June 4, 1940. V. A. BROWNING 2,203,378

FIREARM

Filed June 25, 1936 2 Sheets-Sheet 1

Fig. 1

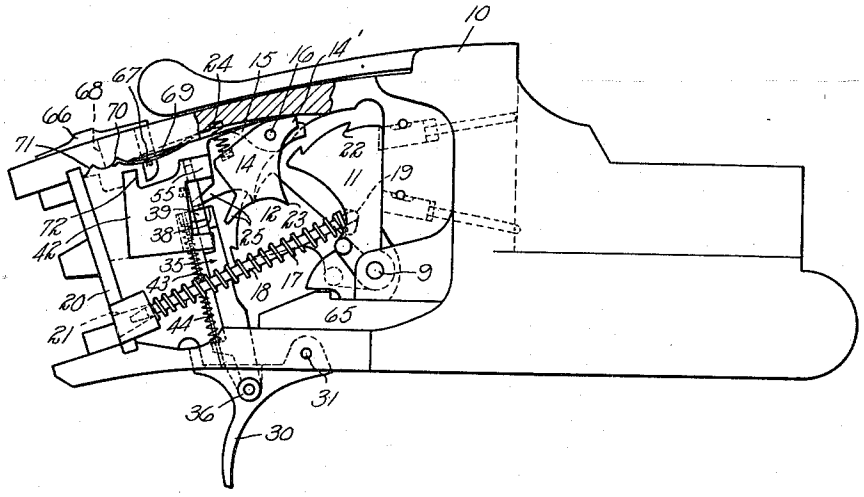
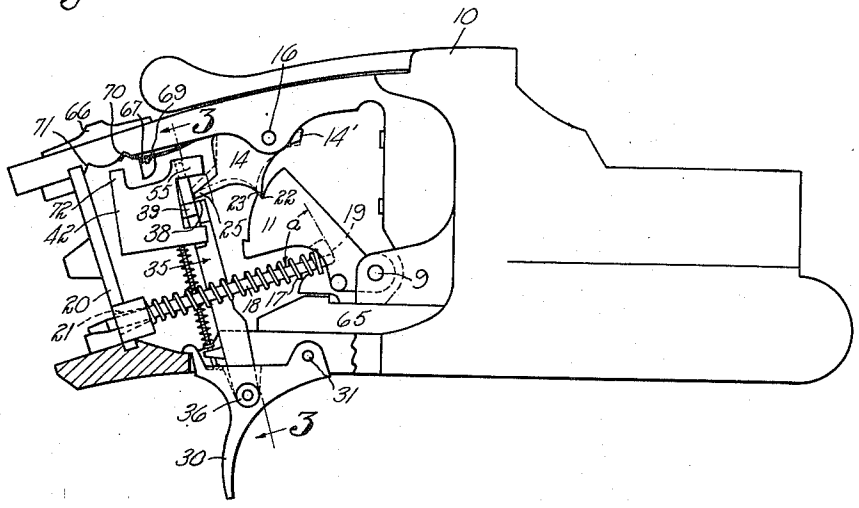


Fig. 2



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FIREARM

Filed June 25, 1936 2 Sheets-Sheet 2

Fig. 3

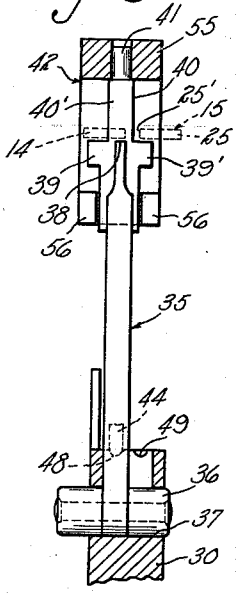


Fig. 4

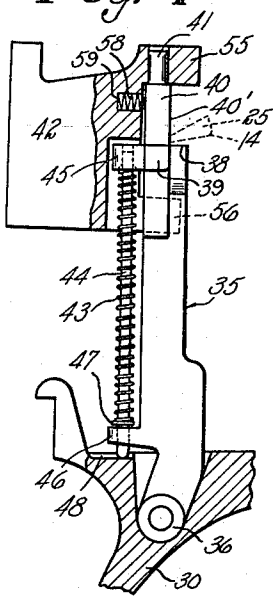
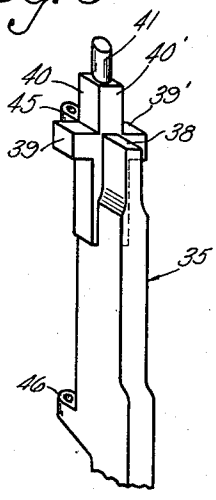


Fig. 5



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Patented June 4, 1940 2,203,378

UNITED STATES PATENT OFFICE

2,203,378

FIREARM

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Application June 25, 1936, Serial No. 87,153

14 Claims. (Cl. 42—42)

This invention relates to improvements in firearms and has particular reference to firing mechanism for double barrel guns (either of the side by side or the over and under types) in which the barrels may be fired in succession upon successive intentional pulls of a single trigger.

In fire arms of the double-barrel single trigger type, various arrangements have been devised for preventing "doubling," that is, accidental and unconscious discharge of the second barrel due to "involuntary pull" after the first barrel has been fired. Heretofore, such arrangements have generally been based under the assumption that the involuntary pull on the trigger and resultant doubling take place during the forward rebound of the gun, but in actual practice it is found that the involuntary pull may also occur during the recoil of the gun.

An aim of the present invention is to provide an improved arrangement wherein doubling is absolutely and entirely avoided during the entire period of the jump of the gun upon discharge thereof, that is to say, there is no possibility of accidentally firing the second barrel during either the recoil or the rebound of the gun due to the discharge of the first barrel.

A further aim of the invention is to provide an improved arrangement wherein doubling is absolutely avoided and wherein accidental firing of the gun, should it be jarred, is guarded against.

A further aim of the invention is to provide an improved arrangement wherein the speed and force with which the hammer falls is accelerated without, however, increasing the pressure with which the hammer bears against the sear when the hammer is in cocked position.

A further aim of the invention is to provide a firing mechanism having the above and other advantages which is characterized by its simplicity in construction, its economy in manufacture, its durability, and by its reliability in effectiveness and operation.

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

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

In the accompanying drawings, wherein is shown, for illustrative purposes, one of the embodiments which the present invention may take, it being understood that this disclosure is by way of exemplification and the improvements may be incorporated in guns of various types and kinds and in connection with firing mechanisms of various styles and forms:

Figure 1 is a view looking at the right-hand side of the frame of the gun and carrying my improved mechanism, the right-hand hammer being illustrated in uncocked or firing position and the left-hand hammer being shown in cocked position;

Fig. 2 is a view similar to Fig. 1 but showing both of the hammers cocked, the right-hand sear also being shown by broken lines in the position which it has assumed after it has been actuated to release the right-hand hammer and during the recoil movement of the gun;

Fig. 3 is a detail view of the connector and inertia block, this view being taken substantially on line 3—3 of Fig. 2;

Fig. 4 is a side view of what is shown in Fig. 3; and

Fig. 5 is a perspective view of the connector.

Referring to the drawings in detail, 10 designates the frame of the gun, the same being shown more or less diagrammatically as it may be of any suitable construction and the particular form and shape thereof form no part of the present invention. The firing mechanism includes a pair of hammers 11 and 12 pivoted as at 9. Respectively associated with these hammers are the sears 14 and 15 which may be of any suitable construction and which may be located as desired depending upon the form and position of the hammers themselves. These sears are pivoted on a pin 16 carried by the upper tang of the frame. Each of the hammers is normally urged into firing position by a main spring 17 encircling a plunger or guide 18. The forward end of each guide is rounded and engages in a recess or seat 19 in the rear face of the respective hammer. The forward end of each spring engages against a shoulder on the forward end of the respective guides 18, and the rear ends of the springs engage against the rear tang piece 20 of the frame. The rear ends of the guides 18 have loose sliding movements in tapered openings 21 in the tang piece 20. Each of the hammers has, on its upper face, a notch 22 which is adapted to be engaged by a tooth 23 on the respective sear for holding the hammer in cocked position. The sears are normally urged into engagement with the hammers by springs 24 which may be of any suitable form. The sears are provided with rearwardly extending tails 25 with which the connector is adapted to be engaged, as hereinafter described more in detail. By preference, the under faces of these tails, as viewed when the sears are in hammer holding position, are inclined upwardly and forwardly.

It is observed that, when a hammer is cocked, the tooth 23 of its sear is engaged in the notch 22 of the hammer, and the main spring 17 is exerting pressure against the sear through the hammer. It is desired that this pressure be such that undue effort is not necessary in pulling the trigger and yet that the main spring

exert such pressure against the hammer, when released, that the hammer will move quickly and strike the firing pin with such force as to insure firing of the gun. To these ends, the seat or recess 19 in the hammer is elongated in the direction of the length of the hammer and bears such relation to the guide and spring that, when the hammer is in cocked position, the forward end of the guide engages in the lower end of the recess and, as the hammer falls, the forward end of the guide moves upwardly in the recess away from the pivot of the hammer, thus increasing the leverage action. More particularly, it will be seen that as the hammer approaches a cocked position, the inner or bottom surface of the recess forms an acute angle a with the guide so that the forward end of the guide moves downwardly (that is, towards the pivot of the hammer) to the position shown in Fig. 2 and in which position the spring holds the hammer against the sear with less pressure than would be the case if the guide engaged the outer end of the seat. As the hammer falls, this angle is increased until it becomes an obtuse angle and, thereafter, the forward end of the plunger will slip upwardly in the seat to the position shown in Fig. 1. Thus it will be noted that, when the hammer is in cocked position, the leverage action exerted on the hammer by the spring is less than that exerted on the hammer as the hammer falls and strikes the firing pin. The upward movement or slipping of the plunger takes place during the fall of the hammer, thus increasing the speed of fall of the hammer, which is desirable.

The numeral 30 designates a trigger of suitable construction, the same being pivoted on a pin 31 carried by the lower tang of the frame. This tang is slotted to accommodate the trigger. The numeral 35 designates the connector which is so arranged that, upon successive intentional pulls of the trigger, it will successively release the sears from their respective hammers. In the present illustrative disclosure, this connector is shown as being adjustable so that the order in which the barrels are fired may be selected at will, but it is to be understood that certain features of the present invention may be incorporated in firing or trigger mechanisms not having the selective feature. In the present instance, the connector 35 is pivoted at its lower end to the trigger for swinging movement generally longitudinally of the gun. More particularly, the lower end of the connector is fixed to a shift button 36 mounted for movement in a transverse bore 37 in the trigger below the frame. The connector has, adjacent to, but below its upper end, a forwardly extending sear-engaging-shoulder or surface 38 and has, on its respective side faces, lugs 39 and 39', the upper surfaces or shoulders of which are adapted to engage the under sides of the tails of the respective sears. The upper surfaces of these lugs are generally in the plane of the shoulder 38 and are spaced rearwardly and to opposite sides thereof. The opposed faces of the tails 25 are cut away so as to provide an interval or notch 25' which is relatively wider than the shoulder 38 so as to prevent this shoulder from engaging both of the sears at the same time. The portion 40 of the connector which extends above the sear-engaging-shoulders is relatively wider than the interval or notch 25' between the tails of the sears in order that this portion of the connector will not drop into said notch when the connector is shifted transversely. Also, the forward face 40' of this portion 40 presents a relatively wide bearing against the rear end of the tail of the sear when it strikes thereagainst. This portion 40 terminates at its upper end in a reduced cylindrical stem 41 which is adapted to extend into a bore in an inertia block 42.

Associated with the connector 35 is a spring 43 which, in the present instance, serves three functions—namely, it urges the connector forwardly about its pivot 36; it maintains the connector in its selected positions relative to the sears; and it urges the trigger to unpulled position. This spring is in the form of a coil and surrounds a guide or plunger 44 supported for sliding movement in ears 45 and 46 projecting from the rear face of the connector. The spring 43 engages at its upper end against the under side of the upper ear 45 and engages at its lower end against a collar 47 fixed to the guide, so that the guide is normally forced downwardly against the trigger. The lower end of the guide is rounded and is adapted to selectively engage notches 48 and 49 provided in the upper face of the trigger and extending generally longitudinally of the gun. With this arrangement, it will be seen that the spring, since it bears against the upper ear 45, normally urges the connector forwardly towards the sears, and the guide is normally urged downwardly so as to maintain its lower end in the selected notch 48 or 49. Also, the spring, acting through the connector, normally urges the trigger into unpulled position.

The inertia member or block 42 functions to withdraw and maintain the connector out of operative relation with the sears during the forward rebound of the gun after one of the barrels has been fired. In the present instance, this inertia member is in the form of a block or mass mounted for movement on the connector in a direction of the length of the connector. As here shown, the inertia block has at its forward upper corner a forwardly extending lug 55 having a vertical bore adapted to slidably receive the stem or stud 41 forming the upper end of the connector. Projecting from the lower forward corner of the block are a pair of spaced apart ears 56 which loosely straddle the connector below the lugs 39 and 39'. The inertia block is located at the upper end of the connector so that its full leverage effect may be taken advantage thereof, and the block itself may be of lesser mass than would be the case if the same were located more nearly to the pivot of the connector. Interposed between the connector and the inertia block is a spring 58 which serves to prevent rattling between the connector and the block and which also may be employed to advantage in assisting disengagement of the connector from the sear after the first shot and upon recoil of the gun, as presently described. In the present instance, this spring is in the form of a compression coil located in a recess 59 in the inertia block and bearing against the rear face of the connector.

The purpose of permitting the block to move lengthwise of the connector is to guard against accidental actuation of a sear and release of its hammer in the event the gun should be dropped. Should the inertia member be rigidly fixed to the connector and the gun dropped, there is a liability that the mass comprising the trigger, the connector, and the inertia member would be moved with respect to the firearm and release a hammer, resulting in accidental firing of the gun. With my improved arrangement, this will not occur, for should the gun be dropped, the

inertia block would move independently of the connector and trigger, and the connector and trigger of themselves have not sufficient mass to jar off the sear. It is observed that movement of the inertia block along the connector away from the pivot of the connector is limited by the engagement of the upper surface of the block against the under surface of the upper tang of the frame.

Describing the general operation of the construction, it may be assumed that the connector has been transversely adjusted by means of the button **36** so that the right-hand hammer **11** will be released upon the first pull of the trigger, causing a discharge of the cartridge in that barrel (the under barrel in the present instance) associated with that hammer. In such case, the lower end of the guide **44** engages in the notch **48** in the trigger (see Fig. 3); the connector spring **43** holds the connector with its face **40'** engaging the rear end of the tail of the right-hand sear (see Figs. 2 and 4); the front sear-engaging-shoulder **38** is positioned beneath the right-hand sear **14** so as to raise the same on the first pull of the trigger (see Figs. 2 and 4); and the left-hand lug **39'** is rearwardly of and on a plane below the tail of the left-hand sear. Now, when the trigger is pulled, the connector is raised, resulting in the lifting of the right-hand sear and the release of the right-hand hammer so that the first barrel will be fired. When the gun is fired, it will recoil towards the shoulder of the shooter, and the connector during such recoil movement will be held by the spring **43** against the tail **25** of the right-hand sear **14** so that during such recoil movement the connector is held against movement forwardly into operative relation with the other sear and, therefore, doubling during this recoil movement is impossible whether or not the trigger is released and repulled. In Fig. 2, I have shown by broken lines the position which the right-hand sear has during recoil and after the trigger has been released. In this figure, it will be seen that the tail of the right-hand sear rests upon the front sear-engaging-shoulder **38**, and the face **40'** of the connector engages against the rear end of this tail. A similar engagement between the connector and the right-hand sear is maintained should the trigger not be released after firing and during recoil. Now, as the gun stops against the shoulder of the shooter, the inertia block continues its rearward movement until it engages the rear tang piece **20** as shown by broken lines in Fig. 1, thus withdrawing the connector from engagement with the tail of the right-hand sear and allowing this sear, under the action of its spring **24**, to swing downwardly (from the broken line position of Fig. 2 to the full line position of Fig. 1), the sear thus swinging forwardly out of the range of forward movement of the connector. The downward movement of the sear is limited by engagement of the forward projection **14'** thereon against the upper tang. As the gun rebounds from the shoulder, the inertia block lags to the rear, maintaining the connector out of operative relation to the sears. Toward the end of the forward or rebound movement of the gun, the spring **43** forces the connector, together with the inertia block, forwardly, and as the right-hand sear is now out of the way, the left-hand lug **39'** of the connector will move beneath the left-hand sear **15** as shown in Fig. 1 so that this sear will be actuated upon a second voluntary pull of the trigger. In the event that the shooter maintains the trigger in pulled position when the connector thus swings forwardly, the forward face of the left-hand lug **39'** will stop against the rear end of the tail **25** of the left-hand sear, and then upon release of the trigger, the spring **43** will snap the connector downwardly and forwardly into operative position with the left-hand sear. In this latter position of the parts, as is clear from Fig. 1, the forward face of the lug **55** of the inertia block engages against the rear face of the body portion of the left-hand sear. When the second barrel has been fired, the left-hand sear will, during the jump of the gun, fall to the same position that the right-hand sear has assumed, and then the connector and inertia block will move forwardly to a position where the lug **55** of the latter engages the upper rear corners of the body portions of the sears.

Obviously, if it is desired to reverse the order in which the barrels are fired, the shift button and connector are moved to the left on the gun (to the right as viewed in Fig. 3) and to a position where the lower end of the guide **44** engages the left-hand notch **49**. The operation of the gun on successive pulls of the trigger is the same as that just described except that, on the first intentional pull, the shoulder **38** of the connector will result in the release of the left-hand hammer and, on the next intentional pull of the trigger, the right-hand lug **39** will lift the right-hand sear.

It may be well to again emphasize that during the recoil of the gun, the sear of that hammer which has been released prevents, during the entire period of such recoil movement, the connector from advancing into operative relation to the other sear, and during the forward or rebound movement of the gun the inertia block holds the connector, during that entire rebound period, out of operative relation to the other sear so that at no time during the jump of the gun, which includes both the recoil and the rebound, can the gun be doubled, no matter what the conditions may be, how the gun is held, or what the relation between the shooter's finger and the trigger may be.

It may be pointed out here that the forward sear-engaging-shoulder **38** is perpendicular to the length of the connector and, when in engagement with the underside of the tail of a sear, this shoulder is inclined forwardly and upwardly, this being of advantage in that camming rearwardly of the connector by the sear is avoided. With this arrangement described, it is necessary that the sear spring **24** be slightly compressed to disengage the shoulder **38** from the sear, thus insuring that the connector will not escape from the sear before it is intended to. Now, it may be desirable (as, for example, when a very light load or shell is to be fired) to assist the disengagement of the connector from the sear when the gun strikes the shoulder of the shooter, that is, at the end of the recoil of the gun, and the spring **58** may be of assistance in this connection. It will be seen that, upon the recoil of the gun, the inertia block will tend to lag somewhat with respect to the connector (there being a little lost motion between these parts), thus compressing the spring **58**, with the result that, when the recoil of the gun is stopped by the shoulder of the shooter, the spring will give an added impetus to the inertia block and connector rearwardly and insure that the connector is disengaged from the sear.

The numeral **65** designates the usual locking bolt for locking the gun in closed position, the same being mounted for sliding movement in the frame or receiver beneath the usual bearing in

which the top lever is journalled. In the present instance, this locking bolt is adapted to move the connector out of operative relation to the sears when the gun is broken. When the gun is broken, the locking bolt will move backwardly and engage the forward face of the connector immediately above the lower tang of the frame, thereby moving the connector rearwardly. When the gun is again closed, the locking bolt will move forwardly, permitting the connector to move to the operative position shown in Fig. 2.

The numeral **66** designates the usual safety piece or slide mounted for longitudinal movement on the upper tang of the frame. It has a depending finger **67** extending through a slot **68** in the tank, and carried by this finger is a positioning spring **69** having a hump adapted to selectively engage in the detent notches **70** and **71**. In accordance with the present arrangement, this slide is adapted to cooperate with the connector so as to hold the same in "safe" position. To this end, the upper portion of the inertia block is cut away so as to accommodate the lower end of the finger **67** and to provide a forwardly facing abutment **72** on the block and with which abutment the finger **67** is adapted to engage. With this arrangement, when the slide is moved rearwardly to "safe" position, the finger **67** engages the abutment **72**, thereby moving the connector rearwardly out of operative position with respect to the sears. The parts are held in this position by the engagement of the hump of the spring **69** on the "safe" notch **71**. When the slide is moved forwardly into "on" position, the finger is withdrawn forwardly from the abutment **72** so that the connector will again, under the influence of the spring **63**, assume its operative relation to the sears.

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

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

I claim as my invention:

1. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted on said trigger and having a forward sear-engaging-surface and a rear sear-engaging-surface, said surfaces being arranged to successively engage the sears upon successive intentional pulls of the trigger, means normally urging said connector forwardly into operative position with said sears, means between said sears and connector whereby one of the sears holds said connector out of operative position with respect to the other sear during recoil of the gun after firing the first barrel thereof, and inertia means carried on the upper end of said connector and adapted to lag behind the gun and hold the connector out of operative relation to said sears upon forward rebound of the gun.

2. In combination, hammers, sears respectively associated therewith, a trigger, and a connector pivoted to said trigger and having a forward sear-actuating-surface, a rear sear-actuating-surface and an upwardly extending front face arising from said first mentioned surface, said surfaces being arranged to respectively engage the sears upon successive intentional pulls of the trigger and said face being arranged to engage the rear end of the sear with which said front surface is associated during recoil of the gun upon firing thereof, said connector being weighted so as to lag behind the forward rebound of the gun and maintain the connector out of operative relation to the sears during such period.

3. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted to said trigger and having sear-actuating-portions adapted to respectively and successively engage the sears upon successive intentional pulls of the trigger, spring means normally urging said connector forwardly into operative relation to said sears, means for moving said sears beyond the extent of forward movement of said connector when the sears are disengaged from the connector, said sears and connector having interengaging portions so arranged that one of the sears, when disengaged from its hammer, will prevent said connector from moving forwardly into operative relation to the other sear during recoil of the gun, and inertia means carried by said connector for holding the same out of operative relation to said sears upon rebound of the gun.

4. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted to said trigger and having a forward sear-actuating-surface, a rear sear-actuating-surface, and an upwardly extending front face arising from said first surface, said surfaces being arranged to respectively engage the sears upon successive intentional pulls of the trigger and said face being arranged to engage the rear end of the sear with which said front face is associated during recoil of the gun upon firing the first barrel thereof, spring means normally urging said connector forwardly into operative relation to said sears, means for moving said sears forwardly beyond the extent of forward movement of said connector when the sears are disengaged from said connector, and inertia means carried on the upper end of said connector causing said connector to lag behind the gun and maintaining the connector out of operative relation to the sears upon forward rebound of the gun.

5. In combination, hammers, sears respectively associated therewith, a trigger, a connector through which said sears are successively operated upon successive intentional pulls of the trigger, and cooperative engaging means between said connector and sears whereby said connector is maintained by one sear against operative movement with relation to the other sear after the first barrel is fired and during recoil of the gun, said connector being mounted for selective positioning relative to the sears whereby the sears may be operated in selective order, inertia means associated with said connector and maintaining the same out of operative relation to said sears during the rebound of the gun, and means for selectively positioning said connector.

6. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted to said trigger and having portions adapted to respectively and successively engage the sears upon successive intentional pulls of the trigger, said connector and sears having engaging portions so that said connector is held by one of the sears during the recoil of the gun against movement into operative relation to the other sear,

said connector being mounted on said trigger for selective positioning relative to said sears whereby the sears may be operated in selective order, means for selectively positioning said connector relative to said sears, and an inertia weight carried by said connector for causing the connector to lag behind the gun and maintain the connector out of operative relation to the sears on forward rebound of the gun.

7. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted on said trigger for swinging movement longitudinally of the gun and having portions adapted to respectively and successively engage the sears upon successive intentional pulls of the trigger, said connector being mounted on said trigger for selective lateral positioning relative to the sears whereby the sears may be operated in selective order, a spring normally urging said connector forwardly into operative relation to said sears, said connector and sears having engaging portions so that one of said sears, upon firing of the gun and rebound thereof, prevents said connector from moving forwardly into operative relation to the other sear, said connector being weighted so as to constitute an inertia block which will lag behind the gun and hold the connector out of operative relation to the sears on forward rebound of the gun.

8. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted on said trigger for swinging movement longitudinally of the gun and mounted on said trigger for lateral selective movement with respect to said sears, said connector having a forward sear-engaging-portion adapted to be selectively positioned relative to said sears and also having a pair of rear sear-engaging-portions adapted to respectively engage said sears, a spring normally urging said connector forwardly into operative relation with said sears, means for maintaining said connector against forward movement into operative relation with the second sear after the first sear has been actuated and during recoil of the gun irrespective of the position of the trigger during such recoil period, and inertia means on said connector adapted to lag behind the gun and maintain the connector out of operative relation to the sears during the forward rebound of the gun.

9. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted on said trigger for swinging movement longitudinally of the gun and supported for lateral selective positioning with respect to said sears, said connector having a forward sear-actuating-surface adapted to be selectively positioned with respect to said sears and a pair of rear sear-actuating-surfaces to opposite sides of said first surface and arranged to respectively cooperate with said sears, said connector having an upwardly extending face arising from said first mentioned surface and arranged to engage the rear end of the sear with which said first surface is associated during recoil of the gun upon firing thereof, a spring normally urging said connector forwardly into operative relation to said sears, an inertia weight on said connector for maintaining the latter out of operative relation to said sears during rebound of the gun, and means for selectively positioning said connector relative to said sears.

10. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted on said trigger for swinging movement longitudinally of the gun and mounted on the trigger for lateral selective positioning relative to said sears, said connector having sear-actuating-portions adapted to respectively and successively engage the sears upon successive pulls of the trigger, said trigger having on its upper face and rearwardly of said connector a pair of laterally spaced, longitudinally extending notches, a guide supported by said connector for movement lengthwise of the connector and having its lower end adapted to selectively engage in said notches, and a spring about said guide and normally urging the same downwardly and said connector forwardly.

11. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted to said trigger for swinging movement longitudinally of the gun and through which said sears are successively operated upon successive intentional pulls of the trigger, an inertia block, and means slidably connecting said block to said connector, said inertia block being movable longitudinally of said connector to prevent accidental discharge of the gun should the same be dropped.

12. In combination, a frame, hammers pivoted therein, sears respectively associated with said hammers, a trigger, a connector pivoted to said trigger for swinging movement longitudinally of the gun and through which said sears are successively operated upon successive intentional pulls of the trigger, a spring normally urging the connector forwardly into operative relation to said sears, and an inertia block mounted on the upper free end of said connector for movement longitudinally thereof, movement of said inertia block away from the pivot of the connector being limited by said frame.

13. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted to said trigger for swinging movement longitudinally of the gun and having sear-engaging-shoulders adapted to respectively engage beneath said sears so as to successively disengage the same from their hammers on successive intentional pulls of the trigger, a spring normally urging said connector forwardly into operative relation to said sears, an inertia block supported on the outer end of said connector for maintaining the connector out of operative relation to the sears during the forward rebound of the gun after the first barrel has been fired, said inertia block being mounted on said connector for limited movement relative thereto in the direction longitudinally of the gun, and a spring between said connector and block normally urging the latter rearwardly of the connector.

14. In combination, hammers, sears respectively associated therewith, a trigger, a connector pivoted to said trigger for swinging movement longitudinally of the gun through which said sears are successively operated upon successive intentional pulls of the trigger, an inertia block, and means slidably connecting said block to said connector.

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