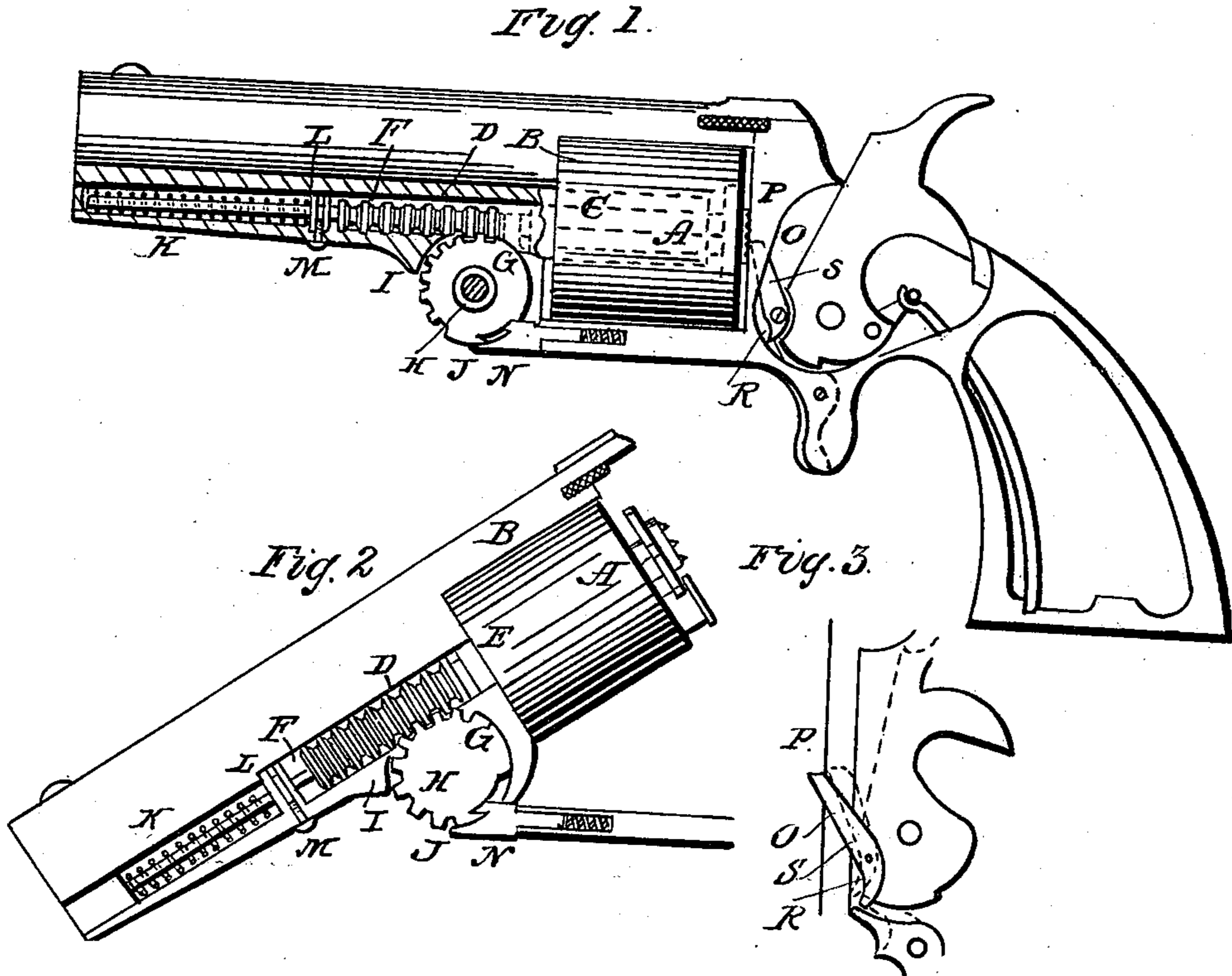


C. A. KING.  
Revolving Fire-Arm.

No. 94,003.

Patented Aug. 24, 1869.



Witnesses  
Chas. P. Deane  
B. F. Wells

Inventor  
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Attys

# UNITED STATES PATENT OFFICE.

CHARLES A. KING, OF SPRINGFIELD, MASSACHUSETTS.

## IMPROVEMENT IN REVOLVING FIRE-ARMS.

*Specification forming part of Letters Patent No. 94,003, dated August 24, 1869.*

*To all whom it may concern:*

Be it known that I, CHARLES A. KING, of Springfield, Hampden county, State of Massachusetts, have invented a new and useful Improvement in Extractors for Revolving Fire-Arms; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the drawings, Figure I is a side view and partial section of my improvements as applied to a revolving piston. Fig. II is a similar view in a different position, and Fig. III is a detailed and exaggerated view of a part.

This invention is intended to apply more particularly to the cartridge-shell extractor patented by Louis C. Rodier, July 11, 1865, and W. C. Dodge, January 17, 1865, Rodier's patent covering a ratchet upon the rear end of the extractor, and Dodge's being for an arrangement whereby all the shells can be extracted at once, when the barrel had been swung forward from the breech recoil-block. In my invention, however, the act of swinging the barrel forward away from the recoil-block extracts all the cartridge-shells at once.

In order to explain this I will now describe the construction of a revolving fire-arm with my improvements.

The extractor A extends through the center of the revolver B; also through the center-pin C, upon which the revolver turns. Where the shank passes through the piece B, it is formed square, so that it has to turn with the piece B when the latter is revolved.

At the front end of this extractor is attached a rack, D, by a coupling-joint, E, so that the extractor may be revolved without turning the rack. This latter may be made flat, although, for many reasons, I prefer to form it in the shape of a rod, with the teeth cut entirely round, as shown in the figure.

A chamber, F, is provided for this rack, through the stock, below the barrel, and on a line with the center of the revolver B.

In order to operate the extractor by means of the rack, I place a gear-wheel or pinion, G, in the joint H, in such a manner that it engages with the rack D above.

The peculiarity of this pinion is, that when

the barrel is swung forward, the pinion first revolves about the eighth of a turn, giving the heads of the cartridge-shells room to clear the breech-block before they are started from the chambers of the revolver. The pinion then is caught by a pawl, N, at its lower side, and held, the rack being consequently forced back, as shown in Fig. II, and with it the extractor, which, as the barrel is turned farther forward on the hinge, pushes out the shells, the head of the extractor catching behind the flanges of the shells, as shown in Dodge's patent, before mentioned.

When, however, the barrel is swung forward far enough for the projection I on the stock and in front of the pinion to strike against the head J of the pawl N and push it back, the pinion revolves freely, and the rack flies forward again to its former position, carrying with it the extractor, and also turning the pinion until it occupies its first place relative to the rack.

In order to impel the rack forward when the pinion is released, any suitable arrangement of spring may be used. In this instance I form on the forward end of the rack a rod, K, which has on its outer end a head, and passes through a collar, L, made stationary by means of a set-screw, M, to the chamber F, at a point near the end of the rack.

When at rest, a spiral spring is coiled around this rod, between the head and the collar, and when the rack is forced back toward the revolver the spring is compressed, its recoil restoring the rack when the pinion is released.

In this manner, by merely throwing forward the barrel as far as it will go, the shells are all extracted, and the extractor restored to its proper position, ready for a new operation, as soon as the barrel is shut back to the breech.

In this arrangement of fire-arm, there has heretofore been no provision made for the pawl O, which, in the ordinary construction, projects beyond the face of the recoil-block at P, in order for it to engage with the ratchet on the revolver, and it was in danger of being broken off by the projecting heads of shells, or even the ratchet itself, when the barrel was shut suddenly back.

In order to obviate this difficulty, I provide a half-cock notch in the tumbler, and arrange

the pawl O in such a manner relative to it that when the hammer is at half-cock, the trigger presses against the lower end of the pawl at R, and the pivot-pin S being above this point, the upper or point end of the pawl is consequently thrown back. The trigger must project slightly at the side of the tumbler, in order for it to catch against the pawl. This throws the pawl behind the line of the breech-block face, and entirely out of the way, so that the barrel may be shut back with perfect safety when the piece is at half-cock.

By this means I obtain a simple and effective extractor, requiring no other operation save that of throwing forward the barrel in the ordinary way, in order to extract all the empty shells at once.

I do not claim, broadly, extracting the shells by tipping or throwing forward the barrel; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the movable gear or

pinion G in the joint H, and the rack D on the front end of the extractor, in such a manner that they engage with each other, and operate the extractor, by the throwing forward of the barrel, substantially as herein shown and set forth.

2. I do not claim connecting the ejector and plunger by a swivel-joint; but what I do claim is the combination of the rack D, pinion G, and extractor A, the parts being all arranged and connected substantially as herein described.

3. The construction and arrangement of the pawl O in such a manner that when the hammer is at half-cock, the point of the pawl is thrown back out of a line with the face of the ratchet, substantially as and for the purpose set forth.

CHARLES A. KING.

Witnesses:

EDWARD H. HYDE,  
CHAS. P. DUANE.