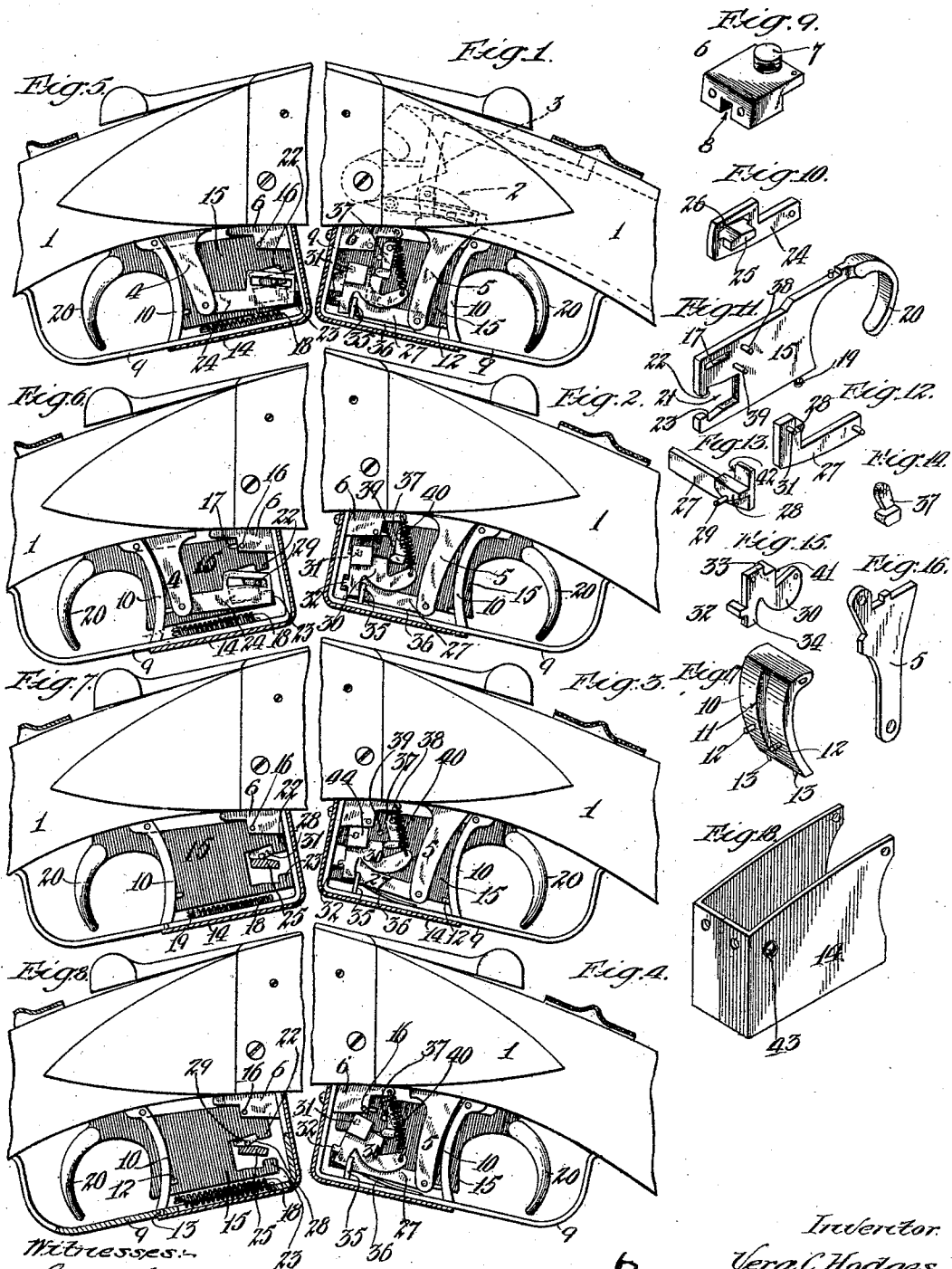


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SINGLE TRIGGER MECHANISM.
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UNITED STATES PATENT OFFICE.

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SINGLE-TRIGGER MECHANISM.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, VERA C. HODGES, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Single-Trigger Mechanism, of which the following is a specification.

This invention relates to a single trigger mechanism by means of which both barrels of a shot gun or other fire arm may be operated by the manipulation of a single trigger, and one of the main objects of the invention is to provide a mechanism of this character which may be applied to an ordinary double barrel gun without changing or interfering with any of the regular mechanism, the single trigger mechanism being applied externally of the breech of the gun and being connected with the two modified triggers of the gun.

Another object is to provide a single trigger mechanism of this character which is very compact and of simple and economical construction and effective and reliable in operation.

Further objects and advantages of the invention will be brought out in the following specification.

The accompanying drawings illustrate the invention, and referring thereto:

Figure 1 is a side elevation of the mechanism with part of the cover in section, showing the parts in position for firing the right barrel, the gun having been cocked. Fig. 2 is a view similar to Fig. 1, showing the parts of the single trigger mechanism in the position which they take when the slide has been moved back to fire the right barrel. Fig. 3 is a view similar to Fig. 2, showing the next position of the parts with the slide restored to forward position and the parts being ready for the next operation of firing the left barrel. Fig. 4 is a view similar to Fig. 3, showing the slide as again moved back with the parts in the position they have upon firing the left barrel. From this position the parts again resume the position shown in Fig. 1. Fig. 5 is a view similar to Fig. 1, showing the opposite side of the mechanism. Fig. 6 is a view similar to Fig. 2, showing the opposite side of the mechanism. Fig. 7 is a view similar to Fig. 3, showing the opposite side of the mechanism. In this figure the right trigger and part of the right trigger extension are removed for the sake of clear-

ness. Fig. 8 is a view similar to Fig. 4, showing the opposite side of the mechanism. In this figure the right trigger and part of the right trigger extension are removed for the sake of clearness. Fig. 9 is a perspective view, in detail, of the upper guide. Fig. 10 is a perspective view, in detail, of the right trigger extension. Fig. 11 is a perspective view, in detail, of the slide. Fig. 12 is a perspective view, in detail, of the left trigger extension. Fig. 13 is a perspective, in detail, showing the other side of the left trigger extension. Fig. 14 is a perspective, in detail, of the sliding dog. Fig. 15 is a perspective, in detail, of the shift block. Fig. 16 is a perspective, in detail, of a trigger. Fig. 17 is a perspective, in detail, of the rear guide. Fig. 18 is a perspective, in detail, of the cover.

1 designates the stock of the gun, having any desired form of breech mechanism 2, with hammers 3, right trigger 4 and left trigger 5. Secured to the underside of the breech mechanism is an upper guide 6, shown in detail in Fig. 9, which comprises a block, as shown, having a threaded stud 7 which secures it to the breech, and having a guide slot 8 formed in its lower side. A guard 9 is secured at the front end to the upper guide 6 and at its rear end to the stock 1. A rear guide 10, shown in detail in Fig. 17, extends from an intermediate point of the guard 9 to the stock and, as shown, is curved and provided with a central guide slot 11 and has pins 12 which act as stops for the respective triggers 4 and 5 and in its lower edge has two pins 13 which project into the guard 9 to hold the guide in position. A cover 14, shown in detail in Fig. 18, covers the front portion of the guard and extending as far back as the rear guide 10 incloses all of the single trigger mechanism. The cover may be secured in position by suitable screws.

A slide 15, shown in detail in Fig. 11, is slidably supported by the slot 8 of the upper guide 6 and by the slot 11 of the rear guide 10, the slide being held up in position by a pin 16 which projects from the guide 6 into a slot 17 in the slide 15. A coil spring 18 is secured at one end to a stud 19 projecting from the lower edge of the slide 15 and at its other end to the guard 9 and serves to yieldingly hold the slide 15 in its forward position. The rear end of the slide is

provided with a curved trigger 20. The slide has a recess 21 in its front end forming shoulders 22 and 23.

A right trigger extension 24, shown in detail in Fig. 10, has its rear end pivoted to the right trigger 4 and has a lug 25 above which is a slot 26. A left trigger extension 27 has its rear end pivoted to the left trigger 5 and as shown in Fig. 13 has a lug 28 from which extends a pin 29. The lug 28 rests above and in contact with the lug 25 of the right trigger extension 24, as indicated in Figs. 5 to 8, and the pin 29 projects into the slot 26 and serves to permit the relative longitudinal movement between the right trigger extension and the left trigger extension and yet prevents an undue movement insuring that they are always in engagement with the two lugs 25 and 28 and in contact. As shown, both lugs 25 and 28 have wedge-shaped surfaces which bear against each other. The lugs 25 and 28 may be shifted vertically in the recess 21 to engage either the shoulder 22 with lug 28 or shoulder 23 with lug 25, and this is what determines which trigger of the gun will be operated. For example, when the lug 28 is in contact with the shoulder 22, upon pulling back the slide 15 the shoulder 22 acting against the lug 28 and the latter acting through the right trigger extension 24 will push back the right trigger 4 and fire the right barrel, while if the lugs are in the other position so that lug 25 is in engagement with shoulder 23, upon pulling back the slide 15 the shoulder 23 will act against lug 25 and the latter acting through the left trigger extension 27 will push back the left trigger 5 and fire the left barrel. The shifting of lugs 25 and 28 into engagement with either shoulder 22 or shoulder 23 is permitted by the pivoting action of the right and left trigger extensions on the respective triggers.

The devices for shifting the lugs 25 and 28 into engagement with either the shoulder 22 or the shoulder 23 comprise a shift block 30, shown in detail in Fig. 15, which is pivoted on a pin 31 which projects from the left trigger extension, the pin 31 being arranged on the opposite side of the extension from the pin 29. The shift block 30 has a front lug 32 and an upper rear lug 33 and has a toe 34, the latter bearing against a pin 35 which projects up from the guard 9. The lug 32 projects across the front edge of the left trigger extension 27, while the toe 34 which bears against the pin 35 is adapted to rock and partake of a vertical sliding movement on the pin 35, the pin 35 acting as a fulcrum for the lower edge of the toe 34 during the rocking movement of the shift block, to be described. A curved spring 36 bears against the lower edge of the left trigger extension 27 and serves to yieldingly press the latter upwardly. A

dog 37 is pivoted to a pin 38 on the slide 15 and a pin 39 on the slide 15 acts as a stop to limit the forward movement of the dog 37. A coil spring 40 is connected at the upper end to the upper guide 6 and at its lower end is connected to the rear end of the shift block 30. The coil spring 40 is adapted at times to act sidewise against the dog 37 and press the latter forward; in Fig. 2 the spring 40 is acting sidewise against the dog 37 to hold the latter yieldingly against the stop pin 39; and in Fig. 4 the spring 40 is acting sidewise to hold the dog against the stop pin 39; in the latter view the spring 40 is also stretched on account of the tilted position of the shift block 30.

The operation of the device is as follows: Assume the gun to be cocked, with the parts as shown in Figs. 1 and 5 the gun is ready for firing the right barrel. Upon pulling back the trigger 20 into the position shown in Fig. 2 the shoulder 23 of the slide acts against the lug 25 with which it is in contact and the lug 25 which is a part of the right trigger extension 24 pushes back the latter which in turn pushes back the trigger 4 thus firing the right barrel. This movement bringing the parts into position shown in Figs. 2 and 6. During this movement the dog 37 bears upon the upper base of the lug 33 of shift block 30 and holds the shift block 30 depressed, thereby holding the left trigger extension 27 depressed, and the latter acting through pin 29 which projects into slot 26 holds the right trigger extension 24 depressed so that lug 25 is in contact with shoulder 23. If the dog 37 did not stand over the shift block 30 in this position the curved spring 36 would press the left trigger extension 27 up and the latter through its pin 29 would also lift the right trigger extension up with the result that the lug 25 would not be held in contact with the shoulder 23. It is therefore important that the dog 37 hold the shift block 30 down at this time, which it does during the initial movement, the dog not passing off from the shift block 30 until the parts reach the position shown in Fig. 2 and the shoulder 23 has performed its full mission of pulling back the lug 25 and right trigger extension 24. As soon as the parts reach the position shown in Fig. 2 the spring 40 pulls the shift block 30 slightly up, the parts being sufficiently loose so that the corner of the shoulder 41 lies slightly above the lower face of the dog 37 and thus when the slide 15 is released and retracted by the spring 18 the dog 37 strikes against the shoulder 41 of the shift block 30 and the latter not being held down by the dog is allowed to move up, which action is accomplished by springs 36 and 40 which lifts left trigger extension 27, and the lat-

ter through pin 31 lifts shift block 30, and as trigger extension 27 thus lifts, its pin 29 acting in slot 26 also lifts right trigger extension 24 so that the lug 28 is brought into engagement with the shoulder 22 and the lug 25 is moved out of engagement with the shoulder 23, the parts taking the position shown in Figs. 3 and 7 ready for being operated again to fire the left barrel. Upon pulling back the trigger 20 the second time the shoulder 22 acts against lug 28 and the latter acting through left trigger extension 27, of which it forms a part, pushes back the left trigger 5, the lug 28 during this action sliding rearward on the lug 25, the latter together with right trigger extension 24 remaining stationary. During this action as the left trigger extension 27 moves back it carries back the pin 31 and the latter acting on the shift block 30 causes the shift block 30 to tilt by reason of the toe 34 thereof partaking of a combined pivotal and sliding motion on the pin 35 which results in tilting the shoulder 41 underneath the dog 37, as clearly seen in Fig. 4, and when the trigger 20 is released and the slide 15 again moved forward, the shoulder 41 which is under the dog 37 acts to tilt down the shift block 30 and through it push down the left trigger extension 27, so that on the completion of this movement the parts will stand in the original position shown in Fig. 1 with the lug 25 again in engagement with the bottom shoulder 23 of the slide again ready to fire the right barrel.

The cover 14 has a sight-hole 43, and the shift block 30 is provided with a sight-plate 44, the latter being preferably of a bright metal which will clearly show through the sight-hole 43 when it is in register therewith and thus indicate that the mechanism is in position for firing one barrel, and when the sight-plate 44 does not show through the sight-hole 43 it indicates that the mechanism is in such a position that the next barrel to be fired will be the opposite barrel.

By the term "regular triggers" in the claims I refer to the two triggers of the gun which may or may not be modified for the attachment of my invention.

What I claim is:—

1. In a single trigger mechanism, in combination with the two regular triggers, a slide, right and left trigger extensions connected with the respective regular triggers, and means for alternately engaging said extensions with the slide in successive strokes of the slide.

2. In combination with the regular triggers, a slide, means operated by the slide at alternate strokes to engage one of the regular triggers therewith, and means operated during the intervening strokes of the slide to engage the other trigger therewith.

3. In combination with the regular trig-

gers, a slide having two shoulders, right and left trigger extensions connected to the respective triggers, and means operated at successive movements of the slide to alternately engage said trigger extensions with the respective shoulders of the slide.

4. In combination with the regular triggers, a slide having two shoulders, right and left trigger extensions connected to the respective triggers, each extension having a lug adapted to be engaged by one of the shoulders of the slide, and means for alternately engaging said lugs with their respective shoulders.

5. In combination with the regular triggers, a slide having two shoulders, right and left trigger extensions pivoted to the respective triggers, each trigger extension having a lug, and means for automatically swinging said trigger extensions to bring one lug into engagement with its shoulder of the slide and the other away from engagement with its shoulder of the slide at one movement of the slide, and at another movement of the slide to engage the left lug with its shoulder and disengage the other lug from its shoulder.

6. In combination with the regular triggers, a slide operating between the triggers, an upper guide for the slide, a rear guide for the slide, the rear end of the slide having a single trigger, means for automatically alternately engaging the regular triggers with the slide, and a cover engaging said mechanism but exposing the single trigger of the slide.

7. In combination with the regular triggers, a slide, right and left trigger extensions pivoted to the respective triggers, each trigger extension having a lug, a pin on one trigger extension projecting into an elongated slot in the other extension permitting relative longitudinal movement of the extensions and holding the lugs thereof always in contact, and means for alternately engaging said lugs with said slide.

8. In combination with the regular triggers, a slide, right and left trigger extensions pivoted to the respective triggers, each trigger extension having a lug, a pin on one trigger extension projecting into an elongated slot in the other extension permitting relative longitudinal movement of the extensions and holding the lugs thereof always in contact, a shift block pivoted to the left trigger extension and having a toe and a transverse lug, a spring holding the shift block with its toe against a stationary pin, the lug of the shift block standing in front of the front edge of the slide, and a dog pivoted to the slide and bearing against the top of the shift block to hold the same depressed, thereby holding the trigger extensions depressed when in one position, said dog being movable by the slide off from the top of the

shift block to permit the latter to be moved upwardly together with the trigger extensions.

9. In combination with the regular triggers, a slide, right and left trigger extensions pivoted to the respective triggers, lugs on the respective trigger extensions, a pin projecting from one lug into an elongated slot in the opposite trigger extension for holding said lugs in contact, but permitting relative movement longitudinally, a shift block pivoted to the left trigger extension and having a toe adapted to rock and slide against a stationary pin, said shift block having a lug standing in front of the left trigger extension, a dog pivoted to the slide, a spring connected to the shift block for tilting the latter upwardly, said spring bearing sidewise against said dog, the shift block having a shoulder adapted to be engaged by said dog.

10. In combination with the regular triggers, a slide, right and left trigger extensions pivoted to the respective triggers, lugs on the respective trigger extensions, a pin projecting from one lug into an elongated slot in the opposite trigger extension for holding said lugs in contact, but permitting relative movement longitudinally, a shift block pivoted to the left trigger extension and having a toe adapted to rock and slide against a stationary pin, said shift block having a lug standing in front of the left trigger extension, a dog pivoted to the slide, a spring connected to the shift block for tilting the latter upwardly, said spring bearing sidewise against said dog, the shift block having a shoulder adapted to be engaged by said dog, a spring for pressing the left trigger extension upwardly, and a coil spring for moving the slide forward.

11. In combination with the regular triggers, a slide, right and left trigger extensions pivoted to the respective triggers, lugs on the respective trigger extensions, a pin projecting from one lug into an elongated slot in the opposite trigger extension for holding said lugs in contact, but permitting relative movement longitudinally, a shift block pivoted to the left trigger extension and having a toe adapted to rock and slide against a stationary pin, said shift block having a lug standing in front of the left

trigger extension, a dog pivoted to the slide, a spring connected to the shift block for tilting the latter upwardly, said spring bearing sidewise against said dog, the shift block having a shoulder adapted to be engaged by said dog, a spring for pressing the left trigger extension upwardly, a coil spring for moving the slide forward, a guard inclosing said mechanism and having a sight-hole, and a sight-plate on said shift block adapted to show through the sight-hole when the shift block is in one position and one barrel is about to be fired, said sight-plate not showing through the sight-hole when the shift block is in the other position with the other barrel about to be fired.

12. In combination with the regular triggers, a slide, right and left trigger extensions pivoted to the respective triggers, lugs on the respective trigger extensions, a pin projecting from one lug into an elongated slot in the opposite trigger extension for holding said lugs in contact, but permitting relative movement longitudinally, a shift block pivoted to the left trigger extension and having a toe adapted to rock and slide against a stationary pin, said shift block having a lug standing in front of the left trigger extension, a dog pivoted to the slide, a spring connected to the shift block for tilting the latter upwardly, said spring bearing sidewise against said dog, the shift block having a shoulder adapted to be engaged by said dog, a spring for pressing the left trigger extension upwardly, and a coil spring for moving the slide forward, said shift block having a lateral lug which stands behind the left trigger extension.

13. In combination with the firing mechanism of a double trigger gun, a single trigger mechanism including securing means for attaching the same externally to the gun for operating the firing mechanism thereof by a single trigger.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 13th day of March 1909.

VERA C. HODGES.

In presence of—

G. T. HACKLEY,

FRANK L. A. GRAHAM.