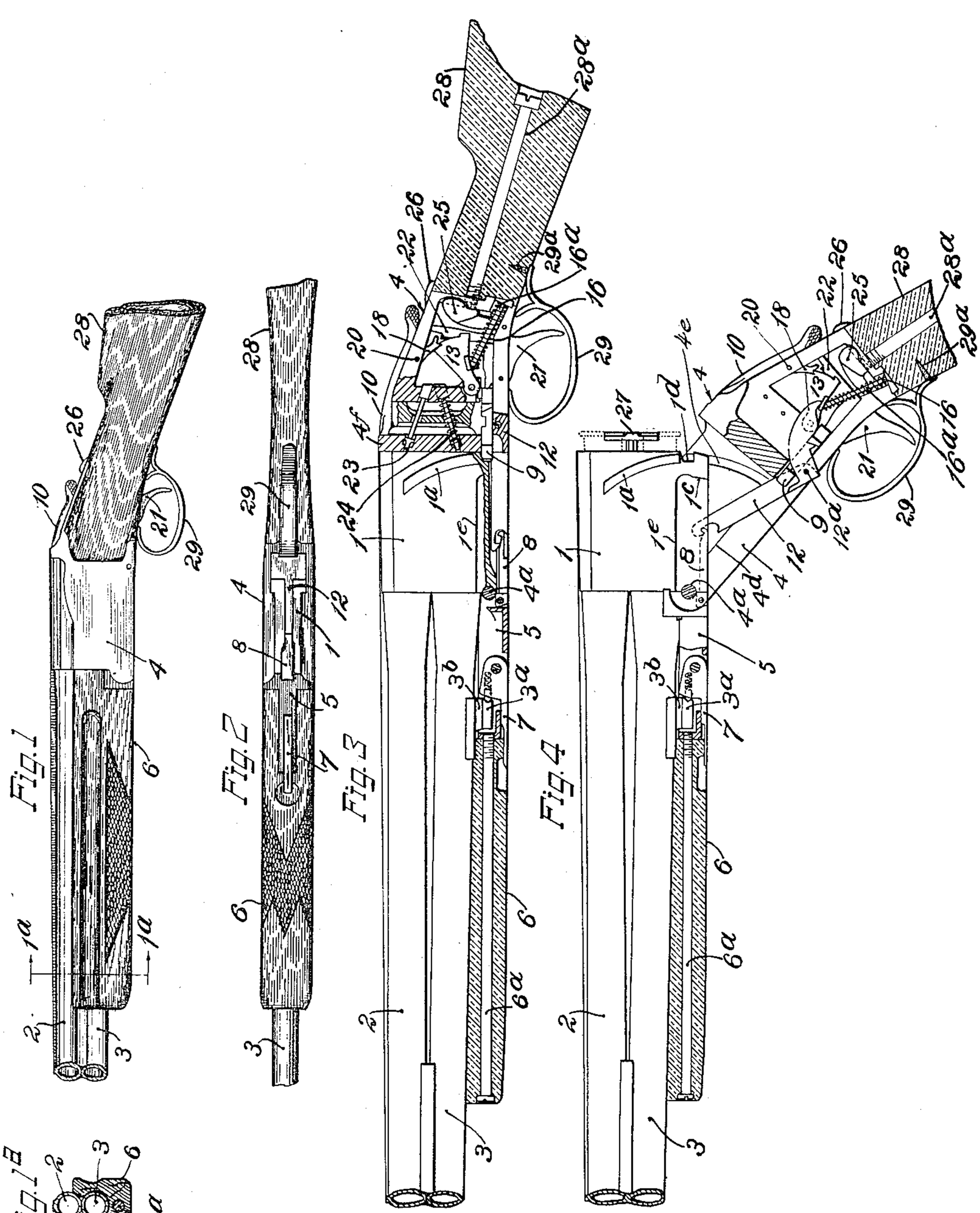
March 30, 1926. **1,578,638**

J. M. BROWNING

FIREARM

Filed Oct. 15, 1923 3 Sheets-Sheet 1



Inventor
John M. Browning
by T. Clay Lindsey.
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March 30, 1926.

1,578,638

J. M. BROWNING

FIREARM

Filed Oct. 15, 1923

3 Sheets-Sheet 2

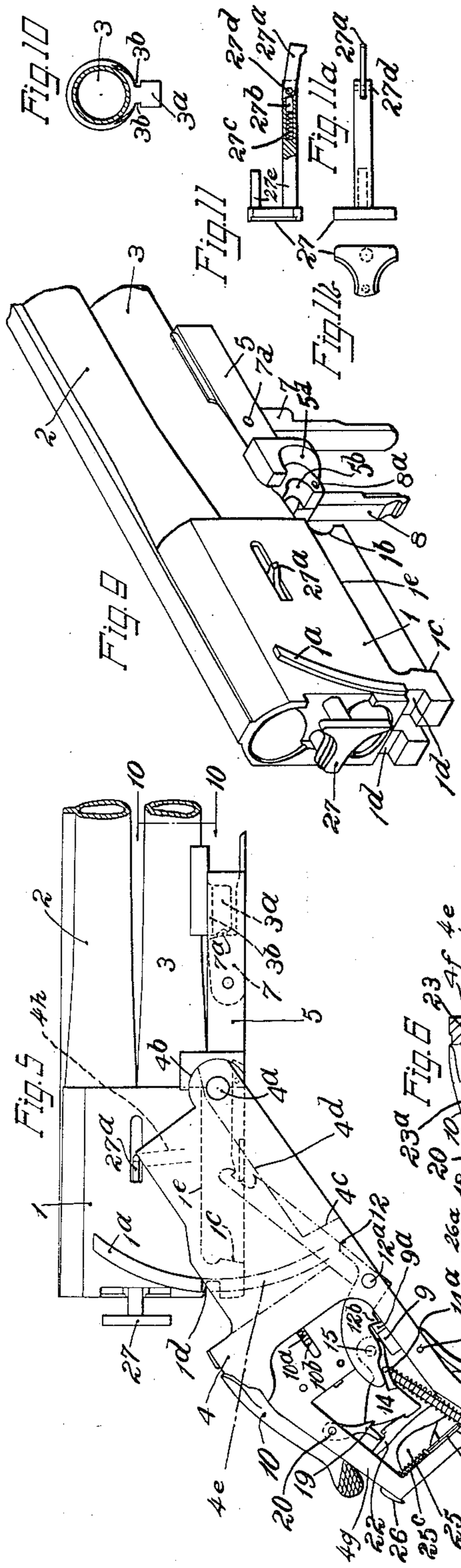

Fig. 9

Fig. 10

Fig. 11

Fig. 11a

Fig. 11b

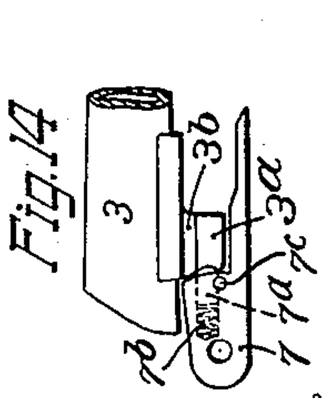

Fig. 14

Fig. 15

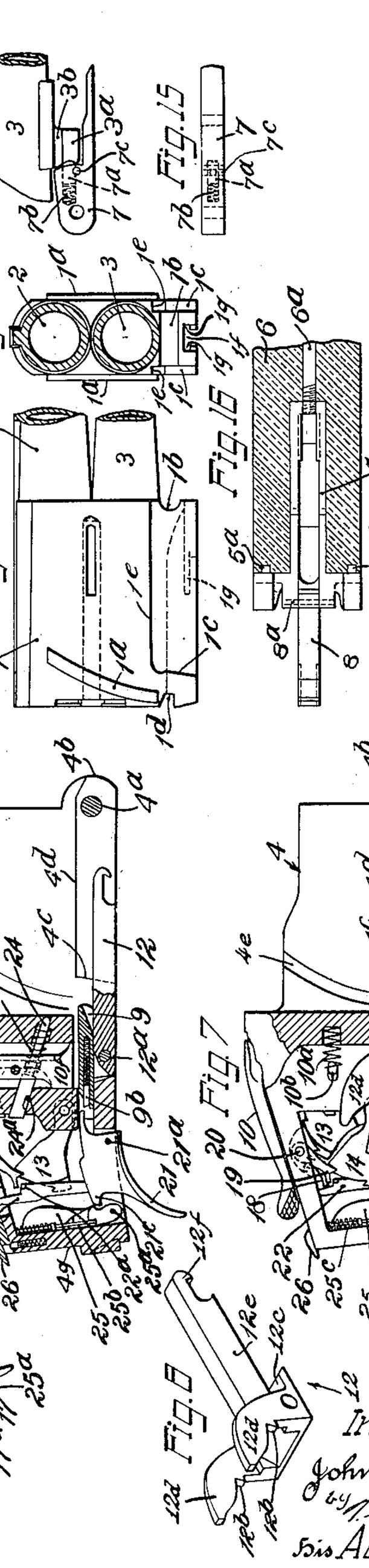

Fig. 13

Fig. 12

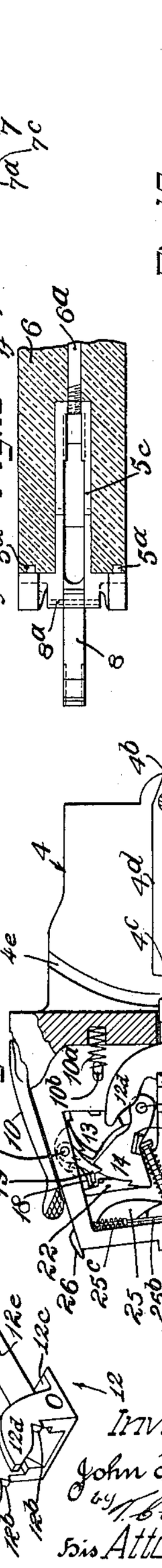

Fig. 16

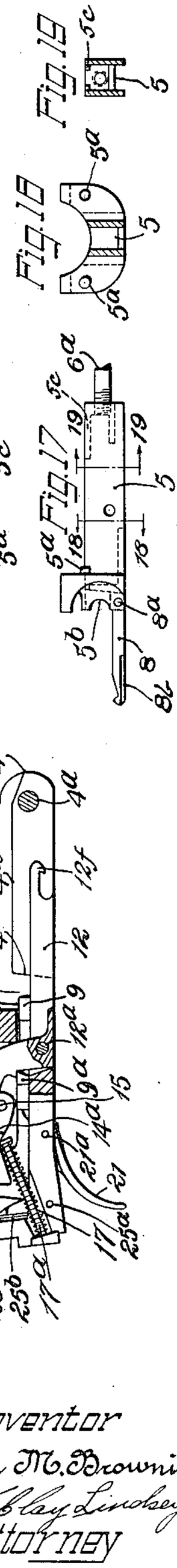

Fig. 17

Fig. 18

Fig. 19

Fig. 5

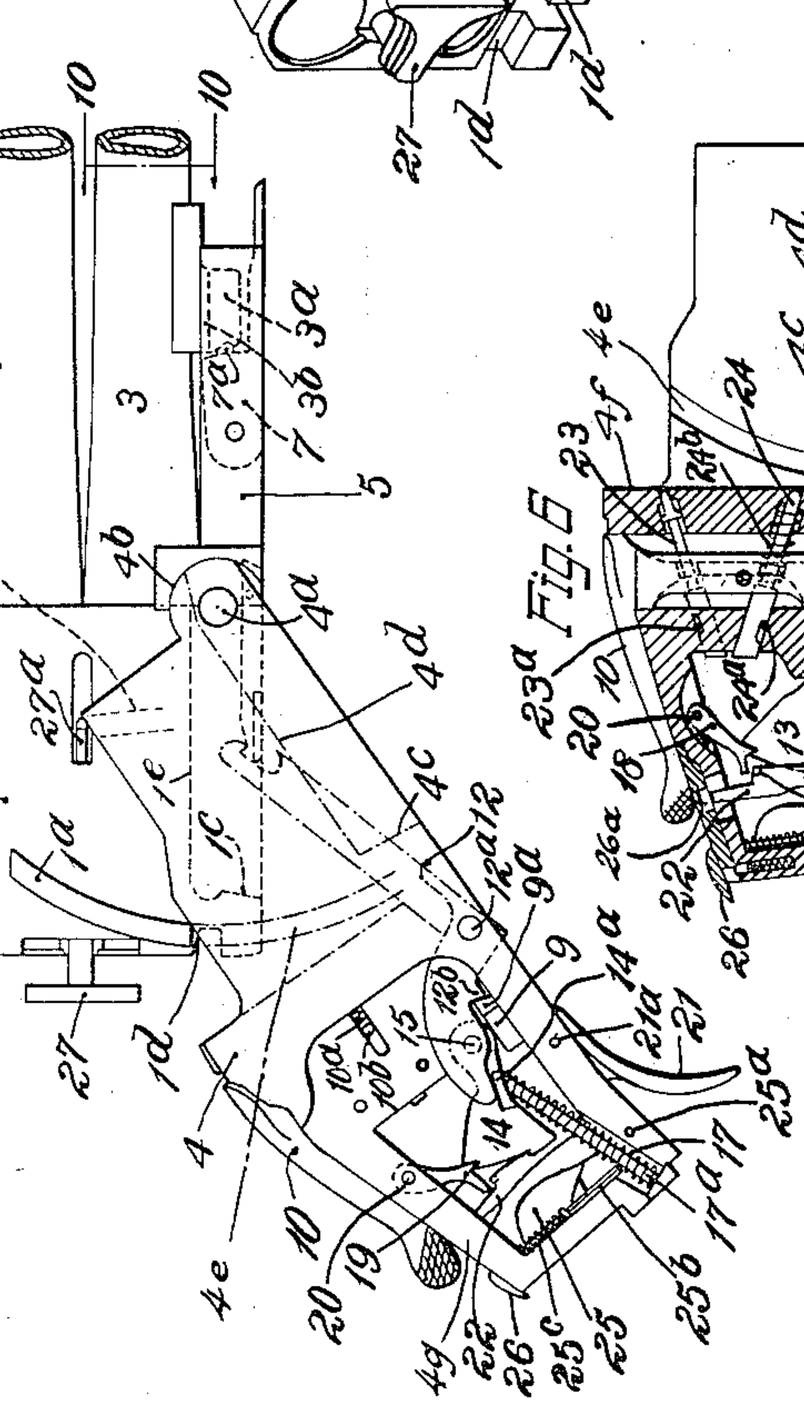

Fig. 6

Fig. 8

Fig. 7

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March 30, 1926. 1,578,638

J. M. BROWNING

FIREARM

Filed Oct. 15, 1923 3 Sheets-Sheet 3

Fig. 32

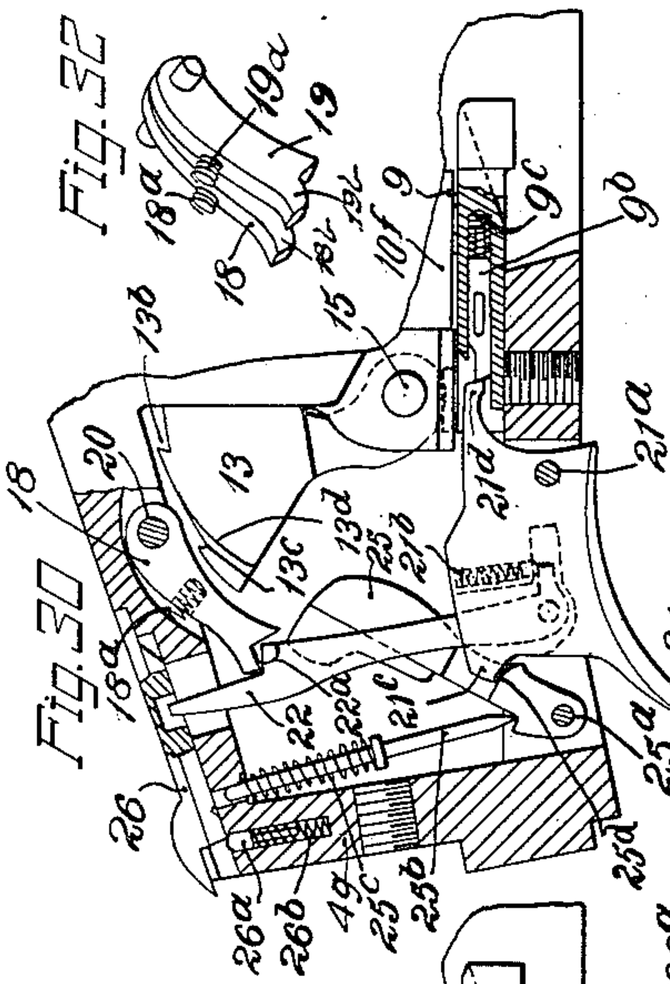

Fig. 33

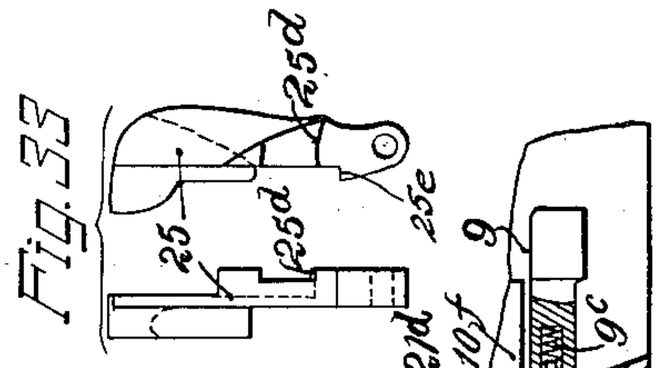

Fig. 31

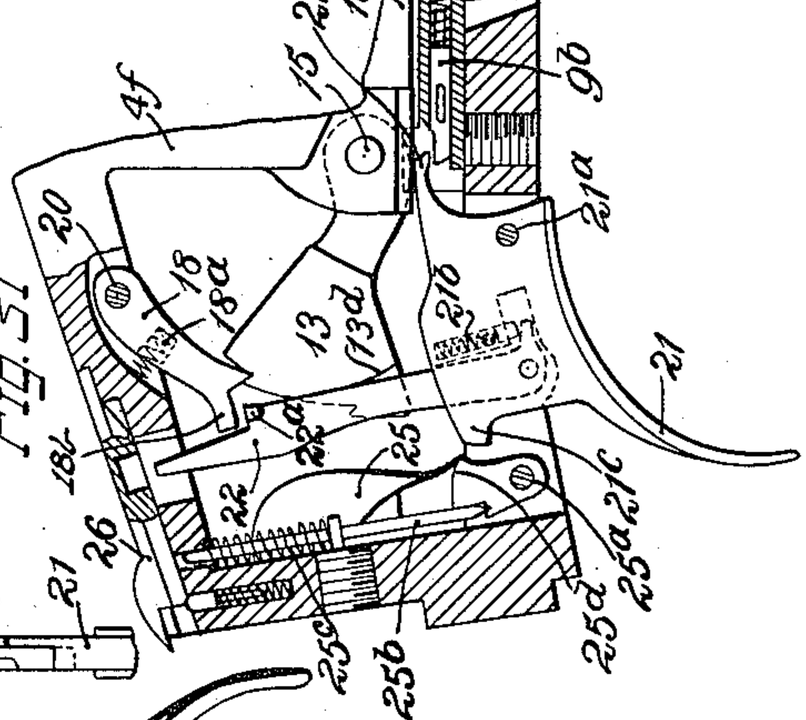

Fig. 30

Fig. 28

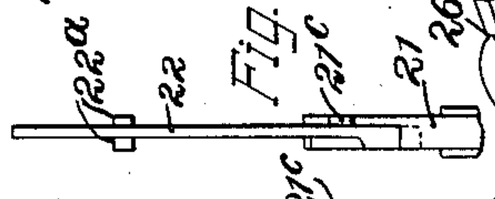

Fig. 29

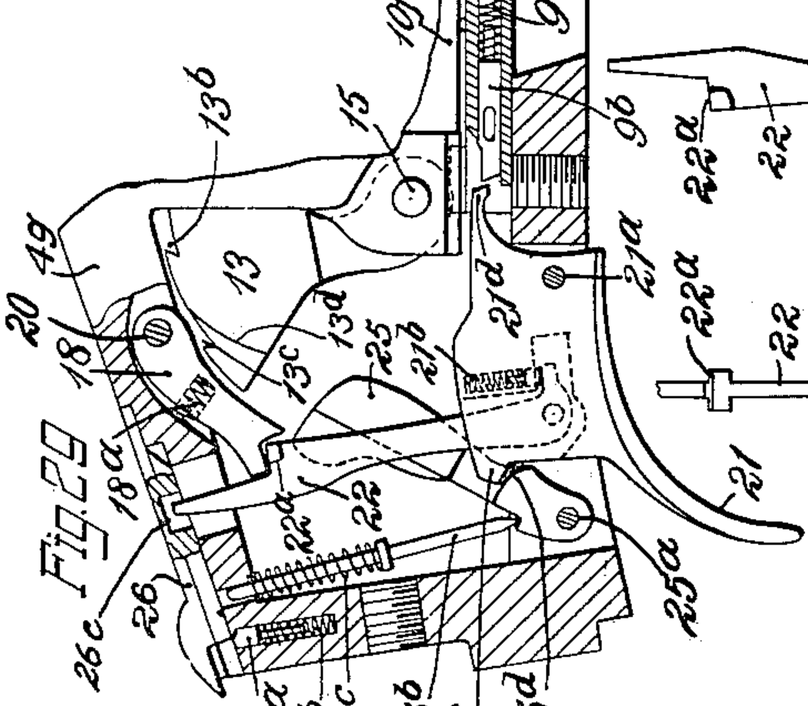

Fig. 27

Fig. 26

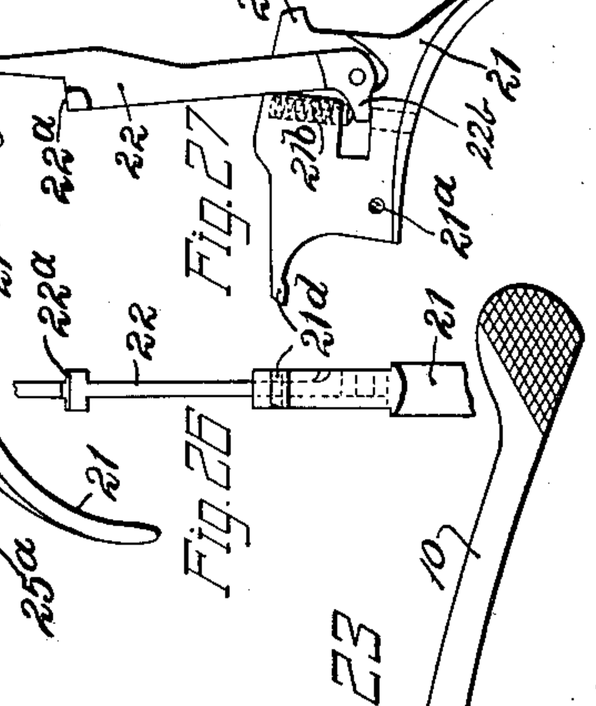

Fig. 25

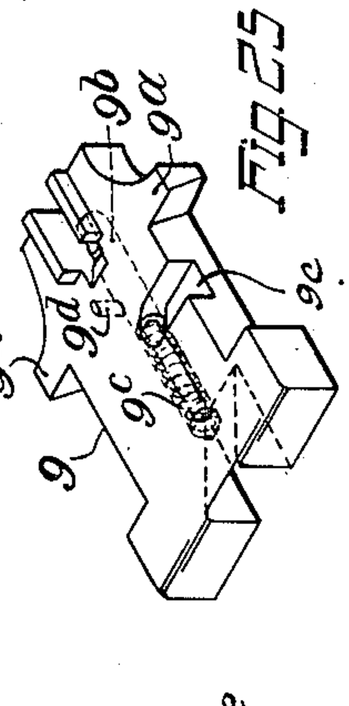

Fig. 23

Fig. 22

Fig. 24

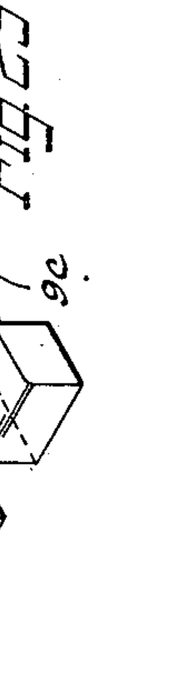

Fig. 20

Fig. 21

Fig. 21a

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Patented Mar. 30, 1926. 1,578,638

UNITED STATES PATENT OFFICE.

JOHN M. BROWNING, OF OGDEN, UTAH.

FIREARM.

Application filed October 15, 1923. Serial No. 668,575.

To all whom it may concern:

Be it known that I, JOHN M. BROWNING, a citizen of the United States, and a resident of Ogden, county of Weber, State of Utah, have invented certain new and useful Improvements in a Firearm, of which the following is a specification.

This invention relates to firearms of the shotgun class, and certain features of the invention find peculiar adaptation in firearms of the "over and under" type having two barrels, one over the other.

A firearm of the "over and under" type possesses certain advantages but, at the same time, presents peculiar problems and it is the aim of the present invention to solve the latter. Among the advantages of a gun of this type may be mentioned the following: In aiming, only one barrel is presented to the eye of the shooter, thus giving but a single line of sight and consequently making for greater accuracy; since the barrels are one over the other, the breech section and the receiver therefor may be relatively narrow, thus permitting of a wide field of vision while aiming; and the under or lower barrel and a portion, if desired, of the over or upper one may be enclosed in a hand piece or forearm of such size as to provide a comfortable and convenient grip and afford ample protection to the shooter's hand against the heat of the barrel without being bulky or wide in construction or appearance. An over and under gun gives the appearance or impression of good balance and lightness in weight and, in use, it has what may be termed a good "feel".

It is desirable that guns of the over and under type be jointed between the receiver and the barrel section so that the gun may be opened or, as it is commonly termed, broken to insert and extract shells from the cartridge chambers. In this type of gun, the breech piece, to which the barrels are connected one over the other, is relatively high as compared to width, and the receiver and breech piece are pivotally connected adjacent the under side of the barrel section. The shocks and strains, exerted by the explosion of shells in the breech piece, tend to separate the breech piece from the receiver and, particularly, does the force of an explosion in the upper bore, on account of the distance which it is spaced from the pivotal connection between the receiver and the barrel section, exert considerable leverage tending to force the parts apart and develop looseness therebetween.

One of the objects of the present invention is to provide an over and under gun wherein the breech piece, which constitutes a portion of what may be termed the barrel section, and the receiver therefor are so locked and joined together, when the gun is closed, that the pivotal connection between the breech piece and the receiver is relieved of all strains, the parts being held together very effectively by a simple and economical arrangement, and the development of looseness and wear on the parts being substantially eliminated.

A further object of the invention is to provide an improved take-down construction between the receiver and barrel section which is characterized by its simplicity in construction, and the facility with which it may be operated, the arrangement being such that the breech piece may be quickly disconnected from the receiver without detaching or removing, with the resultant possibility of misplacing, any other part of the gun; for instance, without taking the forearm off of the barrel section, as has heretofore been required in double barrel guns of the "side by side" type.

Another object of the invention is to provide an improved firing mechanism having various features of novelty and advantage and, particularly, to provide firing mechanism which is very simple and strong in construction, and effective in operation, and wherein damage to the parts is guarded against.

Other objects of the invention will be in part obvious and in part pointed out in the following detailed description.

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

I have shown, for purposes of illustration, one embodiment which the present invention may take:

Figure 1 is a left hand side elevation of the gun with the front portion of the barrels and the shoulder portion of the butt stock broken away;

Fig. 1[a] is a transverse view through the barrels and forearm, this view being taken on line 1[a]—1[a] of Fig. 1;

Fig. 2 is a bottom view of what is shown in Fig. 1;

Fig. 3 is a central longitudinal section of the gun looking at the left hand side thereof and with certain parts shown in elevation;

Fig. 4 is a view similar to Fig. 3, but showing the positions of the parts when the gun is in opened, or what is commonly known as "broken", condition;

Fig. 5 is an elevation looking at the right hand side of the breech piece and the receiver, the butt stock and forearm being omitted and the parts being shown in the position which they take when the gun is broken;

Fig. 6 is a central longitudinal section through the receiver looking at the right hand side thereof;

Fig. 7 is a right hand side elevation of the receiver with the right hand side wall thereof broken away and showing the firing mechanism with the left hand hammer uncocked and the right hand one cocked;

Fig. 8 is a perspective view of the cocking lever;

Fig. 9 is a perspective view of the rear end of the barrel section;

Fig. 10 is a section on line 10—10 of Fig. 5 through the under barrel;

Figs. 11, 11[a] and 11[b] are top, side and rear end views, respectively, of the extractor;

Fig. 12 is a right hand side elevation of the breech piece together with the rear ends of the barrels;

Fig. 13 is a front view of what is shown in Fig. 12;

Fig. 14 is a right hand side elevation of the take-down lever, showing the manner in which it cooperates with a lug on the under barrel;

Fig. 15 is a bottom view of the take-down lever;

Fig. 16 is a top view of the take-down bracket secured to the forearm, the latter being shown in longitudinal, horizontal section;

Fig. 17 is a right hand side elevation of the take-down lever and the cocking lever link carried thereby;

Fig. 18 is a transverse sectional view taken on line 18—18 of Fig. 17 through the take-down bracket and looking in the direction of the arrows;

Fig. 19 is a transverse section through the take-down bracket, this view being taken on line 19—19 of Fig. 17 and looking in the direction of the arrows associated with that line;

Fig. 20 is a right hand view, a front view and a left hand view, respectively, of the right hand hammer;

Fig. 21 are corresponding views of the left hand hammer;

Fig. 21[a] is a rear projected view of the left hand hammer showing the shoulder which holds a certain part of the trigger mechanism in a position to prevent actuation of the right hand hammer when the left hand hammer is cocked;

Fig. 22 is a front view of the stem or post of the top lever;

Fig. 23 is a left hand side view of the top lever with a portion of the stem or post in vertical section;

Fig. 24 is a bottom view of the top lever post;

Fig. 25 is a perspective view of the locking bolt;

Fig. 26 is a front view of the trigger mechanism including the trigger and the connector adapted to cooperate with the sears;

Fig. 27 is a left hand side elevation of what is shown in Fig. 26;

Fig. 28 is a rear view of the same mechanism;

Fig. 29 is a central longitudinal section through the rear portion of the receiver with the parts carried thereby shown in the positions which they have immediately after firing a shot from the over barrel;

Fig. 30 is a view similar to Fig. 29, showing the manner in which a trigger safety plunger permits breakage of the gun without damaging the trigger in the event that the latter should be held in actuated or "pulled" position;

Fig. 31 is a view similar to Fig. 29 with the left hand hammer fully cocked;

Fig. 32 is a perspective view of the sears; and

Fig. 33 is a rear view and right hand side view, respectively, of the inertia block which functions to prevent "involuntary pull".

Referring to the drawings in detail, what may be termed, for convenience, as the barrel section includes a breech piece 1 having two longitudinal holes bored through it, one above the other, and the respective over and under barrels 2 and 3 screwed or otherwise secured in the forward ends of these bores. The breech piece 1 is cut away on either side adjacent its lower edge and for the greater part of its length back from the front end so as to leave a somewhat narrow portion having in its forward end, and just below the under barrel, a semi-circular recess or groove 1[b] which forms one-half part of a separable multi-part bearing for a hinge member, here shown as being in the form of a pin 4[a], carried by the receiver 4.

The other half of the bearing for the hinge pin is provided by a take-down bracket 5 slidably positioned on the under side of the under barrel 3. This bracket may have, at its rear end, a semi-circular recess 5^b which, when the bracket 5 is in operative position cooperates with the recess 1^b to form a closed round bearing for the hinge pin. The take-down bracket 5, as shown in Figs. 9, 16, 17, 18 and 19, is a relatively narrow rectangular piece or block having, at its rear end, a portion of greater width with its upper face curved to conform to and fit against the under barrel and provided on its forward face with dowel pins 5^a which take into suitable recesses in the rear end of the forearm 6 which is provided with a slot in which the narrow portion of the take-down bracket is seated. The bracket may be secured to the forearm by a screw 6^a. The forearm 6, as will be seen from Figs. 1 and 1^a, is hollow throughout its entire length, it being substantially U-shape in cross section, and the sides being curved inwardly adjacent their upper ends so that the under barrel will fit snugly in the bottom of the rounded groove, and the sides of the groove will fit in and fill up the concave space between the two barrels and closely fit and partly surround the over barrel. To assemble the forearm on the barrels, the former is slipped over the forward ends of the latter and then slid back into place. It will be seen that the forearm is of such size and shape as to present a very convenient, full, but not bulky, grip which adequately protects the hand of the shooter against the heat of the barrel. The forearm fits the barrels and the space between the barrels very closely so that there are no unsightly gaps between itself and the barrels in which dirt or the like is liable to collect.

The take-down bracket 5, together with the forearm to which it is secured, is, as has been stated, slidably mounted on the barrel section so as to permit separation of the bearing parts 1^b and 5^b when it is desired to dismount the barrel section from the receiver. To suitably support the take-down bracket for such sliding movement, and limit the extent of such movement, there is provided on the under side of the barrel 3 a depending lug 3^a (see Figs. 5, 10 and 14) having a groove 3^b at each side immediately beneath the under barrel, and the narrow rectangular portion of the take-down bracket, which is hollowed out to receive this lug, has on the forward upper portions of its inner faces ribs 5^c slidably mounted in the grooves 3^b in the lug 3^a. Rearwardly of the rear ends of the ribs 5^c, the opening or slot in the bracket 5 is of sufficient width and length to permit the take-down bracket to be slipped into and from position on the lug 3^a. The numeral 7 designates a take-down lever pivoted on a pin or pivot 7^d in the hollow portion of the take-down bracket behind the lug 3^a. This take-down lever carries a plunger 7^a retained in place by a retaining pin 7^c and normally urged forwardly into engagement with the lug 3^a by a spring 7^b. The rear end of the lug 3^a is preferably transversely notched, as clearly shown in Fig. 14, to receive the front end of the plunger 7^a, thereby preventing the lever 7 from accidentally swinging out of operative position. The spring 7^b resiliently urges the bearing part or bracket 5 towards the breech piece, and takes up wear between the parts.

It will be seen that, with the arrangement so far described, the take-down bracket 5 may be assembled on the under barrel by entering the lug 3^a in the hollowed portion of the bracket rearwardly of the ribs 5^c and then sliding the bracket rearwardly to engage the ribs 5^c on the bracket in the grooves 3^b in the lug 3^a. The take-down lever 7 is secured in place by the pivot pin 7^d, and this lever then constitutes means for preventing the bracket 5 from being slid forwardly far enough to disengage it from the lug 3^a. The forearm 6 is slipped over the forward end of the barrels and moved back into proper relation to the bracket 5 and secured in place thereto by the bolt or screw 6^a. To assemble the receiver onto the barrel section, the bracket 5 is brought into the position shown in Fig. 9 by sliding the forearm forwardly on the barrels; the receiver is positioned with the hinge pin 4^a between the separated bearing surfaces 1^b and 5^b; then the forearm, together with the bracket 5, is moved rearwardly to bring these bearing surfaces together, and then the lever 7 is thrown upwardly and forwardly into the position shown in Fig. 5 so as to bring it into engagement with the lug 3^a, and thereby securely lock the forearm 6 and the bracket 5 from moving forwardly. Dismountal of the receiver from the barrel section is accomplished by a forward sliding movement of the forearm after the lever 7 has been thrown down to the position shown in Fig. 9. It will be seen that the operations of mounting and dismounting the receiver from the barrel section are very readily accomplished in an extremely quick and simple manner by sliding the forearm on the barrel section; the construction is comparatively simple and the parts may be readily assembled, and there is no necessity of removing the forearm or other part to accomplish taking down of the gun so that any likelihood of misplacing the forearm is entirely eliminated.

In accordance with the present invention, the breech piece 1 is very securely held in the receiver when the gun is closed so that there is no play or looseness between the barrel section and the receiver; the hinge pin 4^a

and the bearing therefor are relieved of substantially all strains to which they might otherwise be subjected when the gun is discharged; and a very strong union or joint is provided which is fully enabled to withstand the strains and shocks to which the parts are subjected when the gun is fired. The receiver 4 is hollowed out at its forward end to provide two side walls which are connected at their forward lower ends by the transverse hinge pin 4^a. Provided in the rear ends of the inside face of each of the side walls is an arcuate slot 4^e, the center of curvature of which is the axis of the hinge pin 4^a. The breech piece is provided at each side with a rib 1^a corresponding in curvature and position to the arcuate grooves 4^e so that the latter closely receives these ribs when the gun is closed. These ribs are preferably formed, to effect economy in manufacture, by milling away the sides of the block from which the breech piece is formed, leaving the ribs 1^a. Further provided on the sides of the breech piece, adjacent the rear lower corner thereof, are forwardly facing shoulders 1^c which engage and bear against shoulders 4^c, one provided on the inner side of each wall of the receiver adjacent the lower ends of the arcuate slots 4^e. The shoulders 1^c, as well as downwardly facing shoulders 1^e, are formed on the breech piece by cutting away the sides thereof at their lower edges, as previously described. The shoulders 1^e are adapted to engage shoulders 4^d on the breech piece when the gun is closed. If desired, the forward lower corners 4^b of the side walls of the receiver may be curved concentrically to the hinge pin 4^a so as to fit similarly curved faces 5^d on the bracket, as shown most clearly in Fig. 5. These curved faces 5^d may be considered as constituting bearing faces on the take-down bracket, and the curved corners 4^b may be considered as forming a part of the hinged connection and, in effect, as enlargements of the hinge pin.

It will be understood that when the gun is discharged there is a considerable force exerted tending to separate the receiver from the breech piece and, with the present arrangement, the strains exerted by this force are taken by the interengaging arcuate shoulders provided by the ribs 1^a and grooves 4^e and by the contacting shoulders 4^c and 1^c, thus relieving the hinged connection of excessive shocks. The interengaging shoulders are such as to provide relatively large bearing surfaces so that the strains are more or less distributed and wear upon the parts is minimized, thus substantially eliminating looseness or play. The arrangement described provides a structure which makes for economy in manufacture and effectiveness in operation, in that the necessity of expensive hand fitting of the parts is eliminated while, at the same time, a tight joint or union is obtained. The arrangement described finds peculiar advantage in a gun of the over and under type to which the present invention appertains for the reason that the line of force exerted, when a cartridge in the over barrel is discharged, is at a considerable distance to the line of pivot between the receiver and the breech piece. Since the ribs 1^a extend up alongside of the upper bore, the shocks and strains are properly taken care of.

The gun is locked in its closed position by a locking bolt 9 mounted for sliding movement in the receiver immediately beneath the portion 4^f thereof, and which portion forms a vertical bearing in which the stem or post 10^f of the top lever 10 is journaled. The upper face of the locking bolt 9, as shown most clearly in Fig. 25, has a recess or notch 9^c adapted to receive a lug 10^e on the bottom of the post 10^f of the top lever (see Figs. 22, 23 and 24) so that when the top lever is swung outwardly to the right, the locking bolt is moved rearwardly and out of engagement with the transverse groove 1^d provided adjacent the bottom of the rear face of the breech piece 1, whereupon the gun is free to be broken. The locking bolt is normally urged into operative or locking position by the action of a spring 10^a which bears at one end against a pin 10^b extending laterally from the top lever post and through a slot in the bearing portion 4^f of the receiver. The other end of the spring rests against the bearing portion 4^f. It will be noted that the pin 10^b maintains the top lever post in position in the receiver.

The locking bolt 9 has at each side a laterally projecting lug 9^a which cooperate with the cocking lever 12 in such manner that when the gun is broken the locking bolt is held in withdrawn or inoperative position by the cocking lever. This cocking lever has a body portion 12^c pivoted by means of a pin 12^a in the receiver 4 beneath the top lever post 10^f. Extending rearwardly and upwardly from each side of the body portion 12^c is an arm 12^d, and these arms or side members are suitably spaced apart to accommodate between them the locking bolt 9, the top lever post and its bearing portion, and the body portions of the hammers 13 and 14. The firing mechanism, of which the hammers constitute parts, is located in an opening of a frame-like portion 4^g of the receiver extending rearwardly from the bearing portion 4^f. Both of these hammers are pivoted at the forward lower corner of said opening and immediately above the locking bolt by means of a common pivot member or pintle 15 which is straddled by the arms 12^d of the cocking lever. When the left hand hammer 13 is released, it is actioned by a left hand main

spring 16 (see Figs. 3 and 4) to explode the shell in the over bore of the breech piece. When the right hand hammer 14 is released, it is actioned by a right hand main spring 17 (see Figs. 5 and 6) and causes the firing of shell in the under bore. Associated with the respective coiled springs 16 and 17 are plungers 16^a and 17^a which respectively bear at the forward ends against the hammers 13 and 14. The rear ends of the plungers pivotally and slidably extend into suitable apertures in the rear wall of the frame-like portion 4^g. The springs 16 and 17 bear at the rear ends against the rear wall of the frame portion of the receiver and at their forward ends against suitable collars or abutments on the respective plungers 16^a and 17^a. The left hand hammer 13 has a laterally extending projection 13^a (Figs. 3 and 21) positioned in the path of movement of the left hand arm 12^d of the cocking lever, and the right hand hammer is provided with a similar projection 14^a (Figs. 5 and 20) located in the path of movement of the right hand arm 12^d of the cocking lever. Each of the arms 12^d is provided with a projection 12^b and these projections, as described hereinafter more in detail, are adapted to cooperate with the respective lateral projections 9^a extending from the opposite sides of the locking bolt 9. Extending forwardly from the body portion 12^c of the cocking lever is a centrally disposed arm 12^e adapted to lie in a longitudinally extending slot 1^i on the bottom surface of the breech piece 1. This arm is provided with a hook 12^f which is adapted to interlock with the rear end of an element, here shown as being in the form of a link 8, pivoted, as at 8^a, to the rear end of the take-down bracket 5. This element or link 8 is provided, adjacent its free end and at each side, with a rib 8^b and these ribs are received by grooves 1^g provided in the forward ends of the sides of the groove 1^f, and making the latter, in effect, undercut. As previously stated, to assemble the breech piece and barrel section, the forearm 6 is slid forwardly of the barrels so as to insert the hinge pin 4^a between the bearing parts, and then the forearm is moved rearwardly and secured in position by the lever 7. When moving the forearm rearwardly, the link 8 is held upwardly in the position shown in Fig. 17 so that the ribs thereon will ride into the grooves 1^g. It will be seen that, since the link is connected to the bracket 5, which bracket is carried by the barrel section, accidental misplacement of the link is guarded against. When the forearm is slid forwardly on the barrel, the bearing parts for the hinge pin 4^a are separated and, at the same time, the link is moved out of operative relation to the cocking lever so as to permit the receiver to be taken down from the barrel section. When the forearm is moved rearwardly, the bearing parts are brought into proper relation to the hinge pin 4^a and, at the same time, the link 8 is brought into operative relation to the cocking lever.

When the gun is closed, as shown in Figs. 1, 2 and 3, the cocking lever link 8 and the forwardly extending arm 12^e of the cocking lever 12 close the groove 1^f in the bottom of the breech piece 1, and have their hooked ends in position for engagement with one another when the gun is broken. The locking bolt 9, under the influence of the top lever spring 10^a, is normally urged into advanced or operative position with its front end engaging in the groove 1^d of the breech piece, thereby securely holding the receiver and breech piece against pivoting relative to one another. To break the gun, the top lever is manually operated to the right, turning the top lever post and the lug 10^e carried thereby, in a direction to force the locking bolt rearwardly out of engagement with the breech piece. When the bolt is so moved rearwardly, the lugs 9^a thereon pass from under the projections 12^b on the cocking lever so that the latter is free to turn on its pivot. In the operation of breaking the gun, the cocking lever, owing to the sliding engagement of the forwardly extending arm 12^e thereof with the link 8, is caused to swing on its pivot 12^a so that the arms 12^d swing backwardly and downwardly, and in so doing engage the lugs 13^a and 14^a on the hammers, if the latter are uncocked, thereby camming these hammers into cocked position. When the gun is in broken condition the projections 12^b on the cocking lever are in front of the lugs 9^a on the locking bolt and thereby maintain the latter in its rearward or inoperative position, as shown in Fig. 5. This arrangement is of advantage in that in closing the gun no force is required to push the locking bolt out of the way as would be the case if the locking bolt extended into the path of swinging movement of the breech piece requiring that the latter cam the locking bolt back. The breaking movement of the gun is limited by the engagement of the hook 12^f on the cocking lever with the hooked or notched end of the link 8.

Referring now more particularly to the firing mechanism, the respective hammers 13 and 14 are held in cocked condition by sears 18 and 19 which are actuated by a single trigger 21 operating through the connector 22. The sears are pivoted above the hammers on a common pin 20 located in the upper wall of the frame-like portion 4^g of the receiver, and cooperate with sear notches provided on the outer face curved ends of the hammers. The sear notches on the left hand hammer are designated by 13^b and 13^c; and those on the right hand ham-

mer by 14[b] and 14[c]. The respective sears are urged downwardly by coiled springs 18[a] and 19[a] positioned thereabove.

The trigger 21 is pivoted on a pivot pin 21[a] in a slot in the bottom wall of the portion 4[g] of the receiver. Pivotally mounted on the trigger, as is clearly shown in Figs. 27 and 29, is a connector 22 having on its lower end a forwardly extending toe 22[b] normally urged downwardly by a spring 21[b] carried by a recess or bore in the trigger so that the connector 22 is normally held in operative relation with the sears. The connector is provided with laterally extending shoulders or lugs 22[a] adapted to respectively engage rearwardly extending fingers 18[b] and 19[b] on the respective sears. It will be noted, particularly from Figs. 7 and 32, that the rearwardly projecting finger 18[b] of the left hand sear is longer than the finger of the right hand sear and that the left hand hammer 13, when cocked, has a shoulder 13[d] engaging and holding the connector in such position that, when the connector is raised, the left hand lug 22[a] thereon will engage the finger 18[b] of the left hand sear, but the connector will be free of and not engage the right hand sear. When the left hand sear is raised out of engagement with the left hand hammer, the latter will snap forward under the influence of spring 16 causing the firing of the cartridge in the over bore. When the left hand hammer is thrown to uncocked position, the shoulder 13[d] thereon no longer bears against the connector and when the trigger is released, the connector is lowered and under the influence of the spring 21[b] is brought forward under the finger 19[b] of the right hand sear. A second pull on the trigger will again raise the connector, causing the same to move the right hand sear upwardly, thereby releasing the right hand hammer and resulting in the firing of the shell or cartridge in the under bore. Thus, two successive pulls on the trigger will fire two shots, first, one in the over and then one in the under barrel. The spring 21[h], in addition to urging the connector forwardly, serves the office of returning the trigger to normal position.

It will be seen, from the foregoing description, that the hammers, the sears, the trigger, and parts cooperating therewith are so constructed and arranged on the receiver that ready access may be had to any one of the parts. Each of the parts is relatively simple in construction, and the elements, which are relatively few in number, may be very readily assembled on the receiver. The hammers and sears are so relatively positioned that the latter engage the hammers at points relatively remote from the pivotal points of the hammers, which is of advantage in that the sears may be disengaged from the hammers with nicety and precision and without exerting a heavy pull on the trigger. The arrangement makes for compactness and economy in construction. The use of coiled springs, in combination with the sears and the hammers, is of advantage in that the likelihood of breakage is reduced to a minimum.

In order to prevent pulling of the trigger when the gun is not in full closed condition, the locking bolt is arranged, when in retracted position, to hold the trigger in normal position and against actuation. To this end, the trigger has a forwardly extending finger 21[d] under which the bolt 9 lies so that the trigger cannot be pulled when the gun is open or partly open. As previously stated, the locking bolt is held in inoperative or retracted position by the cocking lever when the gun is open. In order to permit the locking bolt to be moved to retracted or inoperative position without injury to the parts, in the event that the trigger should stick or be held, for any reason, in pulled condition, the locking bolt is provided with a plunger 9[b] normally urged rearwardly by a spring 9[c] and retained in place by a pin 9[d]. This plunger, as shown in Fig. 29, is in alinement with the toe 21[d] when the trigger and locking bolt are in operative positions. When the locking lever is retracted to permit of breaking of the gun, the plunger engages the trigger (as shown in Fig. 30) and is pushed forwardly into the locking bolt, whereby injury or jamming of the trigger is prevented.

The hammers 13 and 14, respectively, operate through firing pins 23 and 24 to fire the shells in the upper and under bores, respectively. These firing pins 23 and 24 are mounted for sliding movement in suitable apertures in the bearing portion 4[f] of the receiver and respectively extend through enlarged openings 10[c] and 10[d] in the top lever post. These openings 10[c] and 10[d] are of sufficient size to permit of rotation of the post to move the locking lever out of engagement with the breech piece without engaging or interfering with the operation of the firing pins. This arrangement is of advantage in that it provides for simplicity and economy in construction. The firing pins are retained against withdrawal by suitable pins 23[a] and 24[a], respectively, and the lower pin, which is inclined downwardly and forwardly, may have about it a coil spring 24[b] for normally urging the pin backwardly.

On the upper surface of the portion 4[g] of the receiver and behind the top lever 10, is an undercut groove in which is slidably mounted a safety device or piece 26 having on its under face a recess 26[c]. Beneath the safety piece, the receiver is slotted to accommodate the upper end of the connector 22. When the safety piece is in "off" or unsafe

position, as shown in Fig. 31, the trigger may be pulled, since the recess 26[c] will receive the upper end of the connector 22. To make the gun safe, the safety piece is moved rearwardly into the "safe" or "on" position so as to bring the unrecessed portion of the safety piece above the connector. The safety piece may be held in either "on" or "off" position of adjustment by a plunger 26[a] behind which is a spring 26[b].

With guns provided with two barrels and a single trigger, there is danger of "doubling", that is, having the shots in both barrels go off at substantially the same time, due to what is know as "involuntary pull" on the trigger. Not infrequently, when a shooter pulls the trigger to fire one shot, the gun recoils so quickly that the trigger is moved backwardly relative to the shooter's fingers, and the trigger will act as if the shooter had deliberately released the same. This happens so quickly, however, that the shooter does not have time to cease pulling and actually, but unconsciously, pulls the trigger a second time, the two shots being fired in such rapid succession that it often sounds as if both barrels were fired at once. To prevent such "doubling" there is provided an inertia member or block 25 so arranged that, when the trigger is pulled to fire one shot, the block will automatically prevent an "involuntary pull" of the trigger. This inertia block is here shown, for illustrative purposes, as being in the form of a lever or arm 25 pivoted, as at 25[a], in the receiver and having a step or ledge 25[e] against which bears a plunger 25[d] about which is a spring 25[c] interposed between the collar on the plunger and the receiver. The upper end of the plunger is, in effect, supported for pivotal and sliding movement, and the arrangement is such that the spring will snap the inertia block past dead center, that is to one or the other side of the line passing through the pivot 25[a] and the point at which the upper end of the plunger is in effect pivoted. The inertia block, adjacent its lower end and on one side, is provided with a shoulder 25[d] which, when the trigger is in pulled condition and the inertia block is advanced, takes in under a projection or heel 21[c] provided on the rear of the trigger, thereby preventing the trigger from moving, under the influence of the spring 21[b], to is normal or unpulled position. When a shot is fired, causing the gun to recoil violently, the inertia block, owing to its tendency to remain at a state of rest, lags behind the gun and, owing to this lagging movement and aided by the spring pressed plunger, the inertia block will assume the position shown in Figs. 29 and 30 before the trigger can assume its unpulled or normal position. In this position of the block, the shoulder 25[c] is beneath the heel 21[c] of the trigger so that, even though the trigger be momentarily moved, by the kick of the gun, away from the shooter's finger, the trigger is blocked from returning to normal position. Thus, when the shooter's finger involuntarily resumes pressure on the trigger, there is no danger of "doubling" or accidentally firing a second shot. Owing to the sudden stopping of the gun against the shoulder, for instance, and, because of the inertia of the block, it will lag behind to such an extent that it will assume, under the influence of the spring pressed plunger, its normal position out of engagement with the trigger so that the trigger is now free to be released and then deliberately pulled to fire the second shot, if desired. In the event that the lever should, for any reason, stick in operative position, that is in locking engagement with the trigger, as shown in Fig. 29, the lever will be positively returned to inoperative position by the engagement therewith of the left hand hammer when the latter is cocked upon breaking of the gun.

The means for extracting shells from the bores of the breech piece is shown most clearly in Figs. 9, 11, 11[a] and 11[b]. The extractor includes a head 27 having a pair of stems 27[e] slidably fitting in suitable holes in the receiver. Pivoted to one of the stems is a retractable part in the form of a pawl 27[a] pivoted as at 27[d] and normally urged by a spring 27[c] and plunger 27[b] outwardly through a slot in the side of the breech piece into the path of a camming surface on the receiver. This camming surface, designated by the numeral 4[h] (see Fig. 5), is formed by providing a groove adjacent the upper forward corner of the right hand side wall of the receiver. It will be seen that when the gun is opened, the camming surface 4[h] will engage the pawl and force the extractor rearwardly a short distance, drawing with it the shells which are in the chambers of the breech piece. The withdrawn shells are shown in dotted lines Fig. 4. The extractor does not in any way interfere with the positioning or the assembling of the breech piece on the receiver, for it will be seen that, should the extractor be in such position that the pawl is not in registry with the groove having the shoulder or camming surface 4[h], the pawl will be forced inwardly of the breech piece by the receiver and then, when the pawl is in proper relation to the groove, it will snap thereinto.

The butt stock 28 is attached to the receiver in any suitable manner as by means of the bolt 28[a]. The trigger guard 29 is secured in place by a screw 29[a].

I claim as my invention:

1. In a firearm of the over and under type, a receiver, over and under barrels de-

mountably pivoted to said receiver, a forearm slidably mounted on said barrels, and means cooperating therewith for permitting the barrels to be dismounted from the receiver by a pure sliding movement of said forearm and without removing said forearm from said barrels.

2. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver having a hinge member, and a multi-part bearing on said barrel section for said hinge member, one of said parts of said bearing being movable, while maintained on said barrel section, into and out of operative relation to the remainder of the bearing.

3. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver, and a hinged connection between said barrel section and receiver and including a two-part bearing on said barrel section, one part of said bearing parts being slidable relative to the other and normally fixed against removal from said barrel section.

4. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver, and means for demountably pivoting said section to said receiver and including a multi-part bearing on said barrel section, one part of said bearing being slidable into and out of operative relation to another part, means for maintaining said slidable part on said barrel section in operative and inoperative positions, and means for locking said slidable part in operative position.

5. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver, and means for demountably pivoting said section to said receiver and including a multi-part bearing on said barrel section, one part of said bearing being slidable into and out of operative relation to another part, means for maintaining said slidable part on said barrel section in operative and inoperative positions, means for locking said slidable part in operative position, and a forearm for housing, at least in part, said slidable bearing part and fitting in the concave spaces between the barrels.

6. In a firearm of the over and under type, a receiver, over and under barrels demountably pivoted to said receiver, a forearm slidably mounted on said barrels, means cooperating therewith for permitting the barrels to be dismounted from the receiver by a sliding movement of said forearm and without removing said forearm from said barrels, and means associated with said forearm for locking the same in position to hold said receiver and barrels in assembled relation.

7. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver having a hinge pin, a two-part bearing on said barrel section for said hinge pin, one part being slidable relative to the other, means for maintaining said slidable part in operative and inoperative positions on said barrel section, and means carried by said slidable part for locking the same in operative position.

8. In a firearm of the over and under type, a barrel section having over and under barrels, a receiver, and a hinged connection between said barrel section and receiver and including a bearing part slidably mounted on said barrel section and maintained in operative and inoperative positions on said section while mounting said section on, and dismounting it from, said receiver, means on said barrel section for supporting said slidable bearing part, and means carried by said slidable part and cooperating with said last mentioned means for locking said slidable part in operative position.

9. 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 and held against removal from said section when mounting said section on, and dismounting the same from, said receiver, and a hinged connection between said receiver and barrel section and including a bearing part carried by said forearm and movable therewith, and means for locking said forearm against movement relative to said barrel section.

10. In a firearm of the over and under type, a receiver, over and under barrels demountably pivoted to said receiver, a forearm slidably mounted on said barrels, means cooperating therewith for permitting the barrels to be dismounted from the receiver by a sliding movement of said forearm, means for limiting the extent of sliding movement of said forearm and for holding the same against detachment from said barrels when mounting the barrels on, and dismounting the barrels from, said receiver, and means for locking said forearm in operative position to hold the receiver and barrels in assembled relation.

11. In a firearm of the over and under type, a receiver, over and under barrels demountably pivoted to said receiver, a forearm slidably mounted on said barrels, means cooperating therewith for permitting the barrels to be dismounted from the receiver by a sliding movement of said forearm, means for limiting the extent of sliding movement of said forearm, and means for locking said forearm in operative position to hold the receiver and barrels in assembled relation, said last mentioned means being detachable to permit removal of said forearm from said barrels.

12. In a firearm of the over and under

type, a barrel section having over and under barrels, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one of said parts being supported for sliding movement, and a lever for locking said movable part in its operative position.

13. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto one above the other, a receiver, and a hinged connection between said barrel section and receiver and including a bearing part movable into and out of operative position while mounted on said barrel section, and a lock on said barrel section and means cooperating with said movable bearing part and lock for holding said bearing part in operative position.

14. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver having a hinge member, a multi-part bearing on said barrel section for said member, a lug on said barrel section, one of said bearing parts being movable into and out of operative position while mounted on said barrel section, and a lever cooperating with said movable part and lug and pivotally mounted on one of them to hold said movable part in operative position, said lever being removable to permit of detachment of said movable bearing part from said barrel section.

15. In a firearm of the over and under type, a barrel section having a pair of barrels, one over the other, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, a depending lug on said barrel section having grooves in its sides, one of said bearing parts being adapted to straddle said lug and having longitudinally extending ribs slidably mounted in the grooves thereof, and a lever pivoted in said movable bearing part and adapted to cooperate with said lug to hold said bearing parts together.

16. In a firearm of the over and under type, a barrel section having a pair of barrels, one over the other, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one part of said bearing being slidably mounted and retained in operative and inoperative positions on said barrel section, and means for locking said slidable bearing part in operative relation to, and resiliently urging the same towards, the other bearing part.

17. In a firearm of the over and under type, a barrel section having a pair of barrels, one over the other, a depending lug on the under barrel, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one of said bearing parts being supported for sliding movement relative to said lug, and a lever pivoted on said slidable bearing part and having a spring pressed plunger engaging said lug when said lever is in operative position.

18. In a firearm of the over and under type, a barrel section having a pair of barrels, one over the other, and a breech piece provided on its under surface with a longitudinally extending undercut groove, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one part of said bearing being provided in said breech piece above the forward end of said groove therein and another part of said bearing being slidably secured to said barrel section, a cocking link carried by said slidable bearing part adapted to slide into said undercut groove, and means for locking said movable bearing part in operative position with said link engaged in said groove.

19. In a firearm of the over and under type, a pair of barrels positioned one over the other, and a forearm fitting the under barrel and a portion of the over barrel and curved inwardly between the barrels to closely fit the concave surfaces therebetween.

20. In a firearm of the over and under type, a pair of barrels secured together one above the other, and a forearm having a groove of substantially the same cross section throughout its length, said groove being rounded at its bottom to closely receive the under barrel and having its sides adjacent their upper edges curved inwardly and then outwardly to fill the concave spaces between the barrels and snugly fit the under portion of the over barrel.

21. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver hinged to said breech piece adjacent the forward lower end thereof and having side walls adapted to receive between them said breech piece, relatively long arcuate ribs on the sides of said breech piece adjacent the rear end thereof and curved concentrically to the line of pivot between said receiver and breech piece, said receiver having in its side walls similarly curved grooves in which said ribs closely engage when the gun is closed, said breech piece having, forwardly of the lower ends of said ribs, forwardly facing shoulders, and said receiver having rearwardly facing shoulders against which said forwardly facing shoulders engage when the gun is closed.

22. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto one over the other, a receiver, and a hinged connection between said receiver and barrel section and including a multi-part bearing on

said barrel section, one of said parts of said bearing being movable, hammers on said barrels, a cocking lever for said hammers, and means carried by said movable bearing part for cooperating with said cocking lever when the gun is broken.

23. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver for said breech piece, hammers carried thereby, a cocking lever for said hammers pivoted to said receiver and having an arm extending forwardly beneath said breech piece, and an element removably carried by said breech piece beneath the forward end of said arm of said lever and on which said arm has sliding movement when the gun is broken.

24. A cocking lever for use in a firearm of the over and under type and including a body portion, an arm extending forwardly therefrom, and a pair of spaced arms extending upwardly and rearwardly from said body portion and having hammer engaging portions and a lock engaging portion.

25. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, said breech piece having a grcove in its under surface, an element slidable into position in said groove, a receiver for said breech piece, hammers carried thereby, and a pivoted cocking lever extending into said groove and cooperating with said piece to cock said hammers when the gun is broken, said element and lever normally closing said groove when the gun is closed.

26. In a firearm of the over and under type, a receiver, over and under barrels demountably pivoted to said receiver, hammers and a cocking lever on said receiver, a forearm slidably mounted on said barrels, means cooperating with said forearm for permitting the barrels to be dismounted from the receiver by a sliding movement of said forearm, and means carried by said forearm and co-operating with said lever when the gun is broken.

27. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one of said parts of said bearing being movable, hammers on said receiver, a cocking lever for said hammers, and means carried by said movable bearing part for cooperating with said cocking lever when the gun is broken.

28. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one of said parts of said bearing being slidably mounted on said barrel section, hammers on said receiver, a cocking lever for said hammers, and an element on said slidable bearing part adapted, when the latter is in operative position, to cooperate with said cocking lever when the gun is broken.

29. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver provided with a hinge member and having a groove in its bottom surface, a multi-part bearing on said barrel section for said hinge member, one of said parts of said bearing being movable relative to another part, hammers on said receiver, a cocking lever for said hammers pivoted to said receiver and adapted to extend into said groove, and an element carried by said movable part and adapted to engage in said groove when said movable bearing part is in operative position, said element being adapted to cooperate with the arm of said cocking lever when the gun is broken.

30. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver having a hinge member, a multi-part bearing on said barrel section for said hinge member, one of said parts of said bearing being movable relative to another part, hammers on said receiver, a cocking lever for said hammers pivoted to said receiver and having a forwardly extending arm, said breech piece having a groove in its bottom surface adapted to receive said arm, and a pivoted link carried by said movable part and adapted to slide into and be locked within said groove when said movable bearing part is moved into operative position, said link being adapted to cooperate with the arm of said cocking lever when the gun is broken.

31. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one over the other, a receiver provided with a hinge member and having a groove in its bottom surface, a multi-part bearing on said barrel section, one of said parts of said bearing being slidable relative to another part, hammers on said receiver, a cocking lever for said hammers pivoted to said receiver and having a forwardly extending arm positioned in said grcove, and a link pivoted to the rear end of said slidable bearing part and adapted to slide into and be locked within said groove when said slidable bearing part is moved into operative position, said link and arm having

hooked engagement with one another when said gun is broken to limit the extent of breaking action thereof.

32. In a firearm of the over and under type, a receiver, a top lever post therein, hammers pivoted to said receiver rearwardly of said post, and a cocking lever having a pair of side members straddling said post and adapted to cooperate with the respective hammers.

33. In a firearm of the over and under type, a receiver, a top lever post therein, a pair of hammers, a pintle for pivoting said hammers in said receiver, and a cocking lever pivoted to said receiver and having a pair of spaced arms adapted to straddle said post and pintle and arranged to cooperate with the respective hammers.

34. In a firearm of the over and under type, a receiver having a substantially vertical bearing portion, a top lever post therein, a pair of hammers pivoted side by side rearwardly of said beaing portion, and a cocking lever pivoted in said receiver beneath said bearing portion and having a pair of spaced arms straddling said bearing portion and arranged to respectively cooperate with said hammers.

35. A cocking lever for use in a firearm of the over and under type and including a body portion, an arm extending forwardly therefrom, and a pair of spaced arms extending upwardly and rearwardly from said body portion, said forwardly extending arm having a hook at its forward end, and said upwardly and rearwardly extending arms having hammer engaging portions and locking bolt engaging portions.

36. In a firearm of the over and under type, a receiver, hammers pivoted therein, a locking bolt, means for operating the same, and a cocking lever pivoted in said receiver beneath said bolt and having a pair of spaced arms straddling said bolt and adapted to respectively cooperate with said hammers.

37. In a firearm of the over and under type, a receiver, a top lever post therein, hammers pivoted in said receiver rearwardly of said post, a locking bolt beneath said post and adapted to be reciprocated thereby, and a cocking lever pivoted in said receiver having a pair of spaced arms straddling said bolt and post and arranged to respectively cooperate with said hammers.

38. In a firearm of the over and under type, a receiver having a vertical bearing portion, a top lever post journalled in said portion, hammers pivoted in said receiver rearwardly of said post, a locking bolt slidably mounted beneath said post and adapted to be reciprocated thereby, and a cocking lever pivoted beneath said locking bolt and adapted to straddle said locking bolt and cock said hammers when the gun is broken.

39. In a firearm of the over and under type, a receiver, a top lever post having a bearing therein, a pair of hammers positioned side by side rearwardly of said post, a locking bolt beneath and actuated by said post; and a cocking lever pivoted in said receiver and having a body portion, a forwardly extending arm, and a pair of upwardly and rearwardly extending arms straddling said bolt and adapted to cooperate with said hammers to cock the same when the gun is broken.

40. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, a locking bolt carried by the receiver and adapted to lock the gun in closed condition, firing mechanism provided with a trigger, and means between said trigger and locking bolt whereby the latter prevents actuation of the trigger when the gun is open.

41. In a firearm of the over and under type, a barrel section and a receiver pivoted thereto, a reciprocable locking bolt for securing the receiver and barrel section in closed condition, and firing mechanism including a pivoted trigger, said trigger and bolt being so arranged that the bolt, when in inoperative position, is in the path of movement and prevents actuation of said trigger.

42. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, a locking bolt in the receiver and adapted to engage said barrel section to lock the gun in closed condition, and firing mechanism carried by the receiver and including a trigger, said locking bolt and trigger being so arranged that the locking bolt prevents actuation of the trigger when the locking bolt is in inoperative position, and said locking bolt may be moved to inoperative position when the trigger is in pulled position.

43. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, a locking bolt member carried by the receiver and adapted to engage said barrel section to lock the gun in closed condition, firing mechanism including a trigger member, and means for preventing actuation of said trigger member when said bolt member is in inoperative position, said means being movably carried by one of said members to permit said locking bolt member to be moved into inoperative position when said trigger member is in pulled position.

44. In a firearm of the over and under type, a barrel section, a receiver hinged thereto, a locking bolt on said receiver and adapted to engage said barrel section to lock the gun in closed condition, firing

mechanism including a trigger, and a spring pressed plunger carried by said locking bolt and lying in the path of movement, to prevent actuation, of the trigger when the locking bolt is in inoperative position, said plunger permitting of movement of the locking bolt to inoperative position when said trigger is in pulled position.

45. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto one above the other; a receiver for said breech piece; and firing mechanism carried by said receiver and including a pair of hammers, a sear for each hammer, a single trigger, a connector pivoted on said trigger and arranged to successively actuate said sears on repeated pulls of the trigger, and a spring between said trigger and connector normally urging the latter into operative relation to said sears.

46. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism carried by said receiver and including a pair of hammers, a sear for each hammer, a single trigger, a connector pivoted to said trigger and arranged to successively actuate said sears on repeated pulls of the trigger, and a spring between said trigger and connector normally urging the connector into operative relation to said sears and said trigger into normal position.

47. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism carried by said receiver and including a pair of hammers, a sear for each hammer, a single trigger, a connector pivoted to said trigger and arranged to successively actuate said sears on repeated pulls of the trigger, and a spring carried by said trigger and exerting force against said connector for urging the latter into operative relation to said sears and said trigger into normal position.

48. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism including a pair of hammers, a sear for each hammer, a single trigger, and a connector on said trigger arranged to successively engage and release the sears and maintained out of operative relation to one of said sears by the hammer, when cocked, associated with the other sear.

49. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism including a pair of hammers, a sear for each hammer, a single trigger, a connector pivoted on said trigger and adapted to engage first one sear and then the other sear on successive pulls of the trigger, and means on the hammer associated with the first sear for holding said connector out of operative relation to the second sear when said hammer is in cocked condition.

50. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece, and firing mechanism including a pair of hammers, a sear for each hammer, a single trigger, a connector pivoted on said trigger and arranged to engage first one sear and then the other sear on successive pulls of the trigger, a cam on the hammer associated with the first sear for holding said connector out of operative relation to the second sear when said hammer is in cocked condition, and a spring normally urging said connector into operative relation to said sears.

51. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism including a pair of hammers pivoted side by side, a pair of sears, one for each hammer and pivoted side by side and extending one beyond the other, a trigger, a connector pivoted thereto and arranged on successive pulls of the trigger to successively engage the projecting sear and then the other one, and a cam on that hammer associated with the projecting sear for holding said connector out of operative relation to the other sear when said hammer is in cocked position.

52. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism including a pair of hammers, a sear for each hammer, a single trigger, a connector carried by said trigger and adapted to actuate said sears, and a safety device cooperating with said connector to prevent pulling of the trigger.

53. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism including a pair of hammers, a sear for each hammer, a single trigger, a connector carried by said trigger and adapted to actuate said sears, and a safety device slidably carried by the receiver above said connector and arranged to be moved into and out of the path of movement of the latter.

54. In a firearm of the over and under type, a barrel section having a breech piece

and a pair of barrels connected thereto, one above the other; a receiver for said breech piece; and firing mechanism positioned in a transverse opening in said receiver and including a pair of hammers, a sear for each hammer, a pivoted trigger, an upwardly extending connector pivoted to the trigger and adapted to actuate the sears, the upper wall of the opening in said receiver having a slot adapted to accommodate the upper end of the connector, and a slidable safety device closing said slot and having a recess adapted to register therewith when the safety device is in "off" position to permit actuation of the trigger.

55. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other; a receiver pivoted to said barrel section; a locking bolt carried by said receiver and adapted to cooperate with said breech piece to lock the firearm in closed condition; said receiver having a bearing portion provided with a slot in its wall, a post journalled in said bearing portion and operatively connected to said bolt, a pin projecting from said post through said slot in said bearing portion, and a spring engaging said pin and normally urging said post in a direction to move said locking lever into operative position.

56. In a firearm of the over and under type, a barrel section having a breech piece and a pair of barrels connected thereto, one above the other, a receiver pivoted to the barrel section and having an extractor camming surface, and an extractor carried by the breech piece and having a part normally in the path of movement of said camming surface and arranged to be pressed inwardly of the breech piece by the receiver in the event said part and camming surface are not in proper relation when the breech piece is moved into the receiver.

57. In a firearm of the over and under type, a barrel section having a breech piece, a pair of barrels connected thereto, one above the other; a receiver pivoted to said barrel section and having an extractor camming surface; and a longitudinally movable extractor carried by said breech piece and having a pivoted part and a spring normally urging said pivoted part into the path of movement of said camming surface.

58. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operatively associated with said hammers to successively actuate the same on repeated pulls, means actuated by the "kick" of the gun for preventing "involuntary pull" of the trigger, and means associated with said last mentioned means for aiding movement thereof into and out of operative position.

59. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operativly associated therewith for successively actuating the same on repeated pull of the trigger, a pivoted inertia lever adapted to be thrown by the "kick" of the gun into momentary locking relation to the trigger to prevent "involuntary pull", and a spring associated with said lever and arranged to snap the same to its extreme positions after movement of the lever has been initiated by the "kick" of the gun.

60. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operatively associated therewith for successively actuating the same on repeated pulls of the trigger, a pivoted inertia lever arranged to be thrown by the "kick" of the gun into momentary locking relation to the trigger to prevent "involuntary pull", a pivoted part engaging said lever, and a spring for snapping the point of engagement between said part and lever past a line intersecting the pivots of said lever and part.

61. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operatively associated therewith to successively actuate the same on repeated pulls, inertia means automatically thrown by the recoil of the gun into operative relation of the trigger for preventing "involuntary pull" of the latter, and means associated with said hammers and arranged to positively move said last mentioned means out of operative relation to the trigger when the hammers are cocked.

62. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operatively associated therewith to successively actuate the same on repeated pulls, an inertia member automatically thrown by the recoil of the gun into operative relation to the trigger to prevent " involuntary pull" of the latter, and means on one of said hammers, for moving said inertia member out of operative relation to the trigger when said hammer is cocked.

63. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operatively associated therewith to successively actuate said hammers on repeated pulls, a pivoted inertia lever thrown by the "kick" of the gun into momentary locking engagement with the trigger to prevent "involuntary pull" of the latter, and a cam on one of said hammers arranged, when said lever is cocked, to engage said lever and return it to inoperative position.

64. In a firearm of the over and under type, firing mechanism having a pair of hammers, a single trigger operatively associated therewith for successively actuating

the same on repeated pulls of the trigger, a pivoted inertia lever adapted to be thrown by the "kick" of the gun into momentary locking relation to the trigger to prevent "involuntary pull" of the latter, a spring associated with said lever and arranged to snap the same to its extreme positions, and a cam on one of said hammers adapted, when cocked, to engage said lever, in the event the latter should stick in operative position, and positively return the same to inoperative position.

65. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, a locking bolt in said receiver and adapted to engage said barrel section to lock the gun in closed condition, a pair of hammers, a trigger operatively associated therewith to successively actuate the same on repeated pulls, means between said locking bolt and trigger for preventing actuating of the trigger when the locking bolt is in inoperative position and for permitting operation of the locking bolt when the trigger is in pulled position, and an inertia member automatically thrown by the "kick" of the gun into operative relation to said trigger to prevent "involuntary pull".

66. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, a locking bolt in said receiver adapted to engage said barrel section to lock the gun in closed condition, a pair of hammers carried by said receiver, a trigger operatively associated with said hammers to successively actuate the same on repeated pulls, means between said bolt and trigger for preventing actuation of the latter when the bolt is in inoperative position and for permitting the bolt to be moved into inoperative position when the trigger is in pulled position, an inertia member automatically thrown by the "kick" of the gun into operative relation to the trigger to prevent "involuntary pull", and means on one of said hammers for returning said inertia member to inoperative position when said hammer is cocked in the event that said member should stick in operative position.

67. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, firing mechanism including a hammer and a trigger, a locking bolt for locking the gun in closed condition, a cocking member for cocking said hammer when the gun is broken, interengaging means between said locking bolt and cocking member adapted to hold said locking bolt in retracted position when the gun is open, and means between said locking bolt and trigger for preventing actuation of the trigger when the gun is open.

68. In a firearm of the over and under type, a barrel section, a receiver pivoted thereto, a locking bolt in the receiver for locking the gun in closed condition, firing mechanism including a hammer and a trigger, a cocking lever for said hammer, means between said cocking lever and bolt for holding the bolt in inoperative position when the gun is open, and means between said locking bolt and trigger for preventing actuation of the trigger when the bolt is in inoperative position and permitting the bolt to be moved to inoperative position when the trigger is in pulled position.

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