(No Model.)

J. HARTNESS.

CLEANER FOR GUN BARRELS.

No. 388,133. Patented Aug. 21, 1888.

Fig. 3.

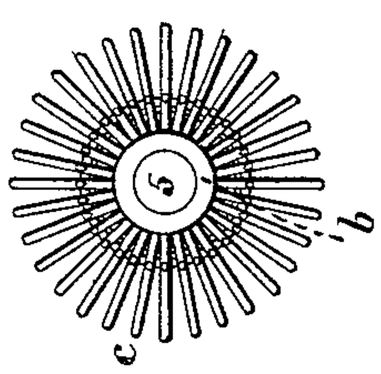


Fig. 1.

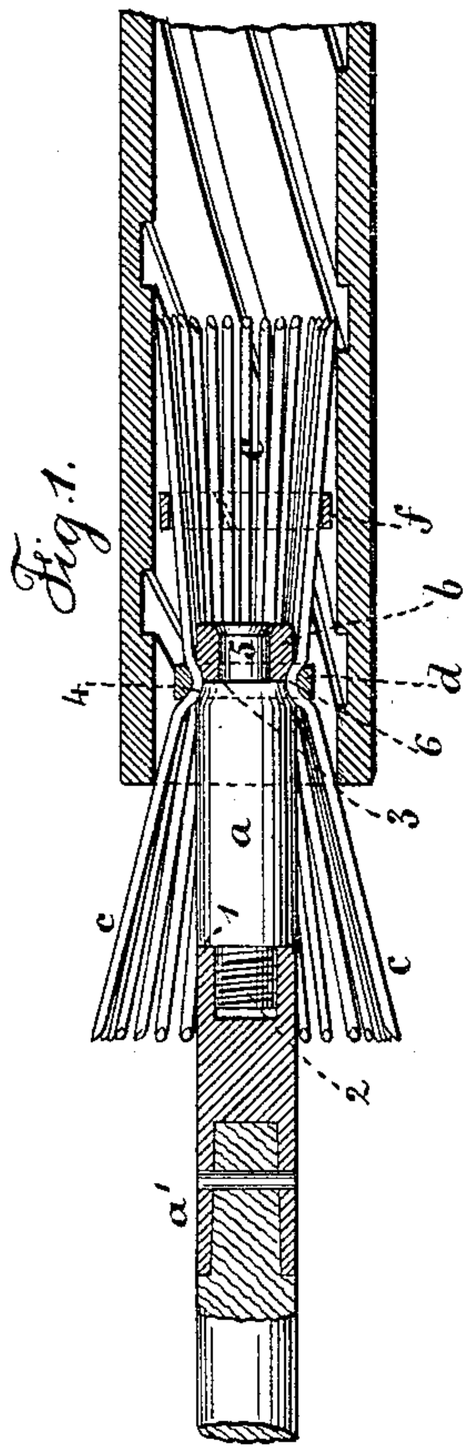
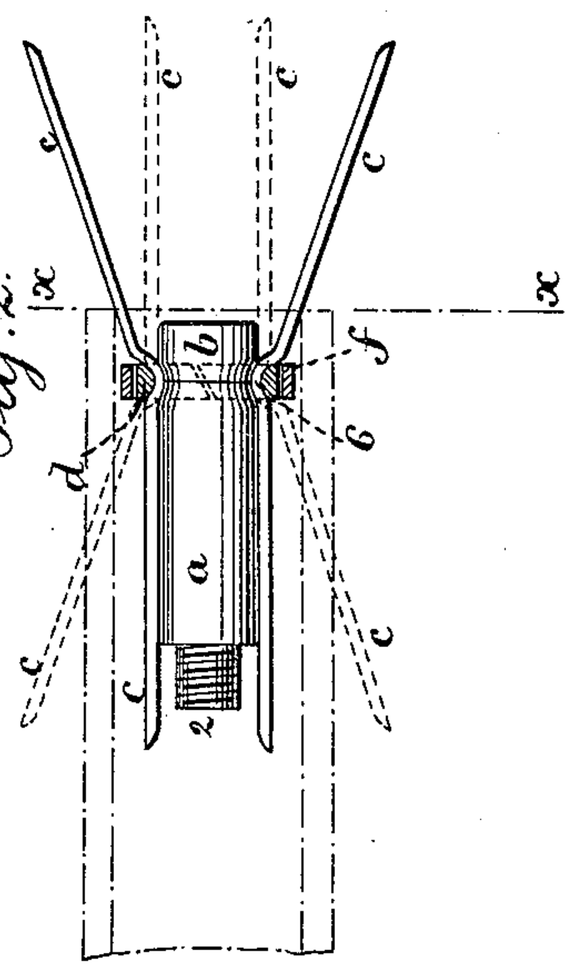


Fig. 2.



Witnesses:
J. Stahl.
Chas. F. Smith.

Inventor:
James Hartness.
per Lemuel W. Serrell.
Atty.

UNITED STATES PATENT OFFICE.

JAMES HARTNESS, OF TORRINGTON, CONNECTICUT, ASSIGNOR TO THE UNION HARDWARE COMPANY, OF SAME PLACE.

CLEANER FOR GUN-BARRELS.

SPECIFICATION forming part of Letters Patent No. 388,133, dated August 21, 1888.

Application filed June 11, 1888. Serial No. 276,740. (No model.)

To all whom it may concern:

Be it known that I, JAMES HARTNESS, of Torrington, in the county of Litchfield and State of Connecticut, have invented an Improvement in Cleaners for Gun-Barrels, &c.; and the following is declared to be a description of the same.

My invention relates to an improvement in implements for cleaning gun-barrels and other tubes; and the object of the same is to make a brush or cleaner that will rub or scrape the inner surface of the gun barrel or tube and remove particles adhering thereto, which brush or cleaner is capable of scraping in either a forward or backward direction, and reaching from the extreme end of the muzzle to the extreme end of the breech, and which cleaner shall have a maximum number of bearing or scraping points and possess ample stiffness and rigidity, and which cleaner is also durable and cheaply constructed.

My invention consists in a cleaner for gun-barrels and other tubes, wherein I combine with a shank adapted to be screwed or otherwise secured to a cleaning-rod a cleaner formed of double-ended metal bristles composed of spring-wire, the central portion of which bristles are looped or recessed and covered by an encircling ring, which forms a loose joint, but secures said bristles to the shank before named, and the free ends of which bristles are beveled or chisel-pointed, the spring of the bristles being outward from a common axial line and adapted to bear against the inner surface of the gun-barrel when placed within the same, and to clean said barrel in both the forward and backward movement.

In the drawings, Figure 1 is a sectional elevation of my improved cleaner. Fig. 2 is a diagrammatic view showing the extreme positions of the bristles in relation to the shank. Fig. 3 is an end view of the cleaner in the position of Fig. 1.

a represents the short stem or shank, having a shoulder at 1 and a screw end at 2, by which said shank is secured to the cleaning-rod *a'*. The forward end of the shank has a shoulder at 3, and is made with a circular groove circumferentially at 4, and provided with a stem at 5, and there is a ring, *b*, having a circular circumferential groove, which ring is adapted to fit over the stem 5 and to be secured in place by riveting the head of the stem. The circular grooved end 4 and the circular groove of the ring *b* together form the arc of a circle.

c represents the wire bristles, the central portion of each of which bristles is looped or recessed at 6 and adapted to be received into the circular groove formed by the portion 4 and the ring *b*, and whose arms are bent at or form an obtuse angle to each other in their normal position, and the ends of said wire bristles are beveled or made chisel-pointed, and there is an encircling ring, *d*, which surrounds the looped or recessed portion of the bristles and retains the same in the groove before named, but forms a loose joint, in which the bristles are free to move, it being understood that the wire bristles lie within the ring and around the circular grooved portion of the shank in a solid mass, the one touching the other, so that as confined by the ring they are free to move with a seesaw motion up and down, but without any lateral motion, the spring of the bristles being outward from a common axial line through the shank, so that when said bunch of bristles is inserted into the gun-barrel their ends all bear against the inner surface of the barrel with an even tension.

The ring *b* may be threaded and screwed upon the stem 5, instead of being riveted to place, and, if desired, the ring may be dispensed with and a groove made around the end of the shank instead, in which case the encircling ring *d* is preferably made of spring metal and opened sufficient to allow the entering of one wire bristle at a time within said ring between said ring and the shank, and after all the bristles have been passed beneath the ring the ring is allowed to spring shut and confine the bristles in place.

I prefer to employ a split-metal spring-ring, *f*, surrounding the brush of bristles and the ring *d*, which ring *f* will be moved along over the bristles upon one contracting end as the other end expands, and this ring *f* serves to hold the bristles at the contracted end, making it easier to insert this end into the gun-barrel.

The operation of the cleaner is as follows: In Fig. 1 I have shown the end of the gun-barrel or other tube in the position it would occupy in relation to the cleaner, the outer points of the cleaner being consolidated and encircled by the ring *f*, in order to introduce the cleaner into the gun-barrel or other tube. After the cleaner passes into the gun-barrel beyond the point indicated by the lines *x x*, Fig. 2, the expanded ends of the bristles are forced inward and the inner ends expanded in the operation of introducing the cleaner, so that when the cleaner is within the barrel or tube all the points of the bristles bear against the metal of the barrel or tube and the ring *f* will occupy a central position, and a forward-and-backward movement imparted to the cleaner causes the points of the bristles, which operate in both directions, to scrape and clean the barrel or tube of any pieces or obstructions that may have lodged in the barrel or in the rifling of the same, or in a tube of any description, into which the cleaner may have been inserted.

I am aware that a gun cleaner has heretofore been made having a single brush of bristles, which in a normal position was retained within a sheath or case, the same being introduced within the gun-barrel and the bristles projected therefrom to clean the barrel; but in my case I dispense with any sheath or cover and construct the bristles double-ended and with a pivotal central connection, so that they are thereby adapted to do their work quicker and better than devices heretofore constructed.

I claim as my invention—

1. A cleaner for gun-barrels and other tubes, consisting of a brush of wire bristles pivotally secured between their ends to a shank adapted for holding the same and for attachment to a cleaning-rod, said bristles being arranged side by side and forming a circular brush around the shank, all combined substantially as specified.

2. A gun or tube cleaner composed of the shank *a*, having a groove about its end, in combination with a brush of bristles adapted to surround the shank and be received in its concave end, and a ring for surrounding the bristles and for holding said bristles to said shank, substantially as set forth.

3. A gun or tube cleaner composed of the shank *a*, adapted to be attached to a cleaning-rod at one end and having a circumferential groove at the other end, a brush or cleaner composed of wire bristles *c*, each of which bristles is centrally looped or recessed and adapted to fit into the groove of the shank, and whose arms are bent at an obtuse angle to each other, and whose ends are pointed, and a ring, *d*, encircling the brush of bristles at their central loop or recess to hold the same in place upon the shank and permit a seesaw motion to said bristles, substantially as set forth.

4. The combination, with the shank *a*, adapted to be secured to a cleaning-rod and having a shoulder, 3, grooved end 4, and stem 5, of a ring, *b*, having a grooved end adapted to fit upon and be secured to the stem 5, the brush of wire bristles *c*, centrally looped or recessed at 6 and fitting around the shank in a solid mass, the arms of which bristles are at an obtuse angle to each other and pointed, and an encircling ring, *d*, which forms a loose joint, but secures the brush of wire bristles to the shank *a*, substantially as set forth.

5. A gun or tube cleaner composed of the shank *a*, adapted to be attached to a cleaning-rod at one end and having a circumferential groove at the other end, a brush or cleaner composed of wire bristles *c*, each of which bristles is centrally looped or recessed and adapted to fit into the groove of the shank, and whose arms are bent at an obtuse angle to each other, and whose ends are pointed, and a ring, *d*, encircling the brush of bristles at their central loop or recess to hold the same in place upon the shank, and a ring, *f*, surrounding the brush of bristles and adapted to move endwise upon the same, substantially as specified.

Signed by me this 6th day of June, 1888.

JAMES HARTNESS.

Witnesses:
JOHN N. BROOKS,
E. J. BEACH.