

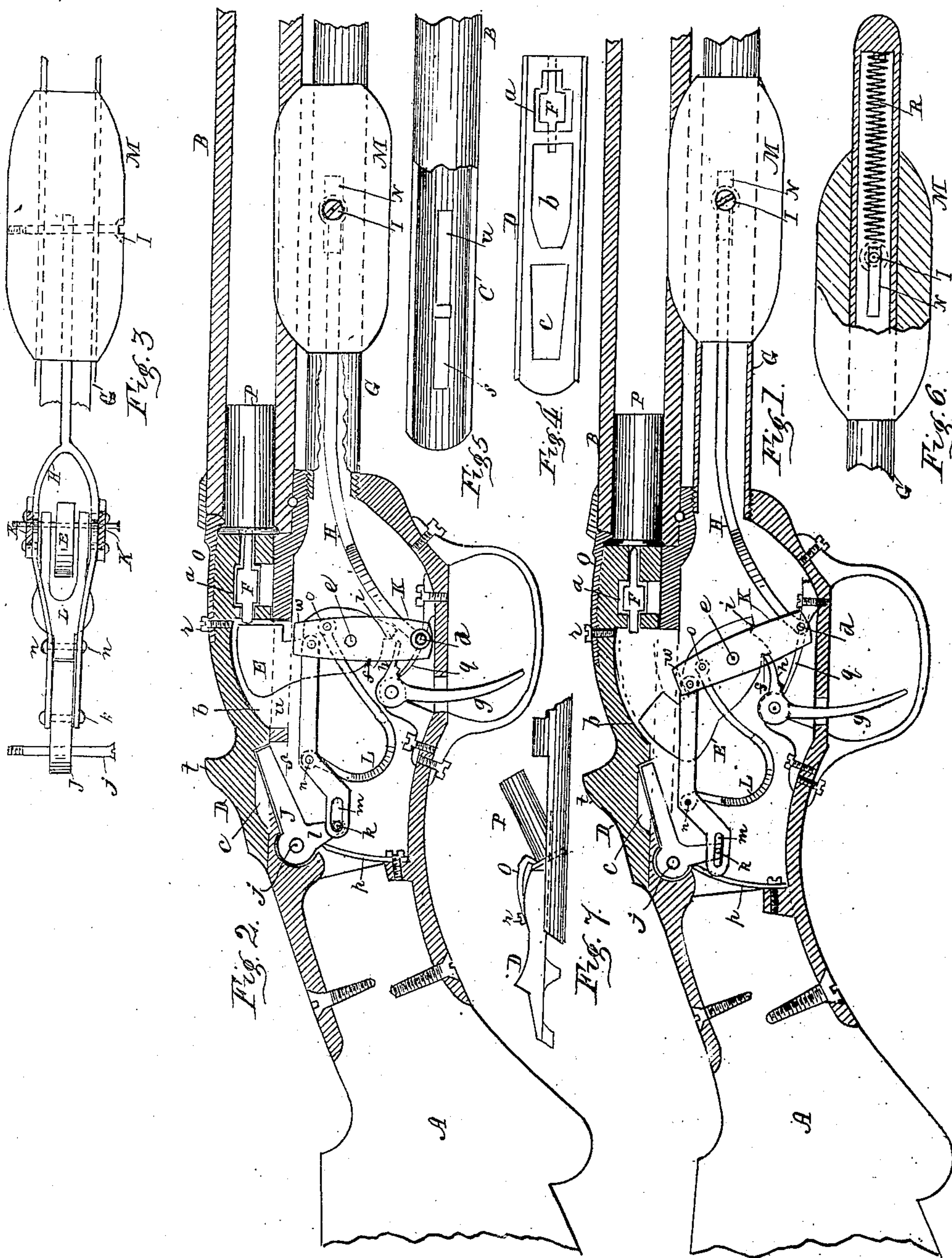
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BREECH LOADING SAFETY GUN.

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Patented Feb. 9, 1909.



Witnesses  
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# UNITED STATES PATENT OFFICE

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## BREECH-LOADING SAFETY-GUN.

No. 911,683.

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*To all whom it may concern:*

Be it known that I, ORLANDO SCOTT, a citizen of the Dominion of Canada, residing at Talbot street North, in the town of Simcoe, in the county of Norfolk, in the Province of Ontario, Canada, have invented a certain new and useful Breech-Loading Safety-Gun; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

This invention relates to that class of guns known as breech loaders, and it has for its objects the provision of means for rendering the gun absolutely safe, and impossible of accidental discharge.

In guns where no especial provisions are provided for placing in normally inoperative condition the actuating spring for the hammer, there is always a liability of the gun being discharged by striking the butt upon any object, or by an accidental movement of the trigger. In my invention the actuating spring for the hammer is normally in a relaxed condition, and can only be placed in a condition for actual firing by the operation of bringing the gun into position for such firing, the means for placing the spring in such condition being controlled by the hand of the operator that is supporting the barrel of the gun.

While the invention is shown as applied to a single barreled breech loading gun, it is obvious that it may be used with equal advantage upon rifles with magazines, double or single barreled, sporting or military rifles, or upon air guns.

Referring now to the drawings forming a part of this application, Figure 1 is a vertical longitudinal section through the gun, the parts being shown in the position they assume when no compression is upon the actuating spring. Fig. 2 is a similar view showing the position the parts assume at the instant of firing, the hand grip then being in its rearward position, the connection between the hammer operating spring and the hammer being omitted and the plate which connects the upper ends of the cock-lever members being broken away for clearness of illustration. Fig. 3 is a view showing the hand grip, the hammer and the connections between said grip and hammer. Fig. 4 is a view showing the underside of the breech block. Fig. 5 is a view showing the top of the breech block seat with the openings

therein for the hammer and for the breech block locking bolt. Fig. 6 is a detail view of the hand grip and Fig. 7 is a side view of a section of the barrel, the breech block and the spring for extracting the cartridge shell after firing.

Taking up a description of the invention with reference to the drawings, A represents the stock of the gun to which is secured, in any suitable manner, the barrel B. At the rear of the barrel is a seat C for the breech block D, said block being adapted to move back and forth upon the said seat. This breech block is shown in detail in Fig. 4, said figure illustrating the lower side of the block. From this figure it will be seen that the breech block is provided with three cavities or recesses *a*, *b*, and *c*, the cavity *a* containing the firing pin F, the cavity *b* being adapted to receive the hammer when it is in discharging position and the cavity *c* being adapted to receive the free end of the locking bolt J, said bolt locking the breech block in its closed position.

Below the barrel, and parallel therewith, is a short tube G, upon which there is adapted to slide the hand grip M. This grip is secured to the tube by a transverse screw or pin I, which pin extends through the grip and through slots N on diametrically opposite sides of the tube G. To the screw or pin I within the tube G there is pivoted the forward end of a forked connecting rod H, said connecting rod extending rearwardly through the tube G and being connected at its rear end to the lower end of the cocking lever K. This cocking lever, which is pivoted on a transverse pin *e*, is composed of two parallel plates, as shown in Fig. 3, said plates being connected at their upper ends at *w*, to form a frame, for a purpose hereinafter specified. The lower ends of these plates are connected together by a cross pin *d*, to which the forked end of the connecting rod H is secured. Pivoted upon the transverse pin *e* between the plates of the cocking lever K, is the hammer E, said hammer being provided on its lower end with shoulders *f* and *i*, for a purpose hereinafter set forth. Connected to the upper ends of the plates of the cocking lever, and extending rearwardly therefrom are two horizontal rods *j*, said rods being guided at their rear ends by a pin *k* which passes transversely through the lower end of an arm *l* that is connected with



the locking bolt J for the breech block. The rear ends of the horizontal rods *j* are slotted at *m*, the ends of the pin *k* moving back and forth in these slots. Connected to the horizontal rods *j*, by means of a transverse pin *n*, is the rear end of the main actuating spring L, said spring being secured at its forward end to the hammer E at a point *o*, said securing point being located above the pin or screw *e* upon which the hammer is pivoted.

The trigger *g* is provided at its upper end with a forwardly projecting finger *h*, said finger being normally held in an elevated position by means of a spring *q* that is attached to the gun in front of the trigger. This finger *h* is adapted to engage with the shoulders *f* and *i* on the hammer.

The breech block locking bolt J is pivoted on a pin *j'* normally held in elevated position so as to engage with the forward end of the cavity or recess *c* by a spring *p*, and when thus engaged, the breech block will be locked against rearward movement. When in its elevated position, the locking bolt J extends upwardly through a slot *s* in the seat for the breech block. This breech block seat is also provided with a similar slot *u* through which the striking end of the hammer E may operate.

Secured to the upper and forward portion of the breech block is a spring O, said spring being held in position by a screw *r* passing therethrough and into the breech block. The forward end of this spring is provided with a hook that is adapted to engage against the rim of the cartridge shell P and draw said shell backwardly out of the gun barrel when the breech block is pulled back; which movement of the breech block may be effected by engaging with the shoulder or lug *t*. When the cartridge shell is moved backward to an extent sufficient to be withdrawn from the gun barrel, the lower edge of the rim of the shell will engage with the forward end of the breech block locking bolt J, which engagement will resist the further movement of that portion of the shell, which will result in tipping the latter into the position shown in Fig. 7, so that it is thrown out of the gun.

The hand grip M is normally held in its forward, or what I call its cocking position by a pull spring R that is situated in the forward end of the tube G, said spring being secured to the said forward end of the tube and to the pin or screw I, which, as stated, passes through the hand grip.

Starting with the parts in the position shown in Fig. 2, and assuming that there is a cartridge shell within the gun barrel, the first operation will consist in thrusting the hand grip M forwardly to the extent of its movement in that direction, said movement being limited by the engagement of the pin or screw I with the ends of the slots N in the

tube G. This movement throws the upper ends of the cocking lever K rearwardly, which carries the rods *j* back until they depress the locking bolt J out of engagement with the breech block. This movement also results in swinging the hammer E into such position that the finger *h* on the trigger will engage with the shoulder *f*, thereby cocking the gun, it being understood that the part *w*, that connects the upper ends of the side plates of the cocking lever, rocks the hammer backwardly. The operator then grasps the lug *t* on the breech block and draws the latter rearwardly, thereby extracting the shell. A loaded shell now being inserted within the barrel, the breech block is slid back into position, and the gun is loaded, the spring *p* rocking the locking bolt J into position to just catch the breech block and prevent it from dropping out of place. Thus far, however, there has been no tension placed upon the main actuating spring L, so that it is impossible to fire the gun, although the same is loaded and cocked. The next operation consists in pulling, with the hand that supports the gun barrel, the grip M to its full rearward position. This movement rocks the cocking lever K into the position shown in Fig. 2, and moves the part *w* away from the hammer although the latter will remain in engagement with the trigger finger *h*. The rocking of the cocking lever draws forwardly the rods *j*, which carry the rear end of the main actuating spring, and thereby places said spring under tension, such that when the trigger is pulled rearwardly, the hammer will be thrown forwardly against the rear end of the firing pin F, thereby firing the cartridge. The release of the grip then permits the spring R to rock the cocking lever into the position shown in Fig. 1, thereby automatically cocking the gun and placing the parts in their normal position, this being the position of the parts when the gun is not in use.

From this description it will be understood that it is impossible to fire the gun unless the hand grip M is drawn rearwardly and the trigger is pulled while said grip is held in its rearward position. The simultaneous operation of these two parts, being practically impossible without intent, it is evident that the gun is rendered absolutely safe. Furthermore, as the hand grip M is operated by the hand which supports the gun barrel, the operation of drawing backwardly the grip takes place in the normal pointing and sighting of the gun, so that this operation requires no additional effort on the part of the operator.

As will appear from an inspection of Fig. 1, the cross bar *w* which connects the lever plates K is interposed between the hammer, when cocked, and the firing pin is retained in such position by means of the spring R and



the connecting rod H. It will be thus seen that the connecting member *w* serves as a locking means for preventing the movement of the hammer.

5 Various changes in the details of the mechanism shown and described may be resorted to without departing from the principles of my invention, and I desire it to be understood that the following claims are not intended to be limited to such details any further than is made necessary by their express terms or by the prior state of the art.

Having described my invention, I claim:

15 1. In a safety fire-arm, a normally cocked hammer, a spring for operating said hammer, said spring being normally inactive while the hammer is cocked, a grip in front of said hammer, and means operated by said grip after the hammer is cocked for placing said spring under stress for operating the hammer.

20 2. In a safety fire-arm, a normally cocked hammer, a spring for operating said hammer, said spring being normally inactive while the hammer is cocked, a longitudinally movable grip in front of said hammer, and means operated by said grip after the hammer is cocked for placing said spring under stress for operating the hammer.

30 3. In a safety fire-arm, a breech block, a hammer, a spring for operating said hammer, said spring being normally inactive when the breech block is closed, a grip in front of said hammer, and means operated by the backward movement of said grip for placing and maintaining said spring under stress for operating the hammer.

40 4. In a fire-arm having a barrel, the combination of a normally cocked hammer, a spring for operating said hammer, said spring being normally inactive while the hammer is cocked, a grip located alongside the said barrel and means connecting said grip with the spring whereby the operation of the grip after the hammer is cocked will place said spring under stress for actuating the hammer.

50 5. In a fire-arm having a barrel, the combination of a normally cocked hammer, a spring for operating said hammer, said spring being normally inactive while the hammer is cocked, a movable grip located alongside the said barrel and means connecting said grip with the spring whereby the movement of the grip along the barrel after the hammer is cocked will place said spring under stress for actuating the hammer.

60 6. In a safety fire-arm, a breech block, means for locking said breech block in its closed position, a normally cocked hammer, an actuating spring for said hammer, said spring being normally inactive when the gun is loaded and means for simultaneously placing said spring under stress and for locking the breech block in closed position.

7. In a safety fire-arm, a breech block, means for locking said breech block in its

closed position, a normally cocked hammer, an actuating spring for said hammer, said spring being normally inactive while the hammer is cocked, a hand grip, and means whereby the movement of said grip simultaneously places said spring under stress and locks the breech block in closed position.

8. In a safety fire-arm, a normally cocked hammer, a spring for actuating said hammer, said spring being normally inactive while the hammer is cocked, a movable grip and connections between said grip and said spring and hammer, whereby the movement of the grip in one direction will cock the hammer and the movement thereof in the opposite direction will place the spring under stress for actuating the hammer.

9. In a safety fire-arm, a normally cocked hammer, a spring for actuating said hammer, said spring being normally inactive when the hammer is cocked, a breech block, a locking bolt for said breech block, a movable grip, connections between said grip and said spring and locking bolt such that, when the grip is moved in one direction, the hammer will be cocked and the breech block released, and when it is moved in the opposite direction, the spring will be placed under stress for actuating the hammer and the breech block will be locked and a trigger for releasing the hammer.

10. In a safety fire-arm, a pivoted hammer, a cocking frame for said hammer, a spring engaging with said hammer, said spring being normally inactive, means for rocking said locking frame in one direction for cocking the hammer, a trigger adapted to engage said hammer and hold the same in cocked position and means operated by said cocking frame for placing the spring under stress for actuating the hammer when the cocking frame is rocked in the opposite direction.

11. In a safety fire-arm, a pivoted hammer, a cocking frame pivoted coaxially with said hammer, a spring connected with said hammer, said spring being normally inactive, a hand grip for rocking said cocking frame in one direction for cocking the hammer, a trigger adapted to engage said hammer and hold the same in cocked position and means connected with said cocking frame for placing the spring under stress for actuating the hammer when the cocking frame is rocked in the opposite direction.

12. In a safety fire-arm, a hammer, a spring for actuating said hammer, said spring being normally inactive, a grip, connections between the said grip and said spring for placing the latter under stress when the grip is moved in one direction, and a spring connected with said grip for moving the latter in the opposite direction, said latter movement automatically cocking the hammer.



13. In a safety fire-arm, a hammer, a spring for actuating said hammer, said spring being normally inactive, a movable grip in front of said hammer, connections  
5 between the said grip and said spring for placing the latter under stress when the grip is moved in one direction, and a spring connected with said grip for moving the latter in the opposite direction, said latter move-  
10 ment automatically cocking the hammer.

14. In a safety breech loading gun, a hammer within said gun, said hammer being provided with a shoulder, a cocking lever within which the hammer is pivoted, a  
15 slotted tube, a hand grip mounted to slide upon said slotted tube a rod connecting the cocking lever and the hand grip, a breech locking bolt, rods connecting said breech locking bolt and the cocking lever, a hammer  
20 actuating spring secured to the latter connecting rods and engaging the hammer, a trigger, a spring for holding said trigger against the said hammer so as to engage with the shoulder upon the latter and  
25 thereby retain the hammer under spring tension until the trigger is pulled.

15. In a safety breech loading gun, a hammer within said gun, said hammer being provided with a shoulder, a cocking lever  
30 within which the hammer is pivoted, a slotted tube, a hand grip mounted to slide upon said slotted tube, a rod connecting the cocking lever and the hand grip, a breech locking bolt, rods connecting said  
35 breech locking bolt and the cocking lever, a hammer-actuating spring secured to the latter connecting rods and to the hammer, a trigger, a spring for holding said trigger against the said hammer so as to engage  
40 with the shoulder upon the latter and thereby retain the hammer under spring tension until the trigger is pulled, the construction being such that when the hand grip is  
45 moved in one direction the hammer will be cocked, and when it is moved in the opposite direction the hammer-actuating spring will be placed under stress for firing the gun.

16. In a safety breech loading gun, the combination of a cocking lever, a tube con-  
50 nected to the frame and extending forwardly under the barrel, slots formed in the side of said tube, a hand grip made to slide on said tube, a forked connecting rod located at one end in said tube and pivoted to  
55 a pin made to slide in the slots of said tube, and also to extend through the slidable hand grip, the inner end of the forked connecting rod pivoted to the cocking lever, a hammer fulcrumed on the central bolt of the cocking  
60 lever, slotted connecting rods pivoted at the front end to the cocking lever, a locking bolt pivoted to the frame and constructed with pins to engage with the said slotted connecting rods, a tension spring pivoted  
65 to the hammer and to the said connecting

rods, and a trigger to engage with the hammer, substantially as described.

17. In a safety breech loading fire-arm, the combination with a safety mechanism as described, a horizontally sliding breech  
70 block, a downward projection on the under side of the breech block, a locking bolt pivoted to the frame and made to engage with the said projection on the underside of the breech block, an arm extending down-  
75 wardly from the rear end of the locking bolt connecting rods and a cocking lever, a pin made to pass through the said arm to engage with slots of connecting rods pivoted to the cocking lever, a hammer fulcrumed on  
80 the cocking lever, a spring attached to the frame to impinge on the rear of the arm of the locking bolt to assist in throwing up the forward end of the locking bolt to engage with the projection of the sliding breech  
85 block to lock it when firing, and an extractor hook attached to said sliding breech block, to catch on the flange of the shell and tip up one end of it when it will fall out.

18. In a safety breech loading gun, the  
90 combination of a cocking lever, a hammer pivoted thereto, a trigger, a slidable hand grip connecting rods between the lower end of the cocking lever and the hand grip, a  
95 push spring in the tube of the hand grip, a pivoted locking bolt for locking the breech block, rear connecting rods pivoted to the top of the cocking lever and to the arm of the breech locking bolt, a compressible hammer actuating spring secured to the rear con-  
100 necting rods and to the hammer, and a trigger spring, substantially as specified.

19. In a safety gun, the combination of a firing member, normally inactive means for operating said member, a movable member  
105 in front of the firing member and out of reach of the trigger hand, connections between the latter member and the operating means whereby the movement of said latter member in one direction will render active  
110 the operating means, and means for moving said movable member in another direction to render again inactive the operating means, substantially as specified.

20. In a safety gun, the combination of  
115 normally inactive firing mechanism, a sliding grip in front of said firing mechanism, connections between said grip and said firing mechanism whereby the movement of the said grip in one direction places the firing  
120 mechanism in operative condition, and means for moving said grip in the reverse direction to thereby render said mechanism again inoperative, substantially as specified.

21. In a safety gun having a barrel, mech-  
125 anism for firing the gun, a hand grip located alongside the barrel, a spring for holding said grip in its normal position, and connections between said grip and mechanism requiring the grip to be operated against the  
130



tension of said spring and to be held in its operated position in order to place and maintain the gun in condition for firing.

22. In a safety gun having a barrel, mechanism for firing the gun, a hand grip located on the lower side of the barrel and in front of said mechanism, said grip being adapted to move longitudinally of the gun barrel and being normally retained in its forward position, and connections between said grip and said mechanism requiring the grip to be moved by the operator toward the said mechanism and to be held by the operator in such moved position in order to place and to maintain the gun in condition for firing.

23. In a safety gun, mechanism for firing the gun, a hand operated member located in front of said mechanism, a spring for moving

said member in one direction, and connections between the member and the said mechanism, said connections placing the mechanism in operative condition for firing the gun when the member is operated in one direction and the spring returning the firing mechanism to inoperative position when the said member is released by the operator, whereby the said member is required to be operated and held in its operated position in order to place and maintain the gun in condition for firing.

Hamilton, Ontario, Canada, April 27th, 1904.

ORLANDO SCOTT.

Signed in the presence of—

WM. BRUCE,

R. A. MARSHALL.