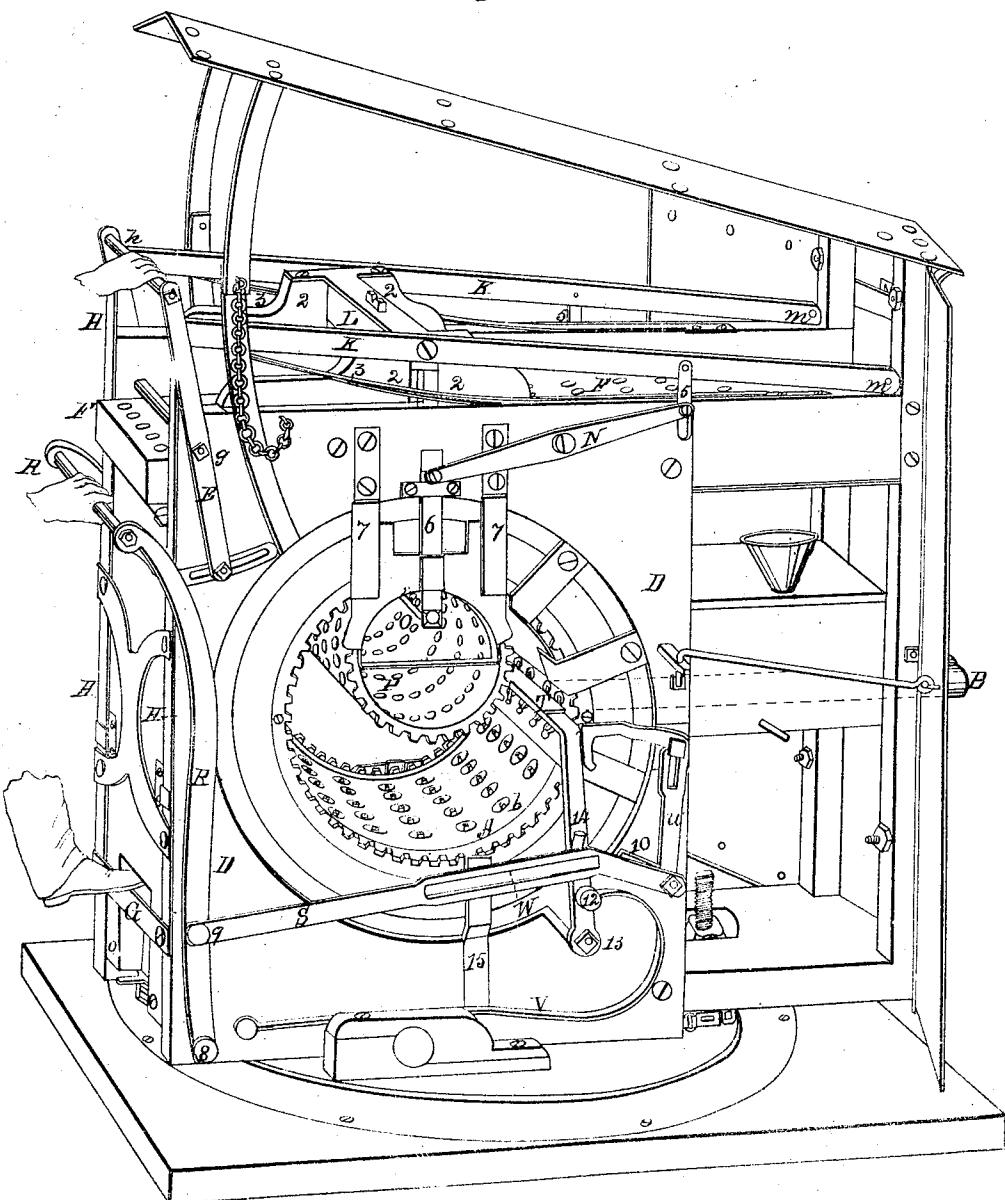


J. A. Reynolds.
Machine Gun.

No 13292.

Patented July 17, 1855.

Fig. 1.



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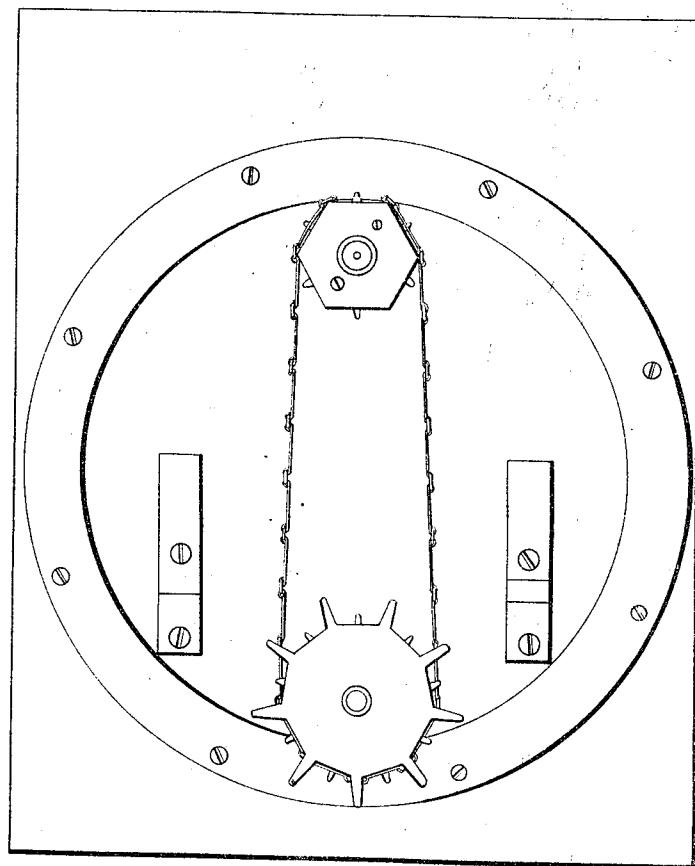
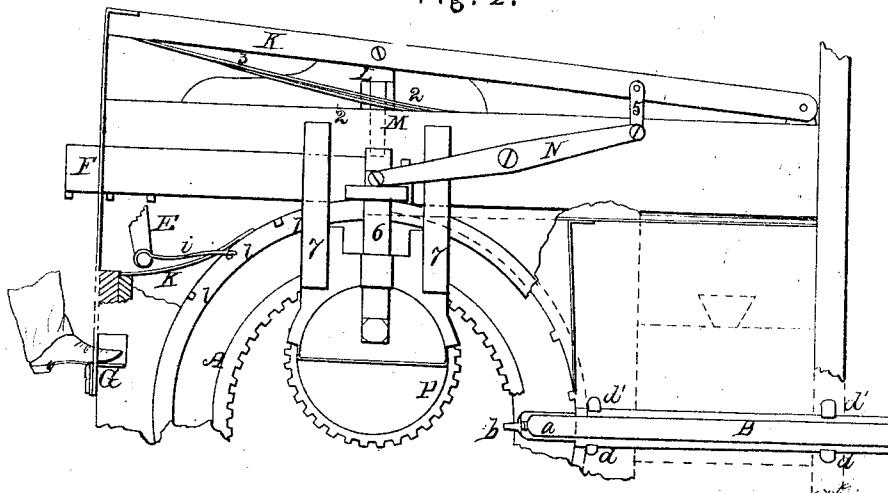


Fig. 2.



Sheet 3. 4 Sheets.

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Fig. 3.

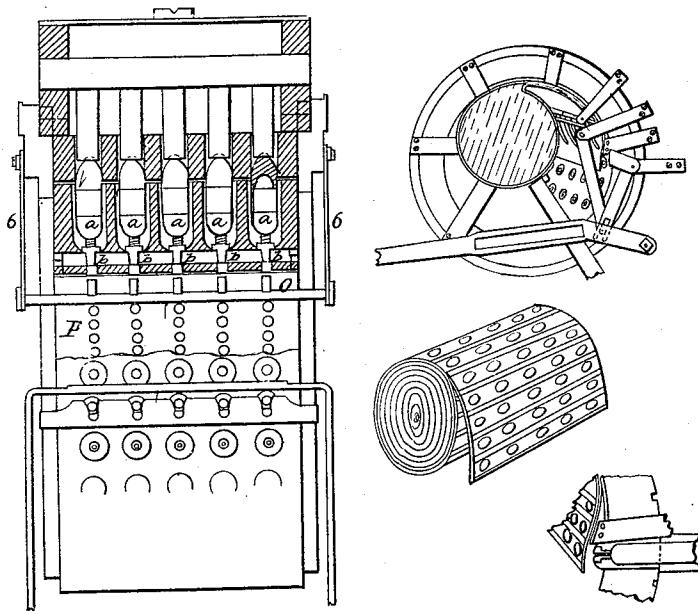
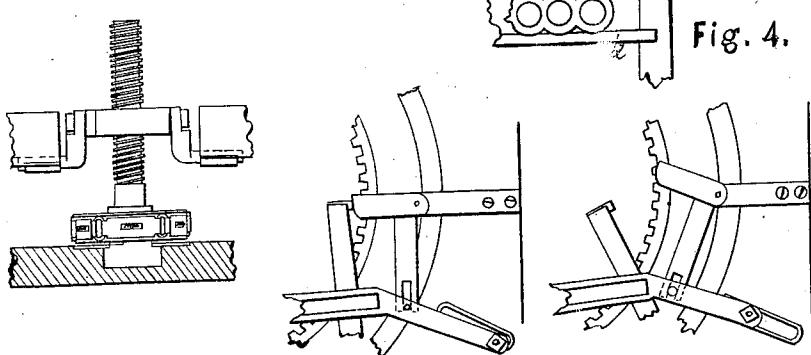


Fig. 4.



Sheet 4 of 4 Sheets

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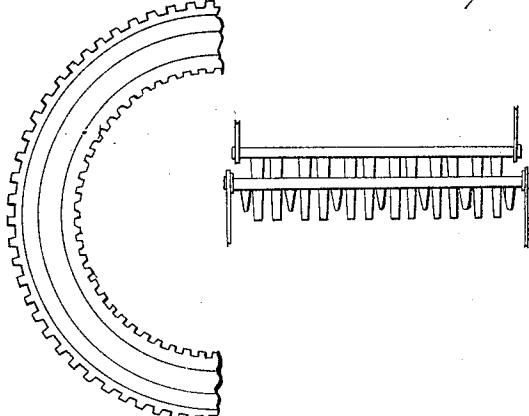
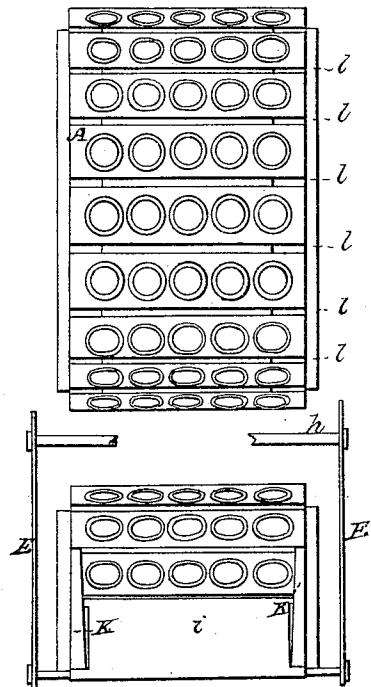


Fig. 5.

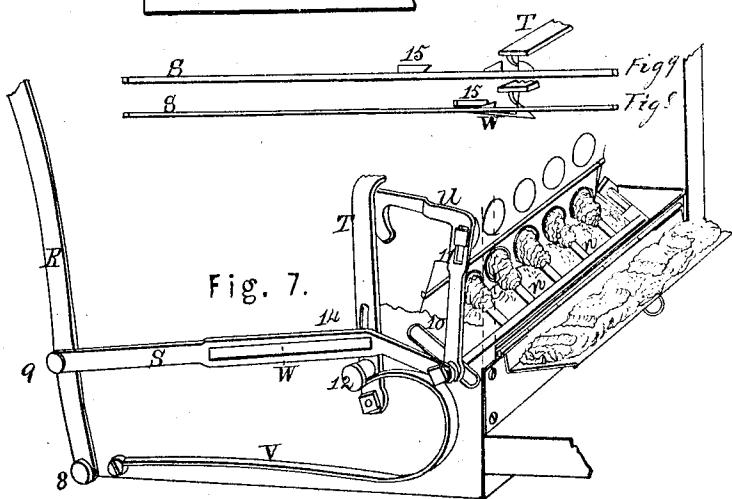
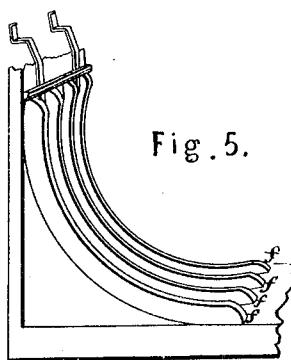
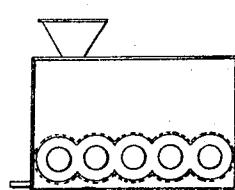
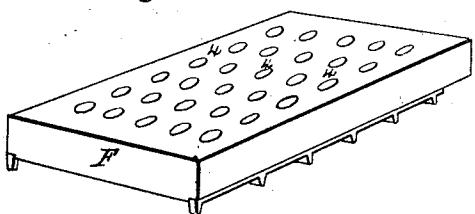


Fig. 7.



UNITED STATES PATENT OFFICE.

JOHN A. REYNOLDS, OF ELMIRA, NEW YORK.

IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. 13,292, dated July 17, 1855.

To all whom it may concern:

Be it known that I, JOHN A. REYNOLDS, of the town of Elmira, county of Chemung, and State of New York, respectfully represents that your petitioner has invented certain new and useful Improvements in Fire-Arms, called "Reynold's Land and Marine Battery;" and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

The nature of my invention consists in so constructing and arranging the parts or portions of a manifold fire-arm that it shall admit of its being loaded and discharged with great celerity and at the same time with safety to the operator.

It consists chiefly in placing or arranging the several chambers or portions of the barrels upon a hollow cylinder, supported at its periphery by suitable rings and ribs, (to receive the recoil,) so that while they are radial therewith the butt of the chambers shall permit the touch-hole to be reached from within the cylinder, while the discharge ends shall be retained in close connection with the superior portions of the barrel.

It also consists in the arrangement of the swabbing device in such a manner that it shall be performed upon one of the sets of chambers simultaneously with the discharge of one or more of the other sets on the same cylinder.

It further consists in simultaneously discharging the sets of chambers by means of a bar-hammer, as further described, operating on any of the percussion compositions irrespective of the condition in which it is used.

It further consists in the mode of capping or placing the igniting material on the projecting nipples of the revolving cylinder, said device being actuated at the same time that the loading of the chamber takes place.

In the drawings, Figure 1 is a perspective view not only of the machine of which this application is made, but also embracing portions which I propose making the subject of distinct applications for patents. In it A represents the revolving hollow cylinder, formed of metal, in which the chambers *a a* (see Fig. 2) are arranged in parallel lines. (See Fig. 3, wherein are shown the cartridges partially introduced.) These chambers are radial with the center of the cylinder, and may be lined with steel, wrought-iron, or other metal.

b b represent the nipples inserted into the butt-end of the chamber, with which they communicate by a suitable vent or touch-hole.

B is the superior portion of the barrels, united together and supported by suitable bars, *d d*, inserted into the solid sides D D of the framework. The barrels B are locked by corresponding bars, *d' d'*, placed above the others. The ends of *d' d'* are made with a wedge-shaped recess on their upper sides, on which a corresponding wedge-bar, *e*, Fig. 4, is made to operate by a screw-nut, serving to produce a close connection of the barrels and chambers and overcome the wear thereof by the under side of bar *d'*, forcing the barrel to slightly slide, when it is made to enter a groove across the barrel.

The cylinder A is supported at the ends by the sides D, and by ribs *ffff*, Fig. 5, interposed between each series of chambers. The object of introducing ribs instead of a solid bearing to receive the recoil is to allow of any accidental discharge without injury to the mechanism or to the operator.

The device for turning the cylinder A consists in levers E E, pivoted at *g*, and united with a cross-bar, *h*, at the top, on which the operator applies his hand, while their lower ends are united with a cross-bar, upon which the broad pawl *i*, Fig. 2, is permitted to move.

K is one of a pair of springs secured to the back portion of the framing *o*, their ends pressing upon the cylinder, and under which the stubs of the flap *i* are brought, so that when the flap is forced over the cylinder from notch *l* to the next notch therein the springs are likewise raised. It is by the flap-pawl *i* entering the notches of the cylinder that its revolution is effected.

The device for loading consists of a perforated block, F, introduced at the rear of the machine upon a short metal platform placed immediately over the cylinder A. This block F is furnished with racks on its under sides, (see Fig. 6,) which mesh into the grooves *l* of the cylinder, and as the cylinder is revolved by the lever E the block F is successively drawn forward under the plungers or rammers of the machine.

The loading device consists of a foot or pedal piece, G, situate at the lower portion of the rear of the frame. H H are upright sliding straps, extending from G to a pair of levers, *k k*, said levers pivoted at *m m*. Between the levers is a sliding cross-head, L, moving ver-

tically in guides 2 2 by virtue of a connection with the levers K K. The cross-head has depending from its lower side plungers or rammers M, (see Fig. 2,) and pair of springs 3 3 are placed under k k for the purpose of retracting or throwing up the levers, &c., when the foot is withdrawn from the pedal.

The loading is effected as follows: The cartridge-block E having been brought, with a row of cartridges placed in the perforations 4 4 thereof, over a set of chambers, the rammers M M, by the foot of the operator, drive the cartridges from F into the chambers a a, said chambers having been brought into a vertical position by the rotation of the cylinder. At the same period that the lever k moves the plunger and forces in the cartridge, it, by a stirrup, 5, moves the lever N, from which drops a sliding strap, 6, (it being understood that a duplicate of these parts is on the opposite side of the machine.) Between 6 of one side and 6 of the other is placed a cross-bar, o, having on its upper side a set of small plungers, (see Fig. 3,) whose office is to force the caps from a perforated bottom cylinder, P. By the plunger coming in contact with the head of a cap it is forced from the cylinder onto the nipples b b. The capping-cylinder P receives its motion by means of cogs upon each end thereof, which mesh into corresponding cogs on A, so that when A is turned by the lever E, as before described, the cylinder P is moved simultaneously therewith. The cylinder P, instead of being supported on journals, is suspended in flanged hoops, embracing more than half of its diameter on the one side, while on the opposite side the hoop is entire. The object of the half-hoop is to admit of the removal and changing of P with greater facility. The half-hoop for the one side may be suspended by straps 7 7, forming springs, or it may be hinged.

The device for discharging and swabbing the chambers is as follows: R, like all other levers, is one of a pair of upright levers, with cross-piece at the top thereof for the hand of the operator. It is pivoted at 8. S is a bar connected with R by a bolt, 9. Its function is that of operating the hammer T, which extends from one end of the cylinder to the other, and operates also the swabbers n n, (see Fig. 7,) the ends of the swabber-bar being guided in suitable slots, 10, in the sides of the machine. U is a backset, which being connected with the bar S at its end by the projecting end of the swabbing-bar, it is made to retreat from the hammer when the front end of the bar S is drawn by R, the movement of U being allowed by an upright slot, 11, near its angle, through which a large-headed bolt passes. V is the mainspring of the lock. It is connected with the stem of the hammer by bolt 12, while the hammer-stem is pivoted below it at 13. W is a slap-spring playing through a slot in the bar S. It has two angular projections (see Figs. 8 and 9) upon its inner face. The office of the one is to catch on the ear 14 on the hammer-stock and draw

it back, while the other projection, in passing a post, 15, throws the spring into the slot of S, and releases the front catch from the ear 14 and permits the hammer T to be driven by spring V against the capped nipples.

With the view of more perfectly swabbing the chambers, the swabs, in their withdrawal, are made to pass between sheets of sponge or other suitable material for retaining water, by which the filth drawn with the swab may be removed therefrom. It will be observed in giving direction to the swabbers n n that they move in a line radial to the center of the cylinder A and perform their office upon a set of chambers below the barrels B B.

The object of the backset U is to throw the hammer T sufficiently from the inner face of the cylinder, so as to permit it to rotate without the caps on the nipples of the cylinder being disturbed by the hammer.

The swabbing-box is shown in Fig. 7 with the lid thrown open. It consists of a square metallic box corresponding with the space occupied by the barrels. It is filled with sponge fastened in the box, having likewise sponge secured to the lid. This sponge is made to conform to the shape of the swab, and when the lid is closed the swab passes between the sheets of sponge thus presented, and, as before noticed, the filth is removed. This sponge may be kept moist by water admitted into the box.

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

1. Constructing fire-arms with a hollow cylinder, A, containing chambers a a, as described, in connection with barrels B B, substantially in the manner and for the purposes set forth.

2. Loading the chambers a a by foot-pedal G, straps H H, levers K K, operating the plungers M, in combination with the simultaneous capping of the nipples by lever N, straps 5 and 6, cross-bar O, and plungers thereon, for removing caps from cylinder P and placing them on the nipples, as set forth.

3. Drawing the hammer T by lever R and bar S, furnished with spring W and catch thereon, or its equivalent, in connection with the angular liberating projection or spring W and the liberating-post 15, for the purposes set forth.

4. Drawing the hammer back in the manner set forth, in combination with the simultaneous swabbing of the discharged chambers, in the manner substantially as described.

5. Likewise the swabbing-box containing the swabs n n, as described, furnished with sponge or its equivalent, the whole operating substantially in the manner and for the purposes set forth in the foregoing specification.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

JOHN A. REYNOLDS.

Witnesses:

W. S. CLARK,
JOHN F. CLARK.