Nov. 17, 1925. 1,561,801

E. E. SHIPLEY

WINDOW CLEANING DEVICE

Filed Sept. 29, 1924

Fig. 1.

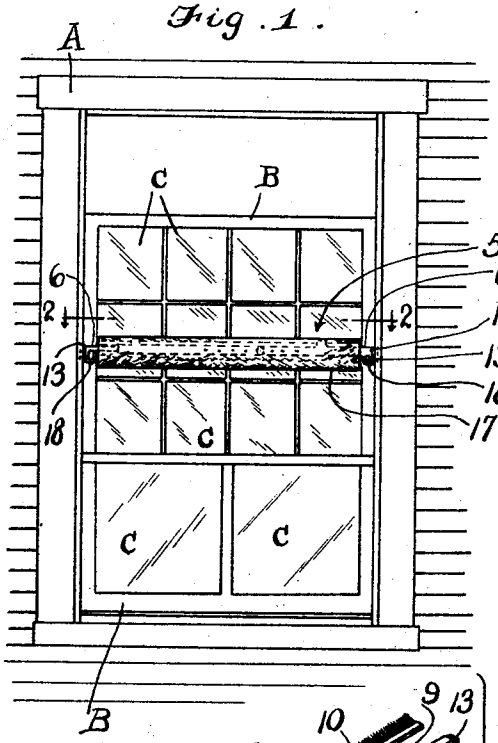


Fig. 2.

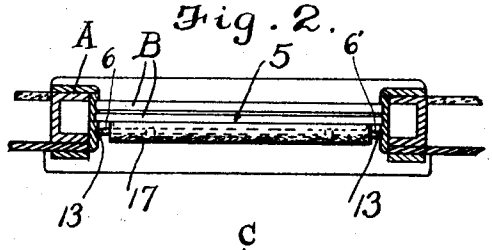


Fig. 5.

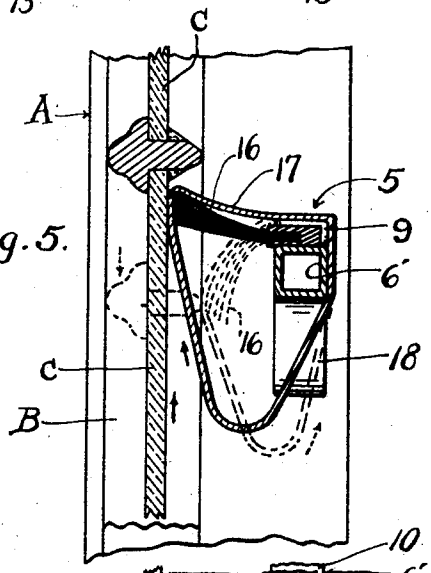


Fig. 3.

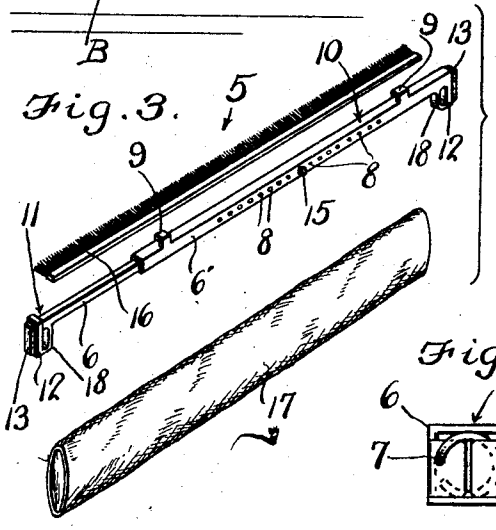


Fig. 6.

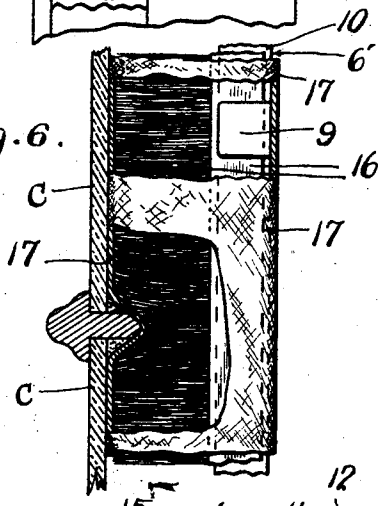


Fig. 7.

Fig. 4.

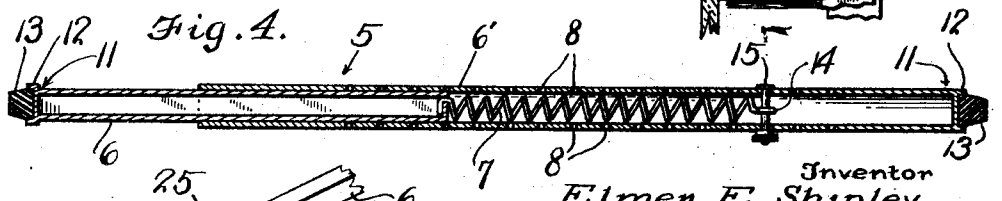
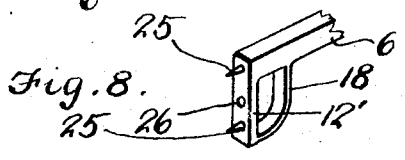


Fig. 8.



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Patented Nov. 17, 1925. 1,561,801

UNITED STATES PATENT OFFICE.

ELMER E. SHIPLEY, OF WASHINGTON, DISTRICT OF COLUMBIA.

WINDOW-CLEANING DEVICE.

Application filed September 29, 1924. Serial No. 740,556.

To all whom it may concern:

Be it known that I, ELMER E. SHIPLEY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Window-Cleaning Devices, of which the following is a specification.

This invention relates to brushing and scrubbing and more particularly to window cleaning devices.

The primary object of this invention resides in the provision of a window cleaning device adapted to obviate the necessity of individuals sitting or leaning out of windows while washing the same.

Another object of this invention resides in the provision of a window cleaning device adapted to be disposed in substantially rigid relation to a window-frame and in contact with the glass panel or panels of the sashes thereof so movement of the sash adjacent thereto will cause the cleaning action of the device.

A further object of this invention resides in the provision of a window cleaning device which can be readily disposed in operative position against the glass panels including the sashes of any design of window without removing outside screens or grate bars.

A still further object of this invention resides in the provision of a window cleaning device of such construction that the glass panel engaging elements thereof will compensate for any irregularities in the surfaces of the glass while passing over the same and ride in contact over both horizontal and vertical ribs of the sash with the minimum resistance to the movement of the sash.

In addition to the foregoing objects, this invention resides in the provision of a window cleaning device consisting of means adapted to support a wiper against the glass panels of a window sash so that movement of the sash will cause the wiper to change its area of contact with the glass panels.

Aside from the aforesaid objects, this invention resides in the provision of a window cleaning device adapted to produce a thrusting action toward the window sash containing the glass panels to be operated upon.

In addition to the objects heretofore set forth, this invention resides in the provision of a window cleaning device adapted to be adjusted to fit windows of different widths.

Among the several objects heretofore set forth, this invention resides in the provision of a window cleaning device adapted to be reversed for engagement with window screens, whereby the same will be brushed upon movement thereof.

One of the most important objects of this invention resides in the provision of a window cleaning device consisting of a window panel engaging element adapted to yield at any point throughout its working area without affecting other portions of the working area thereof.

With these and other objects in view, this invention resides in certain novel features of construction, arrangement and combination of elements to be hereinafter set forth in the specification, illustrated in the accompanying drawing and pointed out in the appended claims and, while the disclosure fully depicts my present conception of the invention, the right is reserved to make such changes in construction as come within the scope of the claims.

In the accompanying drawing, forming a part of this application:

Fig. 1 is an outside view of a window frame showing the elements of this invention disposed in operative position against the glass panels of the upper sash thereof, the same being shown as of the colonial design.

Fig. 2 is a horizontal view on line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the elements of my invention in juxtaposition.

Fig. 4 is a longitudinal, sectional view on a horizontal line of the telescopic bracket.

Fig. 5 is a detail vertical sectional view through a portion of a colonial sash, showing the elements of this invention in operative position against the glass panels and ribs thereof.

Fig. 6 is a similar view taken on a horizontal plane, with parts of the device broken away.

Fig. 7 is a detail end view of the male element of the telescopic bracket showing the manner of securing the spring thereto.

Fig. 8 is a detail perspective view of a modified form of foot for the telescopic bracket.

In the present illustration of this invention the letter A designates a window frame of the usual construction, having sashes B disposed therein and, while this illustration

discloses the upper sash as being of the colonial design and the lower sash as of the vertically divided design, the structure of the sashes affords no disadvantages to the successful operation of my device in cleaning the glass panels C thereof.

My invention comprises a bracket designated, in general, by the numeral 5 and consists of a male member 6 and female member 6′, the former of which having an expansible coil spring 7 secured to its inner end and projecting therefrom, while the latter has a series of aligned apertures 8 disposed in opposite sides thereof and carrying clips 9 preferably on its upper side 10.

Formed on the outer ends 11 of the male and female members of the telescopic bracket are feet 12 carrying shoes 13, preferably of rubber having sufficient thickness and elasticity to establish an inward thrusting action of the bracket between the bearing surfaces of the shoes thereof.

In adjusting the telescopic bracket for rigid and removable disposition between the sides of a window frame, that end of the male member, carrying the spring, is inserted in the female member until an eye 14, formed on the outer end of the spring 7, registers with a selected pair of the aligned apertures 8 which must necessarily establish a distance between the bearing surfaces of the shoes, in excess of that between the sides of the window frame upon which the device is to be supported, whereupon a pin 15 is inserted through the selected aligned apertures and the eye 14 of the spring, thus yieldingly connecting the telescopical members together and providing an abutment for the inner end of the spring. With the telescopic bracket so arranged, a resilient element 16, preferably an elongated brush having bristles of suitable stiffness, is secured to the female member of the bracket through the instrumentality of the clips 9, or the like, whereupon the assemblage of the device is completed by inserting the aforesaid in a wiper 17, preferably but not necessarily of tubular formation and manufactured of a suitable material such as chamois, cloth or the like.

The male and female members of the bracket are provided with handles 18 which are adapted to be grasped by an individual to cause the same to contract against the tension of the spring for disposing the shoes under tension against opposite sides of the window frame so the wiper will lie against the glass panel or panels of the adjacent window sash when the handles are released.

Although it has been determined that the brush, when presented against the window panels, will readily clean the same, very dirty windows require the use of water and, to facilitate removing the dirt therefrom, the wiper is dampened or wet prior to being presented against the same, whereupon movement of the window will cause the wiper to collect the dirt and, after this application of the wet wiper, a dry one is substituted for the wet one and the operation repeated.

To facilitate cleaning the glass panel or panels of a window sash having the aforesaid elements disposed in operative relation therewith, it is simply necessary to move the sash until the area to be cleaned has passed beneath the wiper and, during such movement of the sash, the pliability of the brush 16, or similar element, will cause the wiper to change its area of contact on the glass panel or panels as the direction of movement of the sash is reversed. In addition to the movement imparted to the wiper by reversing the direction of the sash, a more pronounced movement of the wiper is caused during its passage over horizontal ribs of a sash, but it should be understood that the brush 16, or similar element, retains the wiper against the ribs, cleaning the corners of the glass panel or panels and entire areas of the ribs.

While the shoes of the telescopic bracket fully meet all the requirements of a device of this character, occasion may arise where a more secure grip is desired for holding the bracket in operative position and I, therefore, have shown a modified form of foot 12′ in Fig. 8 wherein spikes 25 are adapted to embed themselves in the window frame and, if more security is desired, the bracket can be secured by passing screws, not shown, through apertures 26 thus provided.

With this invention fully described, it is manifest that a window cleaning device of appreciable utility is provided and, through the simplicity of construction and operation, the same can be manufactured at the minimum expense and manipulated with little effort.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

1. A window cleaning device of the character set forth, comprising an extensible bracket adapted to be removably attached transversely of a window, a brush supported by the bracket with its bristles directed toward the panels of the window, and a fabric wiper yieldingly supported against the panels of the window by the bristles of the brush.

2. A window cleaning device of the character set forth, comprising a telescopic bracket frictionally secured transversely of a window, a coil spring secured to the male section of the bracket and extending therefrom, means adjustably securing the coil spring to the female section of the bracket, clips carried by the bracket, a brush secured to the bracket by the clips with its

bristles directed toward the panels of the window, and a tubular wiper surrounding the bracket with a certain area thereof held against the window panels by the bristles of the brush.

3. A window cleaning device of the character set forth, comprising a telescopic bracket, an expansible spring within the bracket, means for adjusting the tension of the spring, feet on the outer ends of the bracket, shoes carried by the feet, handles adjacent the feet, clips carried by the bracket, a resilient element engaged by the clips, and a movable wiper over the working area of the resilient element.

4. A window cleaning device of the character set forth comprising a telescopic bracket frictionally secured transversely of a window, a coil spring secured to the end of the male section of the bracket and having a loop at its free end, a removable pin securing the looped end of the coil spring to the female section of the bracket at selected points thereof, clips on the bracket, a cleaning element secured to the bracket by the clips and having its working area directed toward the window panels, and a wiper covering the working area of the cleaning element.

5. A window cleaning device of the character set forth, comprising a fabric wiper contacting with the panels of a window, a resilient element pressing the wiper against the window panels, a telescopic bracket extending transversely of a window and supporting the resilient element, and means yieldingly and adjustably connecting the sections of the telescopic bracket for uniform tension in all adjusted positions.

In testimony whereof I affix my signature.

ELMER E. SHIPLEY.