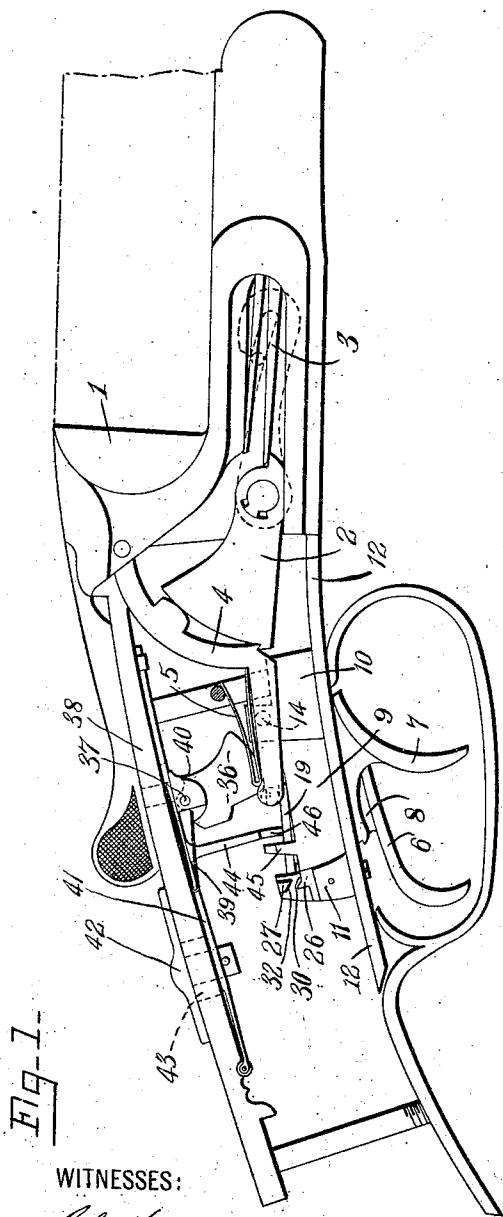


C. GREEN.
FIRING MECHANISM FOR GUNS.
APPLICATION FILED JUNE 29, 1909.

974,259.

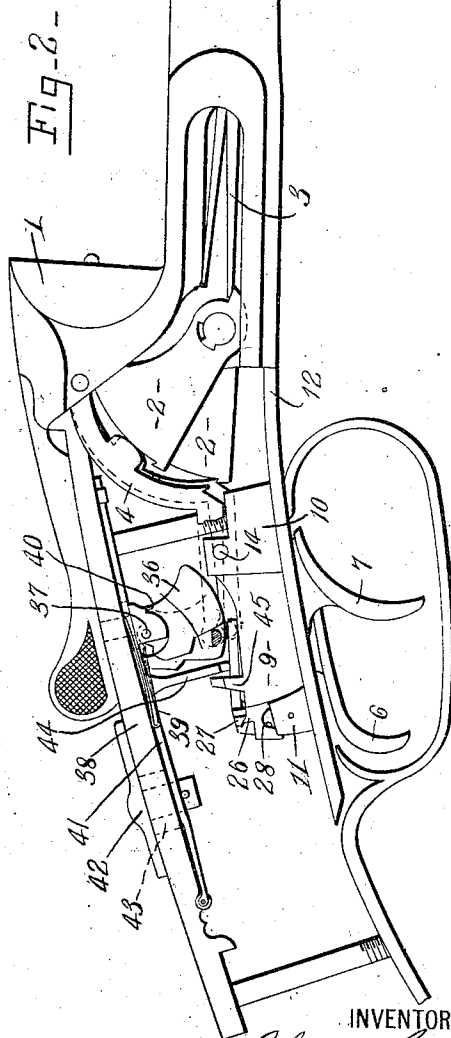
Patented Nov. 1, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

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& Kaufman



INVENTOR

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2 SHEETS—SHEET 2.

Fig-3-

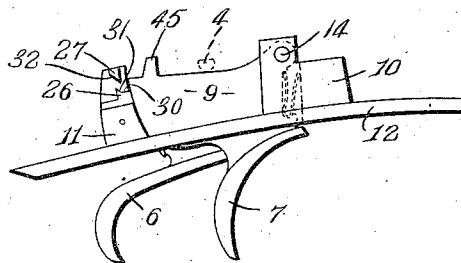


Fig-4-

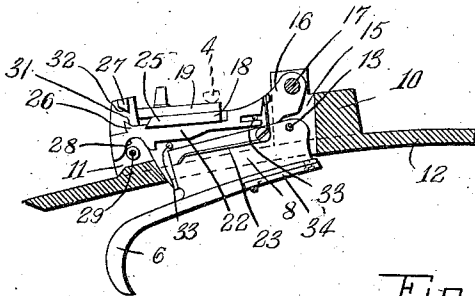


Fig-5-

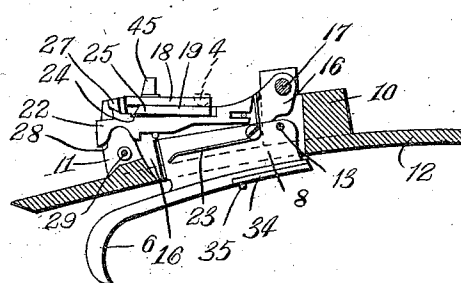


Fig-6-

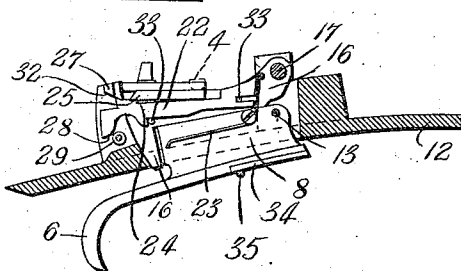


Fig-7-

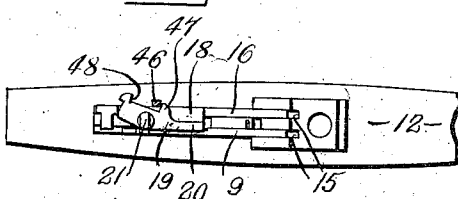
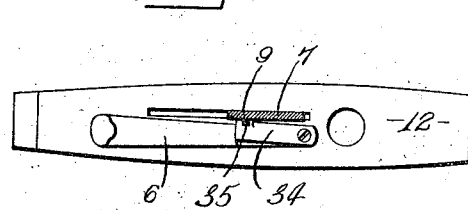


Fig-8-



WITNESSES:

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UNITED STATES PATENT OFFICE.

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OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

FIRING MECHANISM FOR GUNS.

974,259.

Specification of Letters Patent.

Patented Nov. 1, 1910.

Application filed June 29, 1909. Serial No. 504,966.

To all whom it may concern:

Be it known that I, CHARLES GREEN, of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Firing Mechanism for Guns, of which the following is a specification.

My invention has for its object the production of a particularly simple and efficient firing mechanism for guns and it consists in the combinations and constructions hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figures 1 and 2 are elevations of the frame of a gun, showing parts of the firing mechanism in different positions and the triggers as locked together. Fig. 3 is a detached view showing the triggers when not locked together. Figs. 4, 5 and 6 are views of parts seen in Fig. 3, one trigger being removed, showing, respectively, the positions of the parts of the single trigger mechanism before the first firing, immediately after the first firing, and before the second firing. Fig. 7 is a plan of parts seen in Fig. 3. Fig. 8 is an inverted plan, partly broken away and partly in section, of the trigger plate and triggers.

1 is the frame; 2 and 3 are, respectively, the hammers and one of the main springs; and 4 and 5 the sears and sear springs of a double barrel gun, all of which parts may be of desirable form, size, and construction.

6 and 7 are left and right triggers, the upper portions or blades 8 and 9 of which are movable between front and rear posts 10 and 11 spaced apart on the detachable trigger plate 12 of the frame, said triggers being pivoted, respectively, at 13 and 14 to the front post 10. Said front post 10 is preferably formed with vertical slots or grooves 15 in which the front ends of the trigger blades 8 and 9 extend, and the pivot 13 and upper edge or face of the trigger blade 8 are located below the pivot 14 and the upper edge or face of the trigger blade 9. The trigger blade 9 of the trigger 7 acts directly upon the corresponding or right hand sear 4 to trip said sear in the usual manner.

16 is a firing element or plate pivoted at its front end at 17 to the front post 10, its

rear end slidably engaging the rear post 11, 55 and the pivot 17 thereof being alined with the pivot 14 of the right trigger 7 and being usually integral therewith. This firing element or plate 16 is provided with a surface 18 of sufficient width to trip either of 60 the sears 4, and is also provided with a selector 19 having a part movable laterally thereon and formed with a surface 20 arranged above the surface 18. The selector can be shifted to trip either the right or left 65 sear first, the surface 18 of the firing plate effecting the second firing. The selector 19 is pivoted by a vertical pivot 21 on the upper side of the firing element or plate 16 and is shifted as hereinafter described. The 70 firing element 16 and selector 19 constitute parts associated with the trigger 6 and arranged in different planes to effect successive firing.

22 is a member for controlling the second 75 firing and preventing "doubling" when the trigger 6 is used to trip either sear, or when the trigger 7 is connected to the trigger 6 as hereinafter explained. Said controlling member is slidably mounted on the side face 80 of the firing plate 16 and located between said firing plate 16 and the trigger blade 9 of the trigger 7, is shiftable forwardly and rearwardly relative to the firing plate 16, and is also movable with said plate, and said 85 member 22 is normally held from forward movement during the first pull of the trigger 6 (or 7 when the triggers are connected), and the upward movement thereof with the firing plate 16 during the first pull 90 of the trigger 6 or 7 is limited.

As here shown the controlling member is moved forwardly by a spring 23, and is provided with a forwardly-facing shoulder 24 which coöperates with a laterally projecting 95 catch or shoulder 25 provided on the firing plate 16. Said member 22 is also provided with an angularly-faced shoulder 26 coacting with a fixed stop or shoulder 27 on the rear post 11, and with a downwardly and 100 rearwardly inclined cam face 28 coöperating with means as a pin 29 on the rear post 11. The angularly-faced shoulder 26 faces upwardly and is provided with a horizontal face 30, and with an upwardly and rearwardly inclined or beveled face 31 located in 105 rear of and meeting the horizontal face, the inclined face 31 coacting with a beveled face

32 on said fixed stop 27. The controlling member 22 is guided in its movement by pins 33 arranged on the firing element and engaging horizontal surfaces of the controlling member 22, the rear pin 33 being slightly spaced apart from the horizontal surface of the controlling member coacting therewith. During the first pull of the trigger 6, the upper face 20 of the selector effects the tripping of one sear, and during the movement of the firing element, the upwardly-facing shoulder 26 encounters the fixed stop 27, preventing further upward movement of the controlling member with the firing element, but said firing element is free to continue its upward movement relatively to the controlling member for a limited distance until the rear pin 33 thereon engages the controlling member and prevents further movement of the firing element relatively to the controlling member. The movement of the firing element relatively to the controlling member carries the catch 25 on the firing element 16 upwardly, out of engagement with the forwardly-facing shoulder 24 of the controlling member 22, Fig. 5, leaving said member 22 free to be impelled forwardly by its spring 23. But, as seen in Fig. 5, said forward movement is regulated and retarded by reason of the engagement of the inclined face 31 of the upwardly-facing shoulder 26 with the beveled face 32 of the fixed stop 27, so that the continued pull of the trigger, taking place before the involuntary pull, will be of no effect. Upon the release of the trigger after the involuntary pull the spring 23 moves the controlling member 22 forwardly withdrawing the upwardly facing shoulder 26 from under said fixed stop 27, Fig. 6, and thus permitting the firing element 16 to be moved further upward to bring the surface 18 of the firing element into engagement with the other sear. During the cocking of the hammers, by the breaking of the gun, the sears 4 and firing plate 16 are depressed in the usual manner forcing the cam face 28 into engagement with the pin 29 on the rear post 11, said cam face 28 forcing the controlling member 22 backwardly until the upwardly-facing shoulder 26 thereof is under the fixed stop 27, Fig. 1. As the controlling member reaches the limit of its backward movement, the spring 23 rocks said member on the front pin 33 as a pivot in a direction at an angle to the reciprocal movement of said member 22 and engages the shoulder 24 with the catch 25.

The trigger 7 normally operates to trip only the right sear, but may be connected to the firing plate 16, so that the right trigger as well as the left, can be used as a single trigger to fire either barrel. This connection is effected by locking the triggers 6 and 7 together, the right hand trigger 7 being first

depressed or moved forwardly on its pivot 14 from its position shown in Fig. 3, to that shown in Fig. 1, so that its upper edge is out of position to engage the right hand sear. The triggers are locked together by means of a pivoted catch 34, Fig. 8, on the left hand trigger 6, which engages a pin or shoulder 35 on the right hand trigger 7, so that the triggers move as a unit when either one is pulled. The firing plate 16 is moved by the right trigger 7 through the medium of the left trigger 6, and, said trigger 7 being depressed out of its normal position, will not act directly upon the right sear, but the firing will be effected by the firing plate 16 and selector 19.

As seen in Figs. 1 and 2, the means for preventing "doubling" or firing by the involuntary pull following the first discharge acts directly on the sears and is here shown as independently swinging weights 36 pivoted at 37 to the upper tang 38 of the gun and normally arranged out of the path of the ends of the sears and being free to swing rearwardly against the action of a weak spring 39 over the rear ends of the sears, Fig. 2. The weights are held from swinging forwardly from their normal positions by shoulders 40 on the upper tang 38. After one sear has been tripped the corresponding weight 36 is held from swinging backwardly by the tripped sear, Fig. 2.

A safety device is provided for locking the triggers from movement, said safety device being here shown as a slide 41 movable along the lower face of the upper tang 38 and having a finger-piece 42 arranged on the outer face of said upper tang 38 and connected to the slide through a slot 43, the slide 41 also having a downwardly-extending arm 44 which engages upwardly-extending arms 45 on the triggers 6 and 7. This arm 44 is formed with an extension 46 located between front and rear laterally-extending arms 47 and 48, provided on the selector 19. When the slide 41 is in its central position the arm 44 is directly over the arms 45 on the triggers for preventing movement of the triggers. When the slide 41 is shifted to its forward position the extension 46 engages the front arm 47 of the selector, shifting the selector to the right, and when the slide is shifted to its rear position said extension engages the rear arm 48, shifting the selector to the left. The swinging weights 36 also act as a safety device for preventing accidental firing, when by falling or otherwise the butt of the gun strikes the ground, as the force of the impact swings said weights 36 rearwardly over the ends of the sears.

By my invention either trigger can be used singly, one to operate the right sear and the other the left, or either trigger can form part of the single trigger mechanism

by which the barrels may be fired consecutively in any order. Moreover, the trigger 7 may be dispensed with if desired.

What I claim is:—

5 1. A firing mechanism comprising means for effecting successive firing including a trigger, a shiftable spring-pressed controlling member movable with the trigger and shiftable relatively to the trigger, a catch
10 movable with the trigger for normally holding the controlling member from shifting movement by its spring, a stop for engaging the controlling member and limiting the movement thereof with the trigger during
15 the first pull of the trigger, the trigger having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the con-
20 trolling member, and means movable with the trigger and coacting with the controlling member for limiting the movement of the trigger relatively to the controlling member when engaged with said stop, the shifting of
25 the controlling member relatively to the trigger serving to move the controlling member out of position to coact with the stop to prevent the movement of the trigger for effecting the second discharge, substantially
30 as and for the purpose specified.

2. A firing mechanism comprising means for effecting successive firing including a trigger, a spring-pressed controlling member movable with the trigger and shiftable forwardly and rearwardly relatively to the trigger, a catch movable with the trigger for holding the controlling member from being shifted forwardly by its spring, a stop for engaging the controlling member and limiting the movement thereof with the trigger during the first pull of the trigger, the trigger having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the controlling member, and means movable with the trigger and coacting with the controlling member for limiting the movement of the trigger relatively to the controlling member when engaged with said stop, the shifting of the controlling member forwardly by its spring relatively to the trigger serving to move the controlling member out of position to coact with the stop to prevent the movement of the trigger for effecting the second discharge, substantially as and for the purpose set forth.

3. A firing mechanism comprising hammer-cocking means, and means for effecting successive firing including a trigger, a shiftable controlling member movable with the trigger and shiftable relatively thereto, said member being formed with a cam face, a spring for shifting said member in one direction relatively to the trigger, a catch mov-

able with the trigger for normally holding the controlling member from shifting movement by the spring, a stop for engaging said member and limiting the movement thereof with the trigger during the first pull of the trigger, the trigger having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the controlling member, means movable with the trigger and coacting with the controlling member for limiting the movement of the trigger relatively to the controlling member when engaged with said stop, the shifting of the controlling member by its spring relatively to the trigger serving to move the controlling member out of position to coact with the stop to prevent the movement of the trigger for effecting the second discharge, and means for engaging said cam face during the depression of the trigger by the hammer-cocking means, and shifting the controlling member in the opposite direction relatively to the trigger, substantially as and for the purpose set forth.

4. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element operated by the trigger, a spring-pressed controlling member carried by said element and movable therewith and shiftable relatively thereto, means for holding the controlling member from shifting movement by its spring relatively to the firing element, means for limiting the movement of said controlling member with the firing element during the first pull of the trigger, the firing element having a limited movement relatively to the controlling member when the latter is engaged with the limiting means for the controlling member and thereby carrying said holding means out of position to hold the controlling member from shifting movement, and means movable with the firing element and coacting with the controlling member for limiting the movement of the firing element relatively to the controlling member when engaged with said limiting means, the shifting of the controlling member relatively to the firing element serving to move the controlling member out of position to coact with said limiting means to prevent the movement of the firing element for effecting the second discharge, substantially as and for the purpose described.

5. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element arranged above the trigger and formed with a catch, a spring-pressed controlling member arranged on one side of the firing element and movable therewith and shiftable forwardly and rearwardly relatively thereto, said member having a shoulder for normally engaging said

catch and preventing forward shifting of said member by its spring, a stop for engaging the controlling member and limiting the movement thereof with the firing element during the first pull of the trigger, the firing element having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the shoulder of the controlling member, and means movable with the firing element and coacting with the controlling member for limiting the movement of the firing element relatively to the controlling member when engaged with said stop, the shifting of the controlling member forwardly by its spring relatively to the firing element serving to move the controlling member out of position to coact with the stop to prevent the movement of the firing element for effecting the second discharge, substantially as and for the purpose specified.

6. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element arranged above the trigger and slidably engaging an upper edge of the trigger, a spring-pressed controlling member carried by the firing element and movable therewith and shiftable relatively thereto, means for holding the controlling member from shifting movement by its spring, a stop for limiting the movement of the controlling member with the firing element during the first pull of the trigger, the firing element having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying said holding means out of position to hold the controlling member from shifting movement, and means movable with the firing element and coacting with the controlling member for limiting the movement of the firing element relatively to the controlling member when engaged with said stop, the shifting of the controlling member relatively to the firing element serving to move the controlling member out of position to coact with the stop to prevent the movement of the firing element for effecting the second discharge, substantially as and for the purpose set forth.

7. A firing mechanism comprising means for effecting successive firing including a pivoted trigger, a firing element pivoted above the trigger and slidably engaging the upper face of the trigger, the firing element being provided with a catch at a point removed from its pivot, a spring-pressed controlling member carried on the side face of the firing element and movable forwardly and rearwardly and being normally arranged in its rear position and having a shoulder engaging said catch for holding said member from being shifted forwardly by its spring, and a stop for engaging the

controlling member and limiting the movement thereof with the firing element during the first pull of the trigger, the firing element having a limited movement independently of the controlling member in order that the catch will be carried out of engagement with said shoulder of the controlling member, substantially as and for the purpose described.

8. In a gun, a frame including a detachable trigger plate having front and rear posts spaced apart, a trigger pivoted to the front post, a firing element pivoted to the front post above the trigger and slidably engaging an upper face of the trigger, a spring-pressed controlling member carried by said firing element and shiftable forwardly and rearwardly, means for normally holding the controlling member from being shifted forwardly by its spring, and a fixed stop on the rear post for holding the controlling member from movement with the firing element during the first pull of the trigger, the firing element having a limited movement independently of the controlling member for effecting the release of said member from the holding means, substantially as and for the purpose specified.

9. In a gun, a frame comprising a detachable trigger plate having front and rear posts, hammer-cocking mechanism carried by the frame, a trigger pivoted to the front post, a firing element pivoted to the front post above the trigger and slidably engaging the upper face of the trigger and the front face of the rear post, the firing element being formed with a catch located at a point removed from the pivot, a spring-pressed controlling member arranged on one side of the firing element and shiftable forwardly and rearwardly, said member having a forwardly-facing shoulder for normally engaging said catch and holding said member from being shifted forwardly by its spring, the controlling member also having an upwardly-facing shoulder and a downwardly and rearwardly inclined cam face, a fixed stop provided on the rear post for normally engaging the upwardly-facing shoulder of the controlling member and limiting upward movement of the controlling member with the firing element during the first pull of the trigger, the firing element having a limited movement independently of the controlling member in order that said catch will be carried out of engagement with the forwardly-facing shoulder of the controlling member, and means provided on the rear post for engaging the cam face of the controlling member and returning the controlling member rearwardly, during depression of the firing element and trigger effected by the cocking of the hammers, substantially as and for the purpose set forth.

10. A firing mechanism comprising means

for effecting successive firing including a trigger, a shiftable spring-pressed controlling member movable with the trigger and having a shoulder, a catch movable with the trigger for normally holding said member from shifting movement by its spring, and a shoulder engaging the shoulder of the controlling member for limiting the movement of said member with the trigger during the first pull of the trigger, one of said shoulders having a beveled face for engaging the other shoulder, the trigger having a limited movement independently of the controlling member during the first pull of the trigger for moving the catch out of engagement with the controlling member, and thereby permitting said member to shift out of its normal position, the shifting of said member being regulated by the beveled faced shoulder, substantially as and for the purpose described.

11. A firing mechanism comprising means for effecting successive firing including a trigger, a shiftable spring-pressed controlling member movable with the trigger and having two shoulders, one shoulder being formed with faces arranged at an angle to each other, a catch movable with the trigger and normally engaging the other of said shoulders for holding the controlling member from shifting movement by its spring, and a stop for engaging the angularly-faced shoulder and limiting the movement of the controlling member with the trigger during the first pull of the trigger, the trigger having a limited movement independently of the controlling member in order that said catch will be carried out of engagement with said other shoulder of the controlling member permitting said member to shift, the shifting movement thereof being regulated by the angularly-faced shoulder, substantially as and for the purpose specified.

12. A firing mechanism comprising means for effecting successive firing including a trigger, a shiftable spring-pressed member movable with the trigger and shiftable forwardly and rearwardly relatively to the trigger, said member being normally in its rear position and being formed with two shoulders, one having a substantially horizontal face and a rearwardly and upwardly inclined face meeting the horizontal face, and the other shoulder facing forwardly, a catch movable with the trigger for engaging the forwardly-facing shoulder and holding said member from being moved forwardly by its spring, and a stop for engaging the angularly-faced shoulder and limiting the movement of said member with the trigger during the first pull of the trigger the trigger having a limited movement independently of the controlling member, in order that said catch will be carried out of en-

gagement with the forwardly-facing shoulder for permitting the controlling member to move forwardly carrying the angularly-faced shoulder out of engagement with the stop, the inclined face of the angularly-faced shoulder engaging the stop during the forward movement of the controlling member, substantially as and for the purpose set forth.

13. A firing mechanism comprising means for effecting successive firing including a pivoted trigger, a pivoted firing plate arranged above the trigger and slidably engaging the upper edge of the trigger, the firing plate being formed with a catch, a spring-pressed controlling member carried on a side face of the firing plate and movable therewith and shiftable forwardly and rearwardly relatively thereto, the controlling member having a forwardly-facing shoulder engaged with the catch and having a shoulder formed with an upwardly and rearwardly inclined face, and a fixed stop for engaging the inclined-faced shoulder and limiting the movement of said member with the firing-plate during the first pull of the trigger, the inclined-faced shoulder engaging said stop during the forward movement of the controlling member and retarding the movement of said member, and the firing plate having a limited movement independently of the controlling member for disengaging the catch from the forwardly facing shoulder of the controlling member, substantially as and for the purpose described.

14. A firing mechanism comprising two hammers and a sear associated with each hammer, two normally independent triggers, a single trigger mechanism associated with one of the triggers for tripping both of the sears, and means for locking the triggers together to act as a unit, substantially as and for the purpose specified.

15. A firing mechanism comprising two sears, two triggers for tripping the sears, respectively, a firing element interposed between one trigger and the corresponding sear, single trigger mechanism associated with the firing element, and means operable by hand for connecting the other trigger to the firing element, substantially as and for the purpose set forth.

16. A firing mechanism comprising two sears, two triggers for actuating the sears, respectively, one trigger being movable independently of the other trigger for actuating one of the sears and being movable out of operative position before the actuation of said one of the sears and the other trigger having parts associated therewith and arranged in different planes for actuating the sears consecutively, and means for locking the triggers together when said one trigger

has been moved out of operative position, substantially as and for the purpose described.

17. A firing mechanism for double barrel guns comprising two sears, triggers for actuating the sears, respectively, one trigger being movable out of operative position, a selector associated with the other trigger and movable for engaging either of the sears, a single trigger mechanism associated with the last-mentioned trigger for effecting the tripping of either sear, and means for connecting the triggers together to act as a unit when said one trigger is out of operative position, substantially as and for the purpose specified.

18. A firing mechanism for double barrel guns comprising two triggers, one trigger being movable out of operative position, and the other trigger having a part associated therewith for engaging either sear, and a selector having a surface in a different plane from said part for engaging the other sear, the selector being shiftable into position to engage either sear, and means for locking the triggers together after said one trigger has been moved out of operative position, substantially as and for the purpose set forth.

19. A firing mechanism for double barrel guns comprising two sears, two triggers, one coacting directly with one sear and the other having parts associated therewith for coacting successively with the sears for effecting successive firing by one trigger independently of the other trigger, and a member for controlling the successive firing by said other trigger, said member being located in a plane extending between the triggers, substantially as and for the purpose described.

20. In a gun, a frame including a detachable trigger plate having posts spaced apart in a direction lengthwise of the frame, hammer-cocking means, and firing mechanism comprising two sears, a pair of triggers pivoted side by side to the front post, a firing plate pivoted to the front post above one of the triggers and slidably engaging the upper edge thereof, the upper faces of the firing plate and of the other trigger being normally flush, and said other trigger coacting with one sear, and the firing plate having means associated therewith provided with surfaces arranged in different planes for coacting successively with the sears, the firing plate also having a catch located at a point removed from the pivot thereof, a controlling member carried by the firing plate and arranged between the firing plate and the other trigger and shiftable forwardly and rearwardly, said member having a forwardly-facing shoulder for normally engaging said catch and an upwardly-facing shoulder formed with a beveled face, said member also having a rearwardly-inclined cam face, a spring tending to force

the controlling member forwardly, a fixed stop provided on the rear post for engaging the upwardly-facing shoulder of the controlling member and limiting upward movement of the controlling member with the firing plate during the initial movement of the firing plate by the first pull of the trigger, the firing plate being movable independently of the controlling member for moving the catch upwardly out of engagement with the forwardly-facing shoulder of the controlling member and permitting the controlling member to shift forwardly carrying its upwardly-facing shoulder out of engagement with the fixed stop, and means provided on the rear post for engaging the cam face of the controlling member and returning the controlling member rearwardly during the downward movement of the firing plate effected by the depression of the sears by the hammer-cocking means, substantially as and for the purpose specified.

21. In a gun, a frame including a detachable trigger plate having posts spaced apart in a direction lengthwise of the frame, hammer-cocking means, and firing mechanism comprising two sears, a pair of triggers pivoted side by side to the front post, a firing plate pivoted to the front post above one of the triggers and slidably engaging the upper edge thereof, the upper faces of the firing plate and the other trigger being normally flush, and the other trigger coacting with one sear, and the firing plate having means associated therewith and provided with surfaces arranged in different planes for coacting successively with the sears, the firing plate also having a catch located at a point removed from the pivot thereof, a controlling member carried by the firing plate and arranged between the firing plate and the other trigger and shiftable forwardly and rearwardly, said member having a forwardly-facing shoulder for normally engaging said catch and an upwardly-facing shoulder formed with a beveled face, said member also having a rearwardly-inclined cam face, a spring tending to force the controlling member forwardly, a fixed stop provided on the rear post for engaging the upwardly-facing shoulder of the controlling member and limiting upward movement of the controlling member with the firing plate during the initial movement of the firing plate by the first pull of the trigger, the firing plate having a movement independent of the controlling member for moving the catch upwardly out of engagement with the forwardly-facing shoulder of the controlling member and permitting the controlling member to shift forwardly carrying its upwardly-facing shoulder out of engagement with the fixed stop, means provided on the rear post for engaging the cam face of the controlling member and returning the con-

trolling member rearwardly during the downward movement of the firing plate effected by the depression of the sears by the hammer-cocking means, said other trigger being movable to depress its upper edge below the plane of the upper edge of the firing plate, and means for locking the triggers together when said other trigger is in its depressed position, substantially as and for the purpose set forth.

22. In a gun, a frame, firing mechanism including a plurality of sears, and a plurality of independently moving safety members pivoted to the frame, one safety member coacting with one sear to prevent tripping thereof, and the other safety member coacting with the other sear to prevent tripping thereof, said members being normally out of position to coact with the sears and being movable automatically into said position, substantially as and for the purpose described.

23. In a gun, a frame, firing mechanism including a plurality of sears, a single trigger mechanism for tripping the sears successively, and a plurality of independently moving weighted safety members pivoted to the frame, one safety member coacting with one sear to prevent tripping thereof, and the other safety member coacting with the other sear to prevent tripping thereof, said members being normally out of position to coact with the sears and being movable automatically into said position, the sear first tripped coacting with its companion safety member to prevent movement thereof, substantially as and for the purpose described.

24. In a gun mechanism, the combination with two hammers, a sear coacting with each hammer, a single trigger, and means associated with the trigger for successively tripping said sears at different positions in the movement of the trigger in a single direction, of mechanism for preventing the trigger from being shifted by a continuous movement to said different tripping positions, such mechanism comprising a fixed stop, a controlling member held in cooperative relation with the stop until after the trigger reaches the first tripping position, and means for moving the controlling member out of cooperative relation with the stop after the trigger reaches said first tripping position, substantially as and for the purpose described.

25. In a gun mechanism, the combination with a pair of sears, a single trigger, and means interposed between the trigger and the sears for successively operating the sears at different positions in the movement of the trigger in one direction, of mechanism for preventing the trigger from being shifted to both of said positions by a continuous movement, such mechanism comprising a fixed stop, a controlling member coacting in one position with said stop to prevent the

trigger from reaching its second position, means tending to move the controlling member out of cooperative relation with the stop, and means movable with the trigger and holding the controlling member in cooperative relation with the stop, said means releasing the controlling member in order that the same may be moved out of cooperative relation with the stop, substantially as and for the purpose set forth.

26. A firing mechanism comprising means for effecting successive firing including a trigger, a stop, a shiftable controlling member movable in one direction with the trigger, and shiftable relatively to the trigger in another direction for moving into and out of cooperative relation with the stop, and a catch movable with the trigger for normally holding the controlling member in cooperative relation with the stop whereby in the movement of said member with the trigger it will coact with the stop for limiting the movement of the trigger, said trigger having a limited movement relatively to the controlling member for causing the catch to release the controlling member whereby the latter may move out of cooperative relation with the stop to permit of an additional movement of the trigger, substantially as and for the purpose described.

27. A firing mechanism comprising means for effecting successive firing including a trigger, a stop, a shiftable controlling member movable with the trigger and shiftable relatively to the trigger for moving into and out of cooperative relation with the stop, a catch movable with the trigger for normally holding the controlling member from moving out of cooperative relation with the stop, said stop limiting the movement of the controlling member with the trigger during the first pull of the trigger, and said trigger having a limited movement relatively to the controlling member for carrying the catch out of engagement with the controlling member, and a spring for shifting the controlling member relatively to the trigger and out of cooperative relation with the stop when the catch is disengaged from the controlling member, substantially as and for the purpose specified.

28. A firing mechanism comprising means for effecting successive firing including a trigger, a controlling member movable with the trigger, and shiftable forwardly and rearwardly relatively to the trigger, a spring tending to shift the controlling member forwardly relatively to the trigger, a catch movable with the trigger for preventing the controlling member from being shifted forwardly by the spring, and a stop for engaging the controlling member and limiting the movement thereof with the trigger during the first pull of the trigger, said trigger having a limited movement relatively to the

controlling member for carrying the catch out of engagement with the controlling member, substantially as and for the purpose set forth.

29. A firing mechanism comprising means for effecting successive firing including a trigger, a controlling member movable with the trigger and shiftable relatively thereto in reverse directions, means tending to move the controlling member relatively to the trigger in one of said reverse directions and in a direction at an angle thereto, means movable with the trigger for holding the controlling member from movement by said means tending to move the controlling member, and means coacting with the controlling member for limiting the movement of said member with the trigger, the trigger having a limited movement relatively to the controlling member for releasing the same from said means for holding the controlling member, substantially as and for the purpose described.

30. In a gun mechanism, the combination with two sears, a single trigger, and means interposed between the trigger and the sears for successively operating the sears at different positions in the movement of the trigger in one direction, of mechanism for preventing the trigger from being shifted to said different positions by a continuous movement, such mechanism comprising a fixed stop, a controlling member carried by the trigger and movable therewith, and having an additional movement relatively thereto into and out of coöperative relation with the stop, means tending to move the controlling member out of coöperative relation with the stop, and means movable with the trigger and detachably engaging the controlling member for holding the same in coöperative relation with the stop, said trigger having a movement independently of the controlling member for disengaging said holding means from the controlling member whereby said member may move out of coöperative relation with the stop, substantially as and for the purpose specified.

31. A firing mechanism comprising hammer cocking means, and means for effecting successive firing including a trigger, a stop, a shiftable controlling member movable with the trigger and shiftable relatively thereto for moving into and out of coöperative relation with the stop, the controlling member being provided with a cam face, a spring tending to shift said member out of coöperative relation with the stop, a catch movable with the trigger for holding the controlling member from shifting movement by the spring, said stop engaging the controlling member and limiting the movement thereof with the trigger during the first pull of the latter, and the trigger having a limited

movement relatively to the controlling member for causing the catch to release the controlling member, and means for engaging the cam face during the depression of the trigger by the hammer cocking means, substantially as and for the purpose set forth.

32. A firing mechanism comprising hammer cocking means, and means for effecting successive firing including a trigger, a stop, a shiftable controlling member movable with the trigger, and shiftable relatively thereto for moving into and out of coöperative relation with the stop, the controlling member being provided with a cam face, means tending to shift said member out of coöperative relation with the stop, means for holding the controlling member in coöperative relation with the stop, said stop engaging the controlling member and limiting the movement thereof with the trigger during the first pull of the trigger, and the trigger having a limited movement relatively to the controlling member for releasing the controlling member from the holding means, and a fixed stop for engaging the cam face of the controlling member during the depression of the trigger by the hammer cocking means, substantially as and for the purpose described.

33. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element operated by the trigger, a spring-pressed controlling member carried by the firing element, means for limiting the movement of the controlling member with the firing element during the first pull of the trigger, the controlling member being movable into and out of coöperative relation with said means, a spring tending to move the controlling member out of coöperative relation with said means, and means for holding the controlling member from shifting movement by the spring, said firing element having a limited movement independently of the controlling member for releasing the latter from the last-named holding means, substantially as and for the purpose specified.

34. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element operated by the trigger and formed with a laterally projecting engaging surface, a spring-pressed controlling member movable with the firing element and shiftable forwardly and rearwardly relatively thereto, said member having an engaging surface coacting with the first-named engaging surface for preventing forward shifting of the controlling member by its spring, a fixed stop for engaging the controlling member and limiting the movement thereof with the firing element during the first pull of the trigger, the firing element having a limited movement rela-



tively to the controlling member in order that the engaging surface of the firing element will be carried out of engagement with the engaging surface of the controlling member upon the arrest of the latter by said stop, substantially as and for the purpose set forth.

35. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element arranged above the trigger and slidably engaging the same, a stop, a spring-pressed controlling member carried by the firing element and movable therewith in one direction and shiftable relatively thereto in another direction for moving into and out of coöperative relation with the stop, and means for holding the controlling member from shifting movement by its

spring, the stop coacting with the controlling member for limiting the movement of the latter with the firing element during the first pull of the trigger, and the firing element having a limited movement relatively to the controlling member for effecting the release of the controlling member from said holding means therefor, substantially as and for the purpose described.

In testimony whereof, I have hereunto signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 21st day of November, 1908.

CHARLES GREEN.

Witnesses:

E. K. SEEMILLER,
S. DAVIS.