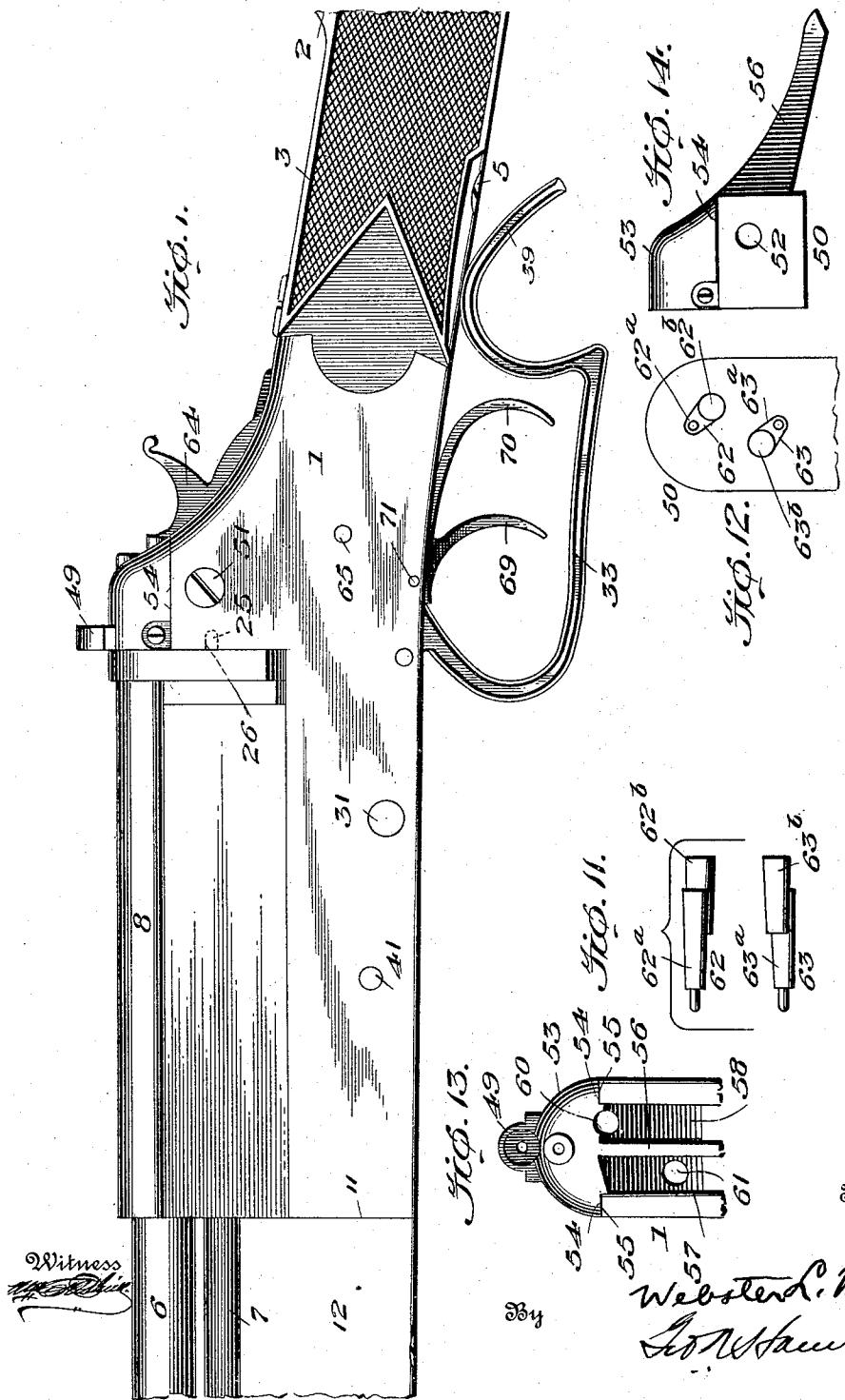


1,223,411.

W. L. MARBLE,
SLIDE ACTION FIREARM.
APPLICATION FILED JUNE 26, 1916

Patented Apr. 24, 1917.

4 SHEETS—SHEET 1.



Inventor

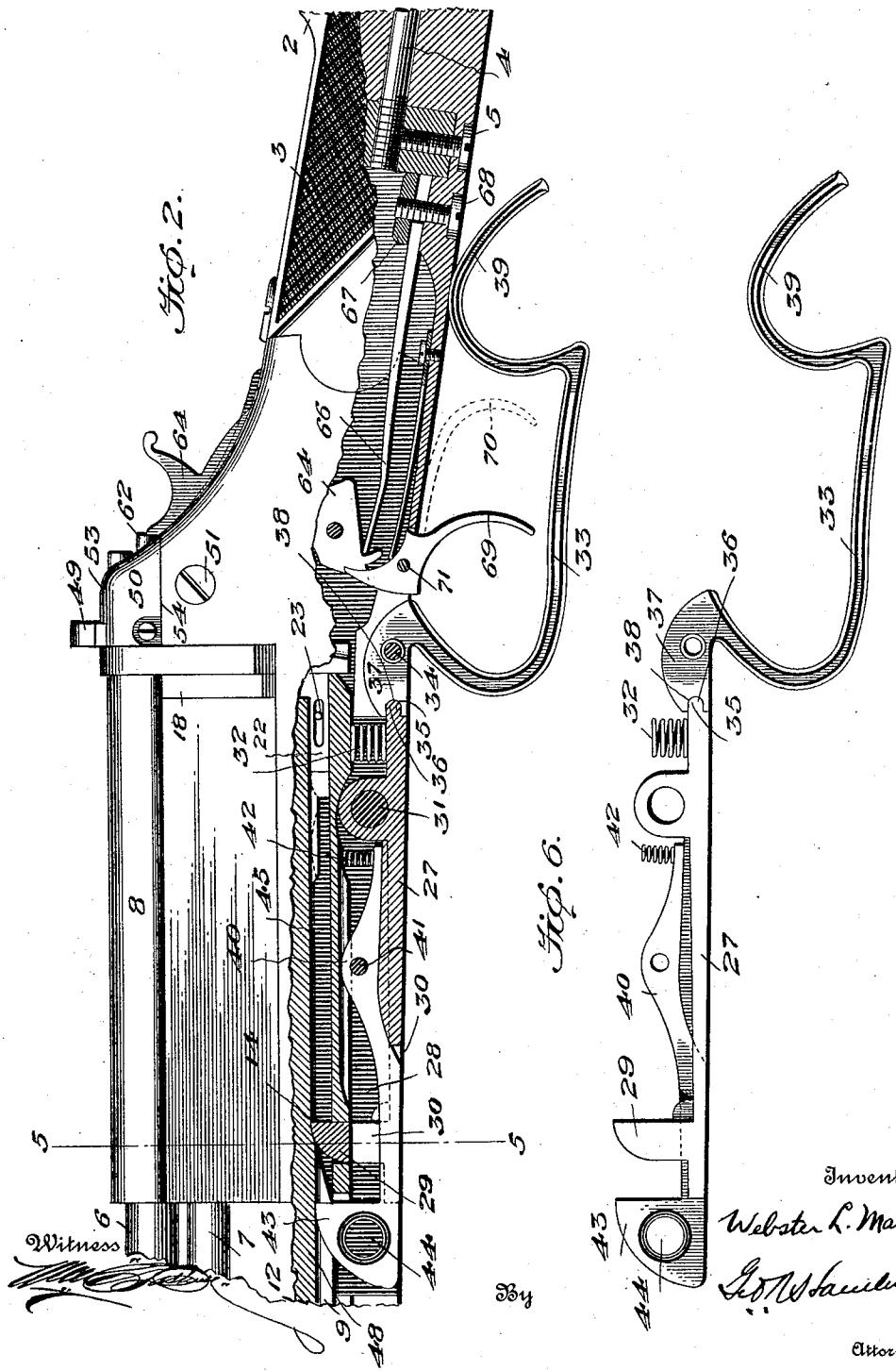
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4 SHEETS—SHEET 2.



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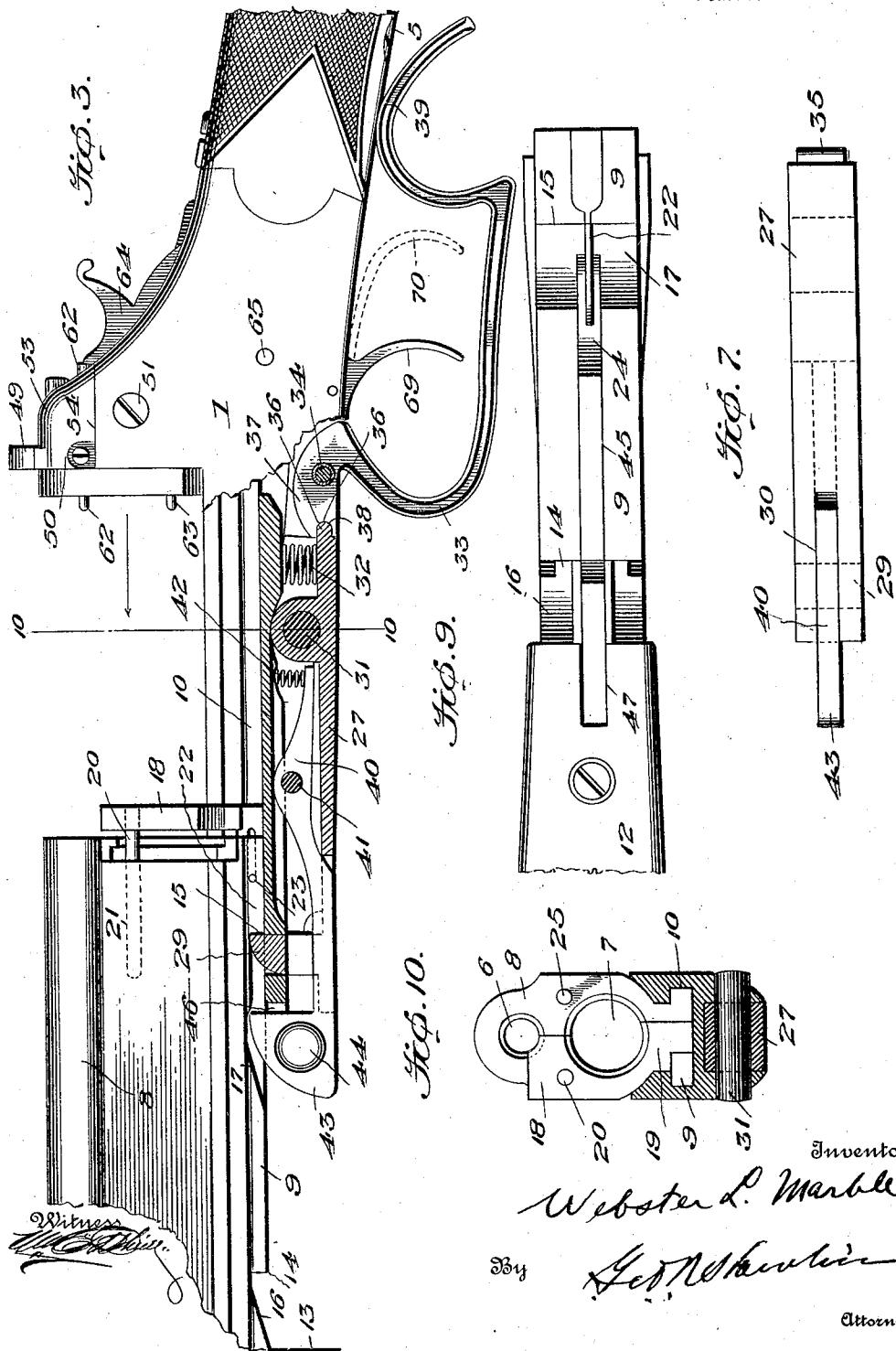
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4 SHEETS—SHEET 3.



W. L. MARBLE.

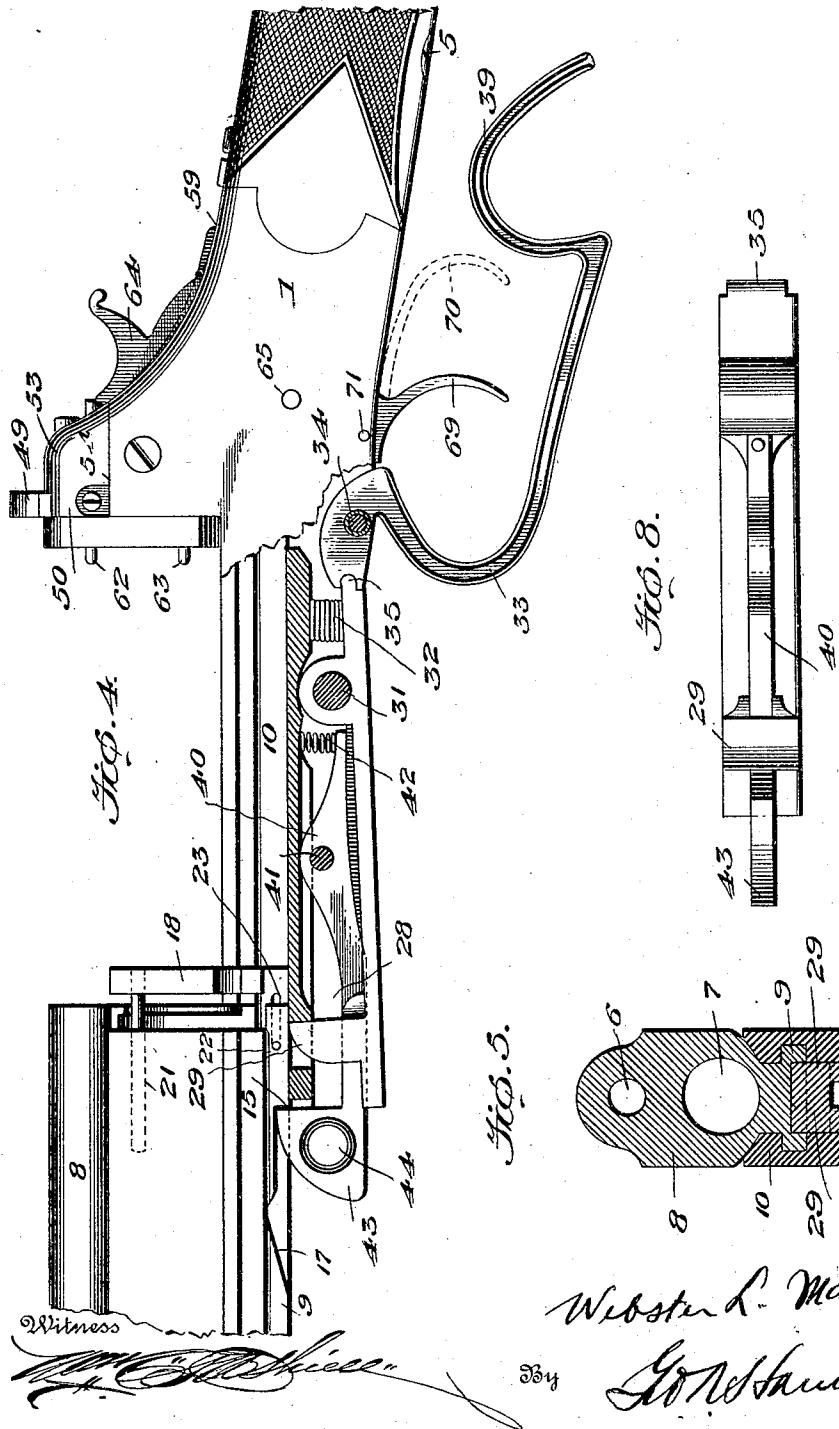
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4 SHEETS—SHEET 4.



Inventor

Webster L. Marble

By John Sandie

Attorney

UNITED STATES PATENT OFFICE.

WEBSTER L. MARBLE, OF GLADSTONE, MICHIGAN.

SLIDE-ACTION FIREARM.

1,223,411.

Specification of Letters Patent. Patented Apr. 24, 1917.

Application filed June 26, 1916. Serial No. 105,878.

To all whom it may concern:

Be it known that I, WEBSTER L. MARBLE, a citizen of the United States, residing at Gladstone, county of Delta, and State of Michigan, have invented certain new and useful Improvements in Slide-Action Firearms, of which the following is a specification.

My invention relates, more particularly, 10 to "over and under" fire arms employing rifle and shot gun barrels arranged in superposed relation with independent firing pins, hammers and triggers so that either or both barrels may be used according to requirements.

The foregoing type of fire arm has heretofore been embodied in a "tip-up" action and the fact of using two barrels, one above the other, necessarily positions the higher 20 barrel so much farther above the pivot of the "tip-up" action than if only a single barrel were used, that the slightest wear at the pivot results in a greatly multiplied "flip" at the muzzle, and consequent inaccuracy when the arm is discharged.

My object is to prevent "flip" in an over and under firearm by the provision of an improved slide action having means for holding down the barrels firmly at the breech 30 and strongly locking them when closed and conditioned for discharge.

Further objects are to distribute wear when opening or closing the arm; to provide novel locking means for holding the breech 35 closed and to serve as a normal stop when it is opened for extraction, ejection or loading purposes; also a safety latch to arrest the barrel-receiver if, through improper handling, the barrel-receiver becomes unlocked 40 when in open position.

Another object is the provision of a novel barrel locking lever and a safety latch combined in an improved manner, whereby they occupy only a limited space, jointly hold 45 the receiver against tendency to "flip" and coöperate for action under the influence of a common actuating spring and yet are capable of independent action for the performance of their respective functions.

A still further object is to provide a barrel-receiver locking device and combined trigger guard and operating lever, combined in an improved manner, whereby the trigger guard is adapted either for releasing the locking device to free the barrel-receiver, or, 50 as a grip which is naturally grasped by the

user when shooting, adapted to assist the normal locking action of said locking device, thus insuring rigid locking of the barrel-receiver at the moment of discharge of 60 the arm.

Further objects are to provide a safety latch for the barrel-receiver which is so constructed and positioned that it may be readily grasped to release the barrel-receiver 65 when it is desired to take down the forearm; an improved interlocking slide bed for the barrel-receiver which holds it firmly against "lash" whether open or closed; novel firing pins, breech piece and other details 70 which appear more fully hereinafter.

The embodiment of the invention herein-after described and which is shown in the accompanying drawings, is to be considered only as illustrative of the invention, although 75 it represents the preferred embodiment thereof, inasmuch as various changes may be resorted to in carrying out the invention without departing from the essential principles thereof.

In the accompanying drawings:

Fig. 1 is a side elevation, the barrels and stock being broken away, showing the firearm closed;

Fig. 2, a similar view, with certain parts 85 broken away to show the position of the locking means and other parts;

Fig. 3, a similar view with the barrels slid forward and arrested in normal arresting position for extraction, ejection or loading, 90 certain parts being broken away and in section;

Fig. 4, a side elevation representing the action of the safety latch in retaining the barrels when they have passed the locking 95 lever, as when the trigger guard is held down, certain parts being broken away and in section;

Fig. 5, a section on line 5—5, Fig. 2;

Fig. 6, a side elevation of the trigger 100 guard, locking lever and safety latch in the normal positions they occupy when in the firearm;

Fig. 7, a bottom view of the locking lever and safety latch;

Fig. 8, a plan view thereof;

Fig. 9, a bottom view of the barrel-receiver;

Fig. 10, a section on line 10—10, Fig. 3;

Fig. 11, a side elevation of the firing pins;

Fig. 12, a diagrammatic showing of the relationship of the firing pins to the breech

piece, looking toward the rear of the breech piece;

Fig. 13, a rear view of the breech block or piece fitted in the frame; and

5 Fig. 14, a side elevation of the breech block alone.

The frame 1 may be connected to the stock 2, of which only the neck 3 is shown, by any suitable means, as for instance, a bolt 10 4 running through the stock and neck to the butt piece, not shown, a clamping screw 5 being provided to prevent loosening of the bolt 4.

The over and under barrels, of which the rifle barrel 6 is preferably over the shot barrel 7, as shown in Figs. 5 and 10, are entered in a slidable barrel-receiver 8 which, as shown in Figs. 5 and 9, is provided with a slide or foot piece 9 of general inverted T-shape in cross section which extends for the major portion of the length of the receiver 8 to afford a long bearing and fits snugly, yet slidably, in the guide or track 10 (Figs. 3, 4, 5 and 10). The track or guide 10 is of 25 the same outline as the foot-piece or slide 9 and extends from the left-hand end 11 (Fig. 1) of the frame 1 to the breech portion thereof, or substantially to that point. The receiver 8, barrels 6 and 7, and fore-end 12 (Figs. 1 and 9) are thus bodily slidable in 30 relation to the frame 1 and the connection between the barrel-receiver 8 and the track or guide 10 is of considerable length, affording a firm alinement and strong holding of 35 the receiver and barrels when the gun is either open or closed. When the arm is closed, as in Figs. 1 and 2, the forward metal shoulder 13 of the receiver 8 abuts the frame 1 at 11, thus affording strength at this point. 40 The length of the slidable connection between the receiver 8 and the frame 1 insures firm holding down of the receiver and barrels at the instant of discharge of the arm and prevents "flip" at the muzzle, the defect 45 which is so common in over and under guns having a tip-up or pivot action or joint between the frame and the barrel-receiver. The rigidity of the receiver, when the arm is closed, is supplemented by the locking means 50 hereinafter described so that even if slight wear results from long use of the arm as between the foot-piece 9 and the guide or bed 10, nevertheless, the barrel-receiver will still be firmly held.

55 Referring to Figs. 2, 3 and 9, the under side or foot-piece 9 of the receiver 8 is provided with a locking shoulder 14 which cooperates with the locking devices, presently described, when the receiver 8 is in closed or 60 firing position. Another shoulder 15 disposed closer to the breech portion of the receiver 8, serves to limit the forward or open position of the receiver when the parts are normally arranged, as shown in Fig. 3, or, 65 to coöperate with the safety latch when they

have passed the normal position, as shown in Fig. 4. Approaching these shoulders are inclined portions 16 and 17 on the bottom of the receiver 8 to permit closing of the receiver past the locking and safety latches. 70

The ejector slide 18 serving for both barrels 6 and 7, has a foot-piece 19 received in the guide 10. A rod 20 carried by the ejector or extractor 18, slides in an aperture in the receiver, shown by dotted lines 21, Figs. 75 3 and 4. The extractor or ejector has a narrow tail 22 (Figs. 2, 3, 4 and 9) which has a pin-and-slot connection 23 with the bottom portion of the foot-piece 9 and lies in a channel 24 in the bottom of the foot-piece so as to be adapted for engagement with the locking catch of the locking lever, as will presently appear. 80

There may be provided a pin or dowel 25 (Fig. 10) at the breech of the receiver 8 85 adapted to enter a corresponding concavity in the breech portion of the frame 1, as shown by dotted lines 26 (Fig. 1) to assist in insuring rigidity against lateral movement when the arm is closed, as in Fig. 1. 90

The locking lever 27 lies in a channel 28 in the bottom of frame 1 and is disposed longitudinally thereof, said lever having a latch 29 which is rounded on its forward face so that it may be depressed by the inclined surfaces 16 and 17 when the receiver is closed, and on its rear face it is abrupt to engage with either of the shoulders 14, 15, according as the receiver is closed (Fig. 2), or open (Fig. 3), to lock the receiver and barrels closed or to limit their forward travel, as the case may be. The latch 29 also serves as an abutment for the tongue 22 of the extractor 18 to automatically open the extractor when the receiver is slid forward 100 to the position shown in Fig. 3. As shown in Fig. 7, the forward end of the locking lever 27 is bifurcated at 30, such bifurcation also running up into the latch 29. The pivot pin 31 for the locking lever 27 is located relatively near the rear end of said lever and back of said pivot is the stout coil spring 32 which lies in the channel 28 and bears against the bottom of the frame 1 below the track or guide 10. The position of 110 the pivot 31 enables a slight movement of the right-hand end of the locking lever to effect a relatively large movement of the left-hand end thereof, as shown in Fig. 4. 115

The upper edge of the latch 29 is held 120 with considerable pressure against the lower face of the foot-piece 9 and the result is a firm pressing upward of the receiver to compensate for any wear or lost motion that might exist from continued use between the 125 foot-piece 19 and the guide 10, as will appear from Fig. 5. Whenever the locking lever 27 is in normal position, the aforesaid pressure exists. Consequently, when the arm is closed and in firing condition, as 130

shown in Fig. 2, the aforesaid pressure assists in holding the receiver 8 in solid or immovable position, both by upward pressure and by the engagement of the latch 29 with the shoulder 14. Tendency to "flip" is thereby minimized.

The trigger guard 33 is pivoted on a pin 34 within the lower portion of frame 1 and has a toggle joint engagement at 35 with the rounded rear end 36 of the locking lever 27, the head 37 of the trigger guard being provided with a mouth 38 to receive the rounded portion 36. The trigger guard is otherwise disconnected from the firearm and its rear portion is provided with a pistol grip 39 which is arranged so that the under grasp of the trigger hand around the neck 3 at the time of aiming and firing the arm, is exerted on the grip 39, thus manually augmenting the action of spring 32 in forcing the latch 29 upwardly against the bottom of the receiver 8, which further insures a firm engagement between the foot 9 and upper walls of the guide 10 at the moment of discharge of the arm and prevents any "flip" of the barrels.

As shown in Fig. 4, another function of the trigger guard 33 is the downward withdrawal or release of the locking lever 27 and latch 29 from engagement with the shoulder 14 to permit the receiver and barrels to be slid forwardly to the position shown in Fig. 3 for extraction, ejection, or loading. Downward movement of the trigger guard effects this release, as shown in Fig. 4, but in that view, the receiver has passed the normal position it assumes when open, as will presently appear.

The locking lever 27 might be drawn down by hand, as will presently appear, and it could be provided with a finger-hold for that purpose, but the tension of the spring 32 being relatively strong, the trigger guard 33, by its relatively great leverage, constitutes a means for the easy release of the locking lever. If the arm is in closed condition, as shown in Fig. 2, the trigger guard is slightly depressed to release the latch 29 and immediately the receiver 8 has been slid forwardly, the trigger guard should be released so that the latch 29 will snap into engagement with the shoulder 15, Fig. 3. In hasty or excited use of the arm, however, there is a possibility that the user might hold the trigger guard 33 down when opening the arm for re-loading, and to prevent accidental disconnection of the barrels from the frame 1, there is provided a safety latch 40 which is pivoted on a pin 41 and lies disposed above the lever 27 in the channel 28. The stem of the safety latch 40 extends through the bifurcation 30 to the upper side of the locking lever 27 and overlies the latter, there being provided a spring 42 which is interposed between the rear end of the

stem of the latch 40 and the bottom of the frame 1, such spring being lighter than the spring 32. The head 43 of the safety latch is disposed in advance of the locking latch 29 so that if the user of the arm has the trigger guard 33 depressed, as in Fig. 4, at the time the receiver is slid forward to re-load, the shoulder 15 which has escaped engagement with the latch 29, is arrested by the head 43 and detachment of the receiver and barrels from the frame is prevented. The safety latch is preferably provided with an opening 44 so that it can be readily grasped between the fingers to depress it when the arm is to be taken down and the shoulder 15 can then pass the head 43, but under normal conditions the safety latch 40 is independent of the position or operation of the normal locking lever 27 and the trigger guard 33, and provides an absolute safeguard against disconnection of the receiver from the frame.

Preferably, but not necessarily, the safety latch 40 is sufficiently narrow so that it can travel in a slot 45 in the bottom of the foot-piece 9, but the width or thickness of the head 43 is immaterial just so it is arranged to co-operate with the shoulder 15 and the tail piece 22 of the ejector. The forward end of the frame 1 is notched at 46 to accommodate the head 43; the fore-end 12 is provided with a slot 47 for the same purpose, and the receiver 8 is grooved at 48 to loosely receive the head 43.

The interlaced relationship of the locking lever 27 and safety latch 40 permits the use of both elements within a width the same as that which would be occupied by the locking lever 27 alone and within a length only slightly greater than that which would be required by the locking lever. Compactness and strength are thereby obtained. Were the safety latch placed at the side of the locking lever, much greater width, as well as additional manufacturing operations would be required and the arm would be more expensive to produce and made bulky in appearance.

When the arm is closed, the action of spring 32 supplements the action of spring 42 in holding the head 43 of the safety latch pressed firmly upwardly against the bottom of the receiver and forms another pressure point for holding the foot 9 tightly in the guide 10. Similarly, the under gripping action of the trigger hand of the user of the arm applied to pistol grip 39 is, through the locking lever 27, applied to the safety latch 40, as it will be observed that at the end of the bifurcation 30, the lever 27 engages the safety catch 40.

When the receiver and barrels are returned from the open positions of either Fig. 3 or Fig. 4, to the closed positions of Figs. 1 and 2, the spring 32 automatically returns the trigger guard 33 to the normal

position shown in Figs. 1 and 2, and this guard has to be in that position before the arm can be arranged for firing, and then the arm is positively locked by the latch 29.

5 A depressible, adjustable sight 49 which is set forth and claimed in an application executed of even date herewith, may be employed when the rifle barrel 6 is being used, or, depressed to remain invisible when the 10 shot barrel 7 is used.

The upper portion of the frame 1 is split vertically and receives the body 50 of a breech piece or block (Figs. 13 and 14), the block being secured by a screw bolt 51 passing through an aperture 52 in the breech piece. The upper, rounded part 53 of the breech piece has shoulders 54 which overlie and rest flat upon the upper shoulders or edges 55 of the frame 1. The breech piece 15 has a tail, web or partition 56 which, as shown in Fig. 13, subdivides the open, upper part of the frame 1 into two hammer pockets or chambers 57, 58, the end of said tail piece 56 entering a slot in the frame 1 at 59 which holds it against flexing. The holes 20 for the firing pins for the respective barrels 6, 7, are shown at 60, 61.

25 The firing pins 62 and 63 for the respective barrels 6, 7, lie loosely in the holes 60, 61 so that they are rebounding, and hence, should the user slam back the receiver 8 when closing the arm, there would be no danger of premature explosion. After the gun is discharged, the hammers do not bear 30 positively against the firing pins 62, 63.

35 The firing pins are each off-set both laterally and vertically, as shown diagrammatically in Fig. 12. The parts 62^a and 63^a are integral with the parts 62^b and 63^b, respectively. The object of the off-set firing pins is to enable the respective hammers 64, of which the left-hand one appears in Figs. 1, 2, 3 and 4, to be provided side by side for the respective over and under barrels 6, 40 7, and to enable the hammers 64 to be exact duplicates in outline. The partition or stem 56 so spaces the hammers which lie in the respective chambers 57, 58, and are pivoted at 65 that either hammer may be grasped 45 to cock the arm without liability of accidentally grasping both hammers; and at the same time, the hammers are so closely associated that both of them may be readily simultaneously cocked, if desired, so that 50 either barrel can be discharged first at the will of the operator. In order that the hammers may be more readily cocked separately, the right-hand hammer 64 is offset to the right and the left-hand hammer 64 off-set to 55 the left to provide a somewhat wider spacing between the rear or "checkered" parts of the hammers than at the front thereof, adapting them to be securely gripped.

60 The hammer springs, of which there are 65 two, are shown at 66 as held by a plate 67

and screw 68. The triggers 69 and 70 which are pivoted at 71, are for the control of the respective hammers 64 and are guarded by the trigger guard 33.

Having thus described my invention, what 70 I claim as new and desire to secure by Letters Patent, is:—

1. In a firearm, the combination with a 75 slideable barrel, of a main combined locking and stop device therefor for holding the barrel in either closed or open position, and a supplemental or safety stop device for arresting the barrel if it passes the main locking and stop device when the barrel is in open position.

2. In a firearm, the combination with a 80 slideable barrel, of a main stop device for locking the barrel when the latter is in open position, and a supplemental or safety stop device for arresting the barrel if it passes 85 the main stop device when the barrel is in open position.

3. In a firearm, the combination with a 89 barrel, of a spring-closed locking device therefor, and a movable trigger guard co-operating with said locking device, adapted for opening it.

4. In a firearm, the combination with a 95 barrel, of a spring-closed locking device therefor, and a movable combined trigger 100 guard and pistol grip movable in relation to the locking device and co-operating with said locking device adapted for releasing the locking device and for holding it in locked condition.

5. In a firearm, the combination with a 105 frame, and a barrel receiver having an interlocking connection therewith, of a main combined locking and stop device therefor for holding the barrel receiver in either closed or open position, and a supplemental or safety stop device for arresting the barrel receiver if it passes the main locking and stop device when the receiver is in open position, and means for causing said main and supplemental locking devices to exert pressure to tighten the interlocking slideable connection aforesaid.

6. In a firearm, the combination with a 110 frame, and a barrel receiver having an interlocking connection therewith, of a main combined locking and stop device therefor for holding the barrel receiver in either closed or open position, a supplemental or safety stop device for arresting the barrel receiver if it passes the main locking and stop device when the receiver is in open position, and springs for holding the aforesaid main locking device and safety stop device in closed position and causing them to also exert pressure to tighten the interlocking slideable connection aforesaid.

7. In a firearm, the combination with a 115 frame, and a barrel receiver having an interlocking slideable connection therewith, of a

locking device for holding said receiver in closed position and also adapted to exert pressure to tighten the interlocking slidable connection aforesaid, and a manually operable member coöperating with said locking device adapted to release said locking device and also serving as a grip to supplement the pressure exerted by the locking device on the interlocking slidable connection.

8. In a firearm, the combination with a frame, and a barrel receiver having an interlocking slidable connection therewith, of a locking device for holding said receiver in closed position, spring means for closing said locking device which is also adapted to cause the locking device to exert pressure to tighten the interlocking slidable connection aforesaid, and a manually operable member coöperating with said locking device adapted to release said locking device from the receiver and also serving as a grip to supplement the tension of said spring means so as to maintain the engagement of the locking device with the receiver.

9. In a firearm, the combination with a slidably mounted barrel receiver having a locking shoulder for the closed position and a stop shoulder for the open position thereof, of a main locking device, and a safety latch, the former being adapted to engage one shoulder or the other according as the receiver is open or closed, said safety latch being positioned to engage the stop shoulder if it passes the main locking device on opening the receiver.

10. In a firearm, the combination with a slidably mounted barrel receiver having a locking shoulder for the closed position and a stop shoulder for the open position thereof, of a main locking device, a safety latch, the former being adapted to engage one shoulder or the other according as the receiver is open or closed, said safety latch being positioned to engage the stop shoulder if it passes the main locking device on opening the receiver, and manually operable means for releasing the main locking device.

11. In a firearm, the combination with a slidably mounted barrel receiver having a locking shoulder for the closed position and a stop shoulder for the open position thereof, of a main locking device, a safety latch, the former being adapted to engage one shoulder or the other according as the receiver is open or closed, said locking device being releasable independently of the safety latch, said safety latch being positioned to engage the stop shoulder if it passes the main locking device on opening the receiver, and a manually operable device for releasing the main locking device.

12. In a firearm, the combination with a slidably mounted barrel receiver having a

locking shoulder for the closed position and a stop shoulder for the open position thereof, of a spring-actuated main locking lever, and a spring-actuated safety latch with which said locking lever coöperates to assist in holding the safety latch in closed position, said locking device being releasable independently of the safety latch, said locking lever being adapted to engage one shoulder or the other according as the receiver is open or closed, said safety latch being positioned to engage the stop shoulder if it passes the main locking device on opening the receiver.

13. In a firearm, the combination with a slidably mounted barrel receiver having a locking shoulder for the closed position and a stop shoulder for the open position thereof, of a spring-actuated main locking lever, a spring-actuated safety latch with which said locking lever coöperates to assist in holding the safety latch in closed position, said locking device being releasable independently of the safety latch, said locking lever being adapted to engage one shoulder or the other according as the receiver is open or closed, said safety latch being positioned to engage the stop shoulder if it passes the main locking device on opening the receiver, and a manually operable lever coöperating with the locking lever and adapted either for releasing it or for supplementing the closing action of the spring on said locking lever and safety latch.

14. A locking device for slide action firearms comprising a pivoted main locking lever and a supplemental pivoted safety latch interlaced with each other for purposes of coöperation.

15. A locking device for slide action firearms comprising a pivoted main locking lever and a supplemental pivoted safety latch interlaced with each other, the latch being under the closing influence of the lever, and independent springs for actuating said lever and latch, said lever being releasable independently of the latch.

16. A locking device for slide action firearms comprising a pivoted main locking lever and a supplemental pivoted safety latch interlaced with each other, the latch being under the closing influence of the lever, independent springs for actuating said lever and latch, said lever being releasable independently of the latch, and a trigger guard and grip engaged with the locking lever.

17. In an "over and under" firearm, the combination with the barrels, of upper and lower firing pins each composed of portions which are off-set both vertically and laterally.

18. In a firearm, the combination with a frame having an open portion, of a breech piece provided with a tail or web which ex-

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tends into, and divides the open portion of the frame into hammer compartments or chambers.

19. In a slide action firearm, the combination with a slidable barrel receiver, of an ejector or extractor, and a locking device for the receiver which operates the extractor or ejector.

20. In a slide action firearm, the combination with a frame having an undercut guide-

way, of a barrel receiver provided with a foot-piece fitting and slidable in said undercut guideway, locking means for said receiver, and manually operated means adapted to cause the locking means to exert pressure against the foot-piece of the receiver. ¹⁵

In testimony whereof, I hereunto affix my signature.

WEBSTER L. MARBLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."