower corner of the receiver and into groove 137. The rear end of the rod has a head 142 provided with a slot 143 which receives the left hand projecting end of the pintle 76 on which the hammers are pivoted. The slot 143 is of such length as to properly limit the extent of movement of the rod. The rear end and upper edge of the head 142 has a cam surface 144 with which a pin or lug 145 extending laterally from the left hand hammer is adapted to engage so as to cam the rod 140 forwardly upon the cocking movement of the hammer. The head of the rod, at its rear end and at its lower edge, is bevelled or inclined upwardly and inwardly as at 147, and the lug 145 has a bevelled face 148 which is adapted to engage the bevelled face 147 of the rod when the hammer is released to fire the gun.

The operation of the ejecting mechanism for the over barrel will now be described, it being understood that the corresponding mechanism for the under barrel will operate in a like manner. When the firearm is in the closed position shown in Fig. 1, the actuator 125 is held in cocked position by the sear 132. The left hand hammer 71 is shown as having been released to fire the shell. When so released, the cam surface 148 on the projection 145 will cooperate with the upwardly and inwardly inclined surface 147 on the connecting rod 140 to flex the rear end of this rod laterally and without moving the rod longitudinally. When the hammer is in the released position shown in Fig. 1, the projection 145 is in operative relation to the cam surface 144 on the head 142 of the rod. When the gun is broken, the cocking lever will move the released hammer back to cocked position, and when the hammer is so moved, the projection 145 thereon, due to its engagement with the cam surface 144, will move the rod 140 forwardly, thereby projecting the forward end of the rod into the groove 137 and into operative relation with the tail end 136 of the sear 132. Also during the operation of breaking the gun, the cam surface 119 on the side wall of the receiver engages the cam surface 116 of the auxiliary piece, thereby moving this auxiliary piece and the extractor rearwardly and withdrawing the spent shell partly from the barrel in which it has been fired. The initial withdrawal of the shell is thus positively effected. As the breaking movement of the gun is completed, the forward end of the rod 140 engages the sear 132

so as to disengage it from the shoulder 131 of the actuator, thus releasing the actuator and permitting it, under the force of the spring 130, to fly rearwardly, engage, the auxiliary piece and, through the auxiliary piece, impart a sharp or quick movement to the extractor, thereby causing the shell which has already been partly retracted to be thrown clear of or entirely ejected from the barrel. Upon closing movement of the gun, the cam surface 118 engages the cam surface 115 of the auxiliary piece thereby moving this piece forwardly independently of the extractor and positively moving the actuator from the "operated" position shown in Fig. 2 to the "operative" or "cocked" position shown in Fig. 1. Also, the cam surface at the bottom of the groove 137 in the rear face of the take-down lever will positively cam the connecting rod 140 rearwardly from the position shown in Fig. 2 to that shown in Fig. 1. Furthermore, upon closing movement of the gun, the surface 160 of the breech piece (and through which the firing pins 161 extend) will engage the rear face of the plate 105 of the extractor and force the extractor to the forward position shown in Fig. 1.

In the event that one of the barrels has not been fired before the gun is broken, the ejecting mechanism associated with that barrel will not be effected; that is to say, the actuator associated with that barrel will be held in cocked position. For example, if the trigger associated with the left hand hammer has not been pulled, and the gun is broken, the projection 145 on that hammer will remain below the head 142 of the rod. Therefore upon breaking movement of the gun, the rod is not advanced to the position shown in Fig. 2, but on the other hand, will retain the retracted position shown in Fig. 1. Upon breaking of the gun, the cam surface 119 will engage the cam surface 116 and thereby move the extractor to extract the shell without, however, ejecting it. Upon closing movement of the gun, the auxiliary piece will be moved forward into operative relation to the cocked actuator by the cam surface 118, and the extractor will be moved forward by its engagement with the face 160 of the receiver.

It will be noted that the improved ejecting mechanisms herein disclosed are characterized by their extreme simplicity in construction and their effectiveness in operation. When the gun is taken down, the space between the side walls 28 of the receiver is clear and there are no projections extending from these side walls which are adapted to be caught and broken when handling or carrying around the receiver in taken down condition. The actuators or ejecting levers are carried by the barrel section and particularly by the take-down lever. Access may be readily had to these levers. They are very compactly arranged on opposite sides of the barrel section, and the assembly and construction are such that they do not require an increase in the width of the forearm in which they are housed when the gun is assembled. The force required to move the connecting rod into operative position by the cocking movement of the hammer or out of operative position upon closing movement of the gun is substantially negligible, a feature of importance as it is desirable to permit the gun to be closed and opened with as little effort as possible. The rod 140, when in operative position, positively engages and releases the sear 132 from the actuator. It will be observed that the rod 140 is moved positively in both directions so that, in the event it should tend to stick, due to dirt or corrosion, it will be caused to slide in the direction in which it is urged.

Each actuator or ejecting lever is positively cocked upon closing movement of the gun, and such cocking movement is effected through the auxiliary piece. By the use of this separate auxiliary piece 111, the actuator may be given a relatively large movement without the use of distance multiplying devices, and the cocking movement of the actuator is effected independently of, and without throwing any duty onto, the extractor or shell when the same are cammed forwardly by the anvil face 160 upon closing movement of the gun. Upon initial closing movement, the auxiliary piece and actuator are moved forwardly by the cam portion 117 with a relatively quick movement leaving the extractor 105 behind, and upon further closing movement the anvil face 160 will engage the head of the extractor (or the shell) camming the same forwardly, and during the entire closing movement of the gun there is always a space between the extractor and the auxiliary piece. The auxiliary piece engages the actuator adjacent the free end of the latter, and the interengaging cam surfaces 115 and 118 are spaced a considerable distance from the pivot pin 29 which means that relatively large leverages are employed in cocking the lever so that the gun may be more easily closed. The actuator has a swinging movement through a relatively large arc, thus permitting the spring 130, when the actuator is cocked, to be properly compressed, and insuring that the actuator, when released, will impart a movement to the extractor which will surely and completely eject a fired shell. The spring 130, when the actuator is cocked, exerts a force along a line which is slightly off the center or pivot 126 of the actuator so that (while the spring is compressed and ready to do its work) the spring does not urge the actuator against the sear 132 with such force that the sear cannot be easily tripped by the rod 140 when the gun is broken.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

What is claimed is:

1. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, means for cocking said hammer during the operation of opening the firearm, an actuator for said extractor on said barrel section, a connecting rod on said receiver between said hammer and actuator and frictionally held in all of its positions, and means on said hammer for positively moving said rod into operative relation to said actuator during the operation of cocking the hammer upon breaking the gun.

2. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor, a connecting rod between said hammer and extractor, and cooperating surfaces on said hammer and rod for moving the latter when the hammer is cocked, said hammer, when released from cocked position, having no operative effect on said rod.

3. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor on said barrel section and comprising a spring pressed lever, a connecting rod on said receiver between said hammer and actuator, and a projection on said hammer, one end of said rod being in the path of movement of said projection both on the cocking movement and the releasing movement of the hammer, said projection when said hammer is cocked causing said rod to move to operative position with respect to said actuator, and said projection when the trigger is released riding past said rod without longitudinally moving the same.

4. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor on said barrel section, a connecting rod on said receiver between said hammer and actuator, a projection on said hammer cooperating with the rear end of said rod, said rod having a cam surface against which said projection engages for camming the rod forwardly upon cocking movement of the hammer, said rod and projection having cooperating camming surfaces for camming the rear end of the rod out of the path of movement of said projection without longitudinally moving the rod upon releasing the hammer from cocked position.

5. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor on said barrel section, a connecting rod on said receiver between said hammer and actuator and having a slot adjacent its rear end, a pintle on which said hammer is pivoted and extending into said slot, and means on the hammer for moving said rod.

6. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing means on said receiver having a hammer, an actuator for said extractor on said barrel section, a connecting rod on said receiver between said hammer and actuator, and means on said barrel section for positively camming said rod out of operative position with respect to said actuator upon closing movement of the gun.

7. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, means for cocking said hammer during the opening movement of the gun, an actuator for said extractor on said barrel section, a connecting rod on said receiver between said hammer and actuator, means on said hammer for positively moving said actuator into operative relation to said actuator during the operation of cocking the hammer upon opening the gun, and means on the barrel section for camming said rod out of operative position upon closing movement of the gun.

8. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor on said barrel section, a sear for holding said actuator in cocked position, a connecting rod on said receiver between said hammer and actuator and

adapted when in operative position to engage said sear, and means on the hammer for positively moving said rod into operative position during the operation of cocking the hammer upon opening movement of the gun.

9. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuating lever on said barrel section for said extractor, a spring pressed pivoted sear on said barrel section for holding said actuating lever in cocked position, a connecting rod on said receiver between said hammer and actuating lever and adapted when in operative position to engage said sear to release it from the actuating lever upon opening movement of the gun, means on said hammer for positively moving said actuating lever into operative position during the operation of cocking the hammer upon the opening movement of the gun, and means on said barrel section for camming said rod out of operative position during the closing movement of the gun.

10. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver, a forearm slidably mounted on said barrel section, interengaging means between said forearm and barrel section for permitting sliding movement therebetween while the forearm is maintained on said barrel section, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator on said forearm, and an operative connection between said actuator and hammer.

11. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver having a hinge element, a multi-part bearing on said barrel section for said hinge element, one of said parts of said bearing being slidable while maintained on said barrel section into and out of operative relation to the remainder of the bearing, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator on said movable bearing part for actuating said extractor, and a rod between said actuator and hammer and controlled by the latter.

12. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver, a forearm supported for sliding movement on said barrel section, a takedown bracket to which said forearm is attached, contacting bearing surfaces on said receiver and bracket, the bearing surface on said bracket having a groove the bottom wall of which constitutes a cam, an extractor on said barrel section, firing mechanism on said receiver having a hammer provided with a projection, a spring pressed actuating lever pivoted on said bracket, a sear pivoted on said bracket and extending into said groove and adapted to hold said lever in cocked position, and a longitudinally movable rod on said receiver adapted to be moved into operative position with respect to said sear by said projection and adapted to be cammed out of operative position by the bottom wall of said groove.

13. In a firearm of the over and under type, a receiver, a barrel section having over and under barrels, an extractor on said barrel section, a piece on said barrel section separate from said extractor, means for actuating said extractor through said piece to eject a shell, and means acting through said piece for moving said actuating means to operative position.

14. In a firearm of the over and under type, a receiver, a barrel section having over and under barrels, an extractor slidably mounted on said barrel section, a separate slidable auxiliary piece following said extractor, means on said barrel section for actuating said extractor through said auxiliary piece to eject a shell, and means on said receiver and acting through said auxiliary piece for moving said actuating means to operative position.

15. In a firearm of the over and under type, a receiver, a barrel section having over and under barrels, an extractor on said barrel section, an auxiliary piece on said barrel section, an actuating lever adapted to engage said auxiliary piece and to actuate said extractor therethrough, and cooperating cam surfaces on said piece and receiver for moving said auxiliary piece in a direction to cock said lever.

16. In a firearm of the over and under type, a receiver, a barrel section having a breech piece and over and under barrels, a groove in the side of said breech piece, an extractor slidably mounted in said groove, an auxiliary piece slidably mounted in said groove, an actuating lever acting through said auxiliary piece to actuate said extractor and thereby eject a shell, and means upon closing movement of the gun for moving said auxiliary piece in a direction to cock said lever.

17. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, a separate auxiliary piece, an actuator on said barrel section for actuating said extractor through said auxiliary piece, means on said receiver for moving said auxiliary piece in a direction to cock said actuator, and means on said receiver for positively moving said extractor in a direction to extract a shell.

18. In a firearm of the over and under type, a receiver, a barrel section having over and under barrels, an extractor on said barrel section, an auxiliary piece, an actuating lever

acting through said auxiliary piece to actuate said extractor and thereby eject a shell, cooperating cam surfaces between said receiver and auxiliary piece for moving said auxiliary piece in a direction to cock said lever during the closing movement of the gun, and cooperating cam surfaces between said receiver and auxiliary piece for moving said auxiliary piece and the extractor therethrough in a direction to extract a shell.

19. In a firearm of the over and under type, a barrel section having a breech piece and over and under barrels, an undercut groove in the side of said breech piece, and an extractor part having a portion corresponding in shape to and slidably fitting in said groove, said extractor part also having a portion extending beyond the edge of said groove and slidably engaging the side face of said breech piece.

20. In a firearm of the over and under type, a barrel section having a breech piece and over and under barrels, an undercut groove in the side face of said breech piece, an elongated recess in the bottom of said groove, an extractor part having a portion corresponding in shape to and slidably fitting in said groove, and a screw extending through said part and into said recess.

21. In a firearm of the over and under type, a receiver, a pair of pivoted hammers having shoulders on their opposed faces, a locking bolt having a slot, and a cocking lever pivoted beneath said bolt and having an arm extending upwardly through said slot and between said hammers, said arm being adapted to engage said shoulders.

22. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor, a sear for holding said actuator in cocked position, and a connecting rod adapted, when in operative relation, to directly engage and trip said sear during the operation of breaking the gun, said hammer being arranged to positively move said rod into operative relation to said sear during the operation of cocking said hammer upon opening movement of the gun.

23. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor on said barrel section and comprising a pivoted lever, a pivoted sear for holding said actuator in cocking position, and a longitudinally movable connecting rod on said receiver between said hammer and sear, said hammer having means for positively moving said rod into operative relation to said sear during the operation of cocking said hammer upon breaking the gun, and the forward end of said rod, when in operative relation to said sear and upon opening movement of the gun, being adapted to directly engage said sear to trip the same and release said actuator.

24. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor on said barrel section and comprising a pivoted lever, a pivoted sear for holding said actuator in cocking position, and a longitudinally movable connecting rod on said receiver between said hammer and sear, said rod being frictionally held in all of its positions, and said hammer having means for positively moving said rod into operative relation to said sear during the operation of cocking said hammer upon breaking the gun, and the forward end of said rod, when in operative relation to said sear and upon opening movement of the gun, being adapted to directly engage said sear to trip the same and release said actuator.

25. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor, a sear for holding said actuator in cocked position, a connecting rod adapted, when in operative relation, to directly engage and trip said sear during the operation of breaking the gun, said hammer being arranged to positively move said rod into operative relation to said sear during the operation of cocking said hammer upon opening movement of the gun, and means for moving said rod out of operative relation to said sear upon closing movement of the gun.

26. In a firearm of the over and under type, a receiver, a barrel section pivoted thereto and having over and under barrels, an extractor on said barrel section, firing mechanism on said receiver having a hammer, an actuator for said extractor, a sear for holding said actuator in cocked position, a connecting rod adapted, when in operative relation, to directly engage and trip said sear during the operation of breaking the gun, and cooperating surfaces on said hammer and rod arranged to positively move said rod into operative relation to said sear during the operation of cocking said hammer upon opening movement of the gun, said hammer when released from cocked position, having no operative effect on said rod.

JOHN BROWNING,
Administrator of the Estate of John M. Browning, Deceased.