(No Model.)

2 Sheets—Sheet 1.

R. C. FAY.

BREAKDOWN GUN.

No. 528,506.

Patented Oct. 30, 1894.

Fig. 1.

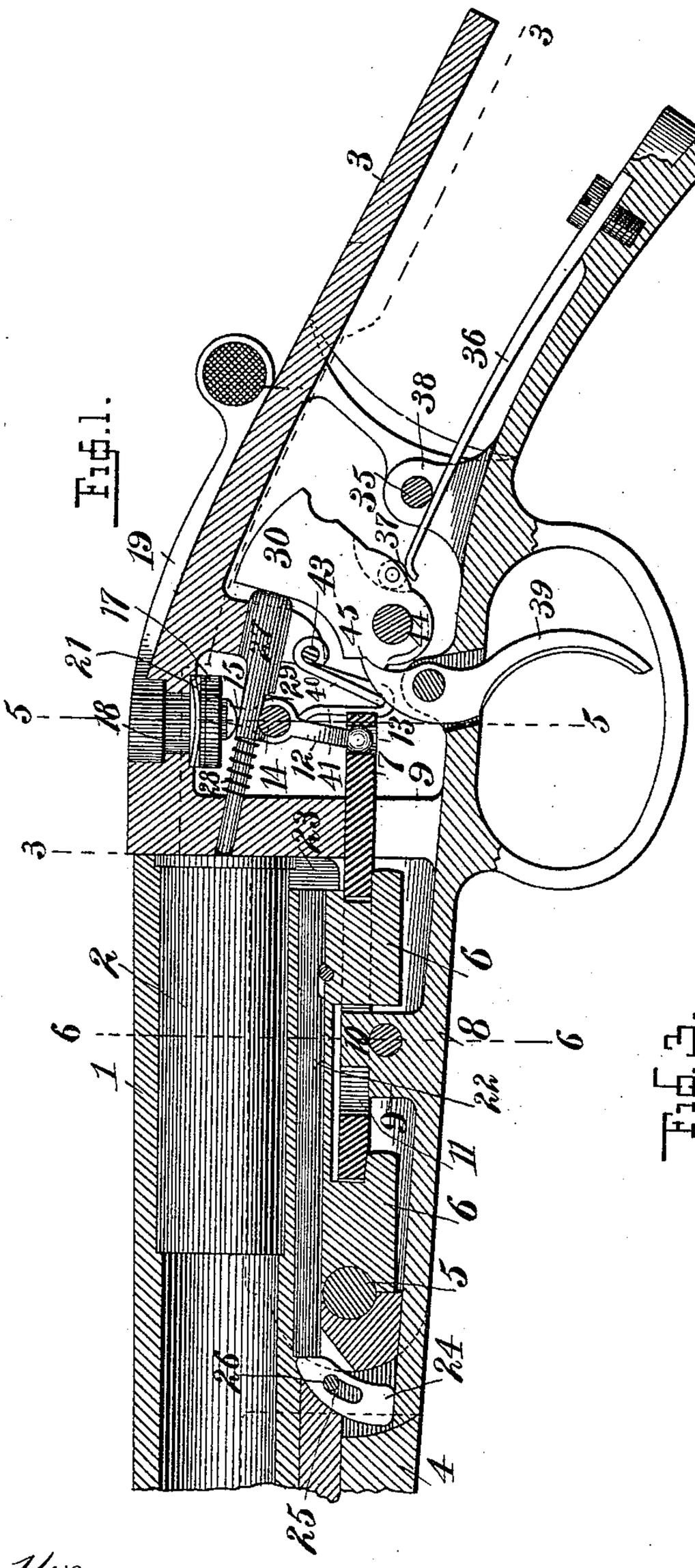
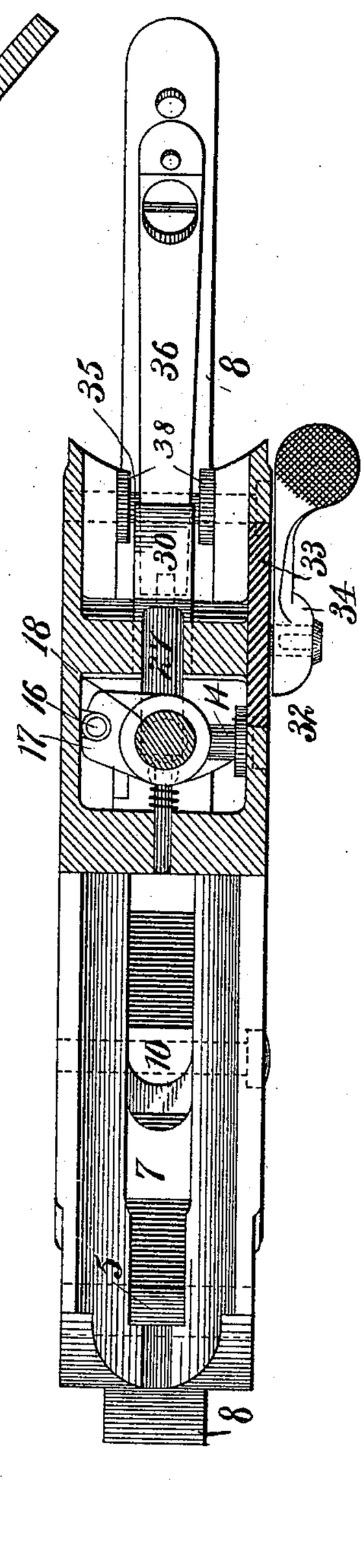


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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BREAKDOWN GUN.

No. 528,506. Patented Oct. 30, 1894.

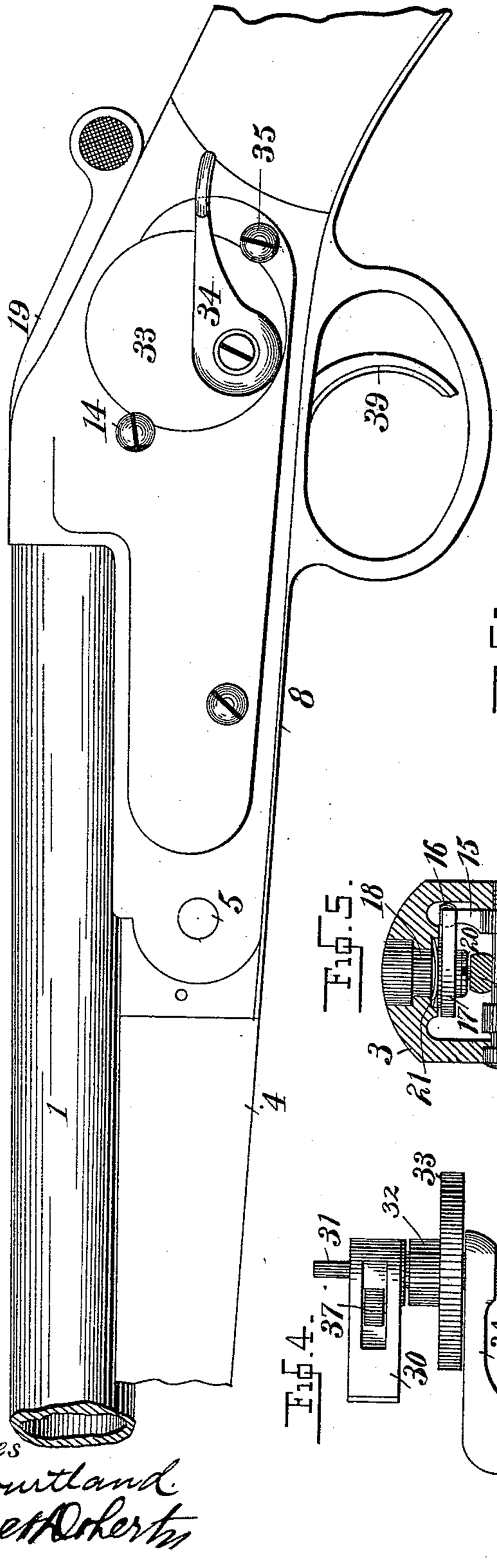
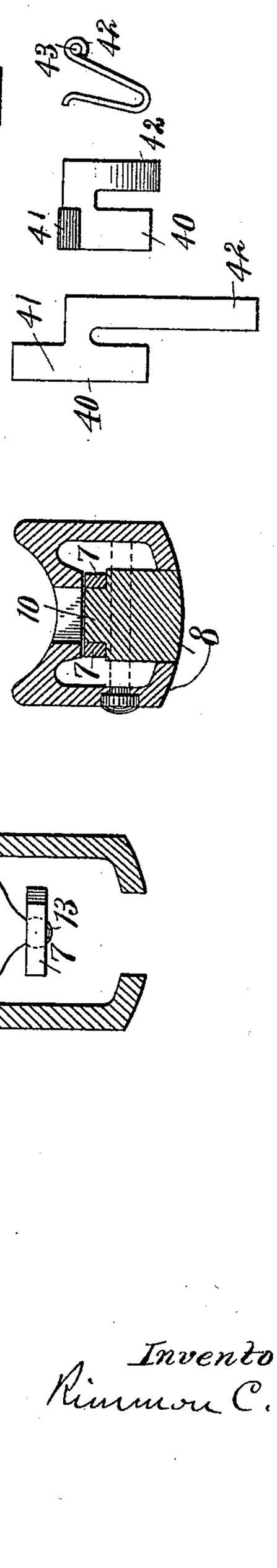


FIG. 2.



FIGS. 6, 7.

FIG. 6.

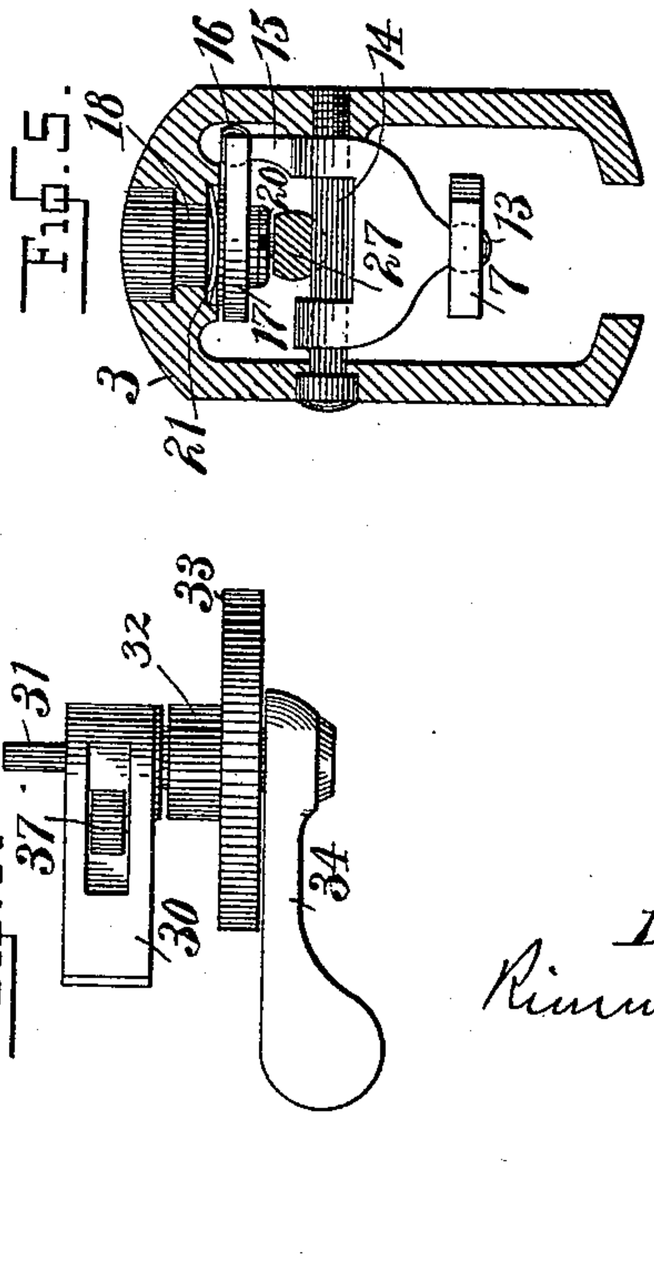


FIG. 5.

FIG. 4.

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UNITED STATES PATENT OFFICE.

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BREAKDOWN GUN.

SPECIFICATION forming part of Letters Patent No. 528,506, dated October 30, 1894.

Application filed December 2, 1893. Serial No. 492,640. (No model.)

To all whom it may concern:

Be it known that I, RIMMON C. FAY, a citizen of the United States, residing at Ilion, county of Herkimer, and State of New York, have invented certain new and useful Improvements in Guns, of which the following is a specification.

My improvements are especially intended for single-barreled semi-hammerless shot-guns, though they may in part have a wider application.

The invention has in view the simplifying of the lock mechanism of such a gun, and reduction of the number of parts.

In the accompanying drawings which form a part of this specification, I have shown a gun-lock embodying my invention.

Figure 1 is a vertical longitudinal section of the gun lock showing also the rear end of the barrel. Fig. 2 is a side view of the same. Fig. 3 is a horizontal sectional view in the plane indicated by the line 3—3, Fig. 1. Fig. 4 is an under side view of the hammer, side plate and side lever detached from the gun. Fig. 5 is a vertical sectional view on the plane indicated by the line 5—5, Fig. 1, but omitting the trigger plate. Fig. 6 is a vertical sectional view in the plane indicated by the line 6—6, Fig. 1. Fig. 7 is a view of the blank for the combination spring for the trigger and bolt. Fig. 8 is a rear view of said spring. Fig. 9 is a side view thereof.

1 is the rear end of the barrel; 2, a cartridge in position therein; 3, the frame and 4 the fore-end pivoted by the pivot-bolt 5 to said frame. The gun barrel has lugs 6 notched on their rear edges to be engaged by a sliding bolt 7 which slides between the frame 3 and trigger-plate 8 on lugs 9 of said trigger plate, and is guided by a stud 10 projecting from one of said lugs and entering the slot 11 of said bolt. The bolt is actuated by a rocker-lever 12 having a ball-shaped wrist 13 engaging in a hole in the rear end of said bolt. The rocker 12 is pivoted on the transverse screw 14 as clearly shown in Figs. 1 and 5 and has an upwardly projecting arm 15 whose ball-shaped wrist 16 engages in the forked or slotted end of an arm or crank 17 carried by the hub or pivot 18 of top-lever 19. The arm 17 is held upon the hub 18 by screw 20 and is prevented from rotary movement on said hub by suitable conformation of the aperture in the arm and the surface of the hub with which it engages, as for example, by making such engaging parts oblong or elliptical in shape. A spring washer 21 arranged between the upper surface of the arm 17 and a shoulder on the frame automatically takes up wear and prevents loose movement. By pressing the top lever 19 to the right, the arm 17 will be caused to oscillate and the rocker 12 to draw back the bolt 7 and disengage it from the lugs 6 of the barrel thus allowing the barrel to turn upon its pivot 5 and open the breech. During this operation, the cartridge is ejected in the following manner: 22 is the ejector rod having usual extractor 23 adapted to engage in the rim of the cartridge. The said rod slides in a bearing in the under part of the barrel and its rear end abuts against a fly 24 which has a slot 25 engaging in transverse guide-and-pivot-pin 26 on the fore end. The bearing of the fly on the rear of the fore-end is eccentric of the pivot bolt 5.

It will be seen on looking at Fig. 1 that the fly rests upon the front end of the trigger plate 8 and that when the gun is open the fore end pivoting about the bolt 5 will cause the pin 26 to move in the slot 25 and the upper end of the fly to be forced backward under the guidance of the eccentric bearing on the rear of the fore-end pushing the ejector rod 22 so as to extract the cartridge.

27 is the firing pin arranged in inclined position, as shown, in bearings in the frame. 28 is a spiral spring surrounding said pin for retracting it. It has bearing between the face of the frame and a shoulder on said firing pin. The firing pin is arranged immediately over the screw 14 and adjacent to said screw is cut away as shown at 29 forming shoulders which acting on the opposite sides of the screw 14 limit the movement of the firing pin in both directions. The screw 14 thus acts not only as a pivot for the rocker 12 but as a stop for the firing pin as well as being, as hereinafter described, the front screw of the side plate.

The hammer is shown at 30. It has on the right side a trunnion 31 (see Fig. 4) engaging in a suitable bearing in the frame and on the left a hub 32 which has bearing in the side plate 33 and projects beyond the same to receive on its square end the semi-hammer or side lever 34. The side plate is, as shown in Fig. 2, circular in form and is notched on opposite sides to receive the heads of the screws 14 and 35, the heads of both of which screws are flattened so that on turning them to the proper position, the side plate can be removed as will be readily understood. In opening the lock of the gun, after having turned these screws, the side plate, the semi-hammer and hammer all come away together as shown in Fig. 4.

The main spring is shown at 36 bearing upon a roller 37 on the hammer 30 and having its upward movement limited by impinging on the shank of the screw 35. The screw 35 also, as shown, serves to hold the trigger plate in position, passing through the frame and through lugs 38 on the trigger frame.

39 is the trigger, pressed against the hammer by one arm 40 of a spring whose other arm 41 presses against rocker 12 for the purpose of automatically projecting the bolt 7 into engagement with the lugs 6 of the gun barrel.

Figs. 7, 8 and 9 represent the spring 40, 41 clearly and the method of making the same. It is first formed in the shape of the blank shown in Fig. 7 and is then turned up so as to have the U-arm 41 adapted to engage against the rear of the rocker 12 and the straight arm 40 adapted to rest against the front curved surface of the trigger 39 to hold the latter against the hammer. The spring has a flange 42 bent over a pin 43 on the frame so as to support it in position.

It will be seen that the spring acts in one direction against the rocker 12 and in the other against the trigger and that the opening of the breach increasing the tension of the spring only increases the pressure of the trigger upon the hammer.

The hammer is notched or shouldered at 44 to engage the nose of the trigger at full cock and at 45 to engage the nose of the trigger when the gun is uncocked. When the gun is fired the hammer is released from the action of the main spring at the instant of touching the firing pin and after delivering the blow rebounds with the firing pin under the action of the spring 38 on the latter so as to allow the firing pin to be instantaneously disengaged from the cartridge and the hammer is then held by engagement of its shoulder 45 with the nose of the trigger from accidental pressure upon the firing pin.

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

1. In a break-down gun action, the combination of the frame and the trigger plate having a passage between them and a slide bolt held in said passage by the trigger plate and the frame.

2. In a break-down gun action, the combination of the frame, the trigger plate having a guiding lug, and a slotted slide bolt engaging said guiding lug, and held in position between said frame and trigger plate, and having its longitudinal movement directed by said guiding lug.

3. In a break-down gun, the combination of the top-lever having rigidly attached to its hub, a laterally projecting slotted crank-arm, the longitudinally sliding bolt having a wrist socket, and means through which the bolt may be moved by the top-lever positively in both directions, consisting of the upright rocker-arm mounted on a transverse axis and having at its ends, wrists which respectively engage in the crank-arm slot and in the wrist-socket, substantially as set forth.

4. In a break-down gun action, the combination of the top lever 19, the slotted crank 17 and the slide bolt 7, resting between the trigger plate and the frame, having a wrist bearing hole, the forward side-plate fastening screw and the rocker arm having wrists engaging the slot in said crank and wrist bearing hole in said slide bolt and pivoted on the forward side-plate fastening screw.

5. The combination of the ejector-rod, the fore-end, the trigger plate, the pivot bolt, and the movable fly having bearing on the rear of the fore-end eccentric of the pivot bolt, substantially as set forth.

6. The combination of the locking bolt, top lever and rocker, the firing pin and the screw 14 adapted to engage and limit the movement of said pin and serving as the pivot of said rocker, substantially as set forth.

7. The combination of the hammer, the trigger engaging therewith, the slide bolt, its operating rocker, the top lever 19 and the spring 40, 41 bearing in one direction against the trigger and in the other against the rocker, substantially as and for the purposes set forth.

8. In a gun lock, the combination of the frame, the trigger plate, the hammer, the rocker-arm, the trigger, and a bifurcated pivoted spring having one of its ends in engagement with the rocker arm and the other end in engagement with the trigger, and adapted to hold them apart.

9. The combination of the frame 3, the trigger plate 8, a screw 35 fixing said trigger plate and frame together, the hammer 30 and mainspring 36, fixed at one end and projecting at the other immediately beneath said screw and bearing on said hammer whereby the same screw acts as a limiting stop for said mainspring and a means of fastening trigger-plate and frame together substantially as set forth.

10. The combination of the lock frame, the trigger plate, the main spring, the side plate and the screw 35 whose head engages and holds in place the side plate, and whose shank passes through the frame and trigger plate thereby binding them together and at such a

point that the shank of said screw acts as a limiting stop to the motion of the main-spring.

11. In a gun lock, the combination of the frame, retaining screws having partially cut away heads the side-plate having a bearing, a pivot passing through said bearing and carrying near its ends the hammer and cocking lever rigidly attached thereto, and prolonged beyond the hammer to enter a depressed bearing in the frame.

12. In a gun lock, the combination of the frame 3, the side plate 33, the semi-hammer carried by said side plate, the slide-bolt operating rocker 12 and a screw 14 attaching said side-plate to said frame and passing through and forming a pivot for said rocker, substantially as set forth.

13. In a gun, the combination of the hammer, the trigger, the rocker with its slide bolt bifurcated pivoted spring, engaging with one of its ends, the rocker and with its other end, the trigger, the mainspring having a stop for limiting its motion, all so arranged as to provide a rebounding hammer as shown and described.

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Witnesses:
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