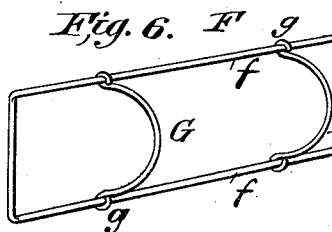
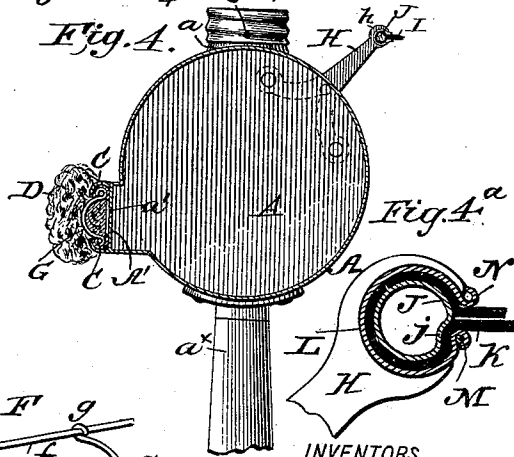
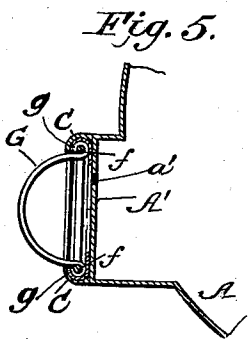
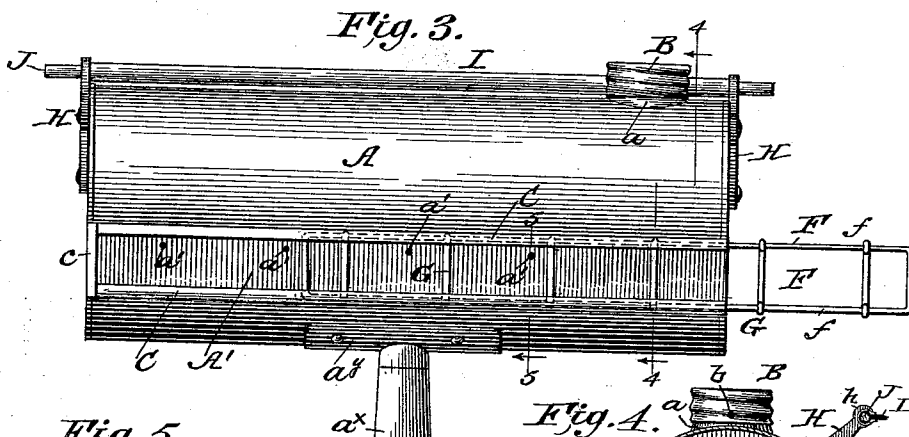
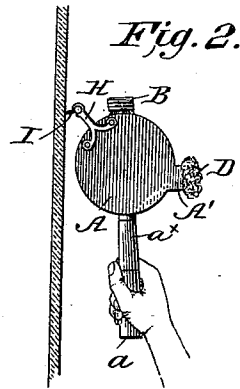
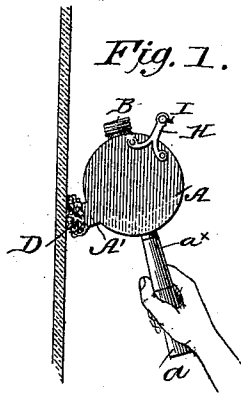


(No Model.)

T. URBAN & A. KADLOWEC.
WINDOW CLEANER.

No. 542,906.

Patented July 16, 1895.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THEODORE URBAN AND ALOIS KADLOWEC, OF CLEVELAND, OHIO.

WINDOW-CLEANER.

SPECIFICATION forming part of Letters Patent No. 542,906, dated July 16, 1895.

Application filed March 23, 1895. Serial No. 542,927. (No model.)

To all whom it may concern:

Be it known that we, THEODORE URBAN and ALOIS KADLOWEC, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Window-Cleaners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in that class of window washers and driers having a fluid-holding reservoir and independent washing and drying faces; and such invention primarily has for its object to provide a device of this character of a simple and inexpensive construction, which can be easily manipulated and which will effectively serve for its intended purposes.

Our invention also has for its object to provide a device of this kind having a sponge or washer-face and the drying-strip arranged separated, but so disposed that when either face is used the device will not splatter the water, such drying and washing faces being detachably connected with the reservoir to provide for a quick and convenient means of cleaning them or placing in position new washing or drying members.

Our invention also has for its object to provide a combined washer and drier having the reservoir provided with a simple seat portion adapted to receive a detachable sponge-holding slide, which in turn has simple and detachable means for securing the sponge thereto.

With other minor objects in view, which hereinafter will be referred to, our invention consists in such novel features of construction and peculiar combination of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a view illustrating our improved combined washer and drier as in use as a washer. Fig. 2 is a similar view of the same used as a drier. Fig. 3 is a side elevation of the same, looking at the washer-face, the sponge being removed and the sponge-holding slide drawn out. Fig. 4 is a cross-section of the device, taken on the line 4 4 of Fig. 3.

Fig. 4^a is a cross-section of the rubber and the holding devices therefor. Fig. 5 is a detail cross-section taken on the line 5 5 of Fig. 3, and Fig. 6 is a perspective view of the sponge-holding slide and the sponge-holding spring-clips hereinafter referred to.

In its practical construction our improved window washer and drier comprises a hollow cylindrical body A, which forms the reservoir and which has at the top a suitable filling-nozzle *a*, held normally closed by a screw-cap B, provided with a suitable vent *b*, such body being provided at its lower or bottom side with a handle member *a*^x, as shown.

At one side the reservoir has a flattened portion A', formed with a number of jet-openings *a'*, which feed the water to the sponge D, held in position by suitable attaching means, the special construction of which forms one of the essential features of our invention. By referring more particularly to Figs. 3 and 4 it will be seen that the upper and lower ends of the flattened portion A' terminate in turned ends, which form guides C C, ending at one end of the cylinder in a stop or abutment *c* to limit the inward movement of the sponge-holding slide. (Shown in detail in Fig. 6.) This slide consists of a skeleton frame F of spring-wire in the form of a rectangular body, which is adapted to be slid in the guides C C, as most clearly shown in Fig. 3. G G indicate a series of semicircular bails also formed of spring-wire, which have their ends formed into eye portions *g g*, which are clamped on the longitudinal members *f f* of the frame F.

By forming the holding-slide in the manner shown it is manifest that a very simple and effective means for holding the sponge is provided, which can be quickly attached to or disconnected from the reservoir-body. It will also be readily seen that by forming the holder of wire having bail members also of wire secured thereto, as shown; there are no sharp portions which engage the sponge and which would serve to tear the same as it is attached to or detached from the slide.

At the upper end the cylinder has secured thereto and projected rearwardly therefrom a pair of bracket members H, the ends of which have circular seats or spring portions *h* to receive the drying-strip I, the particular

construction of which is most clearly shown in Fig. 4, by reference to which it will be seen that the base or supporting portion is in the nature of a tubular metal rod J, which extends
 5 at the ends and seats in the brackets H, as shown, over which is fitted the rubber scraper or drier-flap K, which is securely held in place by the spring-metal clamp L, one end of which terminates in a small head having a rein-
 10 force-wire M, which presses against the rubber at one side and forces it in a longitudinal groove *j* in the rod J and serves to securely hold such rubber from turning or slipping on the said tube, while the other or opposite end
 15 terminates in a larger head portion N, which also bears against the rubber to hold it on the tube and serves to make a smooth bearing-face, whereby the danger of scratching the glass is avoided, which would occur did the
 20 end of the outer or clamp tube terminate abrupt or sharp, such structure also making the rubber effectively act on the glass with a minimum amount of pressure.

For convenience in manufacture we prefer
 25 to secure to the body A a socket-plate α^x , to which the handle-socket α^x can be readily secured by a screw-top or otherwise.

From the foregoing description, in connection with the drawings, it is thought the advantages of our improved device will be readily understood. It will be observed that the drier and the washer-faces are separated and independent, yet the entire device is compactly and conveniently arranged for operation. By providing a sponge-securing means,
 35 as shown, the sponge will be tightly and securely held against the perforated face of the cylinder and yet be capable of a quick and convenient attachment or detachment. The
 40 sponge can also be removed quickly from the holder and as quickly connected therewith.

By reference to Figs. 1 and 2 the manner in which our improved device is operated will be readily understood. It will be seen that when used for a washer the drier is projected 45 rearward and when used as a drier the washer-face is projected in such direction.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is— 50

1. The combination with the reservoir having a flat face provided with jet openings and guide flanges at the upper and lower edges of the flat portion, of a sponge holder formed of a rectangular wire frame having a series of 55 semi-circular bail portions of wire clamped thereto, said wire frame having its longitudinal members so spaced as to fit and slide in the aforesaid guide members on the reservoir substantially as shown and for the purposes 60 described.

2. As an improvement in window washers and driers the combination with the reservoir having bracket members H, of a drying member detachably held in the said brackets, said 65 member comprising an inner tubular rod having an external groove extending lengthwise thereof, a rubber or analogous strip fitted over the said tube, and an external tubular spring metal clamp member having one end 70 formed with a longitudinal head adapted to press the rubber into the aforesaid groove, and having its opposite end terminating in a head portion all arranged substantially as shown and for the purposes described. 75

In testimony whereof we affix our signatures in presence of two witnesses.

THEODORE URBAN.
 ALOIS KADLOWEC.

Witnesses:

E. H. BOHM,
 J. W. FRANCISCO.