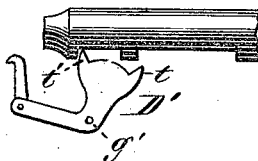
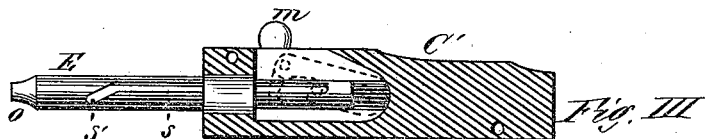
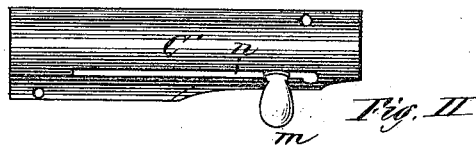
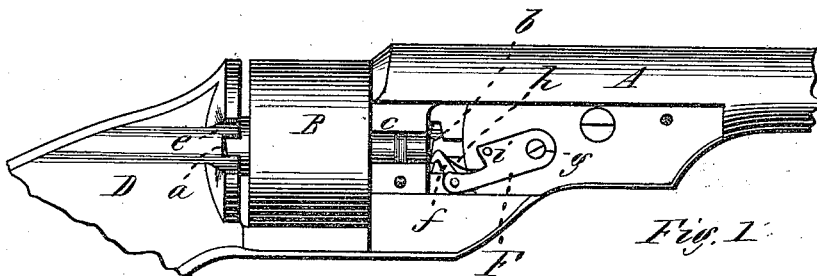


D. SMITH & J. C. MARSHALL.

Revolving Fire-Arm.

No. 162,863.

Patented May 4, 1875.



Witnesses,
C. E. Buckland,
W. B. Hall.

Inventors,
Dexter Smith,
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By J. M. Luntis
their Atty.

UNITED STATES PATENT OFFICE.

DEXTER SMITH AND JOSEPH C. MARSHALL, OF SPRINGFIELD, MASS.

IMPROVEMENT IN REVOLVING FIRE-ARMS.

Specification forming part of Letters Patent No. 162,863, dated May 4, 1875; application filed March 26, 1875.

To all whom it may concern:

Be it known that we, DEXTER SMITH and JOSEPH C. MARSHALL, of Springfield, in the State of Massachusetts, have invented a new and useful Improvement in Revolving Fire-Arms; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification and description.

The object of our invention is to push out the empty cartridge-shells from each chamber of the cylinder after they have been discharged, and to rotate the latter to bring each chamber into position for that purpose; and to this end our invention consists of an extractor-rod, which operates in front of the cylinder to pass through each chamber of the cylinder to push out the shell, and which rod actuates a pivoted arm carrying a pawl, which engages with a ratchet on the front of the cylinder or its bearing, so as to rotate the cylinder and bring each chamber in succession into a position for the rod to enter it to push out the shell.

Figure I is a side view of so much of a revolving fire-arm as is necessary to show our invention as applied thereto with the bolt or slide removed. Fig. II is a side view of the socket in which the extractor-rod moves; and Fig. III is a longitudinal section, showing the extractor-rod and the slot made therein, in which the projection on the pivoted arm moves to operate the pawl in rotating the cylinder.

In the drawings, A represents the barrel of a revolving fire-arm; C, the chambered cylinder, and D the lock-frame, in which the rear projection *a* of the cylinder has its bearing to rotate, and upon the end of which projection is a ratchet, by which to rotate the cylinder by the movements of the hammer. The front projection *e* of the cylinder has a bearing in the barrel, and upon the end of the front projection is a ratchet, *b*. An arm, F, is pivoted to the barrel at *g*, to which arm is pivoted the pawl or dog *f*, having a hooked end, which is held in contact with the ratchet *b* by a spring, *h*, secured to the pivoted arm. A socket, C', is made upon the side of the barrel A, in which slides freely the extractor-rod E, the rear end *e* of which is made conical, and which

is provided with a longitudinal slot, *s*, the rear end of which slot is inclined for a little distance, as shown at *s'*, the knob *m* being inserted through the slot *n* of the socket C', and attached to the ejector-rod E. The pivoted arm F is provided with a projection, *i*, which, when the parts are together, protrudes into the slot *s* of the ejector-rod. The recoil-plate is recessed at *e*, so that the cartridges may be inserted into the chambers of the cylinder from the rear, and may be pushed out in that direction by the extractor-rod operating in front of the cylinder.

The operation of my invention is as follows: All the parts being in place, after the cartridges have been discharged, the projection *i* is in the extreme rear end of the slot *s*, which, when the rod is in place, is the most elevated of the inclined part shown at *s'*, which, of course, holds the pivoted bar F and the pawl in their most elevated position; but as soon as the ejector-rod E is started in a rearward direction the inclined part *s'* of the slot *s* draws the projection *i*, bar F, and pawl *f* downward suddenly, and the pawl being engaged with the ratchet *b* on the front end of the bearing *e*, the cylinder is quickly rotated. The rod moving to the rear, its small extreme end enters the first chamber which comes into line, and prevents the chamber from passing by the rod, and the conical end of the latter guides the rod into the chamber, the projection *i* having passed into the straight portion of the slot *s*, so that the rod is moved through the chamber it has entered, and the shell is forced out at the rear. As the rod is moved forward by its knob *m*, (the latter and the slot *n* causing the rod to move always in a longitudinal direction without turning,) as its rear conical end moves out of that chamber, the projection *i* moves into the inclined part *s'* of the slot *s*, and the bar F and pawl *f* are raised to engage with the next ratchet-tooth *b*, and as the rod is again started the inclined part *s'* of the slot in the rod again draws the pawl *f* down, causing a further rotation of the cylinder, and the extreme end of the conical part of the rod enters the next chamber, to prevent its passing the rod too far, and the rod enters that chamber to push out the shell, and so on, each movement of the rod to the rear

bringing each chamber in succession in line with the rod, and pushing out the shell therein until all the shells are ejected; and this may be done as rapidly as is desired without touching any other part of the mechanism of the arm.

Of course, in practice, the socket C' may be made solid with the arm, or in one piece with the barrel; and instead of the slots in the extractor-rod and the straight pivoted arm, the latter may be made in the form shown at D', pivoted at g', with shoulders at t and t', with a projection on the rod to strike against the shoulder t as the rod is moved forward, which movement would raise the pawl, and as the rod is moved back the projection on the rod strikes the shoulder t', which draws down the pawl and rotates the cylinder, as before.

It is evident that if it should be desired to rotate the cylinder for any purpose other than to eject the shells, it may be done by only moving the extractor-rod a short distance to the rear, and without its entering the chamber of the cylinder even sufficiently to interfere with any loaded cartridge which might be in the chamber.

We are aware that a cylinder has heretofore

been rotated for the purpose of firing the cartridges in the chambers in succession or otherwise by means of a ratchet made on the front part of the cylinder; and we do not claim the same, nor any part thereof, as said rotation was accomplished by a lever extending so far to the rear as to be operated by the same hand which held the arm in discharging it, and the mechanism was not connected with the extractor-rod in any manner.

Having thus described our invention, what we claim as new is—

1. In a revolving fire-arm, an extractor-rod located in front of the chambered cylinder, and operating to eject the empty shells from the rear of the chambers, and to rotate the cylinder to bring the chambers into position for that purpose.

* 2. A revolving fire-arm in which the chambered cylinder may be rotated by the operation of the extractor-rod located in front of the cylinder.

DEXTER SMITH.

JOSEPH C. MARSHALL.

Witnesses:

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