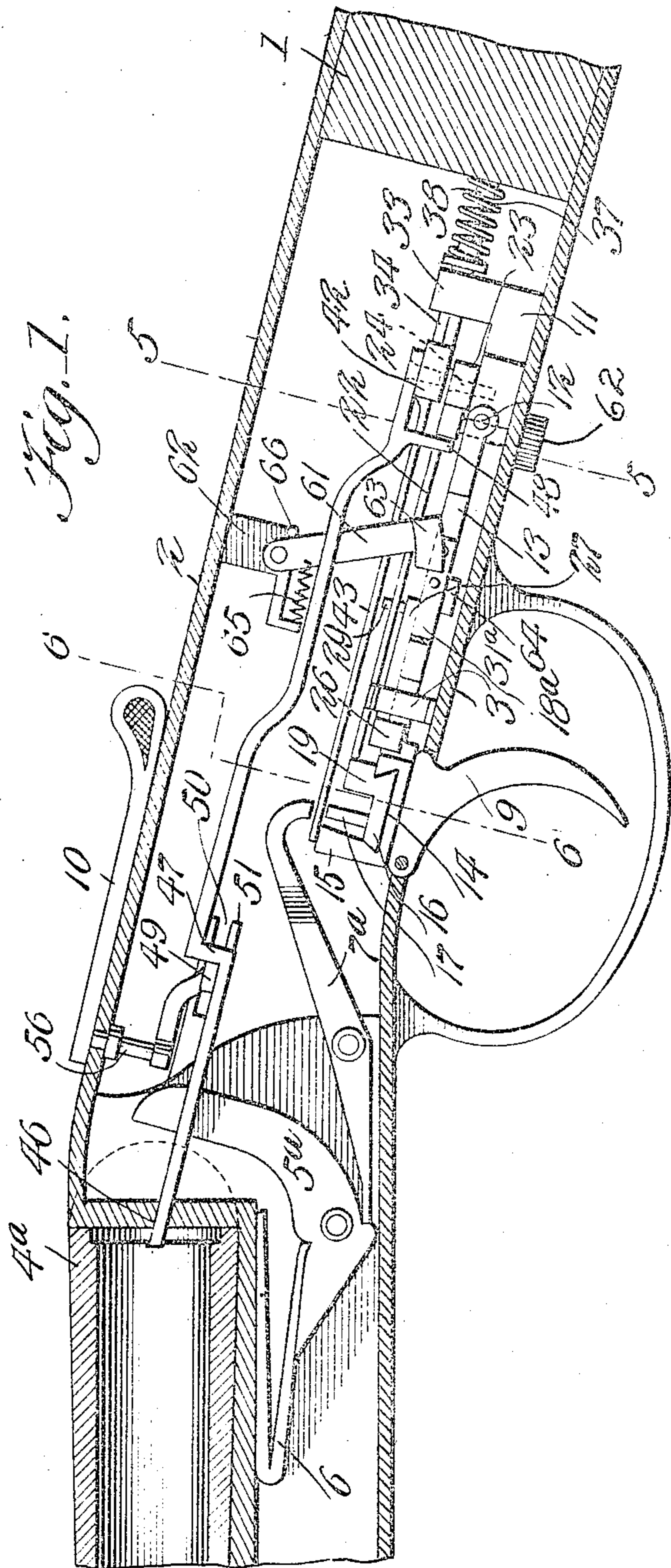


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SINGLE TRIGGER FOR DOUBLE BARRELED FIREARMS.  
APPLICATION FILED MAY 26, 1908.

922,354.

Patented May 18, 1909.

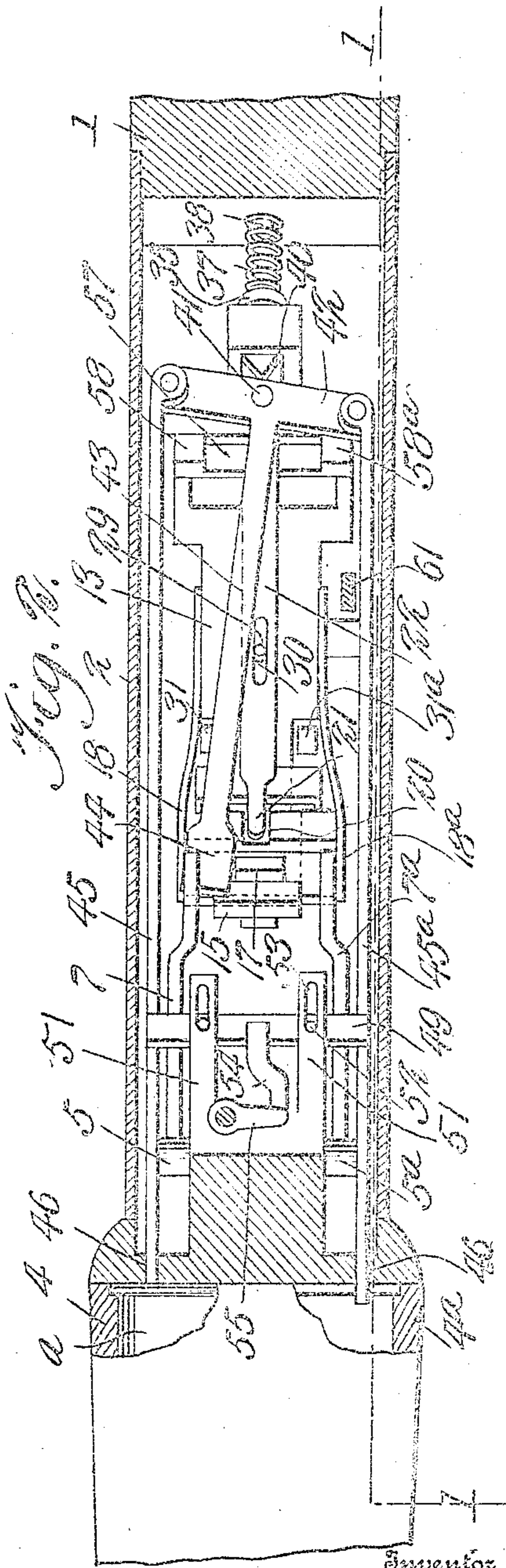
3 SHEETS—SHEET 1.



Witnesses

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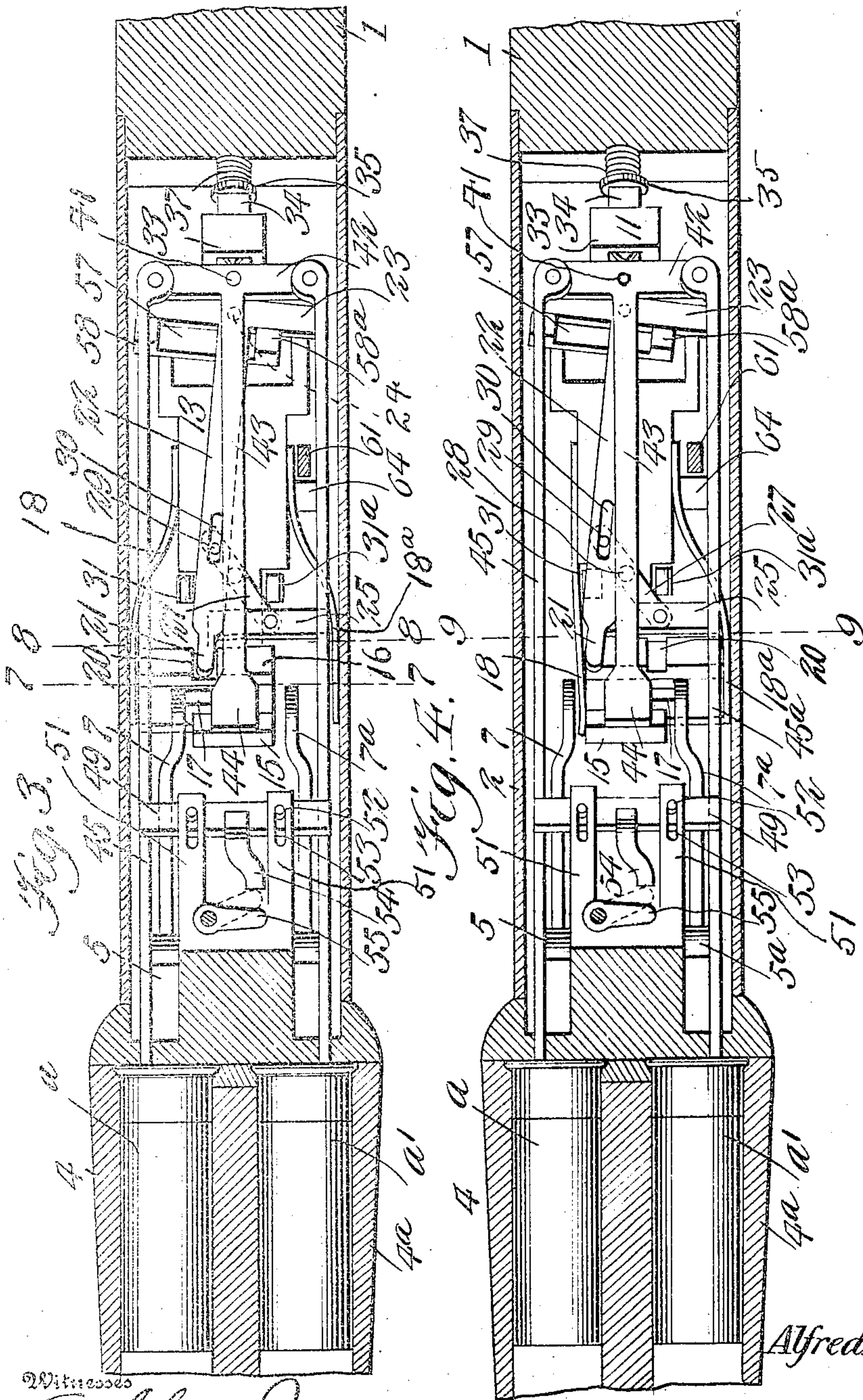


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3 SHEETS—SHEET 2.



Witnesses

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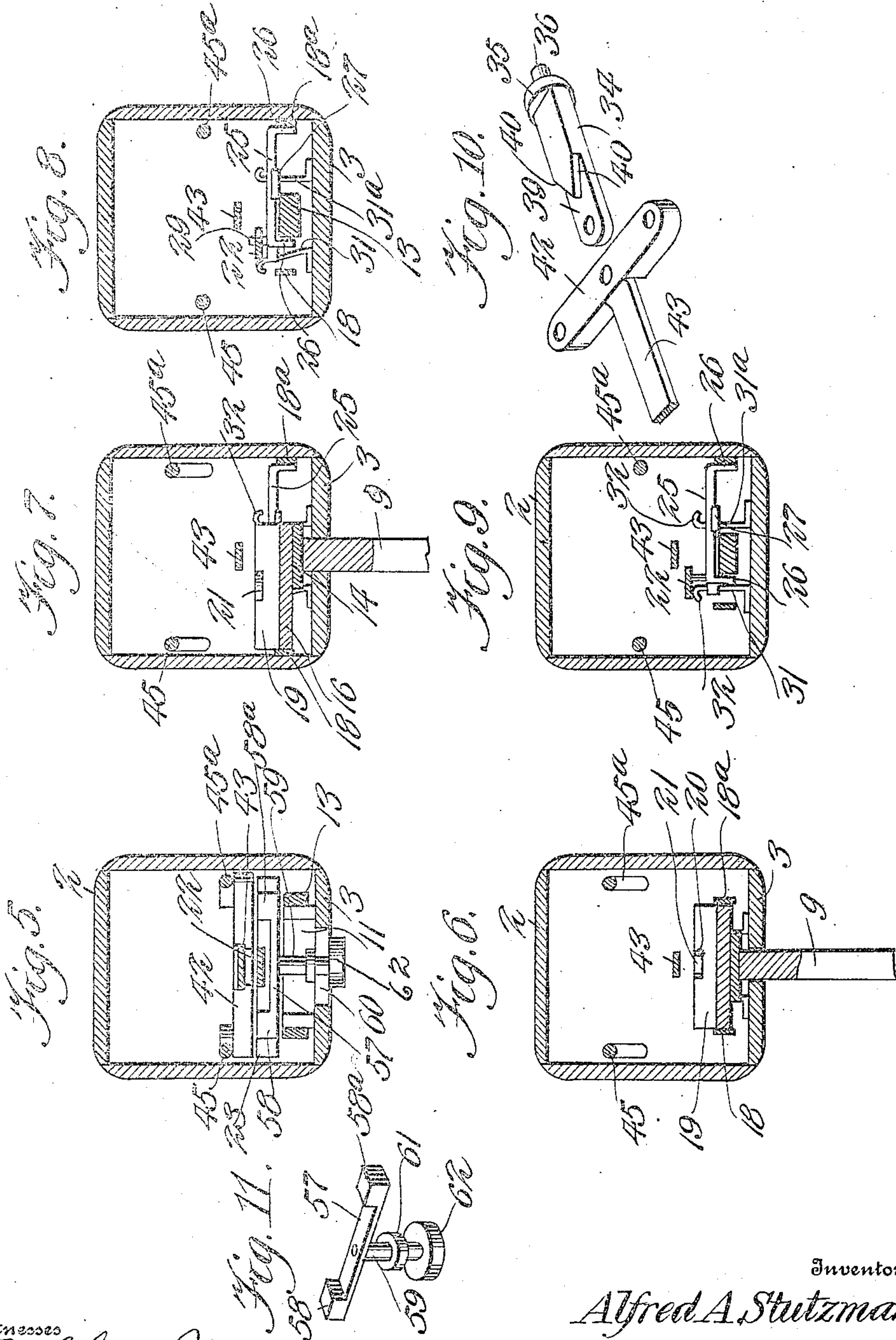
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3 SHEETS—SHEET 3.

922,354.



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# UNITED STATES PATENT OFFICE.

ALFRED A. STUTZMAN, OF HEGINS, PENNSYLVANIA.

SINGLE TRIGGER FOR DOUBLE-BARRELED FIREARMS.

No. 922,354.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed May 26, 1908. Serial No. 435,953.

To all whom it may concern:

Be it known that I, ALFRED A. STUTZMAN, a citizen of the United States, residing at Hegins, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Single Triggers for Double-Barreled Firearms, of which the following is a specification.

This invention relates to improvements in firing mechanisms for double-barreled firearms of that type in which a single trigger is employed for operating the mechanism for firing both barrels.

One object of the invention is to provide a firing mechanism which will be automatically set for firing a charge inserted in either barrel when only one barrel is loaded at a time.

Another object is to provide a firing mechanism which, when both barrels are loaded, may be adjusted by selective means to fire either barrel first and which, upon the firing of the charge in said barrel, will be automatically set to fire the charge in the other barrel.

Still another object of the invention is to provide a mechanism in which the selected order of firing the barrels may be maintained or reversed at will, and wherein accidental discharge of the second barrel from the recoil in firing the first barrel will be prevented.

A still further object is to provide a firing mechanism which is entirely independent of any recoil action and set for use when the gun is closed after loading one or both barrels, which is simple of construction and not liable to get out of order, and which is designed to simplify the general construction and increase the general efficiency of devices of this character.

With these and other objects in view, the invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a longitudinal section on the line 1—1 of Fig. 2, through the lock frame or casing of a double-barreled shot gun embodying my invention, showing the breech mechanism in side elevation. Fig. 2 is a horizontal transverse section of the same, showing the mechanism set for firing the right barrel when that barrel alone is charged. Fig. 3 is a similar view showing both barrels charged and the mechanism set for firing the right barrel first. Fig. 4 is a similar view showing the mechanism as automatically adjusted

after firing the right barrel to fire the left barrel. Figs. 5 and 6 are cross-sections on the lines 5—5 and 6—6 of Fig. 1. Figs. 7 and 8 are cross-sections on the lines 7—7 and 8—8 of Fig. 3. Fig. 9 is a cross-section on line 9—9 of Fig. 4. Fig. 10 is a detail perspective view of the rear end of the shiftable firing lever and its sliding supporting bar. Fig. 11 is a perspective view of the selective device. In Figs. 5 to 9, inclusive, certain features are omitted in order to more clearly disclose the particular parts detailed therein.

Referring to the drawings, 1 designates the stock of the gun; 2, the lock frame or casing thereof; 3, the trigger-plate of said casing; 4 and 4<sup>a</sup>, respectively, the right and left "drop-down" barrels pivoted to said casing in the usual way; 5 and 5<sup>a</sup> the firing hammers therefor, each adapted to be operated by a spring 6 and cocked by any ordinary type of cocking lever, not shown; 7 and 7<sup>a</sup>, respectively, the sears or locking levers cooperating with said hammers; 9, the trigger pivotally mounted to operate in a slot in the trigger-plate; and, 10, the usual snap lever by which the locking-detent for holding the barrels in firing position is actuated. This detent, the firing-pins actuated by the hammers and the shell-extracting devices are not shown, as they may be of any of the ordinary constructions.

Mounted on the trigger-plate in rear of the trigger is a fixed bearing block 11, to which are pivoted, as at 12, the arms of the bifurcated rear portion of a vertically swinging or tilting carrier bar or frame 13, the forward end of which rests upon the trigger and is provided with a dovetailed transverse guideway 14 and an upwardly projecting supporting shoulder 15. A dovetailed block 16 is mounted to slide in said guideway and carries a central upstanding pin or lug 17 adapted to be disposed by the sliding movement of said block 16 under the rear end of either of the sears 7 or 7<sup>a</sup> and normally arranged on a line between the same. The opposite ends of the block 16 are engaged by the forward free ends of leaf pressure springs 18 and 18<sup>a</sup>, secured at their rear ends to the opposite sides of the carrier bar, which springs normally oppose each other to maintain the block 16 in a neutral position. The rear portion of the block 16 is provided with an upstanding rib 19 having a central notch or recess 20 adapted to be engaged by a finger 21 formed by the reduced forward end of the



main arm of a T-shaped shifting lever 22, the rear cross bar 23 of which is centrally pivoted upon the bearing block 11, as indicated at 24. The lever is adapted to swing laterally in opposite directions on the pivot 24 and is of sufficient resiliency to permit its main arm to move vertically to throw the finger 21 into and out of engagement with said recess 20. Mounted for transverse sliding movement on the forward end of the carrier bar in rear of the sliding block 16 is a detent bar or plate 25 having downturned ends 26 to limit its reverse movements and to engage the pressure springs 18 and 18<sup>a</sup>. This detent is pivotally connected with the forward end of a lever 27, intermediately pivoted at 28 to the carrier bar 13 and carrying at its rear end an upwardly projecting pin 29 engaging a longitudinal slot 30 formed in the main arm of the lever 22, by which the detent is adapted to be shifted laterally in one direction or the other by reverse movements of said lever 22, while the pin forms a guide for the lever 22 in its vertical movements. Also disposed on opposite sides of the carrier bar in rear of said detent 25 are releasing springs 31 and 31<sup>a</sup> projecting upwardly from the trigger plate and having outwardly bent upper ends 32. These releasing springs project above the plane of the lever 22 when the latter is in normal position with its finger 21 engaging the notch 20, and are adapted in the reverse movements of said lever to be placed under tension thereby and to snap beneath the same to raise the lever so as to throw the finger 21 out of engagement with the recess. By the reverse swinging movements of the lever 22, it will be understood that the block 16 may be moved from a neutral position in either direction to bring the upstanding pin or lug 17 under the rear end of either sear 7 or 7<sup>a</sup>, so that upon the pressure of the trigger 9, and consequent elevation of the forward end of the pivoted carrier bar by the pressure of the trigger thereon, the sear engaged by the lug will be rocked to release the cooperating hammer and permit the latter to be projected by its operating spring.

The bearing block 11 is formed with an upright extension 33 perforated for the passage of a bar 34 which is slidably mounted therein, said bar being formed at its rear end with a head 35 to limit its forward movement and having a stud 36 projecting therefrom. This stud receives and engages the forward end of a coiled pressure spring 37 engaging at its opposite end a supporting stud 38 on the stock 1. The forward end of the bar 34 is provided with a reduced portion 39 at the rear of which are disposed inclined or converging shoulders 40, and pivotally connected, as at 41, with said reduced portion of the bar is the cross-bar 42 of a firing arm or lever 43. The bar 42 is disposed at

the rear end of said lever and is adapted by the arrangement of the shoulders 40 to swing to different reverse positions on its pivot 41, the forward end of the main arm of the lever, which extends above the main arm of the shifting lever 22, being enlarged to form a contact or firing portion 44 adapted through the reverse swinging movements of said lever to be disposed beneath the inner end of either of the sears, said portion 44 being supported by and adapted to slide upon the shoulder 15 at the forward end of the carrier block above the plane of the upstanding pin or lug 17. Pivotally connected at their rear ends to the opposite ends of the arm or bar 42 are setting or controlling rods 45 and 45<sup>a</sup> which are fitted to slide at their forward ends in openings 46 formed in the front wall of the lock frame or casing and communicating with the inner ends of the closed barrels. Each of these rods is formed near its forward end with a shoulder 47 and at its rear end with a depending contact lug 48. The rods, being carried by the cross-bar 42 of the lever 43, are normally pressed forward by the action of the spring 37, which projects the forward ends of said rods into the rear ends of the closed barrels, said spring permitting rearward movement of the rods under pressure from the shells or cartridges inserted into the barrels, so that the presence or absence of a shell in either or both barrels will affect the parts of the mechanism to adjust the same for operation by the trigger, as hereinafter described. In practice, the forward ends of the rods may be so formed that they will be engaged and pressed rearwardly by the ejectors of the empty barrels or the cartridges in the barrels when the latter are loaded, but, in order to prevent the resistance which would thus be caused to the closing of the barrel, I preferably provide means controlled by the snap lever 10 for retracting the rods simultaneously with the locking detent controlled by said lever and projecting the rods with said detent when the barrels are restored to firing position. In the form shown the means referred to comprises a sliding pressure bar or head 49 movable in slots 50 in a pair of spaced bifurcated guide arms 51 suitably supported at the front end of the lock casing, said bar also carrying guide pins 52 movable in slots 53 in the upper portions of said bifurcated arms. The ends of the bar are arranged to bear loosely against the shoulders 47 of the rods 45 and 45<sup>a</sup>, so that both rods may be simultaneously engaged and forced rearwardly to a sufficient extent to permit closing of the barrels without resistance, while allowing either rod to have a greater range of movement independently when engaging a cartridge inserted in the particular barrel cooperating therewith. Extending forwardly from the bar is a lug 54 engaged



by a finger 55 fixed to a stem 56 journaled in the top plate of the lock frame and connected with the lever 10, by which said lever when swung outwardly to unlock the barrels will press the rods inwardly against the resistance of the spring 37, the finger 55 in this operation moving rearwardly and engaging the lug 54 and imparting corresponding movement to the bars, as will be readily understood. When the lever 10 is swung back to locking position the finger 55 will be retracted, allowing the rods to be again projected forward by said spring 37.

A selective device is provided to control the adjustment of the lever 22, and comprises a bar or strip 57 disposed transversely below the levers 22 and 43 and resting upon the rear end of the carrier bar 13 and against the front face of the cross bar or head of the shifting lever 22. This bar 57 is provided at its opposite ends with contact lugs 58 and 58<sup>a</sup> arranged to bear against the front surface of the cross-bar 23 of the lever 22 and adapted to cooperate with the lugs 48 on the setting bars 45 and 45<sup>a</sup>. Depending from the center of the bar 57 is a stem 59 projecting downward through a transverse slot 60 formed in the trigger-plate 3, and having a head 61 bridging said slot and resting upon the upper surface of said plate and an operating button or knob 62 below the plate, the knob and head permitting the stem to both slide and rotate in said slot for the adjustments of said selective device.

The construction in general having been described the operation is as follows:—Assuming that a single barrel of the gun is loaded and fired at a time, it will be understood that when a cartridge *a* is inserted in the right barrel and the breech closed, both controlling rods 45 and 45<sup>a</sup> will be forced rearwardly against the resistance of the spring 37, the rod 45 being held back by the pressure of the cartridge, whereby the firing arm 43 will be swung to the right, as shown in Fig. 2, with its free end 44 disposed beneath the end of the sear 7, so that when the trigger 9 is pulled the upward movement of the carrier block 13 will cause said sear to be moved to release the hammer 5 for the discharge of the cartridge. If the cartridge should have been inserted in the left barrel, the pressure of such cartridge on the rod 45<sup>a</sup> would cause the parts referred to to be swung in the reverse direction to bring the end 44 of the arm 43 beneath end of the sear 7<sup>a</sup> for actuation of the hammer 5<sup>a</sup>, as will be readily understood. Hence, it will be seen that the mechanism will be automatically set to discharge a cartridge inserted in either barrel. Upon the breaking of the breech the spring 37 restores the parts to normal position.

When the cartridges *a* and *a'* are inserted in both barrels, the mechanism is automatically set so that it may be controlled by the

selective device to discharge either cartridge first and automatically adjust the mechanism for the discharge of the other cartridge. When the breech is closed the rods 45 and 45<sup>a</sup> will be moved rearwardly to an equal degree by the pressure of the cartridges thereon against the resistance of the spring 37. In this operation the firing arm 43 will maintain its neutral position, but the contact lugs 48 on the rods will be brought into position to cooperate with the selective device for the adjustment of the upstanding lug or pin 17. Assuming that the operator desires to discharge the right barrel first, the button 62 is grasped and pushed to the right, whereby the lug 58 on the bar 57 is brought into contact with the lug 48 of bar 45 and forced rearwardly thereby, thus causing the right hand end of the selective bar 57 to bear upon the right hand end of the cross bar 23 of lever 22 and to swing said lever correspondingly, the stem 59 of the selective device having both a sliding and pivotal movement in the slot 60 in this operation. The arm 22 will thus be swung to the right, as shown in Fig. 3, carrying with it the sliding block 16, which forces the spring 18 outwardly and brings the pin 17 to a position below the sear 7 against the resistance of said spring. In such swinging movement of the lever 22, the lever 27 will be swung in the reverse direction to slide the detent 25 to the left, so that said detent will press the spring 18<sup>a</sup> outward and place it under a tension corresponding to that of the spring 18 to maintain the parts in the prescribed position. In its swinging movement the lever 22 also engages and forces the releasing spring 31 outwardly so as to place it under tension, in which position the parts are maintained until the trigger is pulled. When the forward end of the carrier bar 13 is tilted upward by the trigger, the lug 17 engages and operates the sear 7, and simultaneously the spring 31 snaps under the elevated arm 22, so that upon the release of the trigger, and consequent descent of the carrier bar while the lever 22 remains supported by said spring, the notched portions of the block 16 will be drawn from engagement with the finger 21, thus allowing the spring 18 to shift the block 16 to the left, as shown in Fig. 4, to bring the lug 17 below the sear 7<sup>a</sup>, thus automatically setting the mechanism so that upon the subsequent operation of the trigger 9 the cartridge *a'* in the left barrel will be fired. When the breech is opened for the ejection of the discharged shells and the insertion of new cartridges, all of the parts, except the selective device, will be returned to normal position by the action of the spring 37, the selective device simply swinging back to a straight transverse position with the arm 23 of the lever 22, but maintaining its laterally shifted position so that it will again be swung rearwardly by the lug 48 of the rod 45 when



the breech is again closed, so that the mechanism will thus be automatically set for the order of firing the barrels as above described. If it should be desired to fire the left barrel first, this may be accomplished in an obvious manner by a sliding adjustment of the selective device to the left so that its lug 58<sup>a</sup> will operate with the lug 48 of the bar 45 as will be readily understood. It will accordingly be apparent that when both barrels are loaded and the breech closed, the lever 22 will be shifted to the left and correspondingly shift the block 16 to bring the lug 17 under the sear 7<sup>a</sup>, the springs 18<sup>a</sup> and 31<sup>a</sup> being placed under tension by the pressure of the block and lever, while the detent 25 is shifted to the right to place the spring 18 under tension, so that upon the firing of the cartridge in the left barrel the parts will be automatically adjusted to a position for the discharge of the cartridge in the right barrel in a manner equivalent to that before described.

In order to prevent the carrier bar from being tilted by the recoil after the discharge of one barrel, so as to result in the possibility of the shifted mechanism firing the second barrel, an automatic device controlled by the recoil is provided to momentarily hold the shifted mechanism from operation. This comprises a locking dog or detent 61 pivoted at its upper end to a block 62 at the top of the lock casing and having a lateral projection 63 at its lower end to engage a lug or projection 64 on the bar 13. The dog is normally held at a rearward inclination out of engagement with the lug by the action of gravity and the action of a retracting spring 65, its rearward movement being limited by a stop pin 66. When the charge in one barrel is fired, the rearward kick of the gun causes the dog to be projected forward so that its projection 63 extends over the lug 64 and thus prevents the bar 13 from tilting upwardly until the momentum of the recoil has passed, when the dog will be retracted by the action of gravity and the action of the spring 65, leaving the bar 13 free to be tilted for the discharge of the second barrel. Thus danger of a premature explosion of the second barrel after the first has been fired will be prevented in a simple manner.

Having thus fully described the invention, what is claimed as new is:—

1. In a firearm of the character described, a firing mechanism associated with each barrel, a movable support, a trigger for operating the same, a firing element movably mounted on said support for adjustment to different positions for independently operating said firing mechanisms, controlling devices therefor actuated by the charge in either barrel to adjust said firing element accordingly, and means for restoring the parts to normal position.

2. In a double-barreled firearm, the com-

bination of a firing mechanism for each barrel, a spring-controlled laterally swinging firing device movable to reverse position to cooperate therewith, sliding controlling rods connected with said device and regulated in operation by the presence in or absence of cartridges from the barrels, whereby said firing device is adapted to be automatically operated for setting the mechanism to fire the charge in either barrel, a movable operating element for actuating said firing device when in firing position, independent adjustable firing means carried by said element, and selective means cooperating with the rods whereby said independent adjustable firing means may be arranged for operating either firing mechanism and automatically set thereafter for operating the other firing mechanism.

3. In a double-barreled firearm, the combination of a firing mechanism for each barrel, a tilting support, a trigger for elevating the same, a slide carried by said support, a spring for normally holding the slide forward, a firing lever pivotally connected with the slide for reverse movement to cooperate with either firing mechanism, sliding rods for shifting said lever in reverse direction and arranged to be forced rearwardly under engagement with cartridges in the barrels, a second firing element laterally movable for adjustment on the tilting support, a selective device cooperating with the rods for adjusting said second firing element to one of its operative positions, and automatic means set into action by such adjustment to shift said second firing element to its other operative position after the initial operation thereof.

4. In a double-barreled firearm, the combination of a firing mechanism, including a sear for each barrel, a tilting carrier, a swinging spring-projected firing device mounted on the carrier for independent sliding movement, controlling rods operated by cartridges in the barrels for adjusting said firing device automatically to reverse position, a second laterally movable firing device on the carrier, a shifting lever for operating the same, a selective device arranged to cooperate with either rod to move said lever for adjusting said laterally movable firing device to operate with either sear, and automatic means for disconnecting said shifting lever from engagement with the laterally movable firing device upon the operation of one sear and adjusting it to the reverse position for the operation of the other sear.

5. In a firearm of the character described, a firing mechanism for each barrel, trigger-operated actuating means therefor adjustable for single barrel firing by the cartridge in the particular barrel for operating the firing mechanism cooperating therewith, a second trigger operated actuating means set for action when both barrels are loaded, select-



ive means for adjusting said element for discharging either barrel, and automatic means for adjusting said element after firing said barrel to a position for firing the other barrel.

5 6. In a double-barreled firearm, the combination of firing devices for the barrels, each including a sear, a tilting carrier, a longitudinally sliding laterally swinging firing device mounted for movement independent of  
10 the carrier, a spring for permitting a yielding movement thereof, sliding rods connected with said firing device for swinging the same in reverse direction and controlled in movement by cartridges within the barrels, a  
15 second firing device laterally slidable on the carrier, opposing springs for normally maintaining the same in a neutral position, a pivoted laterally swinging shifting lever loosely engaging said slidable firing device, a  
20 detent operated by said lever and movable in opposite directions thereto to govern the action of said springs, oppositely disposed detent springs each adapted to be placed under tension by the movement of the shifting  
25 lever in its direction and to release said lever from engagement with the sliding firing device upon the discharge of the associated barrel, and a selective device pivotally and slidably mounted upon the  
30 arm for reverse movements and adapted to cooperate with the rods to shift said shifting lever in one direction or the other to establish a desired order of firing.

35 7. In a double-barreled firearm, the combination of independent firing devices for the barrels, each including a sear, a tilting carrier adapted to be operated by the trigger, a yieldably mounted firing device adapted to be adjusted to different positions to co-  
40 operate with the respective sears, sliding rods for adjusting said device and controlled by the presence or absence of cartridges in the barrels, a laterally movable firing device upon the tilting carrier, springs for maintain-

ing the same in a determined position, a 45 laterally swinging shifting lever loosely engaging said firing device, a detent actuated by said lever to control said springs, oppositely arranged releasing springs cooperating with the lever to disengage it when  
50 elevated from the sliding firing device, contact devices on the rods, and a shiftable selective device movable to reverse positions and controlled by said contact devices for shifting the said shifting lever. 55

8. In a double-barreled firearm, a firing device for each barrel, shiftable mechanism adapted to be operated by a single trigger for actuating either firing device, said  
60 mechanism including sliding rods adapted to project into the closed barrels and to be shifted by cartridges therein, a snap lever, and means operated by said snap lever on its opening movement to shift said rods inwardly, said means being adapted to permit  
65 normal independent sliding movements of the rods.

9. A single trigger firing mechanism for double-barreled firearms comprising, in combination with a firing mechanism for each  
70 barrel, automatically set firing means adjustable for use in connection with either firing mechanism by the presence of a cartridge in the associated barrel, an associated firing mechanism adjustable to cooperate with the  
75 aforesaid firing mechanisms when both barrels are charged to successively fire the cartridges therein, selective means for adjusting said mechanism to fire either barrel first, and  
80 means for automatically shifting said mechanism to fire the second barrel after the first barrel has been fired.

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

ALFRED A. STUTZMAN.

Witnesses:

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ALLEN Z. STUTZMAN.