

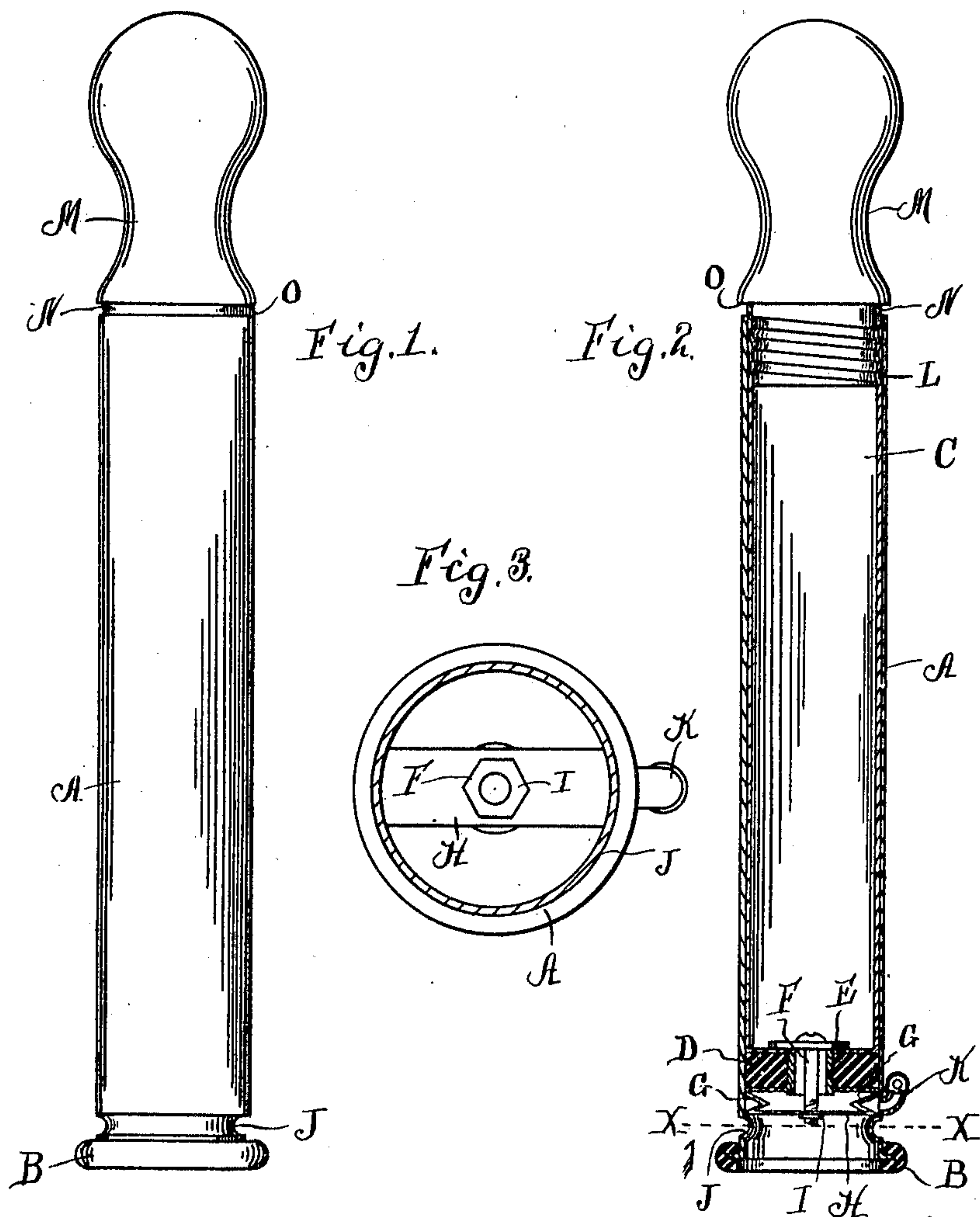
G. MALMROS & F. F. ADAMS.

SPOT CLEANER.

APPLICATION FILED DEC. 20, 1909.

970,069.

Patented Sept. 13, 1910.



WITNESSES

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GUSTAF MALMROS AND FRANK F. ADAMS, OF NEW YORK, N. Y.

SPOT-CLEANER.

970,069.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed December 20, 1909. Serial No. 534,095.

To all whom it may concern:

Be it known that we, GUSTAF MALMROS, a subject of the King of Sweden, residing at New York, in the county of New York and State of New York, and FRANK F. ADAMS, a citizen of the Dominion of Canada, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Spot-Cleaners, of which the following is a specification.

Our invention relates to a new and useful improvement in spot cleaners, and has for its object to provide a simple and effective device by which various kinds of compounds or chemicals may be conveniently and directly applied to ink, rust or stain spots in fabrics, and the compound or chemical be forced through the fabric by compressed air, thus quickly and effectually removing such spots and stains.

A further object of our invention is to provide a convenient holder for the desired compound or chemical so that the contents thereof will be automatically fed to the fabric.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, we will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is an outside view of our improved device. Fig. 2, a central longitudinal section thereof, and Fig. 3, an enlarged cross section at the line $x-x$ of Fig. 2.

In carrying out our invention as here embodied, A represents a barrel of the general form of a pump barrel, the lower end of which is provided with a compressible ring B, of rubber or other suitable material, in order that when it is pressed against the fabric to be cleaned, or the fabric pressed against it, an air-tight joint will be made, so that thereafter the air forced from the barrel will be compelled to pass directly through that portion of the fabric inclosed by the ring.

C represents a piston, which is adapted to fit and slide within the barrel A, and this

piston is in the form of a tube in order that it may serve as a holder for the liquid to be used in the cleaning process, and to the inner end of this piston is secured the packing disk D to prevent the escape of air when the piston is forced downward.

E is a valve of any suitable material, which is secured to the stem F, the latter projecting downward through the valve opening in the disk E and having the cross strip H secured upon its lower end by the nut I. This cross strip is of sufficient length to contact with the shoulder formed by the inwardly curved section J formed in the barrel, and when coming in contact with this section the strip will force the valve E upward against the action of the springs G formed with this strip, thus permitting a small portion of the contents of the piston C to escape through the valve opening, for the purpose to be hereinafter set forth.

In order that air may be admitted to the barrel when the piston is drawn upward, a check valve K is located upon the side of said barrel, and so arranged as to permit the air to flow inward upon the upward stroke of the piston, but prevent its escape upon the downward stroke of the latter.

The upper end of the piston is threaded, as indicated at L, to receive the threaded end of the handle M, the latter preferably being of wood or hard rubber, and a packing ring or gasket N is interposed between the upper edge of the piston and the shoulder of the handle, so as to form a tight joint.

While we do not wish to be limited to any particular material of which the various parts of the device are made, yet in practice, we have found that white metal is well adapted for the construction of the piston.

From the foregoing description, the operation of our improvement will be as follows:—The liquid adapted for removing the particular kind of spots or stains to be treated is poured into the piston, which serves as a holder, by unscrewing the handle, after which the handle is screwed into place so as to form a tight joint, against the packing ring N. The fabric to be treated is placed against the compressible ring B, preferably with another layer of fabric backing it up, when by forcing the piston downward the air compressed in the barrel will be forced through the goods, driving out the dust or loose dirt, and when the piston reaches the lower limit of its stroke, the cross strip H

will contact with the shoulder J, opening the valve E, as before described and permitting a small quantity of the cleaning liquid to flow downward upon the fabric, and at the next downward stroke of the piston this liquid will be forced through the fabric, removing the spot or stain therefrom. This operation may be repeated as often as necessary to completely remove the stain.

Various kinds of liquids may be used for various kinds of stains, as for instance, those made by ink, grease or iron rust, but the action of the device in each case will be the same as above described.

The shoulder O on the handle coming in contact with the upper edge of the barrel will limit the downward movement of the piston.

The advantages of our improved device is its simplicity and directness with which it applies extracting liquid to the section of the fabric to be operated upon.

Having thus fully described our invention, what we claim as new and useful, is—

1. In a cleaning device, the combination of a barrel open at both ends, a tubular piston fitted to slide in said barrel, said piston having an opening in its bottom, a packing disk carried by the lower end of the piston, a valve adapted to open and close the opening in the bottom of the piston, a stem projecting downward from the valve, a cross strip having springs, secured to the lower end of the stem, adapted to contact with a shoulder formed upon the barrel, a handle having a shank threaded into the upper end of the piston, and a gasket interposed between the shoulder formed upon the handle and the upper edge of the piston, as and for the purpose set forth.

2. In a cleaning device, a barrel open at both ends, a compressible ring attached to the lower end of the barrel, an internal shoulder formed upon the barrel, a hollow piston adapted to slide in the barrel, said

piston having an opening in its bottom, a packing disk secured to the lower end of the piston, a valve adapted to normally close said opening, a stem projecting from the valve through said opening, a cross strip secured to the lower end of the stem, its ends having springs, said cross strip being adapted to strike against the shoulders formed upon the barrel, a handle provided with a shoulder, the shank of which is threaded into the upper end of the piston, a gasket interposed between the shoulder formed upon the handle and the upper edge of the piston, and a check valve located below the limit of the downward stroke of the piston, as and for the purpose set forth.

3. A cleaner of the character described, consisting of a barrel, a hollow piston adapted to slide in said barrel, said piston acting as a holder for the liquid to be used, a spring actuated valve located in the lower end of the piston, a handle adapted to seal the upper end of the piston, and means for opening the valve upon the downward stroke of the piston, as specified.

4. A cleaner of the character described, consisting of a barrel, a hollow piston adapted to slide in said barrel, said piston acting as a holder for the liquid to be used, a spring actuated valve located in the lower end of the piston, a handle adapted to seal the upper end of the piston, means for opening the valve upon the downward stroke of the piston, and a check valve for admitting air to the barrel below the piston, upon the upward stroke of the latter, as specified.

In testimony whereof, we have hereunto affixed our signatures in the presence of two subscribing witnesses.

GUSTAF MALMROS.
FRANK F. ADAMS.

Witnesses:

RICHARD CONDON,
I. HEIBERG.