(No Model.)

H. W. GARY.

GUN CLEANER.

No. 352,405. Patented Nov. 9, 1886.

Fig. 1

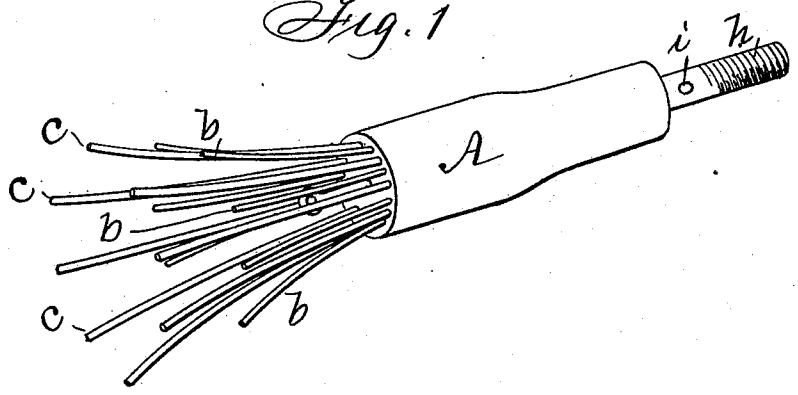
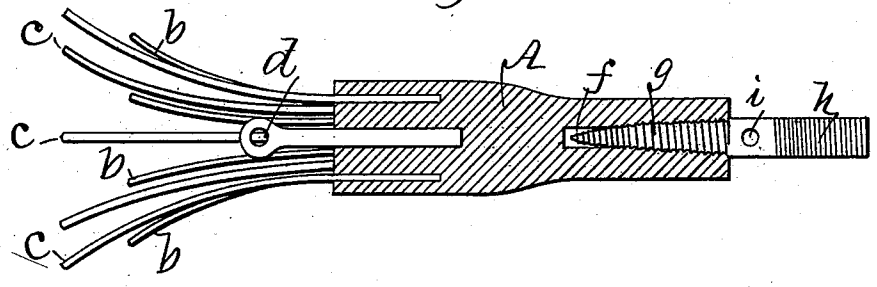


Fig. 2



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRISON W. GARY, OF PLUM CREEK, NEBRASKA.

GUN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 352,405, dated November 9, 1886.

Application filed February 16, 1886. Serial No. 192,145. (No model.)

To all whom it may concern:

Be it known that I, HARRISON W. GARY, a citizen of the United States of America, and a resident of Plum Creek, in the county of Dawson and State of Nebraska, have invented a new and useful Gun-Cleaner, of which the following is a specification.

My object is to provide a device that can be readily operated in smooth-bore and rifled guns of various calibers by means of a rod or cord to search and clean the barrels, and also used for withdrawing a charge.

My invention consists in the construction and combination of two series of spring-wire scrapers that vary in length and a wormer with a non-corrosive metal bar having an eye at one end and a screw-threaded bore at its opposite end, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my complete device, and Fig. 2 a longitudinal half-section.

A represents a round bar that is preferably larger in diameter at one end than the other, and made of non-corrosive cast metal.

b b represent a series of non-corrosive curved and elastic scrapers, that are preferably made and combined with the bar and base A by bending a single piece of wire double in its middle and then placing the united ends of the two scrapers in the sand and mold in which the base is cast.

c c represent a second and longer series of scrapers, made and combined with the base A in the same manner, or in any suitable way, so that they will project between and beyond the first and short series, *b*, as clearly shown in the figures, and as required to prevent the ends of the series from coming in contact with each other when compressed in a gun-barrel.

d represents a hook or eye that projects from the center and end of the bar A and between the two series of scrapers in such a manner that a cord can be readily inserted and fastened thereto. This eye may be formed integral with the bar or fixed thereto by extending its shank into the sand and mold in which the bar is formed and then casting the metal bar around it, as indicated in Fig. 2.

f represents a screw-threaded bore in the small end of the bar, adapted to receive and retain a detachable wormer or the end of a screw-threaded rod.

g represents a pointed spiral wormer that is adapted to be used for withdrawing a charge from a gun, and that has a screw-threaded shank, *h*, that is provided with a perforation, *i*.

In the practical use of my invention or device thus constructed I attach a rod having a screw-thread bore at its end to the screw-threaded shank *h* of the wormer, and then compress the radially-curved series of scrapers *b* and *c* by means of a sliding ring or with my fingers, and insert them in the muzzle of the gun, so that the complete device can be pushed in and moved back and forth by means of the rod from the muzzle to the breech, to cause the ends of the two series of elastic scrapers to search and clean every portion of the bore; or, to clean a breech-loading gun or a barrel when it is detached from its breech, I simply tie a cord in the eyes *d* and *i*, and then pass the cord in the eye *i* through the barrel and pull the cleaner and the cord in the eye *d* to the opposite end of the bore, and then pull the cleaner back and forth, by means of the two cords, to search and scrape and clean the bore without using a rod. To withdraw a charge from a gun-barrel, I detach the wormer *g* from the bar A and attach it to a rod, and then insert it in the charge by turning the rod in the bore and screwing the wormer into the charge, so that it will fasten thereto and pull it out as the rod is drawn out.

Heretofore a single series of spring-scrapers of uniform length have been fastened between the ends of two tubes to project radially in such a manner that they could be compressed in the bore of a gun and moved by means of a rod to scrape the surface of the bore with their ends; but when used in a bore of large diameter such ends of a single series of scrapers of equal length do not come together, and consequently do not cover the entire inside surface of the bore, and into a bore of small diameter they cannot be entered and operated, because they come in contact with each other and produce a solid circle of larger diameter than the bore. By combination of two series of spring-scrapers of unequal length I adapt the complete device to operate advantageously in bores of various diameters, and by fixing an eye at one end and combining a detachable

wormer having an eye with the other end, I adapt the complete device to be operated by means of cords as well as by the use of a rod, which results of my combinations are greatly advantageous.

I claim as my invention—

1. A bar or base having an eye and two or more series of elastic and outwardly-curved scrapers of unequal length at one end and a screw-threaded bore at its opposite end, and a detachable wormer having a screw-threaded shank, combined to operate in the manner set forth.

2. The improved gun-cleaner composed of the base A, having series of fixed elastic scrapers *b* and *c*, an eye, *d*, and a screw-threaded bore, *f*, the wormer *g*, having a screw-threaded shank, *h*, and a perforation, *i*, substantially as shown and described, to operate in the manner stated.

HARRISON W. GARY.

Witnesses:
FRED L. TEMPLE,
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