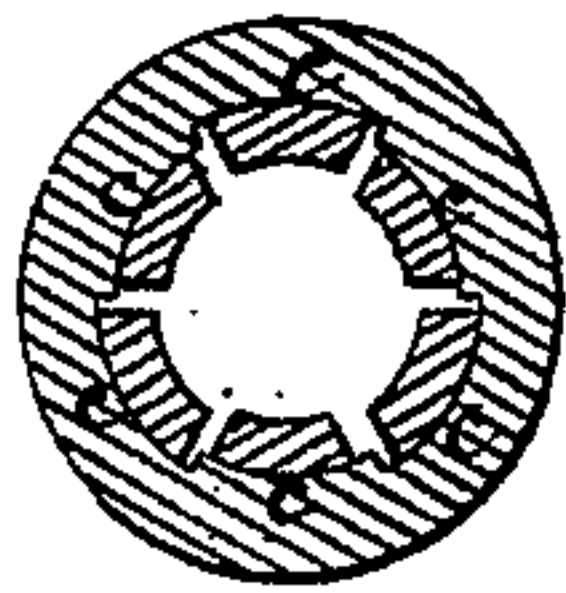


M. G. CRANE.  
Gun-barrel Scraper.

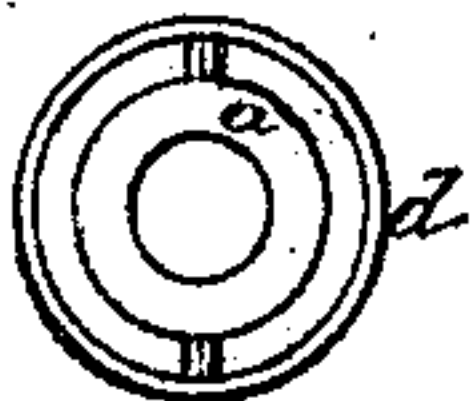
No. 43,573.

Patented July 19, 1864.

*Fig. 7.*



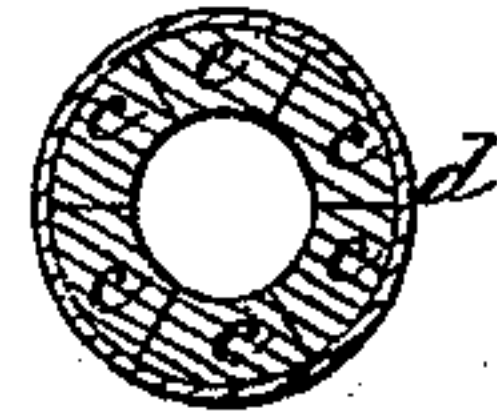
*Fig. 4.*



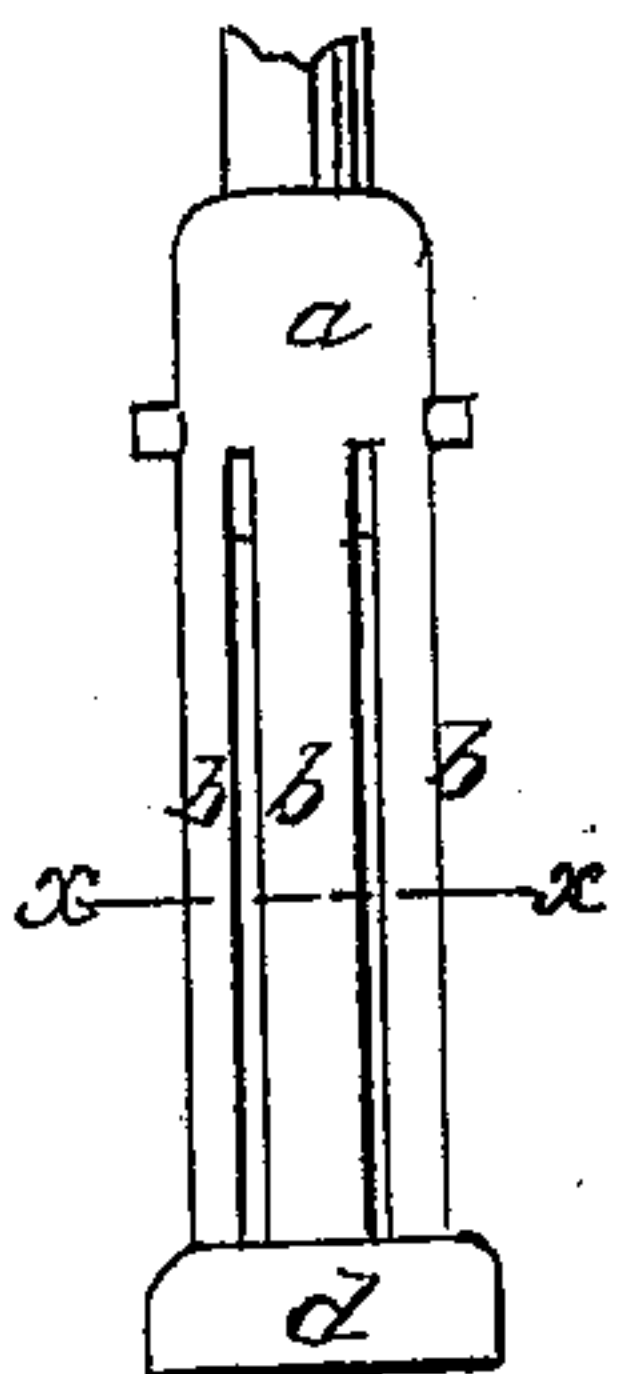
*Fig. 5.*



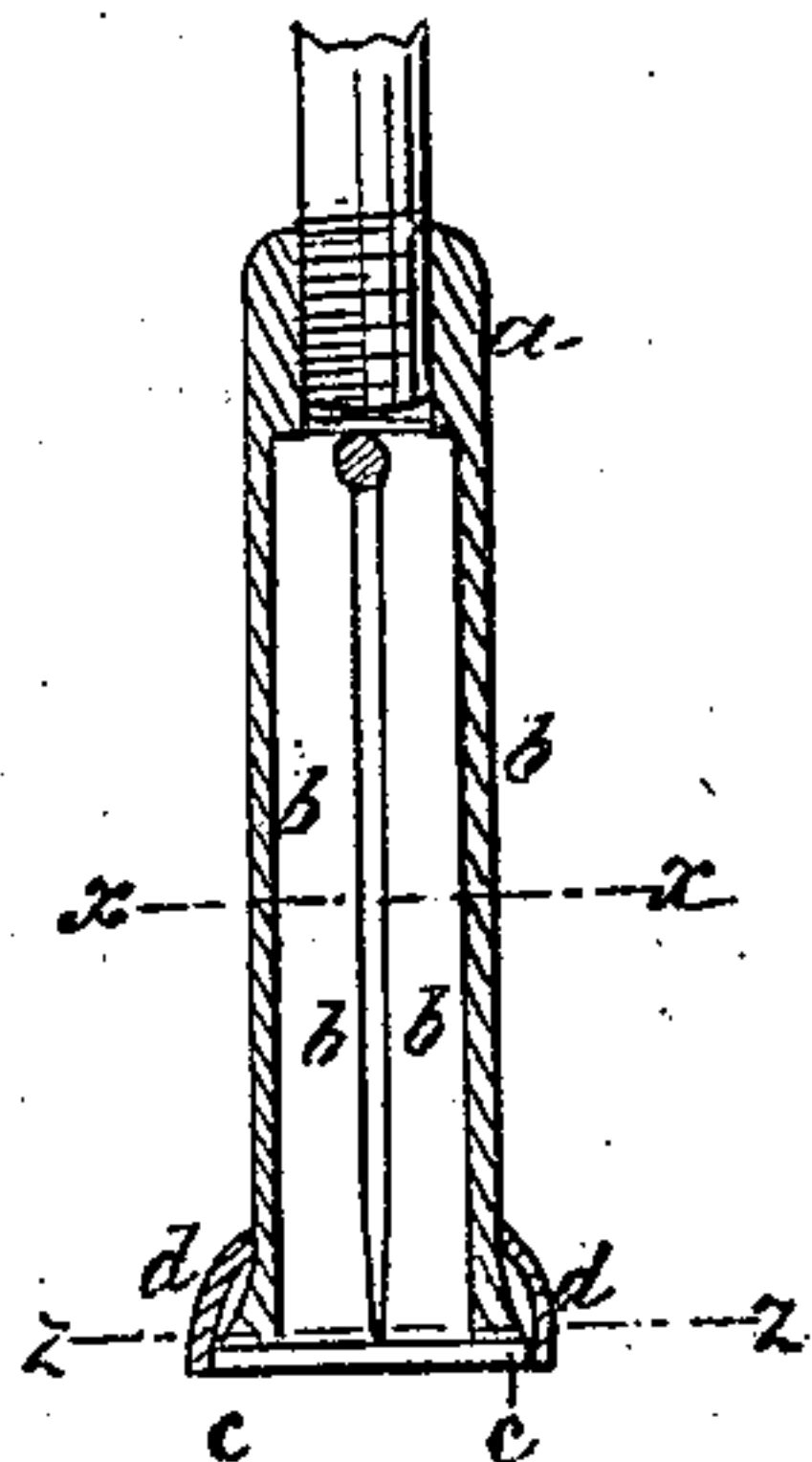
*Fig. 6.*



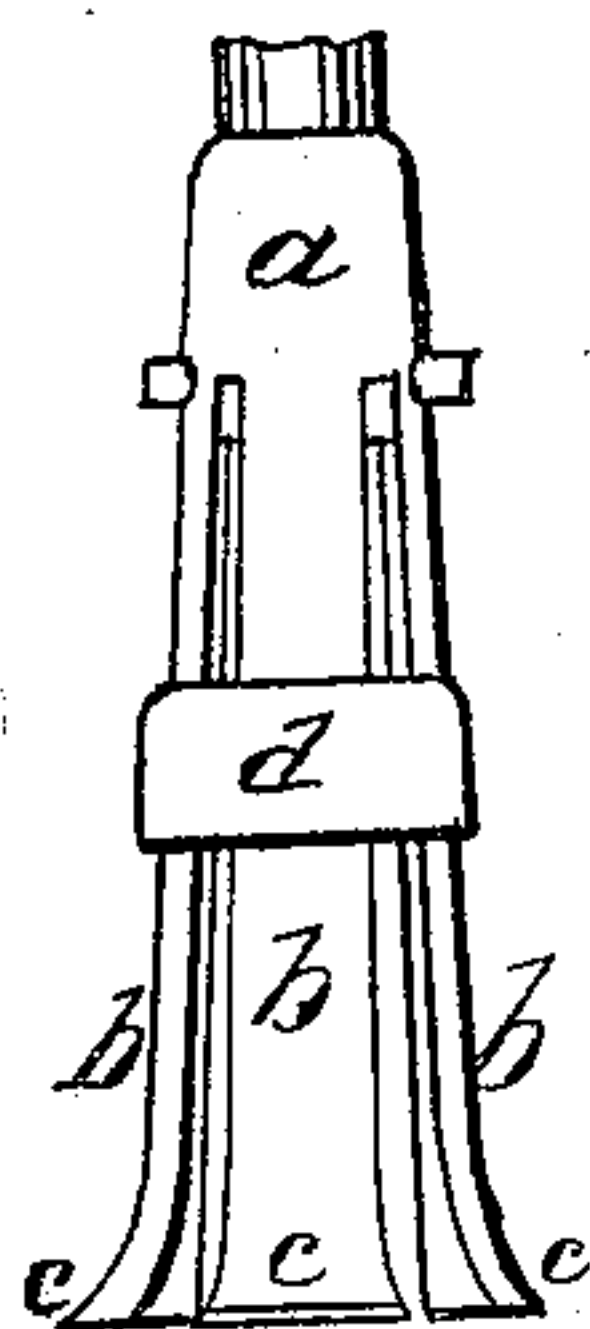
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses*  
*J. B. Crosby*  
*R. Gould.*

*Inventor.*  
*Moses G. Crane.*

# UNITED STATES PATENT OFFICE.

MOSES G. CRANE, OF CHARLESTOWN, MASSACHUSETTS.

## IMPROVEMENT IN SCRAPERS FOR CLEANING GUN-BARRELS.

Specification forming part of Letters Patent No. 43,573, dated July 19, 1864.

*To all whom it may concern:*

Be it known that I, MOSES G. CRANE, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented an Improved Instrument for Cleaning Musket and Rifle Bores; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention has for its object the cleaning or scraping of the bores of gun-barrels; and the invention consists in the peculiar construction of an expanding tool to be applied to and operated by the ramrod of a gun.

Figure 1 of the drawings shows a side view of the instrument; Fig. 2, a central section of it; Fig. 3, a side view of it with the scrapers expanded to their full extent; Fig. 4, an end view, and Figs. 5 and 6 sections, of the tool on the lines *x x* and *z z* of Fig. 2. Fig. 7 shows the scrapers of the tool in their position when being drawn through and toward the muzzle of the rifle.

The common and well-known practice of cleaning ordinary gun and rifle barrels is by means of a swab or rag fastened upon the end of the rammer and passed up and down the bore. In army use, however, a rifle soon becomes so fouled and leaded that it is almost or quite impossible to remove or clean from the bore and grooves the debris of burnt powder and lead projectiles by a swab or by washing. Some scraping-instrument is needed of but little softer nature than the material of the gun, in order to remove the coating found therein, and this requirement is answered by my invention.

*a* in the drawings denotes a tubular shank-piece, into which the rammer is screwed, and from which six or any other suitable number of springs, *b*, extend, the lower end of each spring flaring outward or having formed upon it a projecting scraping edge or piece, *c*. Normally, the springs and scrapers stand out in a trumpet-mouth form, as seen in Fig. 3; but they are kept together by an annulus or encompassing ring, *d*, the inside of which at the lower end is made cylindrical, or

nearly so, in form, so that when the ring is slipped over the scrapers, as seen in Fig. 2, it shall hold them firmly together. The exterior diameter of the ring is made to correspond or nearly correspond with the caliber of the gun-bore, so that when slipped into the barrel it shall slide freely therein. The ring is slipped over the scrapers by the hand, and their outward pressure by the springs against the inner surface of the ring keeps them in proper position while the tool is being pushed down the gun-barrel. To clean the rifle the shank *a* is screwed to the ramrod, which is then passed down the barrel, (the ring being over the scrapers,) and when the lower end of the ring strikes the bottom of the barrel the ring flies back by the outward pressure of the springs and the inclination just above the scrapers, and this drives the scraping-edges outward against the bore of the gun. By slightly rotating the ramrod, part of the scrapers fly into the rifle-grooves, while the rest remain between them against the "lands," as seen in Fig. 7; and, now, if the rammer be drawn up, the scraping-edges will remove all powder, lead, and whatever else of deposit may have collected in the barrel, the edges of the scrapers being made hard and sharp enough and the springs powerful enough to effect this removal; and it is intended that once drawing the tool through the barrel shall generally accomplish this result, though, of course, it may be necessary, as the edges of the scraper become worn, or when a gun has become rusty, to repeat the operation. If a smooth bore is to be cleaned, the action of the tool is the same.

From the simplicity of this instrument and the facility with which it can be operated, it will be obvious that it is a very desirable article for the soldier to carry. Not only does it require a large portion of time to clean the arms in the service, but the arms are more or less injured from the many times the barrels are removed from their sockets to be cleaned, such cleaning being even then but imperfectly accomplished.

My invention is not expensive and occupies but little space, being as easily carried as the common worm-screw which accompanies the



service-arm. It is applicable to sporting guns and rifles of the finest manufacture, as well as to army-ordnance, and both to breech and muzzle loaders.

What I claim is—

The expanding gun-cleaner as made with the springs *b*, scraping-edges *c*, and confining-ring *d*, arranged and operating substantially as set forth.

In witness whereof I have hereunto set my hand this 2d day of May, A. D. 1864.

MOSES G. CRANE.

In presence of—

J. B. CROSBY,  
F. GOULD.