UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN BATTERY-GUNS.

Specification forming part of Letters Patent No. **47,631**, dated May 9, 1865.

To all whom it may concern:

Be it known that I, RICHARD JORDAN GATLING, of Indianapolis, county of Marion and State of Indiana, have made certain new and useful Improvements in Fire Arms, which I term a "Battery-Gun;" and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a side elevation of the gun with its carriage and wheels. Fig. 2 is a plan of the same, or the mounted gun as viewed from above. Fig. 3 is a partial axial section on a horizontal plane, showing parts of the mechanism in plan. It is taken on the line *x x*, Fig. 14. Fig. 4 is a vertical longitudinal axial section, the locks and main shaft being shown in elevation. It is taken in the line *y y*, Fig. 14. Fig. 5 is a perpspective view of the ring furnished with inclined planes set spirally in relation to the axis of the gun and used for giving the longitudinal motions to the locks and breech-pins. Fig. 6 is a perspective view of the cocking-ring, which is used for drawing the lock-hammers back and liberating them to explode the cartridges when the gun is being operated. Fig. 7 is a transverse vertical section, at right angles to the axis of the gun, on the line *x x*, Fig. 3. Fig. 8 is an end view of the cylinder within which the locks are inclosed, and showing the perforations in the heads of the said cylinder, which form guides for the locks. Fig. 9 is an elevation of said cylinder. Fig. 10 is a longitudinal sectional view of one of the cartridge-boxes, from which the cartridges are fed into the gun, and is a section on line *x x*, Fig. 11, and shows the cartridges in place. Fig. 11 is a top view of the cartridge-box. Fig. 12 is an elevation of one of the locks. Fig. 13 is a longitudinal central section of one of the locks on the line *z z*, Fig. 12. Fig. 14 is a rear view of the gun with the cascabel and screw-cap, which closes the end of the chamber occupied by the rotating gears, removed. Figs. 15, 16 are views of the cap which is used to close a cavity in the cartridge-carrier when temporarily disused.

Similar letters of reference indicate corresponding parts in the several figures.

The main characteristic of my invention is a gun having a series of barrels with a carrier and lock-cylinder rigidly fastened to the main shaft and rotating simultaneously and continuously under the rotation of suitable gearing, the cartridges being fed into the cavities of the carrier, driven endwise into the barrels, then exploded, and the empty cartridge-cases withdrawn without any pause in the operation.

I will now proceed to describe in detail the peculiarities, the construction, and the operation of my invention.

The nature of my invention consists, first, in attaching the lock-cylinder in which the locks reciprocate longitudinally, the carrier in whose cavities the cartridges are deposited consecutively and the barrels rigidly to a revolving shaft, so that each lock shall at all times be in line with the cartridge-cavity in the carrier and with the barrel to which it appertains, and so that the operations of loading, firing, and extracting of the spent cartridge-cases may proceed under the impulse of the driving mechanism continuously, each barrel, cartridge-cavity, and lock forming a gun in itself, which in the course of its rotation is brought into contact with the requisite relational devices for manipulating and operating it and causing the various parts to perform their appropriate functions of receiving the cartridge from the feeder, thrusting it directly into the bore of the gun, cocking the hammer, exploding the cartridge, and finally extracting the spent cartridge-case, all of which several operations are effected without stopping the rotation of the barrels, locks, &c., when the gun is being operated; secondly, in the construction of the locks, each of which consists of a breech-pin united to a butt-piece and having a sleeve and lug moving upon it, which, under the impulse of a spring, acts as a hammer to drive the igniting-punch against the flange of the cartridge, the lock also affording attachment for the hook which slips over the flange of the cartridge and on the rearward motion of the lock withdraws the spent cartridge-case; thirdly, in the cam-ring which occupies a position at the rear of the lock-cylinder, and has within it two spiral or cam shaped faces, one of them operating upon the butt-end of the lock mechanisms in each case to drive the cartridge from the cavity in the carrier into the bore of the gun, and the other cam-face to act upon a lug on the said lock mechanism to withdraw the breech-pin, bringing with it the spent shell or case and retreating so far as to open the cavity in the carrier for the deposition of another car-