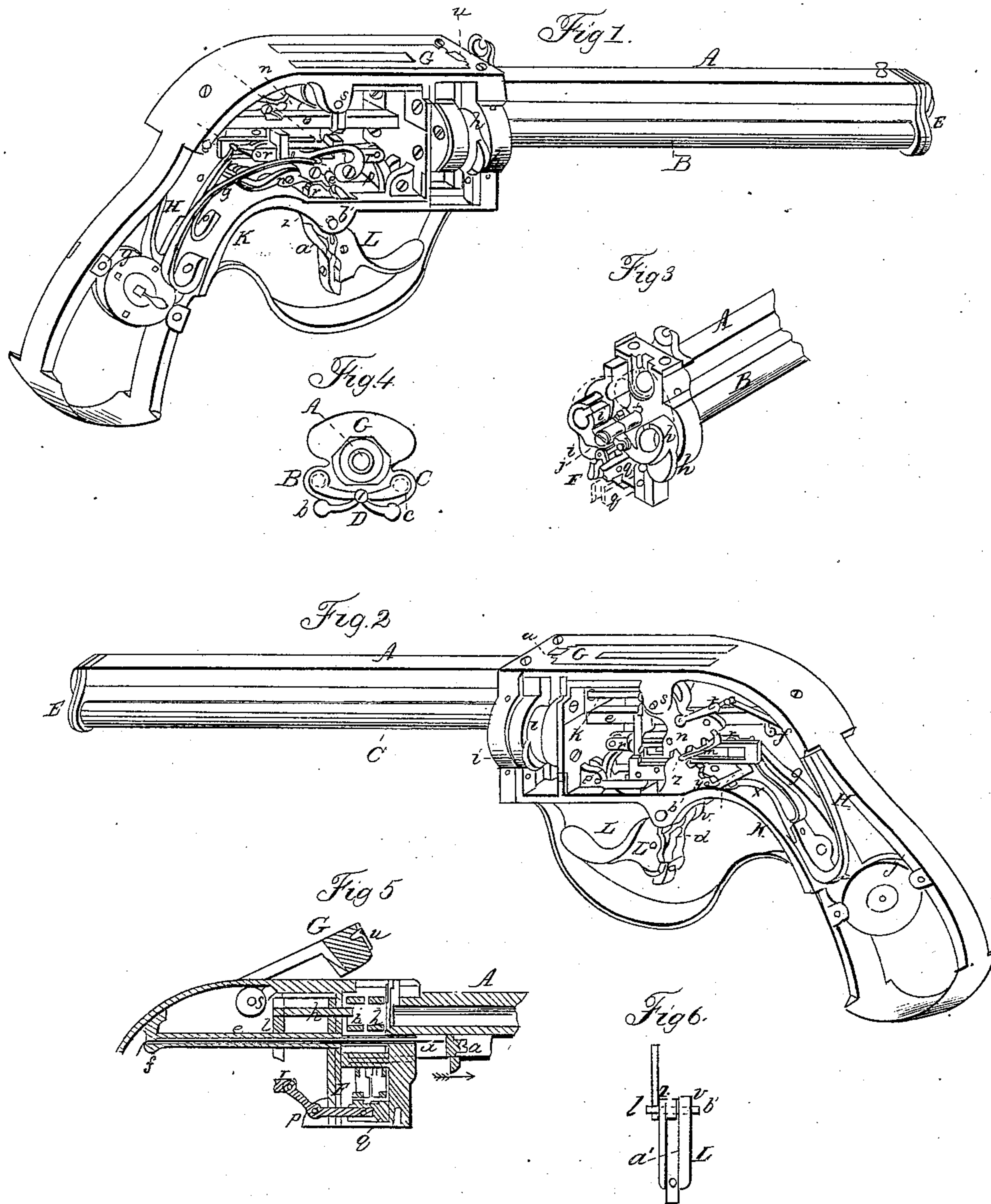


F. B PRINDLE.
Magazine Fire-Arm.

No 21,149.

Patented Aug. 10, 1858



UNITED STATES PATENT OFFICE.

F. B. PRINDLE, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN REPEATING FIRE-ARMS.

Specification forming part of Letters Patent No. **21,149**, dated August 10, 1858.

To all whom it may concern:

Be it known that I, FRANKLIN B. PRINDLE, of the city and county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Repeating Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the construction, character, and operation of the same, reference being had to the accompanying drawings, which make a part of this specification, in which—

Figure 1 is a perspective view of a pistol with the right-hand side plate removed, showing the internal structure of the working parts of the lock, &c., in part. Fig. 2 is a perspective view of the same with the left-hand side plate removed, showing the toothed sectors, by which the hammer is raised by pulling the trigger. Fig. 3 is a perspective view of the rear end of the barrel, charge-tubes, chargers, &c. Fig. 4 is a plan, in cross section, of the muzzle of the barrel and the front end of the charge-tubes, &c. Fig. 5 is a longitudinal section of a portion of the working parts of the lock, rear end of the barrel, chargers, &c., cut vertically through the center. Fig. 6 is a plan of the trigger, showing its connection with the toothed sectors, &c.

My improvement consists in having two charge-tubes partially under the barrel, one on each side, (that on the right-hand side to contain the balls, and that on the left-hand side to contain the powder and priming, as a cartridge,) and a duplicate slide operated by a spring to force the charges back to the rear end of the charge-tubes into two movable or swinging chargers, each of which chargers will by the operation caused by pulling the trigger (which also raises the hammer) carry its part of the charge to the rear end of the barrel, when, by the continuance of the same operation, a ramrod will be moved forward, which will force the charge into the rear end of the barrel, and the chargers will, by the force of a spring, be returned to the rear ends of the charge-tubes to receive another charge; and when the trigger is drawn back to its full extent the toothed sectors will be released from the trigger, and by means of the operation of the mainspring the hammer will be brought down in a position to perfectly close and secure the rear end of the barrel, and a projecting

point will perforate the cartridge-case, ignite the priming, and discharge the pistol.

I make the barrel of cast-steel or any other suitable material, in the usual way, as seen at A, Figs. 1 and 2. Partially under and along the sides of the barrel I attach two charge-tubes, which extend the whole length of the barrel, as shown at B and C, Figs. 1 and 2, and indicated in cross-section in Fig. 4. I make the caliber of these charge-tubes a little larger than the caliber of the barrel, so that the balls in B and the cartridges (of powder and priming) in C may move with perfect freedom from end to end. In these charge-tubes I have sliding caps or followers *b* and *c*, connected by arms working on a joint-screw, as shown at D, Fig. 4, which joint-screw is tapped into a thumb-piece, as shown at *a*, Fig. 5, and to this thumb-piece *a*, I attach a chain or cord, as shown at *d*, Fig. 5. This chain passes through a tube, *e*, Figs. 1 and 2, as indicated in section in Fig. 5, over a pulley at *f*, Figs. 1, 2, and 5, and is attached to the spring-box *g*, Figs. 1 and 2, which box contains a common watch-mainspring.

When the thumb-piece *a*, Fig. 5, is drawn forward, (in the direction indicated by the dart,) it will wind up the spring, and when drawn nearly to the front end of the charge-tubes the sliding caps *b* and *c* will pass out of the tubes and fall to the position shown in Fig. 4, so that the tubes will be ready to receive the charges; and when the charge-tubes are filled I move the sliding caps upward, as indicated by the dots, until they will pass into the tubes, when the spring in the box *g*, by means of the chain, will be continually forcing the charges toward the rear ends of the charge-tubes, and so into the chargers *h* and *i*, Figs. 1, 2, 3, and 5; and the cover or main cap *E* may then be turned down to cover the ends of the charge-tubes, as shown in Figs. 1 and 2.

I make the chargers *h* and *i* of iron or any other suitable material, in a cylindrical form, with a longitudinal slot or space through the whole length, as shown in Fig. 3, and on the outer part of each I have a lug or projecting piece, as shown at *h'* and *i'*, Figs. 1, 2, and 3, which close the rear ends of the charge-tubes when the chargers *h* and *i* have been carried up to coincide with the barrel, as indicated in Fig. 5. These chargers are attached

to the frame by a joint-screw, *j*, on which they move freely, so as to swing from their positions at the ends of the charge-tubes, as shown at *h* and *i*, Fig. 3, where they receive the charges (through the course indicated by the dotted lines) to coincide with the rear end of the barrel, as indicated in section at *h* and *i*, Fig. 5, where the charge is forced into the barrel by the ramrod *k*, Figs. 2 and 5. These chargers are connected with the part shown both in full and in dots at *F*, Fig. 3, and in section in Fig. 5, which is acted upon by an elbow-shaped lever, (shown in full in section at *p*, Fig. 5, and in part at *p*, Figs. 1 and 2,) the prongs of the inner arm of which pass above and below the pin indicated at *q*, Figs. 3 and 5. This lever is connected with the slide *r r*, which is moved forward to carry the chargers to the rear end of the barrel by means of the sector *n*, (while the hammer is being raised,) working upon a jointed catch, (not shown,) and after the charge has been forced into the barrel by the ramrod the catch is released and the chargers are carried back to their original position, as shown in Figs. 1, 2, and 3, by the force of the spring *o*, Figs. 1 and 2, the slots in the chargers allowing them to return while the ramrod remains against the charge.

The sliding frame *l*, to which the ramrod *k* is attached, is operated by the loop *m*, attached to the sector *n*, which is connected with the hammer *G*, so that while the hammer is being raised, and after it has brought the chargers *h* and *i* to the position indicated in Fig. 5, the ramrod will be moved forward so as to force the charge into the barrel, and the chargers will be returned, while the ramrod will remain against the rear end of the charge until immediately before the hammer strikes, when it will be drawn back by the descending motion of the hammer by the operation of the loop *m* of the sector *n*.

I make the hammer *G* to strike vertically and rest level with the surface of the frame of the breech, attach it inflexibly to a sector, as *n*, Fig. 2, and suspend it on a fulcrum-pin, as shown at *s*, Figs. 1 and 2; and to the body of the sector *n*, I attach an arm, *t*, on which the mainspring *H*, Figs. 1 and 2, operates to force down the hammer *G*. I make the front end of the hammer *G* so as to accurately fit and close the rear end of the barrel when it is in the position of the discharge, as in Figs. 1 and 2; and in the front end of this hammer I fit a piece with a point, as shown at *u*, Fig. 5, to ignite the priming and perforate the cartridge-case, so as to communicate with the powder. I make the rear portion of the hammer of two limbs, to make it convenient to sight through it, &c.

I make the trigger *L* substantially as shown in Figs. 1 and 2, but more particularly indicated in Fig. 6. On its inner part I have a ratchet-sector, (shown in part at *v*, Figs. 1 and 2, and indicated in section, Fig. 6,) in which the ratchet *w* acts, as shown in Fig. 1, by having its point forced into the notches of the

ratchet-sector by the spring *x*, Fig. 2, and released by the pressure of the pin *y* in the sector *z*, Fig. 2, when it returns.

In the rear side of the trigger I have a dog, *a'*, Figs. 1, 2, and 6, which falls into a notch in the lower end of the sector *z*, which causes the sector to move with the trigger when the trigger is drawn back, (so as to raise the hammer *G* by means of the sector *n*;) but when the lower end of the dog *a'* strikes the frame, as at *K*, Figs. 1 and 2, it will be released from the notch, and as the sector *z* works freely on the joint-pin *b'*, Figs. 1, 2, and 6, the mainspring *H* will force down the hammer to the position shown in Figs. 1 and 2, and discharge the pistol. At the same time the pin *y* on the sector *z* will bear down the arm of the ratchet *w* and release it, when the spring *I*, Figs. 1 and 2, acting through the medium of the jointed connection *c'*, will throw the trigger *L* forward to the position shown in Figs. 1 and 2.

Having made and arranged the several parts, as before described, I draw the thumb-piece *a*, Fig. 5, toward the front end of the charge-tubes until the sliding caps *b* and *c* come out and fall into the position shown in Fig. 4. (This operation, by means of the chain *d*, Fig. 5, will wind up the spring in the spring-box *g*, Figs. 1 and 2.) I then fill the charge-tube *B* with balls, and *C* with cartridges of powder, (with the cases of which a priming-fillet is properly connected.) I then raise the caps *b* and *c*, as indicated by the dots, till they will pass into the charge-tubes, when the spring, by means of the chain, will press the balls and cartridges back toward the rear ends of the charge-tubes, and one of each, successively, in the chargers *h* and *i*, Figs. 1, 2, and 3. I then turn the large cap *E* over the front ends of the charge-tubes, to close them, when the whole will appear as in Figs. 1 and 2, and be ready for use.

To charge and discharge the pistol, I pull the trigger *L* in the usual way, when the dog *a'*, Figs. 1, 2, and 6, will carry the toothed sector *z* forward, and carry forward with it the toothed sector *n*, which will raise the hammer. The forward corner of the loop *m* will come in contact with a jointed projection on the slide *r r* and move it forward until, by means of the elbow-shaped lever *p*, Figs. 1, 2, and 5, the chargers *h* and *i* will be swung up to the rear end of the barrel, as in Fig. 5, when the rear portion of the loop *m* will strike a pin or projection on the sliding frame *l*, and carry forward the ramrod *k* and force the charge into the barrel. At this time the jointed projection on the slide *r r* will be released, and the slide thrown back by the spring *o*, and by means of the lever *p* the chargers will be returned to the rear ends of the charge-tubes; and when the trigger has been drawn back to its full extent the lower end of the dog *a'*, coming in contact with the frame, as at *K*, will release the sector *z*, when the hammer will be forced down by the mainspring *H*, draw back the ramrod,

and discharge the pistol. At the same time the pin *y*, Fig. 2, will press upon the arm of the ratchet *w* and release the trigger, when it will be carried forward by the spring *I*, when all will be in order to pull the trigger again, and so on until all the charges contained in the charge-tubes have been discharged. Thus, after the ammunition is deposited in the charge-tubes, I have only to pull the trigger once to charge, cock, and fire, and therefore I can fire as rapidly as with any self-cocking revolver, without the weight, ill looks, or risk common to all revolvers; and also, by having two tubes and dividing the charges, I can deposit, and therefore fire, twice as many charges in proportion to the length of the barrel as can be by having both the powder and ball as one cartridge and using but one charge-tube.

The parts of the working apparatus may be varied to simplify the operation, if found more convenient, provided the main principle of inserting the charge, cocking, and firing be substantially retained in their respective relations.

I am aware that many pistols, &c., are cocked by pulling the trigger; and that the charge has been carried to the rear end of the barrel by pulling a separate trigger; and that a tube has been used to contain the charges

and a spring to force them to the rear end of the tube; and that pistols, &c., have been charged and discharged by the same trigger, as is seen in the patent issued to Lewis Jennings, December 25, 1849; and that two charge-tubes have been used under the barrel, as is seen in the application of Frederick Newbury, rejected and withdrawn February, 1856. I therefore do not claim either of these, as such, as my invention; but

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

1. The use of two charge-tubes, (one of which to contain the balls and the other the cartridges,) in combination with the two chargers and ramrod, when constructed, arranged, and made to receive the charge and deposit it in the barrel simply by pulling the trigger, substantially as herein set forth.

2. I claim the combination of the hammer and sectors with the chargers and ramrod, (so that I may charge, cock, and fire by simply pulling the trigger,) when the whole is constructed, arranged, and made to operate substantially as herein described.

F. B. PRINDLE.

Witnesses:

GILBERT S. HINE,
R. FITZGERALD.