

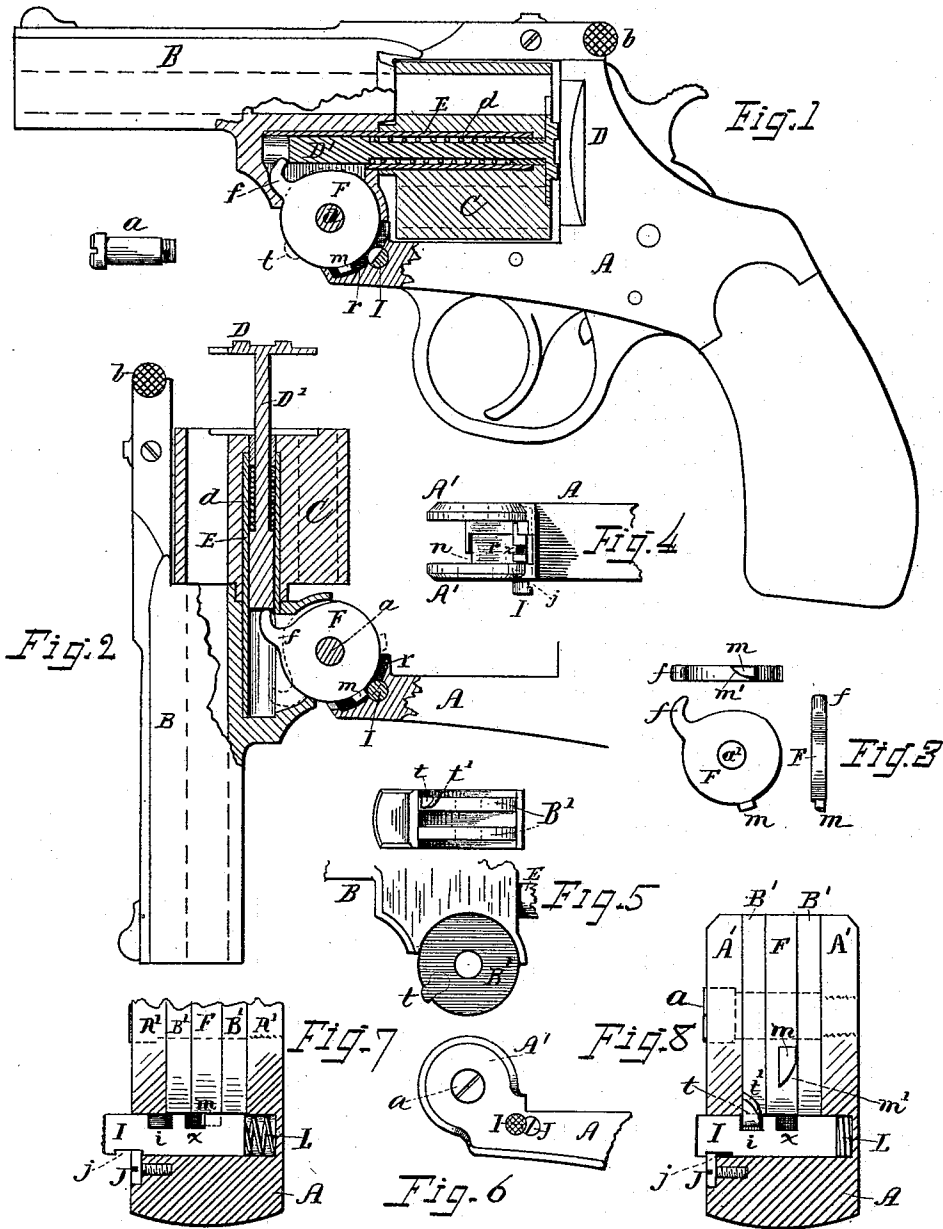
(No Model.)

H. M. CALDWELL.

CARTRIDGE EJECTOR FOR REVOLVING FIRE ARMS.

No. 415,444.

Patented Nov. 19, 1889.



Witnesses:

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HOMER M. CALDWELL, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE HARRINGTON & RICHARDSON ARMS COMPANY, OF SAME PLACE.

CARTRIDGE-EJECTOR FOR REVOLVING FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 415,444, dated November 19, 1889.

Application filed July 18, 1889. Serial No. 317,885. (No model.)

To all whom it may concern:

Be it known that I, HOMER M. CALDWELL, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Revolving Fire-Arms, 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 improvements in shell-ejectors of that class wherein a spider or plate fitted to the rear end of the revolver-cylinder and fixed to a central stem is adapted to be forced backward by mechanism arranged to work in connection with the hinging joint for ejecting the cartridge-shells when the barrel is tilted forward, the object of my present invention being to provide a simple, durable, and efficient means to lock the finger-disk for forcing out the ejector-spider, and for automatically releasing the finger-disk when the spider has reached a given limit of projection by the tilting of the barrel; also, to afford a construction that can be manufactured with economy and practical facility.

In a former patent, No. 383,701, I have shown and described an ejector mechanism in which I employ an intercepting-stud of somewhat similar nature to that herein shown, but having only a single notch, and in which the finger-disk is provided with a reciprocating bolt for engaging said stud; but my present invention is an improvement thereon which affords a different and simpler construction with less parts and with less parts which are movable, thus making a more desirable and economical mechanism for the purpose.

In the drawings, Figure 1 is a part side, part sectional, view showing my improved ejector mechanism, the barrel of the arm being in normal position. Fig. 2 is a view showing the same with the barrel tilted forward to a position immediately preceding that at which the finger-disk is released. Fig. 3 shows in side and edge detail views the form of the finger-disk. Fig. 4 is a top plan view

of the fore end of the frame with the barrel-hinge removed. Fig. 5 shows the side and bottom of the barrel-hinging ears. Fig. 6 is a side view of the fore end of the frame. Figs. 7 and 8 are enlarged sectional diagrams illustrating the arrangement and action of the intercepting-stud.

In referring to parts, A denotes the frame; B, the barrel hinged to the fore end of said frame by the pivot-pin *a* to swing downward, as indicated in Fig. 2, and locked to the upper part of the frame by the latch *b* when in normal position, as in Fig. 1. C indicates the cylinder, and D the ejector spider or plate fitted into the end of the cylinder and fixed on a stem D', that extends through and is longitudinally movable in the cylinder-supporting quill E, and is furnished with a spring *d*, all of which parts can be of suitable or well-known construction for ejecting the cartridge-shells from the cylinder-chambers in the usual manner.

The finger-disk F is, as shown in Fig. 3, a plain flat disk of uniform thickness, having a central opening *a'* to fit the hinging-pin *a*, and provided with the usual finger *f* for engaging the ejector-stem D'. On the periphery of said disk I provide a projecting lug or detent *m*, formed and located in relation to the finger *f*, substantially as shown. The forward edge of the lug *m* is beveled off laterally, as at *m'*. Said lug is best made integral with the disk F, or, if otherwise attached, so as to be rigidly fixed on the periphery of the disk. The finger-disk F occupies position between the ears B', and is free to move with the action of the spring *d*, except when its lug *m* is intercepted, as hereinafter specified.

The fore end of the frame has two plain circular hinging-ears A' with transverse central openings for the pivot-bolt *a*, and a recess *r* is formed between them, as shown. The hinge of the barrel B has two circular ears B', one of which is plain, while the other is provided with a stationary projecting lug or detent *t*, disposed on its periphery at the position indicated, and so that it will pass into the recess *r* in the fore end of the frame when the barrel is tilted forward, a notch being provided for its passage. The rear edge of the lug *t* is beveled off, as at *t'*. The

lug t can be firmly inserted in the hinge-ear B' or formed integral therewith, so that it serves as a rigid part on the ear.

I indicates the intercepting-stud or slide-bolt, arranged in a laterally-disposed opening in the fore end of the frame A, where it is confined to have a proper limit of endwise movement by a screw J, the head of which engages a notch j on the side of said stud, as shown. The upper side of the stud extends into the recess or cavity r adjacent to the hinge-ears. A spring L in the bottom of the cavity serves to press the stud I outward and hold it normally at position, as indicated in Fig. 7. The stud I is fitted with two grooves or notches i and x across its side toward the hinge and disk F, which notches are of proper dimension to permit the passage therethrough of the respective projections m and t when the parts are in proper relation: When at normal position, the full part of the stud I intercepts and prevents the backward movement of the projection m , and thus holds the finger-disk F from turning as the barrel is tilted forward on the pivot a , thereby causing the finger f to throw up the ejector, as shown in Fig. 2. When the parts are at position shown in Fig. 2, the lug t and the lug m are at corresponding positions; hence the lug t does not appear on Fig. 2 of the drawings. When the lug t reaches the position of the stud I, the narrow edge of the lug enters the groove or notch i and its beveled side t' forces the stud I inward in opposition to the spring L as the tilting action continues, sliding the stud I until the groove or notch x is brought coincident with the lug m . (See Fig. 8.) Then the lug m escapes through the notch and the disk F, being released, allows the ejector to be thrown down by its recoil-spring d , the finger-disk F turning to the position indicated by dotted lines on Fig. 2. When the barrel and cylinder are again swung back to normal position, the projecting lug m , by reason of its bevel m' , passes through the groove x , the stud being moved by the inclined surface m' to permit its free passage. The disk and ejector can at any time be released by pressing the thumb on the outer end of the stud I. It will be observed that this construction is very simple and contains few loose or separable parts.

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

1. The finger-disk having the rigid projecting lug m on its periphery, the barrel-hinge ear having the laterally-beveled projection t thereon, and a spring-pressed sliding stud supported in the frame adjacent to the periphery of said finger-disk and having two notches i and x formed in its side, one of which notches is disposed for engagement with the projection t for moving the stud when the barrel is tilted, while the other notch is disposed to permit the passage of the lug m through it when the stud is forced inward, in combination with the frame, barrel, hinging-pivot, cylinder, ejector, and ejector-spring, all substantially as set forth.

2. The finger-disk F, carrying the curved finger f and having the projecting laterally-beveled lug m rigid on the periphery thereof, in combination with the ejector-stem D and spring d , the hinging-pivot a , the intercepting-stud I, longitudinally movable in the frame adjacent to the edge of said disk and having a notch through which said lug can pass, a spring L for normally retaining said stud with its notch out of line with the disk, and means for moving said stud, with its notch, in opposition to the spring-pressure, and bringing said notch into line with said disk, substantially as set forth.

3. The combination of the frame provided at its fore end with hinging-ears and a recess r between the same, the barrel with hinging-ears B', one of which has a beveled projection on its periphery, the ejector having a stem that extends through the cylinder-axis, with its end above the hinge, the finger-disk carrying a finger f , that engages the ejector-stem, and provided with a lug that projects downward from its periphery into the recess r , the axis or hinging-pin, the dual-notched intercepting stud supported in the frame, with its end protruding at the side thereof, the stud-retaining screw J, and the spring L, beneath the inner end of the stud, all arranged and organized for operation substantially as and for the purpose set forth.

Witness my hand this 16th day of July, A. D. 1889.

HOMER M. CALDWELL.

Witnesses:

CHAS. H. BURLEIGH,
WM. A. RICHARDSON.