

UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CHARGERS FOR FIRE-ARMS.

Specification forming part of Letters Patent No. 10,846, dated May 2, 1854.

To all whom it may concern:

Be it known that I, WM. MT. STORM, of the city, county, and State of New York, have made certain new and useful Improvements in Chargers for Fire-Arms; and I do hereby declare that the following specification, taken in connection with the drawings, is a full and fair description thereof.

Figure 1 is a sectional view through the whole apparatus longitudinally. Fig. 2 is an elevation of the ramrod and mandrel, the bottom piece of the powder-flask, the springs, chargers, &c.

My charger is intended more especially for that class of fire-arms which are provided with revolving or many-chambered breeches, but may be used advantageously in connection with any fire-arms where the ball is rammed home in a contrary direction to that in which it issues, and also in many breech-loading guns where the bore is exposed by the withdrawal of a gate or shutter.

A sliding spring-mouthed bullet-charger is the first feature of my invention; and the second part thereof consists in the combination of a sliding tubular bullet-charger with a fixed ramrod. The third part consists in the combination of such a charger with a series of reservoirs for balls, by means of appropriate apparatus permitting the charger to be revolved or forcing it to reciprocate in the same line at the option of the user, whereby each reservoir may be emptied in turn; and the fourth consists in the construction of the body of the apparatus, which is made up of a cylindrical or polygonal solid hollowed out in its interior for powder, and around its exterior for ball-chambers, and provided with symmetrical caps at either extremity, by which method of construction a cheap, simple, strong, and symmetrical apparatus is secured.

An examination of my charger, as a whole, will show that I have been at some pains to construct it in a simple and convenient form, so solid and compact as not to be injuriously affected by hard and constant service, while it is at the same time so rounded and symmetrical as to be easily carried in the pocket or pouch. It is composed, principally, of a block of wood or metal hollowed out at its center, so as to form the powder-chamber, and hav-

ing a series of cylindrical passages formed near its periphery, which constitute a series of ball-chambers, *b b*. These chambers it is obvious may be formed in casting by means of cores, or in any other manner known to workers in wood or metal. This block is covered at each end by caps, as *c c* and *d d*, and the ball-chambers, at the lower part thereof, are partially formed by the main block and partially by the cap *c c*, these being fixed together by cement, pins, screws, or any other of many ways well-known to the most ordinary mechanic. This method of constructing the chambers and bringing their points of discharge to a common center is a cheap and easy one, as the chambers where crooked are uncovered grooves, and can easily be reached, formed, and smoothed by ordinary instruments. From each of these caps project two charging-tubes, *e f*, the one for powder, the other for the balls, each of which is free to slide back and forth in its cap, being stopped when going inward by its flange and from going outward by small pins or screws inserted into that part of the chargers within the caps. The charger *f* may be closed on its inner end and rests against a spring, *g*, which surrounds a mandrel, *h*, whose exterior extremity is provided with a small valve, *i*, and which also carries a valve, *j*, passing through a slot in the charger. The other extremity of this mandrel is secured in some firm way to the powder-chamber. The ball-charger is also tubular, but is of necessity open at both ends, and is also cut away, so as to be provided with a circular entrance at one side, as clearly shown at *k*, Fig. 2, and also at the same letter, Fig. 1. From the interior of this tube projects a small pin, *l*, which enters one of a series of small grooves, *l' l'*, arranged around the periphery of a fixed ramrod, *m m*. These grooves open at the top into a connecting-groove, (shown in the drawings,) and are as many in number as the ball-chambers. Each groove is a little longer than the distance through which it is necessary to move the body of the charger over the tube in order to force out a single ball.

This ball-charger also abuts against a spring, *o o*, coiled round the ramrod, and has small slits cut longitudinally into it, as

at p , each of which may terminate in a small hole. The mouth of the charger is a little smaller than the periphery of a ball, and some slight force must be used to force a ball through it, (the mode of operation being hereinafter explained,) the slits spreading and making the operation easy. Its bore increases in diameter at the upper end, and is there so large that a ball may roll into it freely.

The cap d has bored through it at q a hole a little larger than the balls, and must be so constructed that it can revolve around the central block in either direction nearly a revolution, the hole q coming alternately over the various bullet-chambers, and a small screw or pin projecting from the interior of this cap and traversing in a groove in the block reaching nearly around it, the extremities of said groove terminating opposite each other, the partition between two adjoining ball-chambers coming opposite the hole in the cap at the moment the aforesaid pin reaches and becomes wedged in the extremity of this groove, the pin being so located in the cap as to effect this, thus keeping the cap in position to prevent the re-escape of the balls, and the relative form of the cap and block, aided by the pin and groove, keeps the cap and block in proper connection.

The operation of the powder-charger is as follows: The apparatus, being grasped in one hand, is applied with the flange resting against the muzzle or other proper part of a fire-arm, and the charger pressed rapidly toward it. The valve i enters the barrel and the powder, contained between the two valves i and j , falls into the piece, the valve j cutting off communication between the magazine and the charger. As the apparatus is withdrawn the spring g shoves out the tubular charger to the position shown in the drawings, and its bore is again filled with powder which enters through the slot s .

The cavity a when emptied may be filled by moving a stopper that might be placed in the cap d , and also by unscrewing from its mandrel the valve i and pouring the powder in around the mandrel and through the slot in the charger.

The bullet-reservoirs are filled through the hole q , which is turned so as to coincide with them in succession. The cap is then moved in such manner that q is opposite none of them, the provisions for this being before explained, and thus closes them all. The aperture k must of necessity be opposite one of these reservoirs, and the balls will enter through it and fill the charger, which is of a little the largest bore at its upper end, the last ball being retained on account of the small size of the opening, as above set forth. The little pin l is in one of the grooves, and if the tube e be placed over the bore of a gun or pistol and pressure be made upon the body of the machine, the fixed ramrod will force the outer

ball through the charger into the bore or chamber of the fire-arm, the neck of the charger being at rest during the operation, while the charger itself, or the body thereof, moves down without and the rammer within it. When the pressure ceases, the spring o will push out the charging-tube into the position shown in the drawings, and another ball will enter through the aperture k . These operations may be repeated at will until one reservoir is emptied, and this will be discovered by the refusal of a ball to descend. The operator then shoves back the charging-tube until the small pin l is stopped by one side of the annular groove, and then turns the charger on its own axis until said pin comes opposite the entrance of the next longitudinal groove. A slight relaxation of pressure will permit the spring to throw the pin into this latter groove. The entrance-aperture k is now opposite a filled chamber whose balls will enter the charger, and it may be emptied in the same manner as the one that preceded it.

I have essayed in some instances to make the bullet-charger without the spring mouth-piece and merely contracted at its lower end, and found that it will answer tolerably. I have also modified the bullet-charger by making a tube of the same size throughout, with a spring or springs in its interior constructed somewhat after the fashion of a wire mouse-trap, and other modifications have suggested themselves to me, but all of them must possess one common feature—namely, that they shall be so constructed that the ball may freely enter the bore of the tube at its inner end and be prevented from passing out of the outer end until forced out by the ramrod. It is obvious, also, that the tube might be made fast and the ramrod permitted to slide.

In such case the end of the ramrod must project through the case and pressure must be made upon it when it is wished to charge a ball. This arrangement, however, would involve many inconveniences, and would after all be only the equivalent of the arrangement shown in the drawings.

The series of bullet-reservoirs might also be constructed in an annular piece of material separate from the powder-chamber, and surrounding it when one reservoir was emptied. This annular piece might be revolved on its own axis and the mouths of the several apertures brought in succession as needed opposite to the entrance into the tubular charger.

Many other modifications would suggest themselves to the ingenious mechanic.

Having thus fully described my improved powder and ball charger, I would remark that I am well aware there are several chargers already in existence, as "Colt's powder and shot chargers," and others, but I disclaim all interference with these, claiming in my charger—

The general arrangement of the parts substantially as described, the same embracing the combination of the devices of a fixed rammer and moving ball-nozzle, and with the latter of a plurality of ball-columns or distinct chambers, the whole operating substantially as set forth.

In witness whereof I have hereunto subscribed my name, in the presence of two witnesses, on this 29th day of April, A. D. 1853.
WM. MT. STORM.

Witnesses:

WATSON WEBB,
JAS. W. HALE.