

J. P. SCHENKL.

Muzzle-Loader.

No. 21,802.

Patented Oct. 12, 1858.

Fig 1

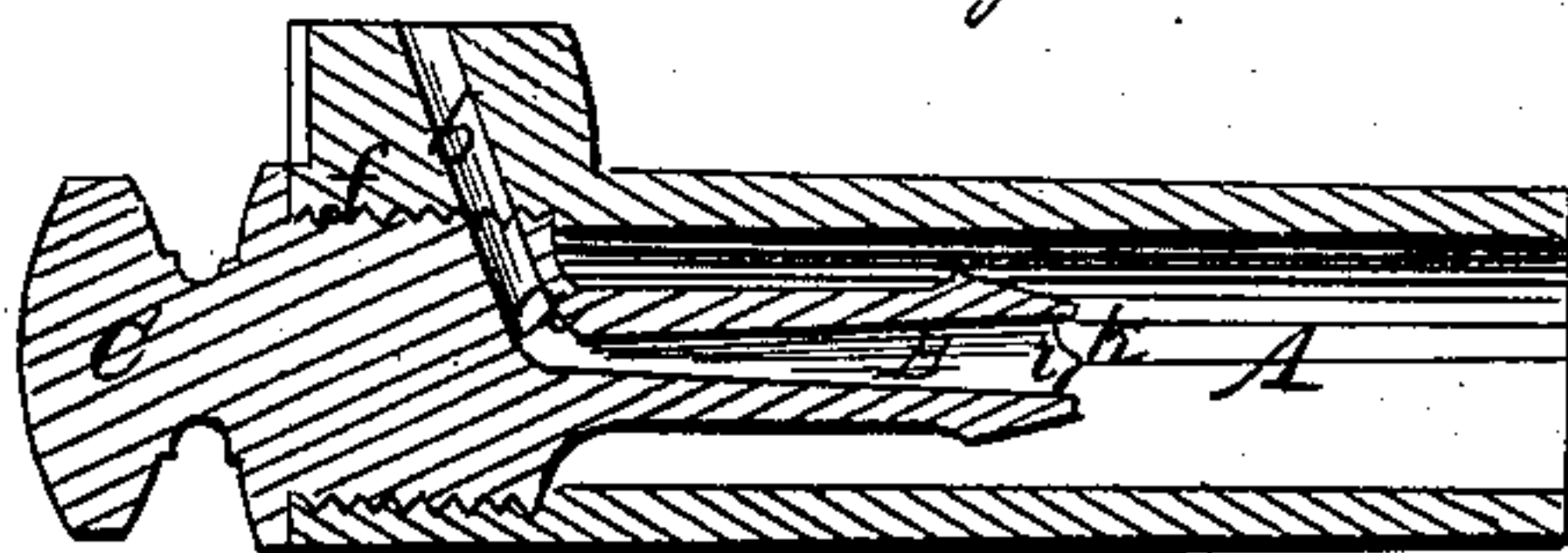


Fig 2

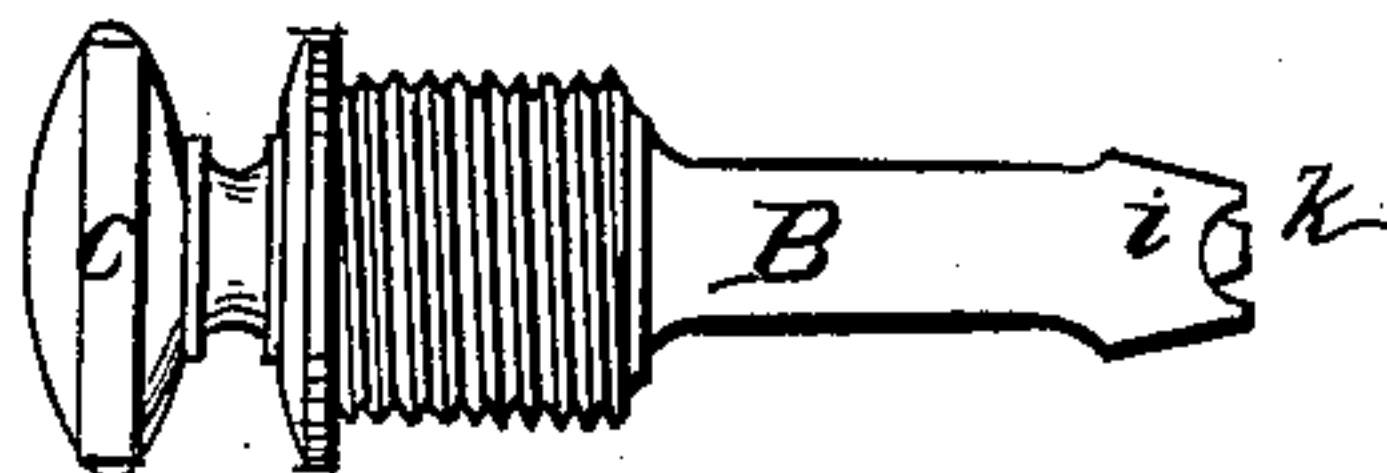


Fig 3

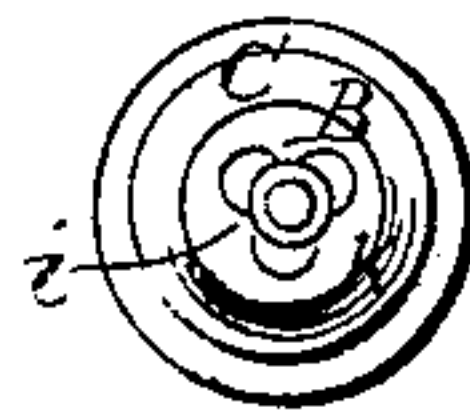


Fig 4

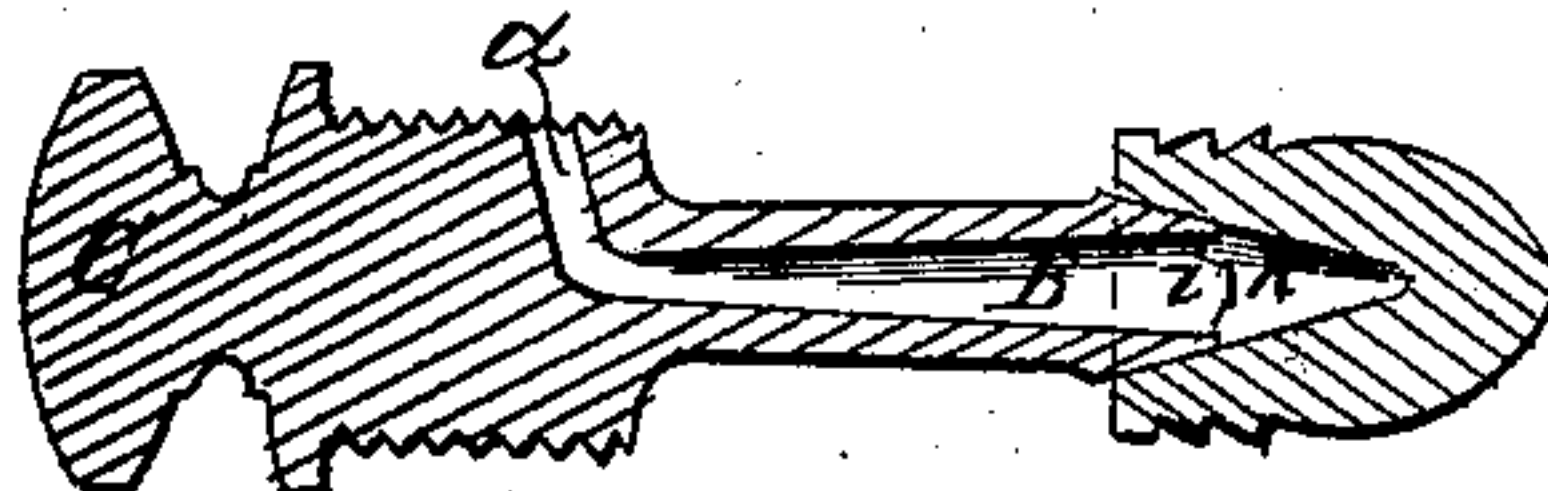
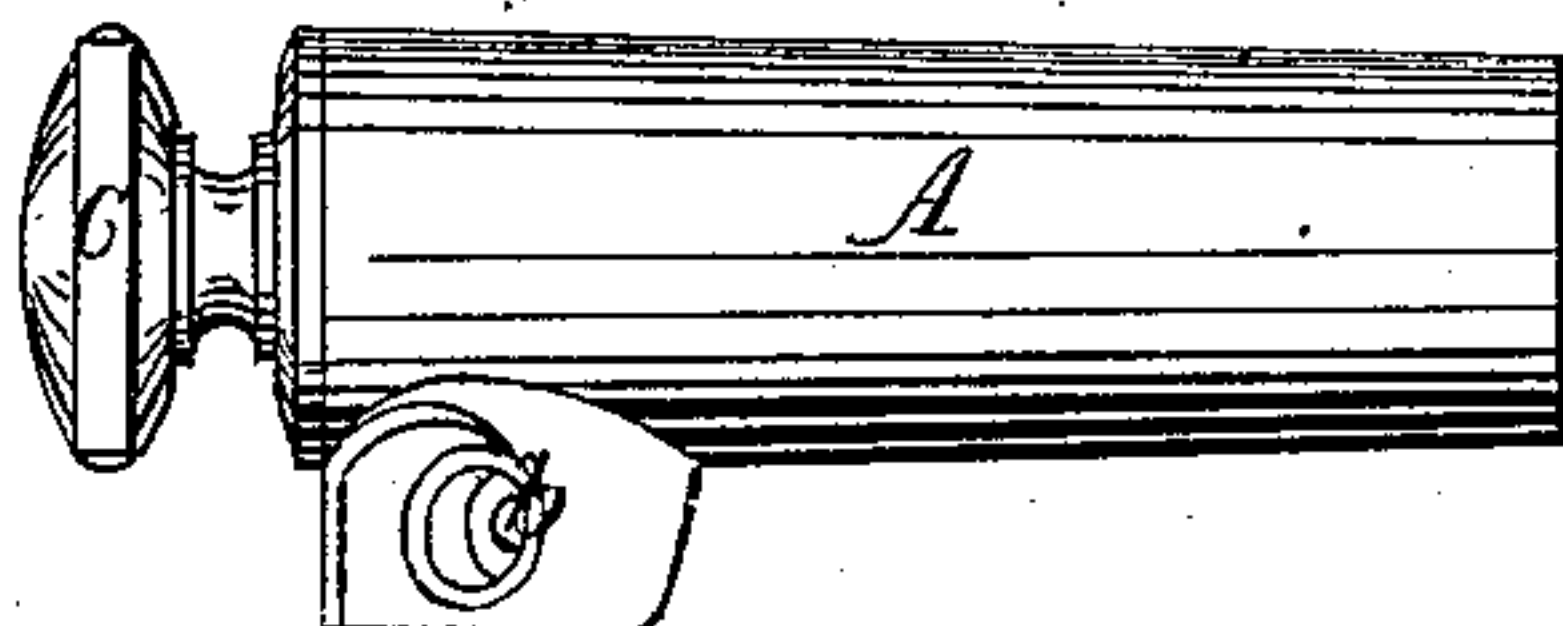


Fig 5



UNITED STATES PATENT OFFICE.

JOHN P. SCHENKL, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO HIMSELF, AND
EDWD. A. DANA, OF BOSTON, MASSACHUSETTS.

FIREARM OR ORDNANCE.

Specification of Letters Patent No. 21,802, dated October 12, 1858.

To all whom it may concern:

Be it known that I, JOHN P. SCHENKL, of the city and county of Worcester and State of Massachusetts, have made a new and useful invention or Improvement in Firearms or Ordnance; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 denotes a longitudinal section of the lower part of the barrel of a firearm as furnished with my invention the said section being taken through the touch-hole or vent; Fig. 2 is a side view of the hollow tige or secondary barrel to be hereinafter described. Fig. 3 is a front end view of the said tige. Fig. 4 is a section of the said secondary barrel and a hollow Minié ball or bullet.

My invention consists in providing the ordinary barrel of the piece, whether smooth bored or rifled, with a smaller barrel hollow tige or tube fixed in and projecting from the center of the bottom or breech of said ordinary barrel and not only opening at its exterior end into the chamber of the piece, but at or toward its other end opening into the touch-hole or vent of the nipple in such manner that the fire communicated through the nipple or touch-hole can enter the chamber of the piece only through the smaller barrel or tube, the smaller barrel or tube to be so proportioned in height and diameter that the charge of powder shall lie, part of it within and part of it around it, and that the projectile or charge of shot shall rest upon and cover the exterior end of it, thus completely separating the powder into two parts, one being within the smaller barrel or tube and the other, outside and around it, the inner barrel or tube to be of a capacity to hold a quantity of powder sufficient when exploded to overcome the "*vis inertia*" of the projectile, or the charge of shot and put it in motion. The projecting end of the smaller barrel or tube may have a flat surface to receive the wad when a charge of small shot is used, or it may be made with a concave edge to receive the round ball, or it may be made conical so as to enter, fit and press expandingly against the inner wall of the chamber of the Minié or elongated hollow projectile and it may be made with a sharp edge either entire or serrated for the purpose of cutting and breaking the lower

end of the cartridge when that is used in loading, the practical operation and effects of all which when the piece is fired are as follows viz: The fire communicated through the nipple first ignites the powder within the smaller barrel or tube, the explosion of which acting first upon the projectile or the charge of shot and overcoming its "*vis inertia*," and putting it in motion, next and instantaneously communicates and explodes the powder lying outside and around the hollow barrel or tube igniting it at its exterior surface.

My invention also further embraces an arrangement of the touch-hole of the hollow tige—viz. in the breech screw thereof, and so that when the said breech screw is in place in the main barrel not only shall its touch-hole communicate with that of the main barrel, but the breech screw shall intercept all communication of the touch-hole of the main barrel with the bore of the said main barrel except through the touch-hole and bore of the tige or secondary barrel.

The advantages of the foregoing invention or improvement are, first, that only a part of the powder is used in overcoming the "*vis inertia*" of the projectile or the charge of shot, the explosion of the rest taking place after the projectile or the charge of shot has been put in motion, thus giving it increased velocity and diminishing the recoil of the piece; second, the first impetus being delivered directly against the center of the projectile or the charge of shot, must give it a direction exactly in the line of the axis of the barrel; third, when the expanding or Minié projectile is used the first or central explosion aforesaid taking place wholly within the smaller barrel or tube and the chambered end of the projectile secures an instantaneous expansion of the projectile at starting.

In the drawings A, exhibits the main barrel of a firearm or cannon, while B, is a secondary barrel or hollow tige projecting into the main barrel from a breech C. This secondary barrel or tige has its touch hole, *a*, opening directly into the touch hole *b*, and through the side of the main barrel, or instead thereof, the touch hole of the barrel B may be otherwise suitably arranged. In case it may open directly into the touch hole or vent hole *b*, of the main barrel the breech pin of such barrel should so cover or sur-

round the touch hole *b*, as to prevent any flame from the priming when exploded from passing into the main barrel except through the touch-hole and bore of the secondary barrel. In other words as it may often be convenient to provide a common musket or rifle with my improvement and so that such musket or rifle may be used either with or without such improvement, the female screw *f*, of the breech may extend in the direction of the muzzle beyond the touch hole *b*, in order that the breech pin of the secondary barrel may project beyond such touch hole and cut off communication between it and the bore of the barrel *A*, except such communication be made through the touch-hole or vent of the secondary barrel. Under such circumstances it will be seen that with a common screw breech pin the musket or firearm may be used in the ordinary manner; also, that by removing such breech and screwing the breech of the secondary barrel or hollow tige into the primary barrel we can employ the secondary barrel within the main barrel and thus attain the advantages thereof.

Fig. 5 is a top view of the barrel provided with my invention.

The front end of the tige or secondary barrel I provide with a tapering head or bullet spreader *i*, and terminate the same in a cutting edge notched or serrated as shown at *k*. The object of the spreader is to expand a bullet and make it fit closely to the grooves or bore of the gun when such bullet is formed with a recess in its butt, or in other words is constructed in such respects, like the Minié ball. By making a cutter in the end of the secondary barrel a cartridge will be easily perforated when driven down upon the tige during the act of loading the fire-arm, and if the cutting edge be serrated or notched the covering of the cartridge will be torn apart rather than cut. In the process of loading the secondary barrel receives a portion of the powder of the charge, the remaining part thereof extending around the tige and in the main chamber of the gun, at the same time the bullet will cover or be made to rest either upon or against the front end of the tige.

The particular object of my invention is to diminish recoil of the gun or firearm during the discharge of it, it being well known that diminution of recoil is a matter of great importance. In order to accomplish this, I overcome the "*vis inertiae*" of the ball by the discharge against it of the contents of the secondary barrel, which taking place causes fire to be communicated to the front part of the powder, which may surround the inner barrel or tige. In this way such portion of the charge is made to burn backward and to operate with the best effect in discharging the bullet from the gun.

I have found by practical experience that a great diminution of recoil in a musket or rifle provided with my improvement in comparison to what occurs in the same musket constructed in the ordinary way.

By combining the spreader with the secondary barrel or hollow tige the latter is made capable of performing not only its functions of overcoming the "*vis inertiae*" of the ball and inflaming the main charge at its front end, but those of spreading the ball or bullet when the latter is rammed down upon the spreader—as well as when the discharge of the load of the tige takes place, the conical or tapering end of the tige serving to effect a close fit of the bullet, whereby the expansion of it is greatly facilitated. Furthermore, the spreader at its base is made larger in diameter than that part of the secondary barrel with which it immediately connects. This is to facilitate the escape of the powder from the cartridge and around the tige. The spreader also serves to spread or expand the cartridge and break it open so as to loosen the powder and thereby further aid in its escape from the cartridge into the chamber of the gun.

I claim—

1. In combination with the bore or chamber of a fire-arm or piece of ordnance, a secondary and smaller firearm or barrel arranged within it substantially in manner and to operate as described.

I do not claim a conical tige as used in the "*carabine à tige*" and for the purpose of spreading a ball, but what I claim is—

2. The conical or tapering spreader or end of the tige in connection or combination with the chamber within the tige and to operate in manner as specified.

3. I also claim the improvement of the chambered tige or secondary barrel as made with a cutting front end and particularly as made with a serrated end as specified.

4. I also claim the arrangement of the touch-hole of the hollow tige in the breech screw thereof in such manner that when the breech screw is in place in the main barrel not only shall its touch-hole communicate with that of the main barrel, but the breech screw shall intercept all communication of the touch hole of the main barrel with the bore or chamber of such main barrel except through the touch-hole and bore of the secondary barrel.

5. I also claim the improved combination of tige, that is with the base of the spreader, made of greater diameter than the neck or part of the tige, which is immediately below it, the same being for the purpose as set forth.

JOHN P. SCHENKL.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.