No. 684,150. Patented Oct. 8, 1901.

D. B. WESSON.

REVOLVER.

(Application filed Feb. 11, 1901.)

(No Model.)

Fig. 1.

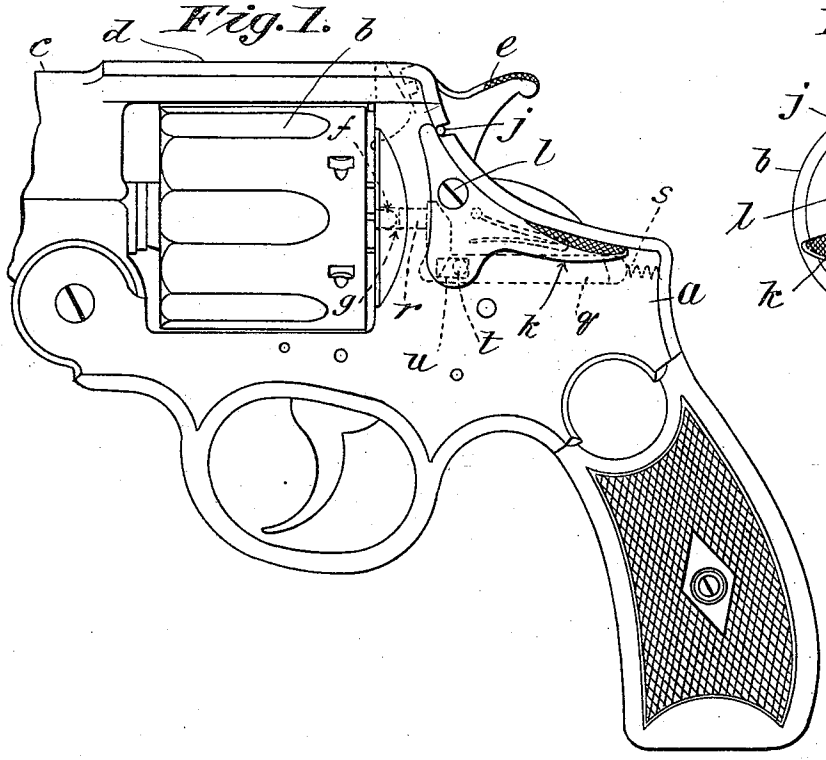


Fig. 2.

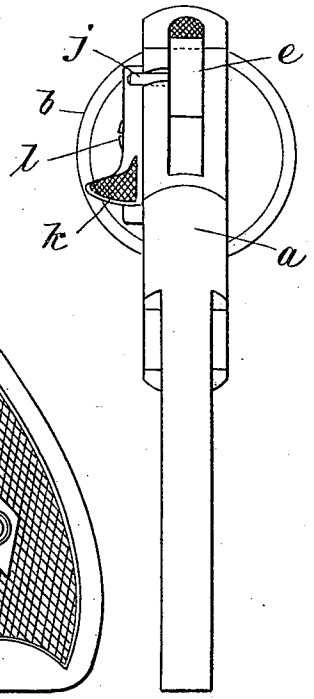
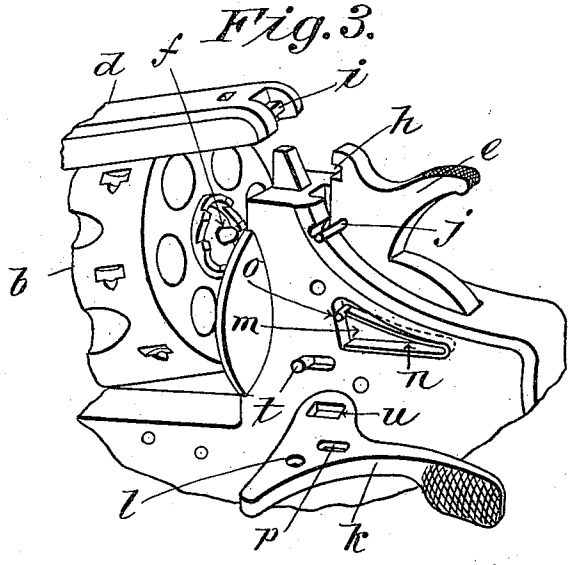


Fig. 3.



Witnesses:
J. D. Garfield
H. S. Clemons

Inventor
Daniel B. Wesson
by Chapin & Leg
Attorneys.

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UNITED STATES PATENT OFFICE.

DANIEL B. WESSON, OF SPRINGFIELD, MASSACHUSETTS.

REVOLVER.

SPECIFICATION forming part of Letters Patent No. 684,150, dated October 8, 1901.

Application filed February 11, 1901. Serial No. 46,821. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. WESSON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Revolvers, of which the following is a specification.

This invention relates to firearms, and particularly to revolvers of the "breakdown" type, so called to distinguish them from the solid frame. In the breakdown type the cylinder is carried on a pin on the barrel and moves with the latter. In the "solid-frame" construction, so called, the cylinder swings laterally out of the frame, the latter and the barrel being integral. In the solid-frame construction the cylinder is held in operative position relative to the barrel by means of a spring-pin forming part of the cylinder-pin, which when the cylinder is in proper position snaps into a recess in the frame, thus securing the cylinder. In the breakdown-frame construction means for locking the barrel-strap and frame are required, and heretofore the cylinder has been provided with no locking means like the spring-pin referred to, which is used in connection with the solid frames, because no means have been provided whereby a spring-pin and a lock between the barrel and frame could be simultaneously operated to permit the barrel to be tipped down to expose the chambers of the cylinder for rejecting and reloading purposes. Any means requiring separate movements for the disengagement of the barrel-locking device and the cylinder-locking device would be utterly impracticable, for any mechanism in which coöperative movements are required to open the arm would condemn it from a practical point of view. Therefore in the breakdown type of revolver the rear of the cylinder has been provided only with a short central stud or pin, forming a part of the cylinder, which dropped into the bottom of the groove milled from the top of the frame down to a point opposite the center of the cylinder. This short stud afforded more or less support for the cylinder against downward and sidewise strains; but when high explosives are used it is very desirable, in fact almost necessary, that the rear end of the cylinder should have a positive support of a rigid character.

The object of this invention, therefore, is to provide in a breakdown revolver means whereby the lock between the barrel-strap and the frame and between the cylinder-pin and the frame may be actuated simultaneously by one and the same movement; and the invention consists in certain novel features of construction and arrangement of parts, all as completely herein set forth, and clearly summarized in the claims.

Referring to the drawings, Figure 1 is a side elevation of a revolver embodying this invention, part of the barrel being broken away. Fig. 2 is a rear elevation of Fig. 1, the grip-pieces of the handle not being shown. Fig. 3 is a perspective view of a part of the arm, showing the barrel partly tipped down and showing the lever whereby the barrel and cylinder locks are operated removed from the frame.

Referring to the drawings, *a* is the frame of the arm; *b*, the cylinder; *c*, the barrel; *d*, the barrel-strap, and *e* the hammer.

In carrying my invention into practice the cylinder *b* is suitably supported on a pin on the barrel in such a manner that the chambers of the cylinder may be successively brought into axial alinement with the barrel by the well-known means common to arms of this class. Axially in said cylinder-pin is located a pin *f*, which is by means of a spring (not shown in the drawings) normally pressed outward. This pin *f* will hereinafter be referred to as the "center-pin." For a more particular construction thereof reference may be had to United States patent issued to me December 22, 1896, No. 573,736.

In a suitable position in the frame a hole *g* is bored, (shown only in dotted lines in Fig. 1,) which is adapted to receive the end of the center-pin *f* when the cylinder and barrel are in operative position. By means of the engagement of this pin with the frame not only is the rear end of the cylinder rigidly supported on its axis of rotation, but a locking device is also thereby provided which is auxiliary to the locking device (to be described) between the barrel-strap and the frame of the arm. In this construction the last-named locking device, which is the one principally relied upon, is formed by the engagement of the hammer with the barrel-strap when the

former falls in the act of firing, and the locking of the strap d is effected by the engagement of a slot h, formed transversely in the upper end of the hammer, with a transversely-located bar i, formed in the end of the barrel-strap, a suitable recess being formed in the latter to receive the end of the hammer, said bar i being located transversely of said recess.

In the side of the hammer is fixed a pin j, which falls into a groove in the edge of the frame, adapted to receive it when the hammer is down. The end of said pin j projects somewhat beyond the plane of the side of the frame, but does not strike the latter when the hammer falls.

The means whereby the hammer is disengaged from the barrel-strap and the pin f is simultaneously disengaged from the frame will now be described.

On one side of the frame a, as shown in the drawings, a lever k is pivotally supported at l. This lever is adapted to be operated by the pressure of the thumb, and the upper extremity thereof, as shown in Fig. 1, lies in front of and in contact with pin j. Within the side of the frame and covered by the lever k is a recess m, in which is located a spring n, whose free end is provided with a short stud o, which enters the slot p in the inner surface of the lever k. It is apparent that a depression of the rear end of the lever k will swing the hammer to the rear, out of engagement with the barrel-strap, by the operation of the upper extremity of said lever against the pin j.

To simultaneously operate the center-pin f to force it out of its recess in the frame, a slide q (shown only in dotted lines in Fig. 1) is supported in a groove formed in the inner surface of the frame, and on the forward end of this slide is a vertical arm, having thereon a short post r, which enters the rear end of the recess in the frame which receives the pin f. Behind this slide q is a spiral spring s, (see Fig. 1,) which normally holds the post r in contact with the end of the center-pin, the latter being held in the recess in the frame by a spring of greater power than the spring s. Near the forward end of the slide q is a pin t, projecting at right angles therefrom through a slot in the side of the frame and somewhat beyond the surface of the latter, as clearly shown in Fig. 3. This pin enters a recess u in the inner surface of the lever k, in the lower extremity thereof. Said recess u is elongated, as shown, for the purpose of permitting the spring n to throw the lever k back to its normal position while leaving the post r in its most forward position—that is, occupying the space in the recess in the frame which in Fig. 1 is occupied by the center-pin. Said post can only occupy this position when the arm is open, as in Fig. 3, for as soon as it is closed the superior power of the spring behind the center-pin will force the post r back in the recess and its slide q to the position thereof shown in Fig. 1.

From the above description it is clear that the depression of the rear end of the lever k will swing back the hammer, as described, and by the engagement of the pin t with the rear end of the recess u the slide q and its post r will be carried forward and push the center-pin out of its recess simultaneously with the swinging of the hammer to the rear, thus by one movement releasing both the barrel-strap and the cylinder from their locking devices.

The particular means shown herein for effecting the disengagement of the center-pin from the frame forms no part of the present invention, nor is it essential that this particular means should be employed, for any device operated by the lever k to simultaneously disengage the center-pin from the frame and the hammer from the barrel-strap would fall within the scope of this invention. For a more particular description, however, of this slide q reference may be had to the patent issued to Wesson and Hobbs October 24, 1899, No. 636,705.

The hammer is so proportioned that when it falls it is adapted to come to a bearing against the frame, and the portion thereof which engages the bar i of the barrel-strap, having been more or less weakened by the slot h, is not permitted to strike the bottom of the recess in the barrel-strap, and all danger of breaking the upper extremity of the hammer is thus avoided. It will be observed that the depth of the slot h is such that there must be an interengagement with the bar i to a greater or less extent before the nose on the hammer can strike the primer of a shell in the cylinder to explode a cartridge; but even without the engagement of the hammer with the barrel-strap the cylinder will always be locked in operative position in the frame by the engagement of the center-pin with the latter, as described.

The term "breakdown" revolver as used in this specification must not be understood as being limited to that particular type illustrated in the drawings; but it is used in a generic sense and is intended to include generally that class of arms in which the frame opens for the purpose of ejecting the cartridge-shells or for reloading the arm, in contradistinction to the type of arm in which the frame and the barrel are practically integral and in which the cylinder swings out from the frame for ejecting and loading purposes.

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

1. In a breakdown revolver the combination with the hammer and barrel-strap, and means for effecting their engagement at the moment of firing, of separately-interlocking means between the cylinder and the frame of the arm, and means for actuating the ham-

mer and said interlocking means at one operation to permit the tipping down of the barrel, substantially as described.

2. In a breakdown revolver the hammer, the barrel-strap, and means for effecting their interengagement at the moment of firing; the cylinder, a center-pin endwise movable therein and means for interlocking said pin with the frame of the arm when the cylinder is in firing position, combined with means for disengaging the hammer and barrel-strap, and the center-pin and frame at one operation, substantially as described.

3. In a breakdown revolver a barrel, barrel-strap and hammer, a cylinder supported on the barrel, an endwise-movable center-pin, a recess in the frame for receiving said pin and a slot in the hammer for engaging said barrel-strap at the moment of firing; a slide for forcing the center-pin out of its recess in the frame, and a lever pivotally supported on the side of the arm for swinging the hammer toward a cocking position, and for actuating said slide to disengage the center-pin from the frame all at one operation, substantially as described.

DANIEL B. WESSON.

Witnesses:
WILLIAM H. CHAPIN,
K. I. CLEMONS.