

Aug. 14, 1923.

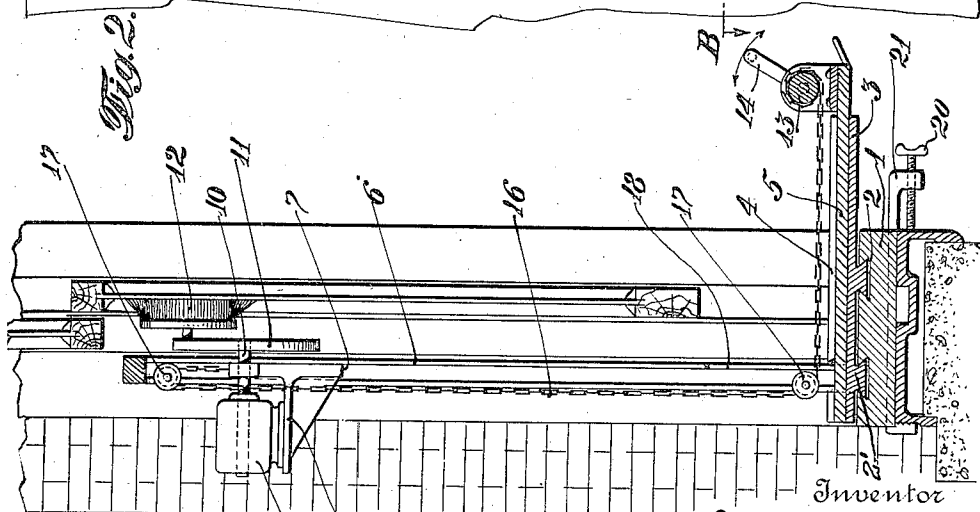
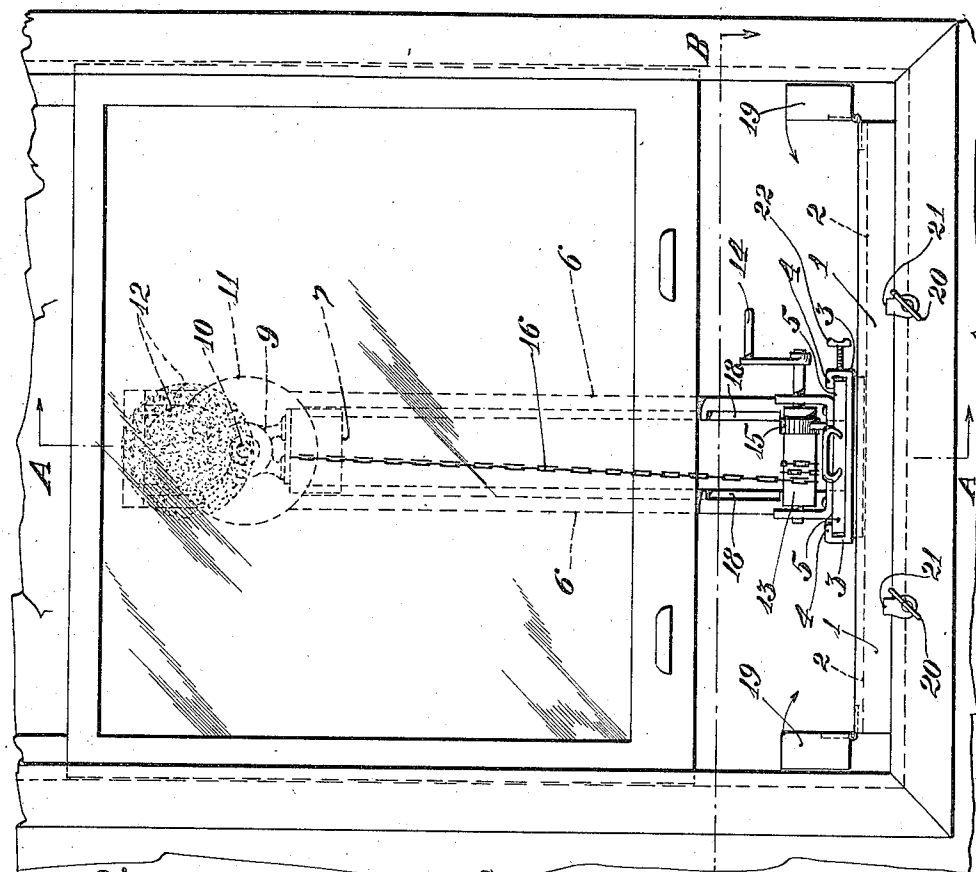
1,465,237

G. HUNTER

WINDOW CLEANING DEVICE

Filed Aug. 20, 1921

2 Sheets-Sheet 1



Inventor

George Hunter
By his Attorney
Waldo G. Morse.

Aug. 14, 1923.

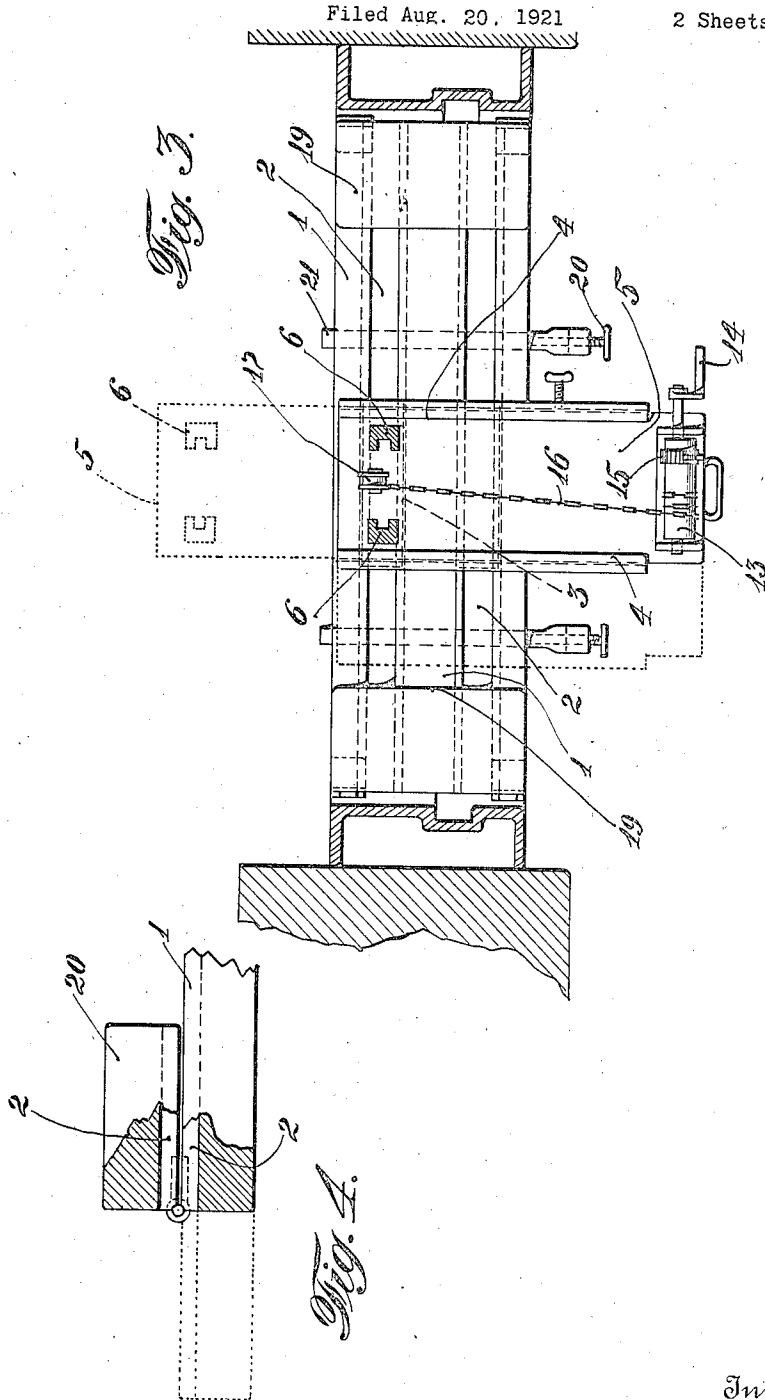
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

GEORGE HUNTER, OF NEW YORK, N. Y.

WINDOW-CLEANING DEVICE.

Application filed August 20, 1921. Serial No. 493,864.

To all whom it may concern:

Be it known that I, GEORGE HUNTER, a citizen of the Province of Syria, under the protectorate of the Republic of France, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and useful Improvement in Window-Cleaning Devices, of which the following is a full, clear, and exact description.

This invention relates to a device for cleaning windows and has particular reference to a device permitting the cleaning of windows entirely from within the same.

An object of the invention is to provide a simple and efficient means whereby the glass surfaces of windows may be readily cleaned from the inside of the windows,—especially sliding windows which ordinarily are difficult to reach from the inside—without requiring the operator to stand upon narrow window ledges or attempt to reach the outside of the glass from within, both of which conditions render his position and operation difficult and dangerous.

Another object is to provide means for washing windows, especially on the outside, by the simple manipulation of a mechanical power which can be manipulated from within although operated on the window from without.

A further object is to provide an apparatus in which the operating parts can be readily dismantled and collapsed to permit them to be taken off the window and stored away, and also for the purpose of permitting them to be readily readjusted in different relations to the window.

A still further object is to provide window-washing apparatus which can be very quickly and easily accommodated in position to wash the inside as well as the outside of the windows.

Another object is to provide apparatus which in its various operations requires a minimum of manipulation and skill on the part of the operator.

A further object resides in the particular construction and arrangement of parts which are hereinafter described and claimed and shown in the accompanying drawings.

The invention is illustrated in the drawings, of which—

Figure 1 is a sectional view taken on the line A—A of Figure 2.

Figure 2 is a front elevation taken from

the inside of a window, showing the apparatus mounted on the frame of the window.

Figure 3 is a section taken on the line B—B of Fig. 2 and showing in dotted line a different position of the sliding portions of the device.

Figure 4 is an enlarged detail view showing the manner in which the length of the base or fixed portion may be altered to conform to different sizes of window openings.

The form of the invention shown in the drawings is a preferred form, although it is understood that modifications in the construction and arrangement of the parts and in the character of the materials used may be adopted without departing from the spirit of the invention.

The invention as illustrated in the drawings includes a base or support 1 adapted to be mounted and clamped on the sill of a window. This base portion 1 has on its upper surface a pair of grooves or tracks 2, preferably tapered to co-operate with similarly formed tongues 2' on a slidable member 3. The member 3 is slidable laterally of the window frame on the base portion 1. By reason of the tapered tongue and groove engagement of the slidable member 3 with the base 1, the member 3 can be moved back and forth along the base portion 1 but is held rigidly in a horizontal plane.

The slidable member 3 extends transversely of the base 1, and on its lateral edges is provided with turned-over flange portions 4 forming tracks which extend at right angles to the grooves or trackways in the base 1. These tracks are adapted to receive a support or platform 5 and permit its sliding movement on the member 3. This platform can be slid backward and forward at right angles to the window frame by any suitable means, preferably manual. The forward end of this platform is provided with up-rights 6 having on their inner adjacent faces grooves or trackways to receive a sliding carriage or frame 7.

This frame 7 is provided with a horizontal platform 8 on which is mounted an electrical motor 9 properly wired to a source of supply, and is preferably a high-speed motor. On the end of shaft 10 of the motor 9 is mounted a disk or plate 11. This may be mounted in any suitable manner so that it can be readily removed at will. Connected to the edge of the plate or disk 11 is a brush 12. This brush may be connected to

the plate or disk 11 in any suitable manner. The brush may be any desired or suitable kind of brush, preferably one in which the bristles spread beyond the outside edge or rim of the brush so that as the brush revolves with the rotation of the disk 11 the bristles will effectively clean the corners and edges of the window when the brush is disposed to move along those parts of the pane. It is, of course, understood that various kinds of brushes can be mounted on the disk, for instance, not only washing and cleaning brushes but drying and polishing brushes.

On the rear end of the slidable platform 5 is mounted a drum 13. This is mounted in suitable brackets and operated by a handle 14. A ratchet 15, of any suitable form, prevents the unwinding of the drum or the movement of it in one direction. A chain or cable or suitable flexible element 16 is connected to the drum and passes over a pair of pulleys 17, one disposed near the bottom of the uprights 6 and the other disposed near the top of the uprights 6. The other end of this flexible element 16 is connected to the carriage 7. It will be seen that the weight of the carriage and the motor and the co-operating parts will keep the cable or flexible element taut and, therefore, the operation of the drum or spindle 13 is such only as to permit the carriage 7 to be elevated. The release of the ratchet mechanism 15 will, by reason of the weight of the carriage and the motor, permit the carriage and the motor to descend by gravity to the bottom of the frame formed by the uprights 6. The tracks or grooves in the uprights or supports 6 are cut out at the bottom, as shown at 18, so that the entire carriage 7 and everything supported thereon may be removed from the tracks when desired. The further dismantling of the device may consist of the removal of the disk 11 from the shaft 10 and the discounting of the motor 9 from the shelf 8. This may be readily effected by mounting these elements in a readily detachable manner. By removing the carriage 7 and withdrawing the support 5 and the slidable member 3 from their tracks the entire device may be easily knocked down or disassembled.

The ends of the base member 1 are provided with wings or extensions 19 hinged at the ends of the base member in such manner that one or both may be turned, in case the base member is disposed within the frame of a narrow window, to adjust the length of the base member to fit the window. In other cases, both may be up or both may be down, as the conditions require. It is understood, of course, that the dimensions of the device can be varied to suit the general type of windows with which it is to be operated.

The base member is preferably held on the

sill by the engagement of clamping members 21 with one edge of the sill, and the engagement with the other edge of the sill of set screws or clamping screws 20 in the well known manner, so that the base member 1 is very firmly held in position.

In operating the device, the brush or pad 12 is properly treated with the desired cleaning fluid or with soap and water, and thereafter with clear water, and the motor set in operation. As the motor operates, the slidable member 3 is moved back and forth across the sill so that the brush is moved across the window to clean that portion of it coming within the range of the brush at that level. Previously the slidable platform or support 5 has been set to bring the brush in proper contact with the pane of glass on the outside. After this particular level of the window has been cleaned, the frame 13 may be operated to permit the carriage 7 to drop a desired amount. The slidable member 3 is then moved to one side of the frame and the motor again started, whereupon the slidable member is moved across the frame to clean this level. Successive levels of the window are thereby cleaned, and this cycle of operation may be repeated for polishing and drying the window, both on the inside and the outside. To clean the inside of the window, it is merely necessary to raise the lower sash sufficiently so that the support 5 can be drawn inside and permit the uprights or standards 6 to pass beneath the lower edge of the lower sash, whereupon the carriage can be supported within the trackways on the upright 6 facing in the opposite direction so that the brush 12 will bear against the inside of the pane of glass.

It will, of course, be understood that I have described only a preferred form which the invention may assume, and which includes the general principle of operation, which may be embodied, in practical application, in more than the one form shown and, therefore, I do not consider myself to be limited to the particular form disclosed but may be free to adopt any other form which falls within the scope of the following claims.

What I claim is:—

1. A mounting for a window cleaning device which includes a base member, means for clamping the base member to a window sill, said member having a pair of grooves extending thereacross on its upper surface, and a slidable member disposed on the base member and having a pair of tongues extending across its lower surface, one tongue engaging in said groove whereby the slidable member may be slid across the window sill.

2. A mounting for a window cleaning device which includes a base member, means

for clamping the base member to a window sill, said member having a pair of grooves extending thereacross on its upper surface, a slidable member disposed on the base member and having a pair of tongues extending across its lower surface, one tongue engaging in said groove whereby the slidable member may be slid across the window sill, a pair of trackways formed along the opposite edges of the slidable member, and a slidable support mounted on the slidable member and movable in the trackways in a direction at right angles to the sill of the window.

3. A window cleaning device which includes a base member, means for clamping the base member to a window sill, said member having a pair of grooves extending thereacross on its upper surface, a slidable member disposed on the base member and having a pair of tongues extending across its lower surface engaging in said grooves whereby the slidable member may be slid across the window sill, a pair of trackways formed along the lateral edges of the slidable member, a slidable support mounted on the slidable member and movable in the trackways in a direction at right angles to the sill of the window, a pair of uprights disposed on one end of the slidable support and forming a frame, trackways formed on said supports, and a vertically slidable carriage disposed between said uprights.

4. A window cleaning device which includes a base member, means for clamping the base member to a window sill, said member having a pair of grooves extending thereacross on its upper surface, a slidable member disposed on the base member and having a pair of tongues extending across its lower surface engaging in said grooves whereby the slidable member may be slid across the window sill, a pair of trackways formed along the lateral edges of the slid-

able member, a slidable support mounted on the slidable member and movable in the trackways in a direction at right angles to the sill of the window, a pair of uprights disposed on one end of the slidable support and forming a frame, trackways formed on said supports, a vertically slidable carriage disposed between said uprights, means for supporting and moving said carriage in said frame, a motor on said carriage, and cleaning means connected to and operated by said member.

5. A window cleaning device which includes a base member to be supported along the sill of a window, tracks on said base member, a slidable member disposed on the base member and having portions engaging with said tracks to permit its movement across the sill of the window, and hinged wings on the ends of the base member adapted to be thrown in alignment with the base member to vary the length of the base member in accordance with the size of the window opening.

6. A window cleaning device which comprises a base member clamped to the window sill, a slidable member adapted to be slid along the sill, a second slidable member mounted on the first slidable member and adapted to be moved at right angles to the sill, a frame mounted on said second slidable member, a carriage supporting a cleaning device and slidable vertically in said frame, and means on said second slidable member for raising and lowering the carriage and the cleaning device.

In testimony whereof I, GEORGE HUNTER, have signed my name to this specification in the presence of two subscribing witnesses, this twenty-ninth day of July, 1921.

GEORGE HUNTER.

Witnesses:

D. O. DECKER,
VIRGINIA WICHELS.