April 28, 1925. 1,535,304

O. B. GERDIN

WINDOW CLEANING DEVICE

Filed May 15, 1924

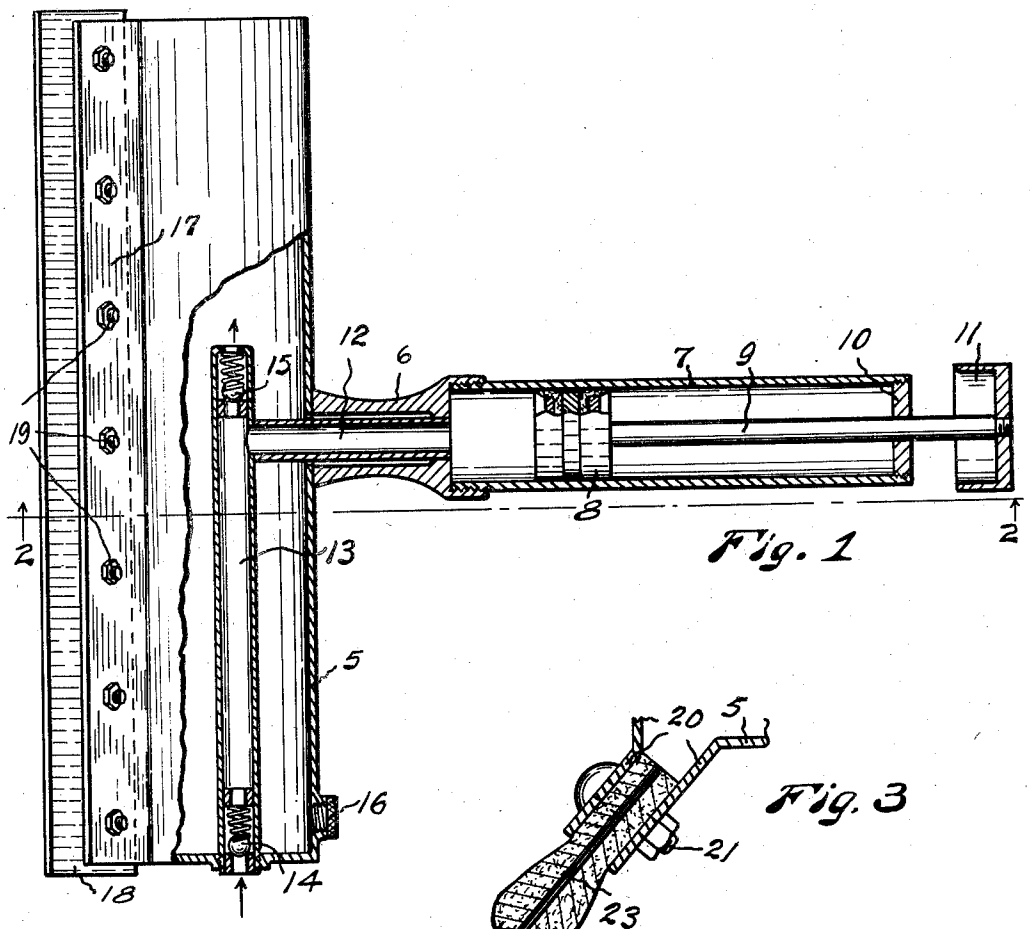


Fig. 1

Fig. 3

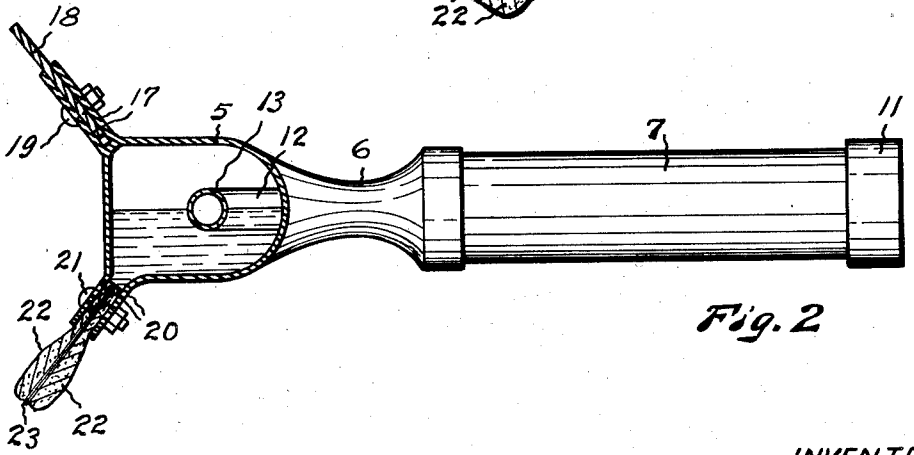


Fig. 2

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UNITED STATES PATENT OFFICE.

OLOF B. GERDIN, OF SEATTLE, WASHINGTON.

WINDOW-CLEANING DEVICE.

Application filed May 15, 1924. Serial No. 713,382.

To all whom it may concern:

Be it known that I, OLOF B. GERDIN, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Window-Cleaning Devices, of which the following is a specification.

My invention relates to improvements in window cleaning devices and the object of my invention is to provide a window cleaning device that embodies a liquid receptacle having on one side thereof a relatively long porous cleaning strip through which liquid may be emitted slowly for moistening a surface that is to be cleaned and having disposed on another side a long flexible squeegee strip for drying the surface that has been cleaned with the liquid.

Another object is to provide a window cleaning device having a liquid receptacle that is provided with a pump and check valve means by which liquid may be pumped into the receptacle and by which an air pressure greater than the atmospheric pressure may be maintained in the receptacle to thereby force the liquid through the porous cleaning strip at any desired rate.

Another object is to provide a window cleaning device in which the liquid will not ordinarily discharge or leak from but will only be forced through the cleaning strip by the excess air pressure in the receptacle when the device is in use.

Another object is to provide a window cleaning device embodying a porous cleaning pad made from two strips of felt or other suitable material between which is disposed a layer of bristles, the felt and bristles being securely clamped between two rigid side plates.

Further objects are to provide a window cleaning device that is simple, efficient and durable in construction, neat and ornamental in appearance, inexpensive to manufacture and convenient to use and will save time and labor.

I accomplish these objects by devices illustrated in the accompanying drawings, wherein—

Figure 1 is a view partly in plan and partly in cross-section illustrating a window cleaning device constructed in accordance with my invention;

Fig. 2 is a sectional view of the same taken on line 2, 2 of Fig. 1, parts being shown in elevation; and

Fig. 3 is a fragmentary sectional view on an enlarged scale illustrating a detail of the brush and pad construction.

Referring to the drawings throughout which like reference numerals indicate like parts, I have shown a relatively long receptacle or housing 5 having a handle shank 6 rigidly secured thereto midway between its two ends and extending at right angles therefrom. A tubular handle member 7 is threaded into the end of the handle shank 6 and serves as a pump cylinder.

Disposed within the handle member 7 is a reciprocable piston 8 connected with a piston rod 9 that extends outwardly through the outer end of the handle 7 and is rigidly secured to a cap 11 which forms a hand hold by which the piston may be reciprocated.

The pump cylinder formed by the handle 7 communicates with a short pipe 12 that is disposed within the handle shank 6 and is connected with a longer pipe 13 that extends lengthwise within the receptacle 5. One end of the pipe 13 extends outwardly through the end of the receptacle 5 and is provided with a check valve 14 that will permit liquid to enter said pipe but will prevent liquid from flowing from said pipe. The other end of the pipe 13 is provided with a check valve 15 which will permit the discharge of liquid into the receptacle 5 but will not permit liquid to be drawn from the receptacle 5 into the pump cylinder.

The receptacle 5 has a drain opening closed by a screw cap 16 and said receptacle 5 is provided on the front side at one corner with angularly disposed bracket members 17 between which a squeegee strip 18, as of rubber or other suitable material is securely clamped by bolts or rivets 19.

The receptacle 5 is provided at the other front corner with angularly disposed bracket plates 20 between which a cleaning pad is securely clamped as by rivets or bolts 21, the pad preferably being made up of two strips 22 of felt or similar absorbent material between which are interposed a layer of bristles 23, as shown in Fig. 3.

Brackets 17 and 20 diverge from each other substantially as shown in Fig. 2 so that when the device is turned one way the

pad will be conveniently applied to a window for cleaning and when the device is reversed the squeegee strip 18 may be conveniently applied to the window for drying the same.

In the operation of my window cleaning device when the receptacle 5 is to be filled the end of the receptacle in which the pipe 13 terminates is immersed in liquid and the pump piston 8 is drawn outwardly in the cylinder 7 thus causing liquid to be drawn in through the tubes 13 and 12 into the cylinder 7. The pump piston 8 is then moved inwardly forcing said liquid out past the check valve 15 into the receptacle 5. This operation is repeated until sufficient liquid is pumped into the receptacle 5. The filling of the receptacle 5 creates sufficient pressure therein to force enough liquid out through the cleaning pad to thoroughly moisten said pad and to render the same ready for use.

In cleaning a window the cleaning pad is first drawn over the glass, the felt pad members 22 moistening and washing the glass and the bristles 23 loosening any dirt that may tend to adhere to the glass. After this has been done the cleaning device is reversed and the squeegee 18 is drawn over the glass in a well known manner to remove the moisture and dirt that is left thereon.

The rate of discharge of liquid through the pad is governed by the pressure within the receptacle 5 and said pressure may be increased at any time by operating the pump. This makes it possible to construct the pad so that the device will not leak but so that liquid may be forced outwardly therethrough at any desired pressure within the receptacle.

The pad formed of a layer of bristles between two layers of felt constitutes a very efficient cleaning device, the felt serving to support the bristles and the bristles serving to clean the glass and removing any spots or dirt that tend to adhere thereto.

The foregoing description and accompanying drawings clearly disclose what I now consider as a preferred embodiment of the invention but it will be understood that this disclosure is merely illustrative and that such changes may be resorted to as are within the scope and spirit of the invention.

What I claim is:—

1. A cleaning device of the class described embodying a liquid receptacle, an elongated cleaning pad carried by said liquid receptacle and having one edge subject to contact with liquid within said receptacle, a handle on said receptacle, and manually operated pump means disposed with said handle for filling said receptacle and for producing a pressure in said receptacle to force said liquid out through said pad.

2. A window cleaning device embodying an elongated liquid receptacle, an elongated cleaning pad carried by said receptacle and having one edge subjected to contact with liquid in said receptacle, a rigid tubular handle extending at right angles from said receptacle, a reciprocable piston in said tubular handle, a tube extending lengthwise within said receptacle and terminating in one end thereof, a check valve for permitting liquid to enter at the outer end of said tube and conduit means connecting said tubular handle with said tube.

3. A window cleaning device embodying a liquid receptacle, a cleaning pad carried by said receptacle and having one edge subjected to contact with liquid in said receptacle, a rigid tubular handle extending at right angles from said liquid receptacle, a reciprocable piston in said handle, a tube extending lengthwise within said receptacle and terminating in one end thereof, a check valve for permitting liquid to enter at the outer end of said tube, another check valve for permitting liquid to discharge at the inner end of said tube, and conduit means connecting said handle with said tube between said check valves.

In witness whereof, I hereunto subscribe my name this 10th day of May, A. D. 1924.

OLOF B. GERDIN.