

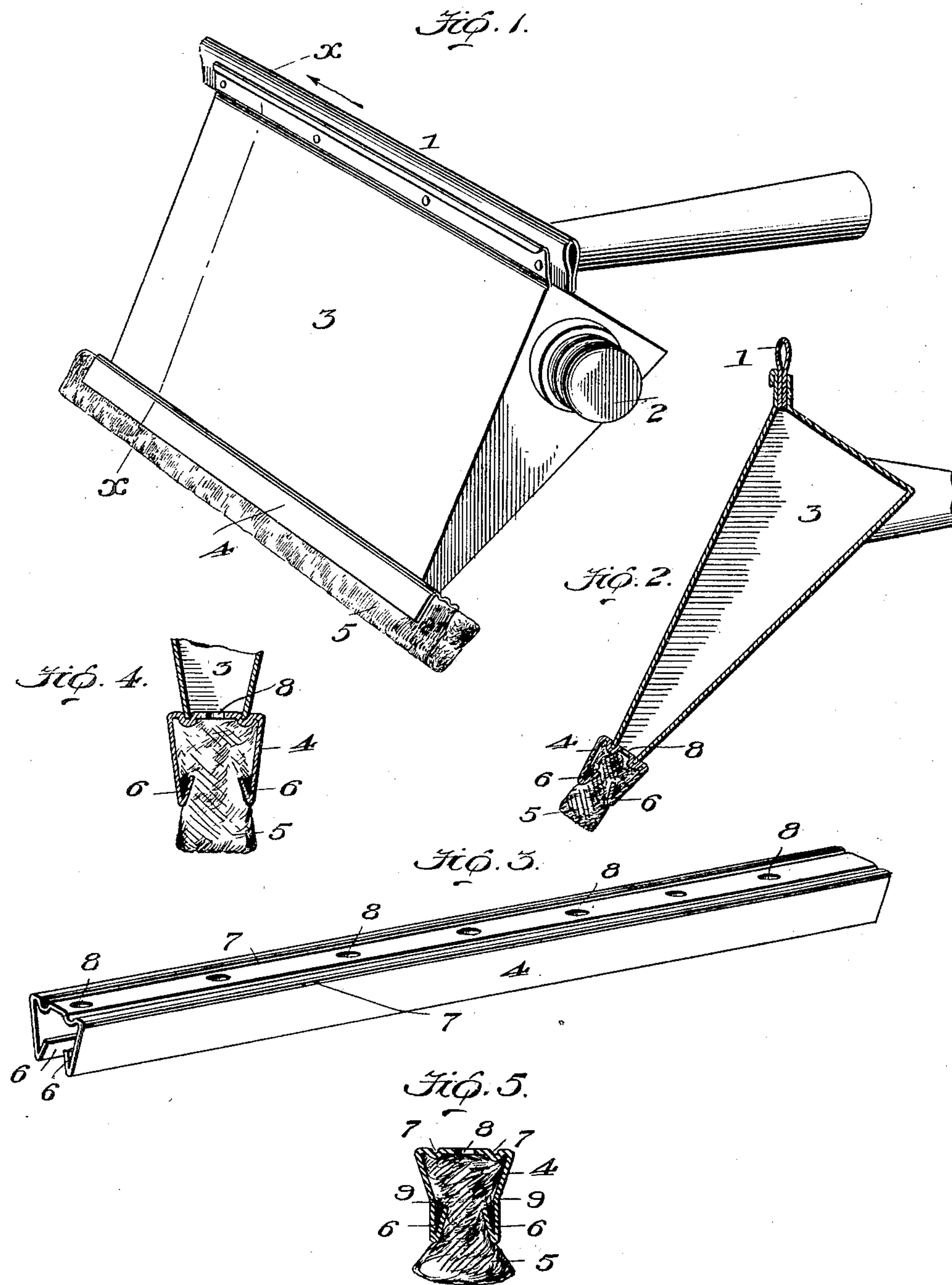
No. 697,760.

Patented Apr. 15, 1902.

H. C. WARFEL.  
WINDOW CLEANER.

(Application filed July 29, 1901.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

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ONE-HALF TO ISAAC V. GRAY, OF PHILIPSBURG, PENNSYLVANIA.

## WINDOW-CLEANER.

SPECIFICATION forming part of Letters Patent No. 697,760, dated April 15, 1902.

Application filed July 29, 1901. Serial No. 70,069. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. WARFEL, a citizen of the United States, residing at Philipsburg, in the county of Center and State of Pennsylvania, have invented certain new and useful Improvements in Window-Cleaners, of which the following is a specification.

The window-cleaning device which forms the subject of this patent is known as the "handled fountain-washer," in which a washing-strip and a drying-strip are employed, and my improvement is directed to a novel means whereby the washing-strip is secured to its holder and the construction whereby the holder is secured to the water-chamber, as I will particularly point out in the claims appended hereto and as illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective the handled water-chamber having my improvement. Fig. 2 is a transverse section of the same. Fig. 3 shows the novel holding device for the washing-strip, which itself is not shown. Fig. 4 is a cross-section showing the manner of securing the washing-strip within its holder and the manner of securing the latter to the water-chamber. Fig. 5 shows a like view of the holder for the washing-strip with its side walls indented to spread the cleaning-surface of the strip and is a slight modification.

The water-chamber is a casing preferably of approximately triangular cross-section, with a handle standing from one of its angles medially of its length. At the other angle of the base of the triangle is fastened a drier-strip 1, preferably of rubber. At one end of the chamber is the cap-covered opening 2 for supplying the water-chamber. The side walls of the water-chamber 3 form a comparatively narrow oblong opening, and to the edges of these walls at this opening is secured the holder 4, as a separate part for a fabric washing-strip 5, and it is the construction of this separate holding and binder part wherein my improvement resides and which lessens the cost of manufacture and gives convenience for removing, reversing, and replacing the felt washing-strip. This separate holder part is trough-shaped in cross-section, the edges of

its open side terminating in return-bends 6 6, standing obliquely toward each other, so as to form internal lips adapted to engage the sides of the felt washing-strip and acting thereon each with a binder function, each lip or flange thereby caused to bite into the felt by reason of standing in oblique lapping relation to the inner side walls of the holder. In this biting function each lip or flange forms a detent to prevent the felt strip from being pulled or from working out in using it under pressure upon the window. These lips or flanges are preferably the length of the holder and formed integral therewith, and over them it is easy to draw the washing-strip endwise into and through the holder and to remove it therefrom in the same way. At its closed side this holder is fastened directly to the edges of the chamber-casing, at the oblong opening thereof, so as to close said opening. This fastening is by solder, and to reinforce it and render the securing of the holder strong and durable against the pressure put on it by the rubbing action upon the window the case edges may be sunk in channels or grooves 7 7, formed in the closed side of the holder along its corners or angles, so that in applying the solder to the channels or grooves it will take better hold on both sides of the case edges and give a better and true seating of the holder upon the edges of the water-chamber. Holes 8 are made along the closed side of the holder, through which the water from the chamber passes to keep the fabric washing-strip wet.

In Fig. 5 the sides of the holder are shown indented at 9 9, which acts to slightly compress the inturned lips or flanges of the holder upon the felt strip, and thereby to cause its projecting rubbing part to spread or be expanded transversely to give a better cleaning-surface.

I claim—

1. In a window-cleaner, a washing-strip holder consisting of a trough-shaped binder, the edges of its open side formed each with a return-bend standing obliquely toward each other within and toward the bottom of the trough to engage and form detents for the washing-strip within the holder.

2. In a window-cleaner and in combination  
with a chamber for containing water of a sep-  
arate binder or holder of trough shape in  
cross-section, soldered to the edges at the open  
5 side of the chamber-casing, having holes in its  
closed soldered side, its edges terminating  
in inward-turned lips or flanges standing  
obliquely toward each other whereby to en-

gage and form detents for a fabric washing-  
strip bound within the holder. 10

In testimony whereof I affix my signature  
in presence of two witnesses.

HENRY C. WARFEL.

Witnesses:

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