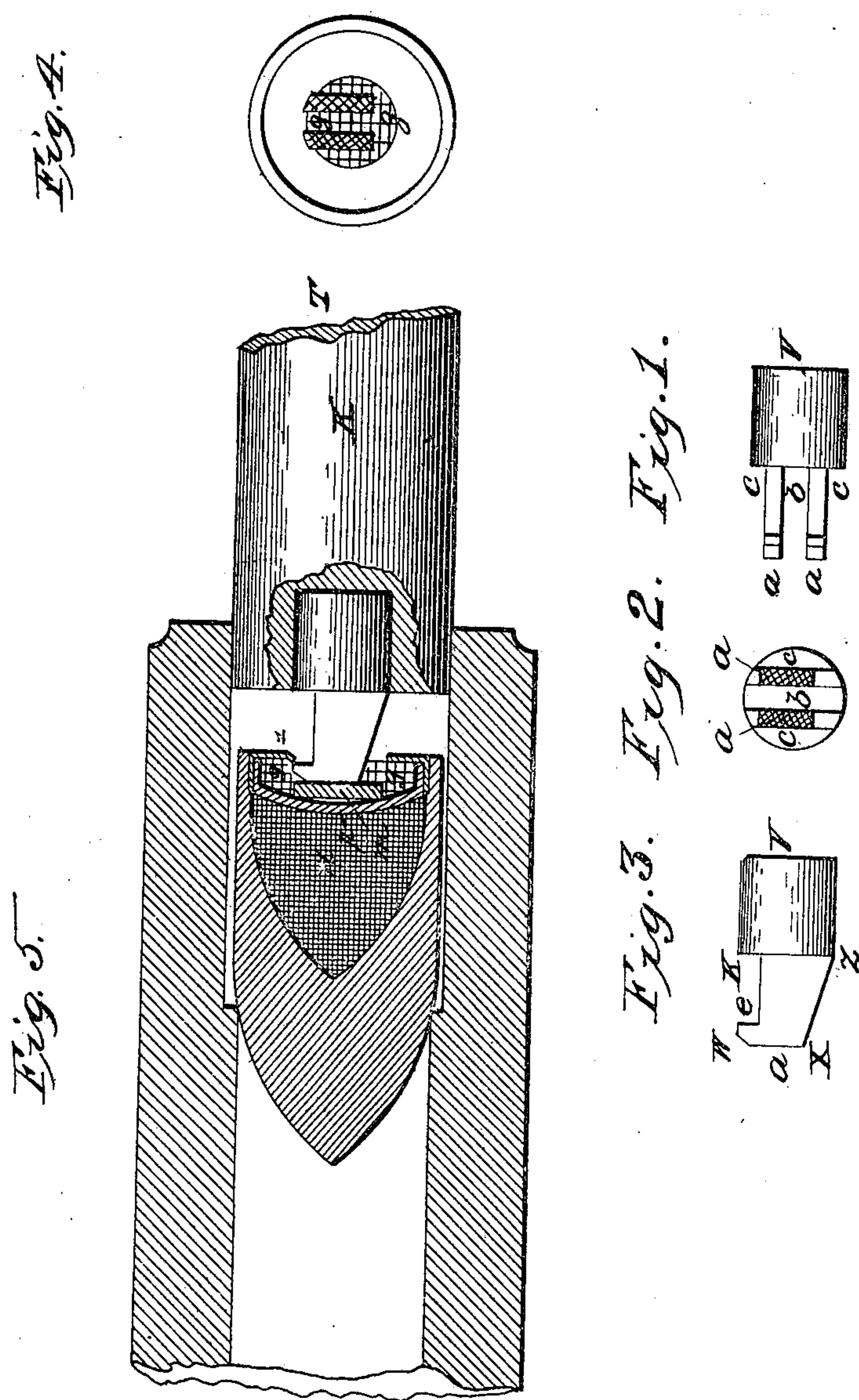


W. C. HICKS.
NIPPLE FOR DISCHARGING OR WITHDRAWING CARTRIDGES FROM BREECH
LOADING FIREARMS.

No. 16,797.

Patented Mar. 10, 1857.



UNITED STATES PATENT OFFICE.

WM. CLEVELAND HICKS, OF NEW HAVEN, CONNECTICUT.

IMPROVED NIPPLE FOR DISCHARGING OR WITHDRAWING CARTRIDGES FROM BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 16,797, dated March 10, 1857.

To all whom it may concern:

Be it known that I, WM. CLEVELAND HICKS, of the city of New Haven, county of New Haven, and State of Connecticut, have invented a new and useful Improvement called "Hicks Improved Nipples for Discharging or Withdrawing Cartridges from Breech-Loading Fire-Arms;" and I do declare that the following is a full, and exact description of the same, reference being had to the annexed drawings, the same making part of this specification.

The nature of my invention is briefly described as follows: A blunt projecting piece of steel attached to the breech-pin of a gun, which closes the breech when the arm is charged with a cartridge or loaded ball, is now used to ignite percussion and powder in the loaded ball or cartridge by means of a blow on the end of the said breech-pin exposed. From various causes this method of exploding the cap or primer often fails, and the cartridge must be pushed out of the breech of the barrel by a rod inserted at the muzzle before another can be discharged, which often causes serious delay and inconvenience, in addition to the liability to accident. My improvement is designed to obviate these difficulties: first, to render the arm more sure to fire; and, second, to withdraw the cartridge or loaded ball, by the act of drawing back the breech-pin in case the gun misses to fire.

Figure 1 represents a top or bird's eye view of said nipples, solid with and made from the round steel rod V. The prongs or projections (called "nipples") *aa* are formed by milling or sawing a slit in the round rod V from *a* to *b*, Fig. 1, and milling or filing off the exterior rounding surface from *a* to *c*, Fig. 1, leaving the sides of said projections flat and perfectly parallel to each other, as shown by Fig. 2. Fig. 3 represents a side view of same, showing the form of the nipples and the hooks used to withdraw the loaded balls or cartridges from the breech of a gun. The bottoms of said nipples or prongs are milled or filed on a slight angle from *x* to *z*, Fig. 3, to allow the cartridge to be thrown off more easily. The upper edges from *e* to *k*, Fig. 3, are filed lower than the top of the round rod V and the front of the nipple at *w*, as shown, Fig. 3, in order to form a hook, *w e*. Said hook is filed on a slight angle, as shown at *w*, Fig. 3, for the purpose

of pressing more gradually against the brass of the percussion-cap. Fig. 4 shows the blunt end of a loaded ball or cartridge furnished with a percussion cap or primer like those patented February, 1856, by Horace Smith and Daniel B. Wesson, and fastened firmly to the cartridge. Said cap is composed of a brass case with a circular hole in its exposed face, through which projects (slightly) cork *g*, Figs. 4 and 5. This cork acts as an elastic protection to the percussion-cake *m*, Fig. 5, which lies between it and a steel disk, *p*, Fig. 5, and the disk rests firmly on the powder *n*, Fig. 5. Fig. 4 also represents (*a a*) the impressions which the nipples make on the cork, and brass cap or primer when pressed against it in the gun. Fig. 5 represents a gun-barrel section through the center lengthwise; also section of loaded ball, powder, cap, or primer, percussion, cork, &c., and shows the nipples resting against the cake of percussion-powder *m*.

The nipples are attached to the breech-pin K by driving the rod V into a hole in the end of the breech-pin. The breech-pin is represented as broken open to expose the rod and its position. The breech-pin K is represented as closing the breech of the gun-barrel, and the nipples as having been pressed so hard against the cork and rim of brass on the edge of the circular hole in the cap that they have forced themselves through the cork to the cake of percussion *m*, having bent inward the rim of brass at *t*, Fig. 5, enough to allow the hooks of the nipples to pass in by said indentation. A blow upon the end T, Fig. 5, of the breech-pin K will now (provided all things are properly adjusted) explode the percussion-cake *m*, set fire to the powder *n*, and discharge the ball from the gun; but, as often happens, if the ball should be imperfect, or for any other cause the gun should fail to fire, and we commence moving the breech-pin back from the gun, the hooks of the nipples *a a w w*, Fig. 3, catch hold of the brass rim bent inward, as shown at *t* Fig. 5, and hang so firmly that the cartridge or ball is drawn out with it, clearing the arm for another charge, which is instantly placed in position by the motion of a lever.

In using a single nipple to explode the percussion, the arm much more often fails than when the double prongs are used, as the percussion-cake often lies away from the center,

and also often breaks into two parts, allowing the prong to pass to the disk, leaving the percussion on the sides not ignited; but the double prongs are sure to hit enough percussion to fire, and instead of pushing away the percussion collect it between the prongs, thereby insuring the discharge of the gun.

This improvement is now used by the Volcanic Repeating Arms Company, and operates to perfection. More than two prongs might, under some circumstances, be used advantageously, particularly in large guns, as the chances the loaded balls or cartridges have to miss fire decrease as the prongs are increased.

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

1. My improved nipples, (two or more prongs, with or without hooks, for withdraw-

ing loaded balls or cartridges from breech-loading fire-arms, as described,) for the purpose of igniting percussion and discharging loaded balls or cartridges from breech-loading fire-arms.

2. My method of using one, two, or more nipples or prongs, with hooks, as described, to withdraw cartridges or loaded balls from breech-loading fire-arms, by causing said hooks to indent or spring the rim of a cap or primer, as described, and by catching hold of said rim to withdraw the loaded ball or cartridge by the act of drawing back the nipples, all substantially as herein described and specified.

WM. CLEVELAND HICKS.

Witnesses:

GEORGE F. RICHARDSON,
JOHN L. GILMAN.