

H. GENHART.
REPEATING FIREARM.

No. 16,477.

Patented Jan. 27, 1857.

Fig:1.

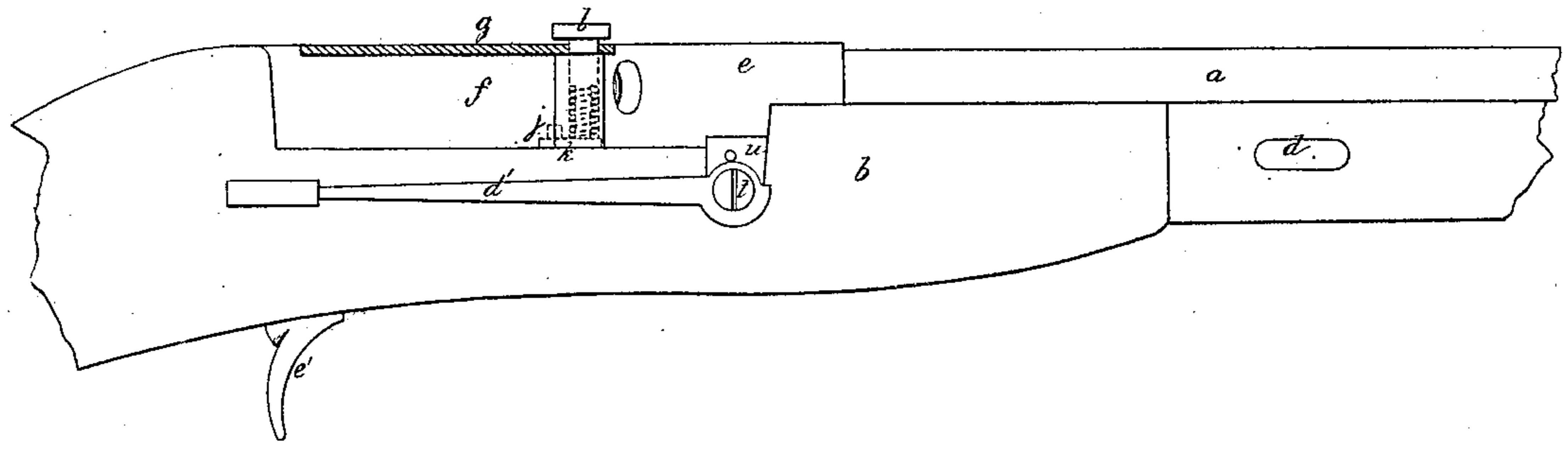


Fig:3.

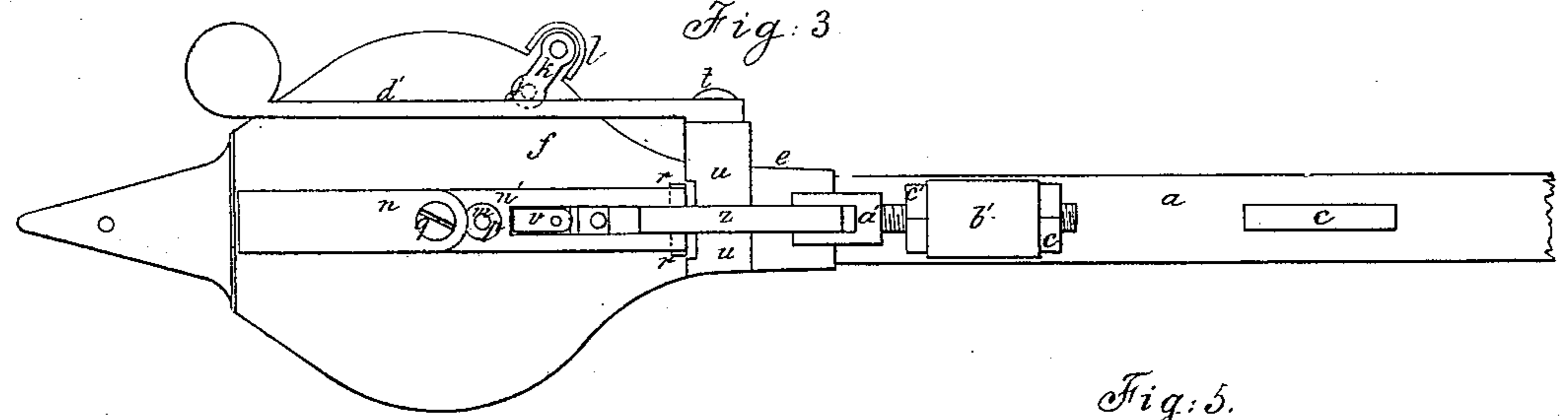


Fig:5.

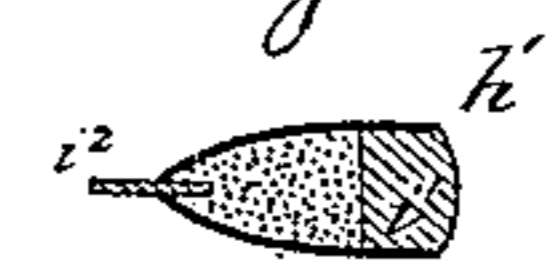


Fig:2.

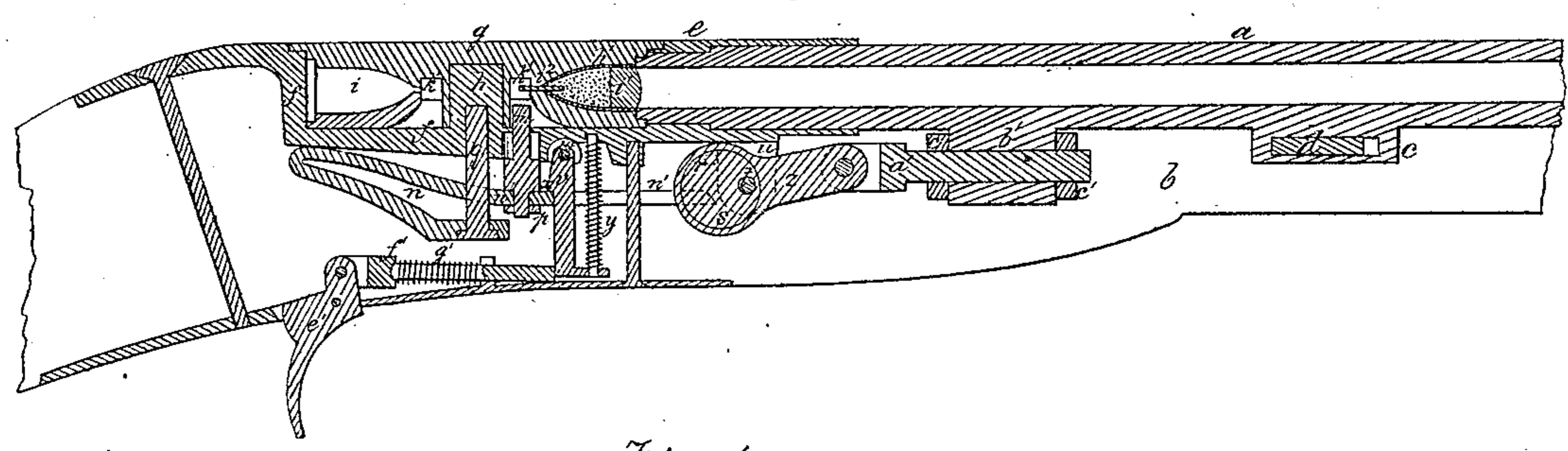
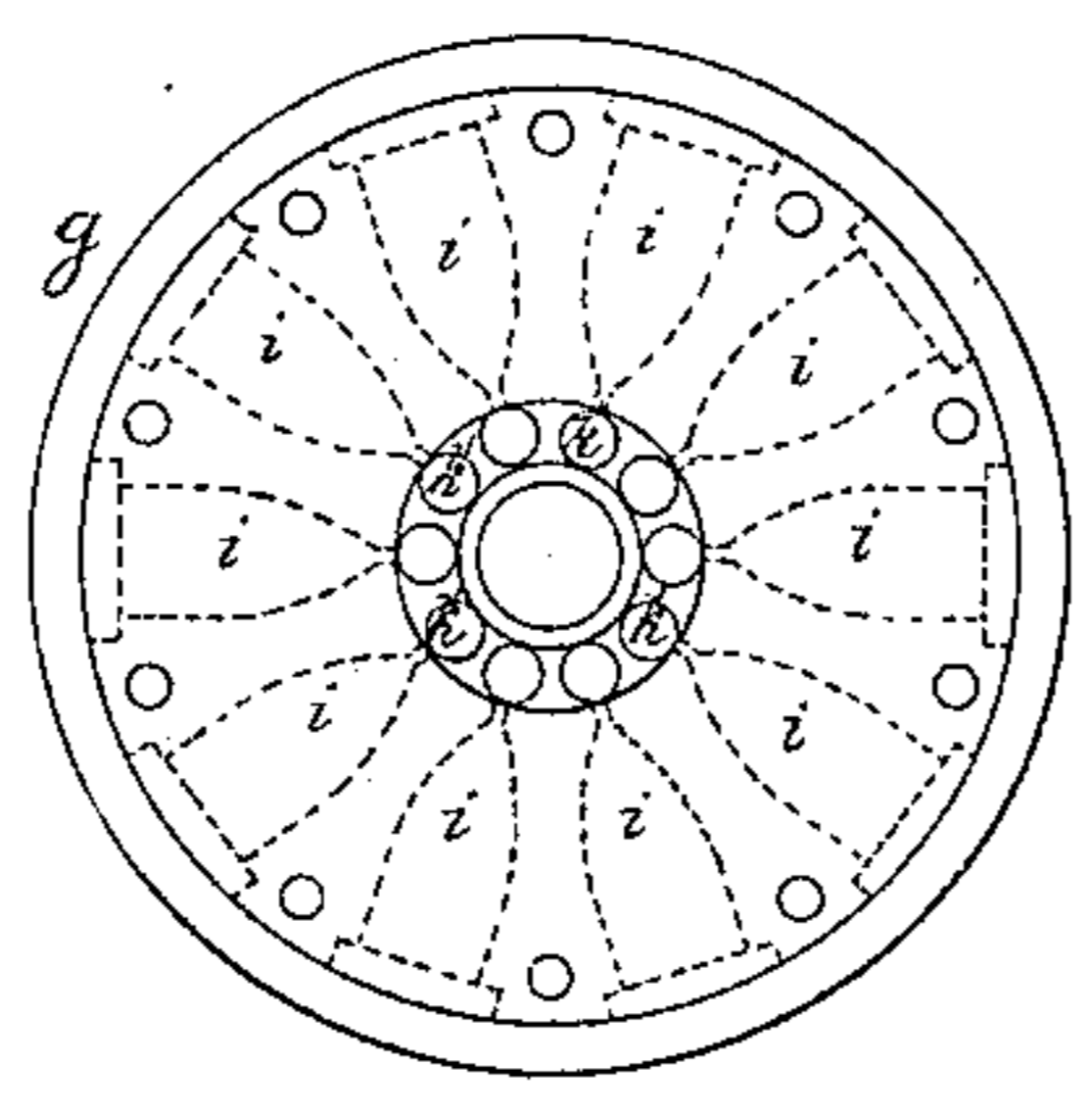


Fig:4.



Witnesses
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UNITED STATES PATENT OFFICE.

HEINRICH GENHART, OF LIEGE, BELGIUM.

IMPROVEMENT IN REPEATING FIRE-ARMS.

Specification forming part of Letters Patent No. 16,477, dated January 27, 1857.

To all whom it may concern:

Be it known that I, HEINRICH GENHART, of the town of Liege, in the Kingdom of Belgium, have invented new and useful Improvements in Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view; Fig. 2, a longitudinal vertical section; Fig. 3, a bottom view with the stock removed; Fig. 4, a bottom view of the rotating cylinder, and Fig. 5 a section of a cartridge.

The same letters indicate like parts in all the figures.

My said invention is of improvements in that well-known class of repeating fire-arms in which a series of charges are contained in a series of radial chambers in a breech which rotates to bring the several charges in succession to the line of the barrel.

In the accompanying drawings, *a* represents the barrel, mounted in the wooden stock *b* in such manner that it can slide thereon longitudinally to the extent of an eighth of an inch, (more or less,) at the discretion of the constructor. For this purpose the barrel is formed with projecting lugs *c* on the under side in the usual manner, with mortises for the fastening-keys *d* to pass through; but in this case the mortises in the lugs are made so much longer than the width of the keys as to allow the barrel to slide on the keys the required extent. The rear end of the barrel is turned down to a smaller diameter and of a cylindrical shape to fit accurately and slide in a cylindrical hole in a projection, *e*, on the front side of a hollow cylindrical breech-case, *f*, fitted and secured to the stock. The inner periphery of this breech-case is cylindrical, with its axis at right angles to the bore of the barrel, and when the barrel is pushed forward to the greatest extent of its motion its rear end is flush with the inner periphery of the said breech-case, and when drawn back it projects within the periphery. To the inside of this breech-case is fitted a flat metal cylinder, *g*, which turns and rests on a central stud or pivot, *h*, extending up from the center of the bottom of the breech-case. A series of chambers, *i*, are formed in this cylinder from the periphery toward the center and extending

to the required depth to contain each a cartridge of the required form and size. The bore of each chamber is as much larger than the bore of the barrel as the thickness of the metal case of the cartridge to be described, and the forward end is enlarged for a short distance from the periphery of the cylinder inward to a sufficient extent to receive the rear end of the barrel when drawn back, which rear end of such barrel is made to fit accurately the said enlarged part of the bore and to bear against the edge of the ball, as represented in Fig. 2. The upper part of the periphery of the cylinder projects in the form of a flange over and beyond the edge of the breech-case, and the edge of this flange is milled to facilitate the turning of the cylinder or many-chambered rotating breech. In the under face of this rotating breech there are small cavities or holes, one for each chamber, to receive the end of a bolt, *j*, (shown by dotted lines in Fig. 1,) which works through a hole in the bottom of the breech-case, the lower end of the said bolt being connected by a small plate, *k*, with the lower end of a sliding spring-button, *l*, that extends up above the top of the breech-case and outside of the periphery of the rotating breech, so that by pressing down the said button with one finger the bolt is forced down and unlocks the rotating breech, that it may be turned for a short distance by the other fingers of the same hand to bring the next chamber in line with the barrel.

The position of the bolt and the recesses in which it fits should be such relatively to the barrel and the chambers in the rotating breech that the locking will only take place when one of the chambers is in line with the barrel.

The hammer for discharging the loads in succession is a cylindrical piece of metal, *m*, placed parallel with and but a short distance from the central stud or pivot, *h*, and adapted to slide in a hole made in the bottom of the breech-case. The lower part of this hammer is reduced to a smaller diameter to pass through a hole in the mainspring *n*, to which it is secured by a head or nut, *p*, below, so that the working of the mainspring will operate the said hammer. The mainspring *n* is attached by a screw, *q*, to the under side of the breech-case. The leaf *n'* of the said spring, to which

the hammer is attached, is forced by the tension toward the under face of the breech-case, and is forced away from such face in the act of cocking by two pins, *r r*, which project one from each face of an eccentric, *s*, or wheel on a shaft, *t*, having its bearings in projections *uu* from the under side of the breech-case. The end *n*. of the mainspring for some distance is cut out to extend on each side of the eccentric *s* and of the spring-catch *v*. One end of this spring-catch *v* is hinged by a fulcrum-pin, *w*, to the under side of the breech-case. Its rear face has a projecting catch or shoulder at *x*, to catch and hold the mainspring when distended by the turning of the shaft *t*, the tension of the rear spring, *y*, forcing the catch in place so soon as the mainspring has been brought to the required distance to cock the hammer.

The eccentric *s* is surrounded by a bridle or link, *z*, the opposite end of which is hinged to one end of an adjustable screw-bolt, *a'*, which passes through a lug, *b'*, on the under side of the barrel, and connected therewith by a nut, *c'*, on each end, so that by turning these nuts the position of the barrel relatively to the breech can be adjusted with the greatest nicety.

To one end of the shaft *t* is secured a hand-lever, *d'*, which lies along the side of the stock, and by which the shaft can be turned to force out the mainspring and cock the hammer, and to slide the barrel in and out. When this hand-lever is forced down the pins on the sides of the eccentric force out the mainspring until the spring-catch takes and holds it, and at the same time the eccentric slides the barrel outward to draw the rear end out of the mouth of one of the chambers, that the rotating breech may be turned to bring the next chamber in line, and then by drawing up the hand-lever the eccentric is turned in the opposite direction to draw back the barrel and force its rear end into the enlarged mouth of the next chamber and against the front edge of the ball to inclose it firmly within its chamber and hold it therein for the discharge of the load. The arm is then in a condition to be fired, the breech being held in line not only by the spring-bolt, but by the rear end of the barrel inserted in the forward end of the chamber from which a load is to be discharged, and the axis of the eccentric being in, or nearly in, line with the axis of its shaft and the point of attachment with the barrel to resist the recoil.

The discharge is effected by pulling the usual trigger, *e'*, the inner arm of which is connected by a pin with one end of a sliding rod, *f'*, adapted to slide longitudinally in suitable

guides, and surrounded by a helical spring, *g'*, the tension of which tends to keep the trigger in its forward position; but when the trigger is pulled back the end of the rod *f'* strikes against the face of the spring-catch *v*, which liberates the mainspring, by which the hammer is forced upward to effect the discharge.

The cartridges *h'*, for loading the chambers in the rotating breech, are of the form represented in the drawings, Fig. 5, with a cylindrical ball, *i'*, in front, and the powder behind, in a conical, or nearly conical, form, contained within a thin metallic case. The rear end of the ball on which the powder acts is flat, and the front end slightly round, or of any other suitable shape; and the chambers in the rotating breech are made of a shape corresponding with the cartridges, and as the bore of the chambers is slightly greater than the bore of the barrel the rear end thereof, when drawn back into the enlarged part of the chambers, makes pressure on the front face of the ball all around the edge.

The cartridges are pierced at the rear end or apex in the line of the longitudinal axis to receive a small metallic tube, *i²*, one end of which extends within the charge of powder, and the other end to about an equal extent outside of the cartridges; and when these cartridges are inserted in the chambers of the rotating breech the projecting tube *i²* enters a small bore, *k'*, at the bottom of each chamber and across a cavity made from the bottom of the rotating breech, in which the hammer strikes at the moment of the discharge to strike this tube and explode the fulminating or other suitable igniting compound contained in the said tube to inflame the powder in the cartridge.

I do not wish to be understood as limiting my claim of invention to the special construction and form herein specified, as these may be varied within the principle of my invention.

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

The combination of the rotating breech, with radial chambers for containing a series of charges, substantially as described, in combination with the sliding barrel, the rear end of which is fitted to enter the forward end of each chamber when brought in line, substantially as and for the purposes specified.

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Witnesses:

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