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D. B. WESSON.

REVOLVING FIREARM.

(Application filed May 18, 1901.)

(No Model.)

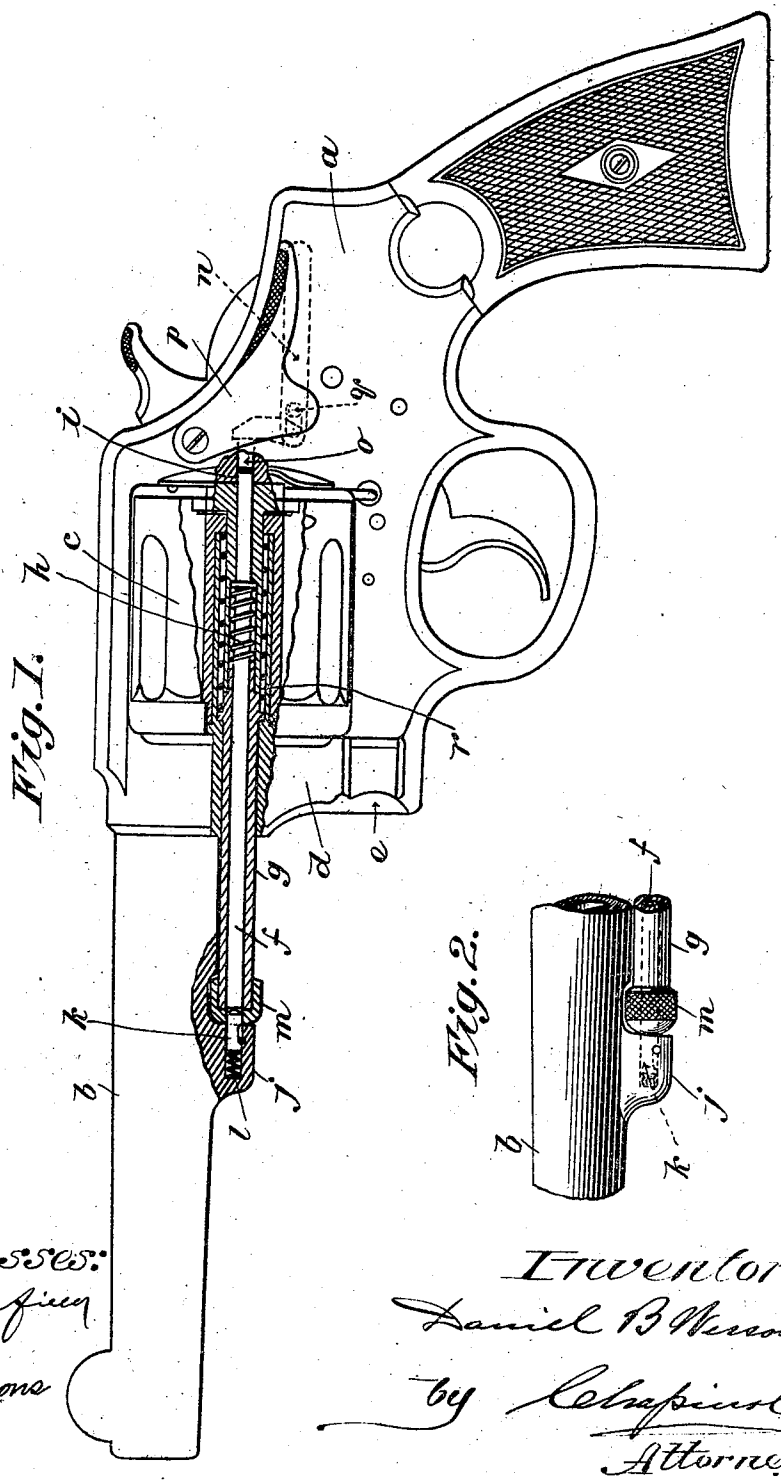


Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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REVOLVING FIREARM.

SPECIFICATION forming part of Letters Patent No. 689,260, dated December 17, 1901.

Application filed May 18, 1901. Serial No. 60,850. (No model.)

To all whom it may concern:

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

This invention relates to revolving firearms, and particularly to that class known as the "solid-frame" revolvers, in which the cylinders swing out to one side of the frame; and the invention has for its object the improvement in means for securing the cylinder of revolvers of this type in their frames in such manner that the axis of the chambers of the cylinders when in firing position will register accurately with the axis of the barrel.

The invention consists in the construction described in the following specification and clearly defined in the claims forming part thereof.

In the drawings forming part of this specification, Figure 1 is a side elevation, partly in section, of a revolver embodying my invention. Fig. 2 is a side elevation of a part of the barrel of the firearm, showing the position of the forward end of the extractor-stem relative thereto when the cylinder is locked in the frame.

The essence of this invention lies in the provision of means for locking the cylinder at opposite ends thereof in the frame of the arm in the manner to be described farther on.

Referring now to the drawings, *a* indicates the frame of the firearm, *b* the barrel, *c* the cylinder, and *d* the yoke on which the cylinder is supported, which yoke is pivoted in the frame at *e*, all as is customary in revolvers of this type.

In carrying my invention into practice I provide a center-pin *f*, which is axially located in the extractor-stem *g*, and is of substantially the same length as the latter. A spring *h* on the center-pin has a bearing on a shoulder in the extractor-stem at one end and against the collar on the center-pin at the other, whereby the end of said pin when the cylinder is in proper position is forced into a hole *i* in the frame. At the forward end of the extractor-stem a lug *j* is formed on the barrel, and this is bored out in axial alinement with the center-pin *f* for the reception of a bolt *k*, which by a spring *l* is forced toward the end of the center-pin in the extractor-stem *g*. When the cylinder is in such position that the cylinder-pin *f* will enter the hole *i* to lock the rear end of the cylinder, the bolt *k* will at the same moment follow the retreating end of the pin *f* into the hole in the end of the extractor-stem *g*, in which said center-pin is located, thus providing also a positive lock for the forward end of the cylinder. The forward end of the extractor-stem *g* is provided with a head *m*, having a spherical-shaped end thereon, the purpose of which is to crowd the bolt *k* back into its recess in the lug *j* when the cylinder is swung into the frame, it being obvious that the bolt *k* will shoot outwardly as soon as the end of the extractor-stem is withdrawn from in front of the lug *j*. This retraction of the bolt *k* is effected by the contact of the spherical end of the head *m* with the similarly-shaped end of the bolt *k*, and when the cylinder reaches its proper position in the frame the center-pin *f* and the bolt *k* perform their respective locking functions, as described, the one entering the recess *i* and the other the end of the extractor-stem.

Any suitable means may be employed for forcing the center-pin endwise out of the hole *i*, which operation also forces the bolt *k* back into the lug *j*, permitting the cylinder and extractor-pin to be swung outward.

In the drawings the means shown for moving the center-pin *f* endwise consists of a slide *n*, (shown in dotted lines only in Fig. 1,) having the nose *o* thereon, which bears against the end of the center-pin. This slide has a longitudinal movement in the frame and is actuated by a thumb-lever *p*, hung on the side of the frame and engaging the slide *n* by means of a pin *q*, passing through a slot in the side of the frame.

The construction of the cylinder and cylinder-pin and means for mounting the cylinder on its pin are all common to revolvers of this type. The extractor-stem, however, is made in two parts, united at *r* by screwing the parts together. This construction of the extractor-stem is solely for the purpose of providing the chamber therein in which the spring *h* may be located for moving the center-pin, as described. The usual spring *s* on the extractor-

stem is provided for retracting the latter when it has been operated to eject the empty cartridge-cases.

By means of the herein-described construction means are provided for positively locking the cylinder in the frame by locking each end of the extractor-stem thereto, thus holding the cylinder on an axis which is parallel with the axis of the barrel, thereby assuring the perfect alinement of the chambers of the cylinder with the bore of the barrel.

Heretofore in revolvers of this type, in which the only means for locking the cylinder in the frame has been a short center-pin engaging the recess in the frame at the rear of the cylinder, it has been observed that the cylinder would not always swing up into its proper position in the frame. This was found to be due to the fact that some substance had become lodged between the yoke and the frame, springing the yoke more or less, and thus throwing the axis of the cylinder-pin out of parallelism with the axis of the barrel.

With the present construction the presence of any substance between the yoke and the frame would render it impossible to swing the cylinder and extractor-stem up into position which would permit the operation of the double-locking device shown herein, and thus the presence of any obstruction to the proper locking of the cylinder would be detected.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a revolver, the combination with a side-swinging cylinder, means for supporting the latter rotatably on its axis, locking devices for engaging opposite ends of said axis when the cylinder is in firing position, and means on the arm for releasing both ends of said axis simultaneously, substantially as described.

2. In a revolver, the combination with a side-swinging cylinder, of an extractor-stem axially located therein, a center-pin in said stem, means of engagement between one end of said pin and the frame of the arm, and means of engagement between the end of said extractor-stem and the barrel, operable only upon the engagement of the center-pin and frame, substantially as described.

3. In a revolver, in combination, a side-swinging cylinder, an extractor-stem extending therethrough, a longitudinally-movable pin in the latter for engagement with the frame at the rear end of the cylinder, a bolt supported on the barrel, and means of engagement between said bolt and the end of the extractor-stem, operable simultaneously with the engagement of said pin with the frame, and means for simultaneously disengaging said bolt and said pin, substantially as described.

4. The combination in a revolver, of a cylinder adapted to swing sidewise into and out of the frame, an extractor-stem extending through said cylinder, a center-pin in the extractor-stem, movable into and out of a recess in the frame; a spring-bolt located under the barrel of the arm in axial alinement with said center-pin for engagement with the end of the extractor-stem; a slide in the frame for engaging the end of the center-pin, and means for actuating said slide whereby the said pin is moved endwise in said extractor-stem, and said spring-bolt thereby disengaged from said stem, substantially as described.

5. The combination with the extractor-stem of a revolver of the class described, of an endwise-movable center-pin in said stem, a bolt *k* in axial alinement with said pin and adapted to engage said stem, means for moving said bolt and pin positively in the same direction at the same time, and a suitable spring for moving them in the opposite direction, substantially as described.

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