

No 46,140.

E. L. Pratt
Improved Gun Scraper.

Patented Jan'y 31. 1865.

Fig. 5.



Fig. 3.



Fig. 4.



Fig. 1.



Fig. 6.

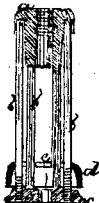
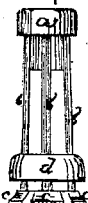


Fig. 2.



witnesses { *P. B. Kitter*
Francis Fowler

E. L. Pratt
By his Atty.
W. B. Kitter

UNITED STATES PATENT OFFICE.

E. L. PRATT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN ADJUSTABLE GUN-SCRAPERS.

Specification forming part of Letters Patent No. 46,140, dated January 31, 1865.

To all whom it may concern:

Be it known that I, E. L. PRATT, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Gun-Scraper; 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.

Letters Patent of the United States No. 43,573 were granted July 19, 1864, on the invention of Moses G. Crane for a gun-scraper, which Letters Patent were assigned by said Crane to me, as may be seen by reference to the Record of Transfers of United States Patents, lib. O', fol. 60. The invention embodied in such gun-scraper was the employment of a series of scrapers with edges corresponding in curvature to the bore of the arm to be cleaned, and so constructed and applied to or united with a shank-piece to which the ramrod was affixed that, while they were held together in position to loosely enter the barrel of the gun, they were expanded when the tool reached the breech by contact of the tool with the breech, so that as the ramrod was withdrawn the several scraping-edges impinged against the sides of the barrel, removing therefrom the lead and other debris with which the arm was fouled.

Now, my present invention relates to the details of construction of gun-scrapers having the same general peculiarities of construction found in said patent.

The improvement consists in so applying each scraper that it swings or turns loosely in a plane perpendicular to the axis of the tool, and also in so constructing or applying each scraper that it is removable from the tool for repair or replacement.

A gun-scraper embodying my improvements is shown in the drawings, Figure 1 representing an elevation of it with the scrapers held together; Fig. 2, an elevation with the scrapers open; Fig. 3, an end view with the scrapers closed; Fig. 4, a similar view with them open; Fig. 5, a cross-section on line *xx* of Fig. 1, and Fig. 6 a central longitudinal section.

a represents the shank-piece, into which are inserted and fastened a series of spring-wires, *b*, each of which carries upon its lower end a

plate, *c*, the outer edge of which is circular, and forms the scraping-edge, by the series of which the gun-barrel is cleaned. Each plate is screwed upon its rod or stem *b*, this being the manner I prefer, though the plate may be otherwise jointed to its stem, but so as to be capable of turning or swiveling thereupon.

The screw-thread in each plate and the thread upon its stem are so formed that the plate turns readily upon its stem, each plate being kept from unscrewing by coming in contact with the next adjacent one. Normally the spring-stems hold the plates about in the position as to distance apart shown in Fig. 4, or perhaps a little farther apart than that: but by bending either spring out by force its scraper-plate can be rotated on its screw-thread without striking the next one, and by this means may be easily removed for repair, or to be substituted, when worn, by another.

An encompassing and confining ring, *d*, holds the plates together, as seen in Figs. 1 and 3, the external diameter of this ring being slightly less than the bore of the gun to be cleaned. Contact of the outer end of the ring with the breech of the gun forces the ring from the plates, causing them to spring out, as seen in Fig. 4, the scraping-edges being thereby pressed against the sides of the gun-barrel. Now, in the gun-scraper before referred to, each scraping edge or plate is integral with the spring-piece which connects it with the shank, and as it is not always possible to make each spring of uniform strength and temper, the whole length of each scraping-edge does not always press equally against the surface being scraped, and the consequence is that one corner of the scraper is frequently pressed against said surface, while the other falls back, thus causing said corner to injuriously scratch or cut into the gun.

By making each scraper-plate separate from the spring and so applying it that it can turn thereon or with reference thereto, as set forth, this difficulty is obviated, the whole length of each scraping-edge pressing equally against the correspondingly-curved surface being scraped, as will be readily understood.

To guide the springs in their outward radial movement, the ring *d* is provided with projections *e*, in the space between which the springs *b* fit and move.

I claim—

1. So applying each scraper-blade *c* that it swivels or turns upon or with respect to its spring or wire *b*, for the purpose substantially as set forth.
2. Making each scraper *c* removable for repair, substitution, or adjustment, substantially as set forth.

In testimony whereof I have hereunto set my hand this 3d day of December, A. D. 1864.

E. L. PRATT.

In presence of—

J. B. CROSBY,
FRANCIS GOULD.