(No Model.)

A. FYRBERG.

BREAKDOWN GUN.

No. 498,427. Patented May 30, 1893.

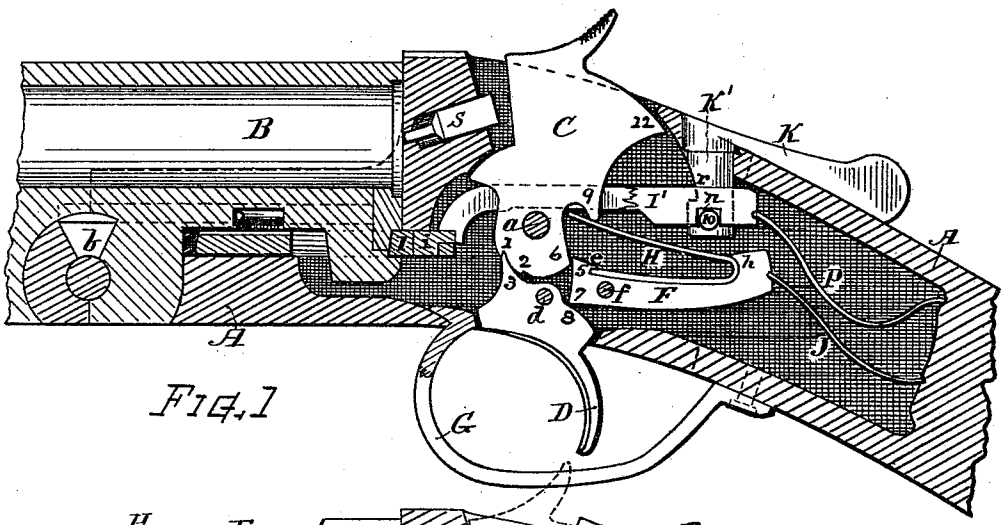

FIG. 1

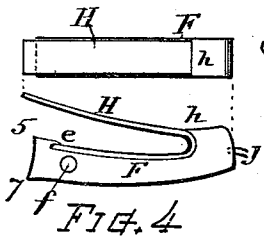

FIG. 4

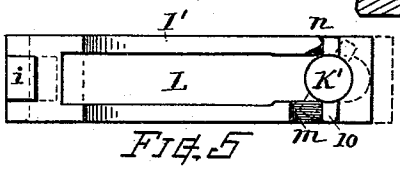

FIG. 5

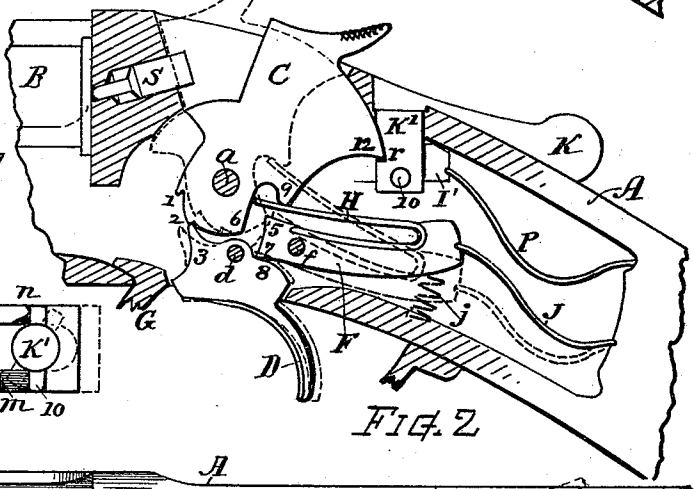

FIG. 2

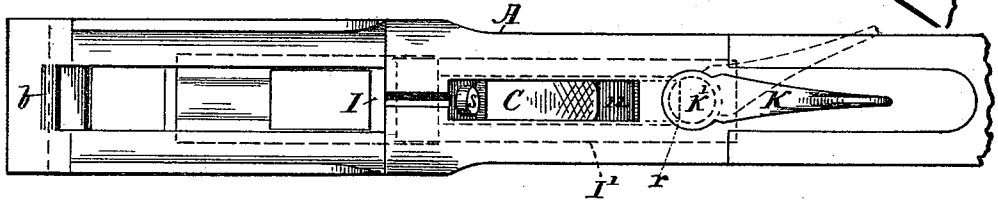

FIG. 3

Witnesses.
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UNITED STATES PATENT OFFICE.

ANDREW FYRBERG, OF HATFIELD, MASSACHUSETTS, ASSIGNOR TO CHARLES S. SHATTUCK, OF SAME PLACE.

BREAKDOWN GUN.

SPECIFICATION forming part of Letters Patent No. 498,427, dated May 30, 1893.

Application filed November 19, 1892. Serial No. 452,473. (No model.)

To all whom it may concern:

Be it known that I, ANDREW FYRBERG, a citizen of the United States, residing at Hatfield, in the county of Hampshire and State of Massachusetts, have invented a new and useful Improvement in Firearms, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

This invention relates to the construction and arrangement of parts in the lock mechanism of firearms or guns; the object being to obtain the full force of the main spring for throwing down the hammer and at the same time attain a rebound of the hammer when the trigger is released. Also, to provide in the lock mechanism of fire-arms or guns a pivoted spring-pressed carrier for the main spring, that will serve as a rebounder for retracting the hammer, and also as a trigger-spring.

Another object is to afford a simple and efficient means for insuring the latching down of the barrel; also to prevent the unlatching of the barrel while the piece is at full cock.

These objects I attain by the mechanism explained in the following detailed description and illustrated by the drawings, wherein—

Figure 1 is a sectional view of a portion of a gun embodying my invention, and showing the parts of the lock mechanism at their normal position. Fig. 2 is a view of the same with the hammer at full cock, and dotted lines indicating the position of parts when the hammer is dropped. Fig. 3 is a top view with the barrel removed. Fig. 4 shows a side and top view of the main spring and its carrier, and Fig. 5 is a bottom view of the barrel latch operating connection.

Referring to parts, A denotes the frame, B the barrel hinged to the fore end of said frame, at *b*, to swing up at the breech for charging in well known manner.

C indicates the hammer pivoted in the frame at *a* and fitted with notches 1 and 2 on its lower part or tumbler for engagement with the point 3 of the trigger D, which latter is pivoted in the frame by the pin *d;* the finger pull of the trigger standing out within the guard G, as shown.

F indicates a swinging backwardly extending lever or part that serves as a rebounder and main-spring carrier. Said part is pivoted in the frame a short distance back of the trigger pivot by the pin *f*, and is formed with a point or portion 5 that engages with the back of the hammer tumbler at 6, and with a point or portion 7 that engages with the top of the trigger, at 8. The main-spring H is seated upon and confined to the carrier F in the manner indicated; the rear end embracing the bend of the spring at *h*, the lower end of said main spring fitting a notch *e* on the carrier, and the upper arm of said spring engaging beneath the heel 9 of the hammer with an upward pressure. A spring J, termed the "rebounder spring," is strained between the rear end of the part F and frame, which tends to elevate the rear end of the part F for producing the rebound action. Spring J is here shown as a flat bowed spring, but if preferred may be of any other suitable form, as for instance a coiled wire spring between the under side of part F and the lower portion of the frame, as indicated by dotted lines *j* on Fig. 2.

I indicates the barrel latch or slide for retaining the barrel in normal position, and K the top lever for retracting said latch. The latching slide I is provided with an extension or connecting bar I′, linked thereto by a lug *i*, and having a central opening L for passing the hammer. The rear end is fitted to receive the cylindrical hub K′ of the top lever K, and has at one side a broad notch *m* and at the other side a narrow notch *n* for engaging the pin 10 that is fixed in and projects at either side of the hub K′. By means of this connection with its embracing notches *m* and *n* the latch is withdrawn when the top lever is swung to one side; (as per dotted lines Figs. 3 and 5) the narrow notch *n* causes the lever K to be positively thrown back to central position when the latching slide is in position for securing the barrel; consequently if the lever K stands inclined it shows that the barrel latch is not securely adjusted.

P indicates the spring for pressing forward the latching slide I and its connecting bar I′.

The forward side of the top lever hub is flattened or slabbed off and fitted with a shoulder *r*. The rear end 12 of the hammer C engages the flattened portion or shoulder when at full cock and prevents movement of the top lever for unlatching the barrel until the hammer is let down to the safety notch or position indicated in Fig. 1.

S indicates the firing pin disposed in the frame as shown, to be forced into the cartridge head by the fall of the hammer.

In the operation, when the hammer is drawn back to full cock the parts assume the position indicated by full lines Fig. 2, the point of the trigger 3 taking into the notch 2. The trigger then being pulled off the hammer is thrown down by the full force of the main spring, the parts taking position as indicated by dotted lines in Fig. 2; the trigger swinging the part F by its top 8 engaging the end 7 of said part, and thereby compressing its spring J. The parts remain in that position so long as the trigger is pressed or held back by the finger, but instantly when the trigger is released the spring J throws up the rear end of the carrier F and effects rebound action by reason of the end 5 of the part F acting on the back of the hammer tumbler at 6, and thus bringing the parts into their normal position, as indicated in Fig. 1, the trigger taking into notch 1 and serving to hold the hammer at position of safety. The main-spring being mounted on the rebounder or carrier F is not injuriously affected by the spring J, and said spring J is not injuriously affected in its action by the pressure of the main spring.

I claim as my invention herein to be secured by Letters Patent—

1. In a lock mechanism for fire-arms, in combination with the hammer and trigger, a swinging lever or carrier having the main spring mounted thereon, the free end of said spring engaging a lug on the back of the hammer, said carrier provided with an end that engages the lower part of the hammer to impart rebound movement thereto, and a spring that elevates the rear end of said carrier and effects the rebound action under control of the trigger, substantially as set forth.

2. The combination, substantially as described, of the hammer having notches 1 and 2, back surface 6 and lug 9, the trigger having the point 3 and surface 8, the rebounder or carrier having points 5 and 7 that respectively engage with the back 6 of the hammer and back 8 of the trigger, the main-spring mounted on said carrier and engaging the lug 9 of the hammer, and the rebound-spring acting to elevate the rear end of said carrier, for the purposes set forth.

3. The barrel latch I and the backwardly extending connecting bar I′ linked thereto, its rear part fitted to receive the hub of the top lever and having the narrow notch *n* and wide notch *m* at opposite sides thereof, in combination with the top lever its hub provided with a transverse hole, having a pin 10 fixed therein with projecting ends that enter said notches, one of said ends being closely engaged between the sides of the notch *n*, while the other is permitted free forward action in the notch *m*, for the purpose set forth.

4. The combination, of the top-lever having its hub fitted with a flattened surface or shoulder *r*, and the hammer having a portion, as 12, that engages therewith and prevents operation of said top-lever when the hammer is at full cock, substantially as set forth.

5. A fire-arm comprising the frame, the barrel hinged to the fore end thereof, the latching-slide, its open centered connecting bar notched, as at *n*, the top lever its cylindrical hub fitted in the frame adjacent to the hammer circle and flattened or shouldered at *r* in continuation of said circle, the pin 10 engaging said notched connecting-bar, the pivoted hammer having end 12 that engages said shoulder, the firing-pin, the trigger, the pivoted rebound-carrier, the main-spring mounted thereon, and the rebound spring J and latch-slide spring P, all constructed and organized substantially as and for the purposes set forth.

Witness my hand this 14th day of November, A. D. 1892.

ANDREW FYRBERG.

Witnesses:
LETITIA J. WEBSTER,
CHARLES S. SHATTUCK.