

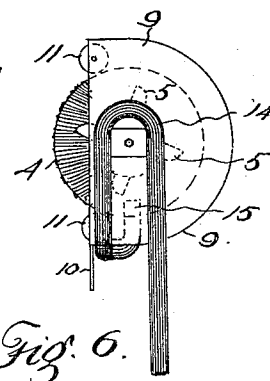
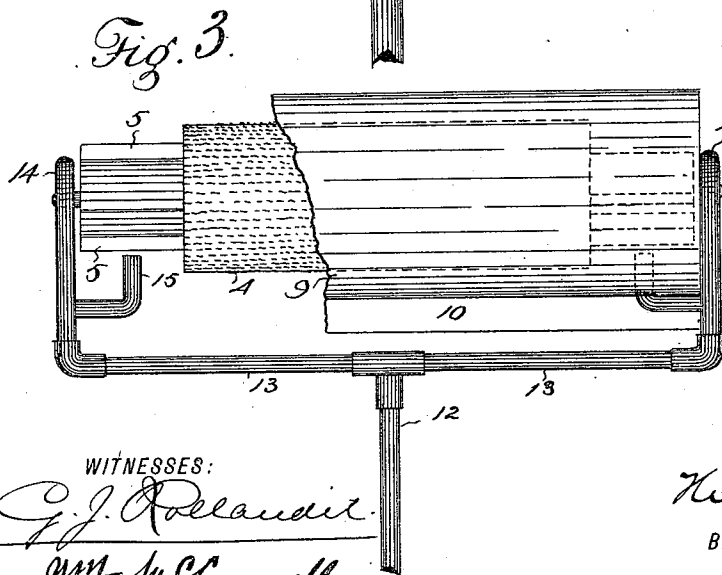
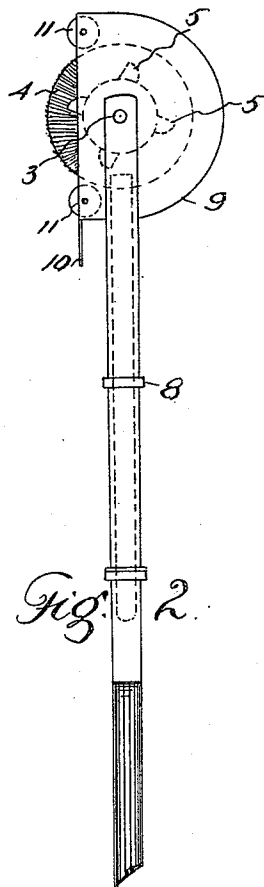
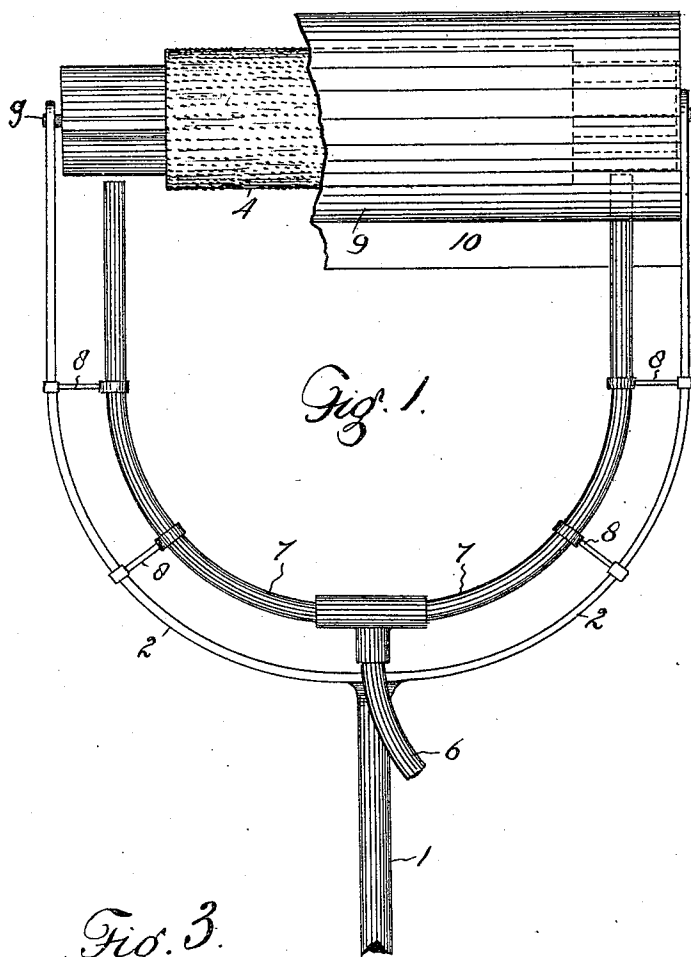
(No Model.)

2 Sheets—Sheet 1.

H. B. DAVIS.
ROTATING WINDOW WASHER.

No. 481,140.

Patented Aug. 16, 1892.



WITNESSES:
G. J. Rolland
Wm. M. Connell

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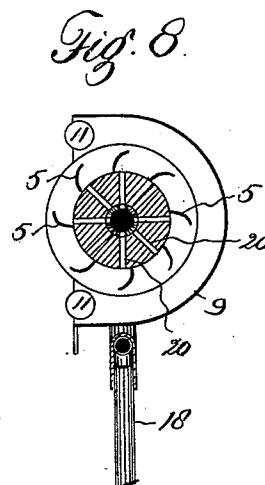
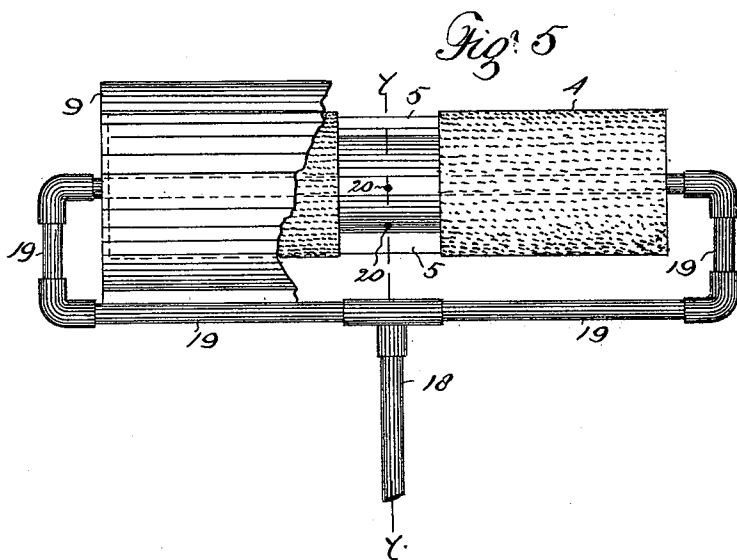
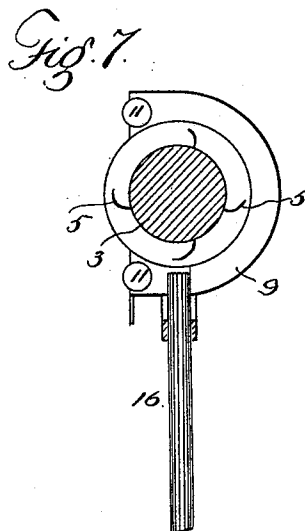
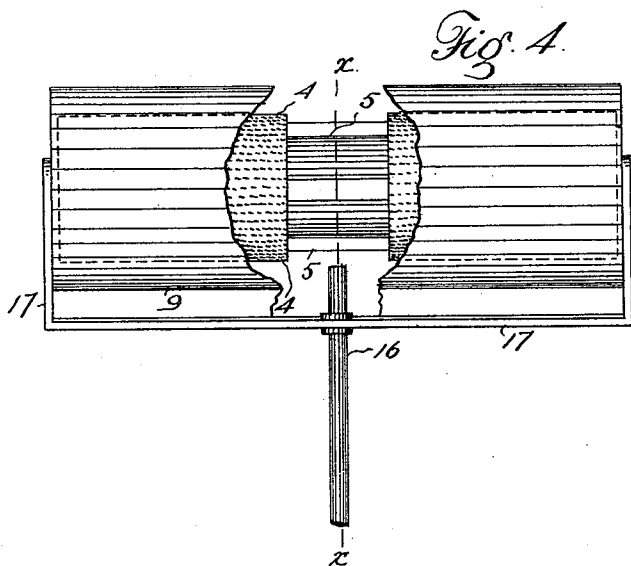
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UNITED STATES PATENT OFFICE.

HIRAM B. DAVIS, OF DENVER, COLORADO.

ROTATING WINDOW-WASHER.

SPECIFICATION forming part of Letters Patent No. 481,140, dated August 16, 1892.

Application filed June 29, 1891. Serial No. 397,773. (No model.)

To all whom it may concern:

Be it known that I, HIRAM B. DAVIS, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Rotating Window-Washers; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in window-washers; and the object of my improvement is to provide a device of the class stated which shall be adapted to utilize and be operated by water from a hydrant or other suitable source of water-power. This improved window-washer consists, essentially, of a roller-brush mounted in a frame and provided with suitable means of applying a jet of water thereto, so that the force of the jet of water shall cause the brush to revolve rapidly, thereby causing the brush to rub with a rapid motion the surface over which the device is passed, the water at the same time being applied to the surface. In this way we have the constant application of fresh water to the surface being washed, and also a rapid scrubbing or scouring, the two conditions being so combined as to produce the best possible result with but little effort on the part of the operator.

Though my improved device is designed more particularly for washing windows, it will be seen that it may be employed quite advantageously in washing any surface where an abundant supply of water may be used, as in washing windows, in cleaning passenger-coaches, in washing carriages, &c.

My improved device will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side view of my improved device, a portion of the outer shield being broken away to show the internal construction of the device. Fig. 2 is an end view of the same. Figs. 3, 4, and 5 are side views of modified forms of the device.

Fig. 6 is an end view of the form shown in Fig. 3. Figs. 7 and 8 are sections on the lines xx and yy , respectively.

Referring now to these views, wherein similar reference characters designate corresponding parts of the mechanism, the numeral 1 designates the handle, which is bifurcated into two arms 2, in the free extremities of which arms is journaled a shaft 3. On this shaft is mounted a roller-brush 4. The extremities of shaft 3 are provided with a series of paddles or cups 5, located at suitable intervals therearound and extending radially therefrom. These cups or paddles are closed at their outer extremities and open at their inner extremities, and are so arranged that the water thrown thereon is conducted to the brush on the middle part of the shaft. The water is conducted from any suitable hydrant or source of water under pressure to these cups or paddles 5 by means of a hose 6, which bifurcates into two branches 7, the hose and its branches being fixedly secured to the handle in any suitable manner, as by the use of arms 8. By this means it will be seen that the water is applied directly to the cups 5, and also to the brush, the striking of the jet of water against the cups causing the roller to revolve with a speed dependent upon the force with which the water is applied, thereby applying simultaneously both water and friction to the surface being cleansed.

Surrounding and covering roller 3 with its brush, together with its cup portions, is a semi-cylindrical shield 9, the object of said shield being to prevent the water from being thrown out in all directions and wetting the operator, the shield being so located as to allow the brush to be applied to the surface being cleansed, and at the same time confining the water to the brush and to said surface. On the side of shield 9 next the handle is a flange 10, extending parallel to the surface to be washed, said flange serving to prevent the water splashing from under the shield, thereby causing the water used to run down the window-pane.

Pivoted on shield 9 are the flexible rollers 11, the object of said rollers being to reduce to a minimum the friction between the device and surface over which it is passed, and also to hold the shield a slight distance there-

from, so as to allow the water to flow freely down the glass.

In the modified form illustrated in Figs. 3 and 6 it will be observed the roller 3, with its brush 4 and pockets or paddles 5, as well as the shield 9, together with the flange 10 and the rollers 11, are essentially the same as are those shown in Figs. 1 and 2; but in this form the hose 6, with its arms 7, is dispensed with, and the handle 12, together with its branched arms 13, are made hollow, and so serve as conduits for the water, a hose connecting the device with the hydrant, being screwed to the free extremity of handle 12. In this form of the device the branched arms 13 are so bent at 14 as to support suitable journals for roller 3, whence these arms 13 pass by suitable turns to the terminals 15, which are conveniently located for throwing the water on the cups or paddles 5, whereby the same result is acquired as that above described.

In the modified form disclosed in Figs. 4 and 7 the roller 3^a is provided with a centrally-located belt or zone of cups 5^a, the brush 4^a being divided to give room for said zone of cups. In this form the water is applied directly to the cups or paddles from the handle 16, which is connected with the hose, as is the handle 12, as before described, the device being supported and mounted in a suitable frame 17, which is secured to the handle 16.

In the modified form illustrated in Figs. 5 and 8 the water is supplied through the hollow handle 18, which is connected with a hose, as are handles 12 and 16. From handle 18 the water is conducted by means of the hollow branched arms 19, on which the roller-brush is mounted, to the interior of the roller or shaft 3^b, which in this form is hollow.

Extending radially from the center of roller

3 at any suitable point on the roller is a series of small apertures 20, through which issue jets of water when the device is in use.

The reference-numeral 5 designates small paddles, which are concavo-convex in shape and which are so located as to extend over apertures 20, so that as the water issues from said apertures it strikes against these paddles or cups and causes the brush to rotate, the water passing from said paddles to the brush and to the surface being cleansed.

Having thus described my invention, what I claim is—

1. In a portable window-washer, the combination of a cylindrical brush carrying cups or paddles adapted to utilize the force of the water carried to the brush, causing the same to rotate, a bifurcated frame having the brush journaled in its arms, and a rigid tubular handle attached to said frame and adapted to carry the water to the brush through the medium of suitable attachments or extensions, substantially as described.

2. In a window-washer, the combination, with a cylindrical brush adapted to be rotated by water carried thereto under pressure, of a bifurcated frame having the brush journaled in the extremities of its arms, a rigid tubular handle attached to said frame and adapted to carry the water to the brush through the medium of suitable attachments or connections, and a shield mounted upon the frame and partially surrounding the brush, substantially as described.

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

HIRAM B. DAVIS.

Witnesses:

WM. MCCONNELL,

G. J. ROLLANDET.