

L. H. COBB.
EJECTOR FOR FIREARMS.
APPLICATION FILED MAY 29, 1909.

999,209.

Patented Aug. 1, 1911.

Fig. 1.

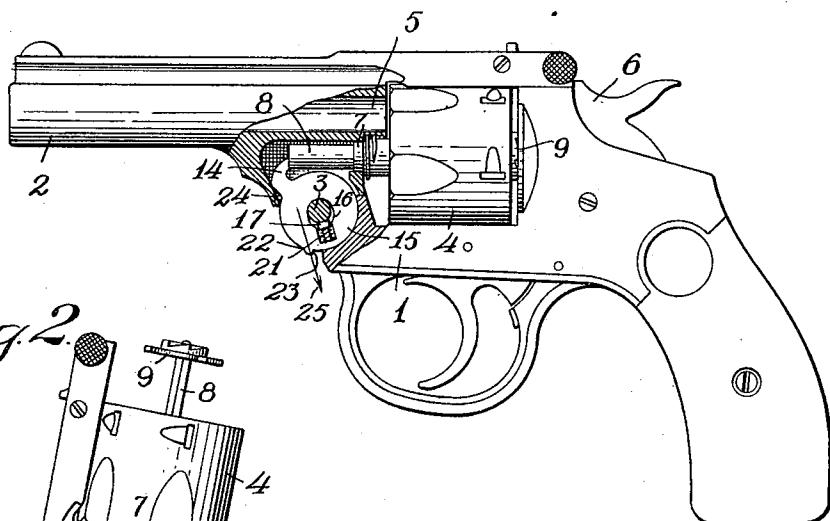


Fig. 2.

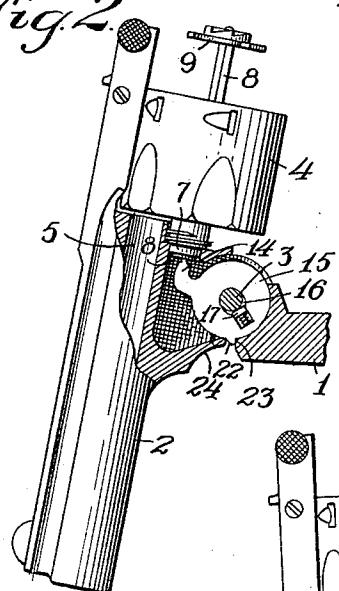
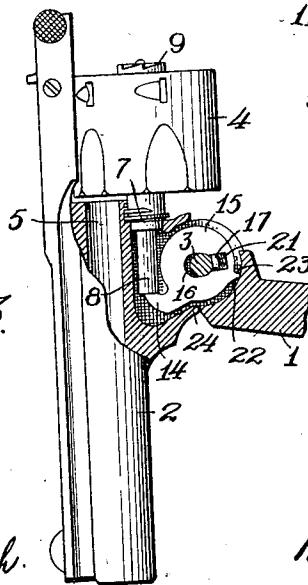


Fig. 3.



Witnesses

Roy D. Tolman
Penelope Counterback.

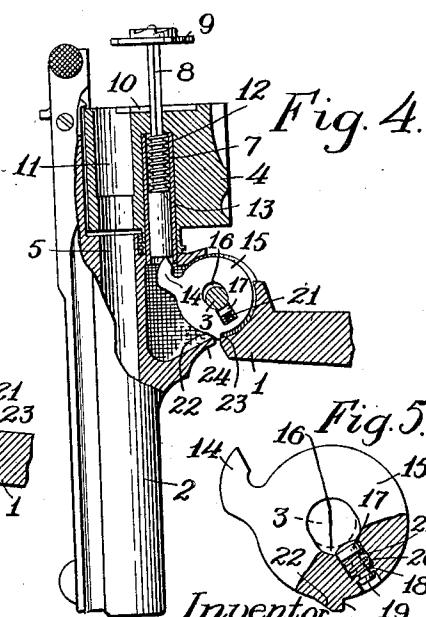


Fig. 5.
Inventor
Lyman H. Cobb
By Rufus R. Fowler
Attorney

UNITED STATES PATENT OFFICE.

LYMAN H. COBB, OF FITCHBURG, MASSACHUSETTS, ASSIGNOR TO MARY ELIZABETH JOHNSON, TRUSTEE, OF FITCHBURG, MASSACHUSETTS.

EJECTOR FOR FIREARMS.

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To all whom it may concern:

Be it known that I, LYMAN H. COBB, a citizen of the United States, residing at Fitchburg, in the county of Worcester and 5 Commonwealth of Massachusetts, have invented a new and useful Improvement in Ejectors for Firearms, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

10 Figure 1 represents a side view of a pistol embodying an ejector mechanism containing my present invention, a portion of the frame having been broken away to disclose the ejector cam. Fig. 2 represents a side view of 15 a portion of a pistol, showing the ejector plate as moved away from the cylinder in the operation of withdrawing a cartridge. Fig. 3 is the same view as shown in Fig. 2, but with the ejector plate returned to its normal 20 position. Fig. 4 is a side view of a portion of a pistol with the cylinder in central sectional view, and showing the cartridge ejecting mechanism at the point of release of the ejector plate, and Fig. 5 is an enlarged 25 view of the ejector cam partly shown in section.

Similar reference letters and figures refer to similar parts in the different views.

My present invention relates to an improvement in the cartridge ejecting mechanism of a break-down firearm and my invention is illustrated in the accompanying drawings as embodied in a revolver.

It relates particularly to that part of the 35 mechanism which is known as the ejector cam, and it consists in the employment of a spring actuated plunger carried by the ejector cam and applied to the pivotal pin upon which the cam rocks, for the purpose of re- 40 storing the cam to its normal position, in which the cam shoulder will engage the frame of the firearm as the latter is broken down.

Referring to the accompanying drawings, 45 1 denotes the frame of a pistol and 2 the barrel pivoted upon the frame by a pivotal pin 3 in the usual manner in firearms of this class.

4 is a rotatable cartridge cylinder having 50 cartridge chambers which are successively brought into alignment with the breech 5 of the barrel, in position to be discharged by the hammer 6. The cylinder 4 rotates upon a hollow sleeve 7 containing a sliding 55 ejector rod 8, provided at one end with a

notched ejector plate 9 which normally rests in a recess 10 in the end of the cylinder, and engages the flanged heads of the cartridges as they are held in the chambers 11 of the cylinder. A spiral spring 12 is applied between the cylinder and a shoulder 13 of the ejector rod to hold the ejector plate 9 in the recess 10. The opposite end of the ejector rod 8 rests against a projecting tooth 14 upon a rocking ejector cam 15 held upon, 60 the pivotal pin 3, which passes through an elongated opening 16 in the cam in order to allow a slight sliding movement of the cam upon the pivotal pin 3.

Pressing against the pivotal pin 3 is a 70 plunger 17 having a stem 18 provided with a head 19, which prevents the plunger from falling out when the cam is removed. The cam is provided with a chamber 20 to receive the plunger 17 and also with a radial 75 hole fitting the stem 18, and is counterbored upon the outside of the cam to receive the head 19. Between the outer wall of the chamber 20 and the plunger 17 is a spring 21, which incloses the stem 18 and presses 80 the plunger 17 against the pivotal pin 3. The cam 15 is provided with an eccentric 85 cam surface 22 and also with a radial shoulder 23. The barrel is provided with a projection 24 which, as the barrel is rocked on the pivotal pin 3, slides over the cam surface 22 and slides the cam on the pivotal pin 3 from the position shown in Fig. 1 to that shown in Fig. 4.

During the rocking movement of the barrel about the pivotal pin 3, the cam 15 is held from rotating by the contact of the shoulder 23 with the frame 1 of the firearm, as shown in Fig. 2, and the pressure of the tooth 14 against the ejector rod 8 forces the 95 ejector plate 9 out of the recess 10 of the cylinder against the tension of the spiral spring 12. As the projection 24 approaches the shoulder 23, it moves over the cam surface 22 and slides the cam 15 laterally 100 on the pivotal pin 3 against the tension of the spring 21, until the shoulder 23 is released from the frame 1, thereby allowing the cam 15 to rotate, when the tension of the spring 12 returns the ejector plate 9 to 105 the recess 10 of the cylinder, bringing the parts into the position shown in Fig. 3. In Fig. 2 the cam 15 is shown as held from rotation by the contact of its shoulder 23 with the frame of the firearm. In Fig. 4 the 110

shoulder 23 is represented as just being released from engagement with the frame 1, and in Fig. 3 the ejector rod 8 and ejector plate 9 are represented as having been returned to their normal position by the ejector spring 12 rotating the cam 15.

I am aware that an ejector rod and plate actuated by a toothed cam in withdrawing a cartridge shell from the cylinder, and returned by the tension of a spiral spring, are not new. One of the difficulties attending the use of an ejector mechanism of this class has been to control the lateral sliding movement of the ejector cam 15 upon the pivotal pin 3. When the barrel is returned from the position shown in Fig. 3 to that shown in Fig. 1, the contact of the projection 24 against the back side of the tooth 14 reverses the movement of the cam 15 and brings the shoulder 23 outside the frame, but unless the spring 21 is certain in its action, the shoulder 23 is not moved downward into position to engage the frame when the firearm is again broken down. It is the object of my invention to control the movement of the cam so as to render its action certain in ejecting the cartridges. I accomplish this object by providing the cam 15 with a radial chamber 20 containing the spring 21 and plunger 17, as above described. When the barrel has been restored to its normal position in the frame, as shown in Fig. 1, the shoulder 23 will have been brought outside the end of the frame by the contact of the projection 24 with the tooth 14. As soon as this occurs, the tension of the spring 21 acting against the plunger 17, which rests against the pivotal pin 3, will force the cam 15 laterally in the direction of the arrow 25, Fig. 1, thereby moving the shoulder 23 radially outward

in position to contact with the end of the frame and hold the cam 15 from rotation as the pistol is again broken down.

I claim,

1. In a cartridge ejector mechanism, an ejector cam capable of a slight lateral movement on a pivotal pin, a plunger having a head carried in a chamber in said cam and pressing against said pivotal pin, a stem 50 for said plunger inclosed in a radial hole in said cam, and a spiral spring inclosing said stem and between the outer wall of said chamber and the head of said plunger.

2. In a cartridge ejector mechanism, an ejector cam capable of a slight lateral movement on a pivotal pin, a plunger having a head carried in a chamber in said cam and pressing against said pivotal pin, a stem inclosed in a radial hole in said cam and a second head in a counterbored recess in said cam outside of said radial hole, and a spiral spring inclosing said stem and between the outer wall of said chamber and the head of said plunger.

3. A rocking cam for a cartridge ejector mechanism capable of a slight sliding movement on a pivotal pin, means for moving said cam in one direction, comprising a plunger 17 held in a chamber 20 in said cam and in contact with said pin, a stem 18 for said plunger passing through said chamber 20 and through a radial hole in the outer wall of said chamber and provided with a head 19, and a spring 21 inclosing said stem 18 between the outer wall of said chamber 20 and said plunger 17.

Dated this 25th day of May 1909.

LYMAN H. COBB.

Witnesses:

RALPH H. FALES,
ARTHUR H. BROWN.