March 1, 1949. C. THIER ET AL 2,463,443

PORTABLE WINDOW CLEANER

Filed Sept. 26, 1945

Fig. 1

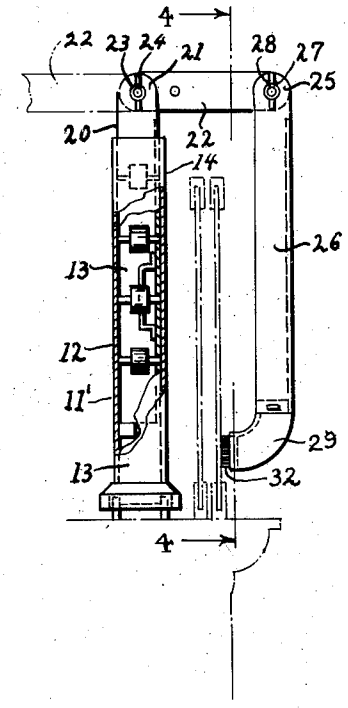


Fig. 2

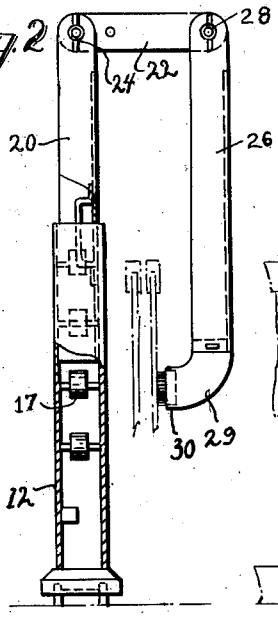


Fig. 3

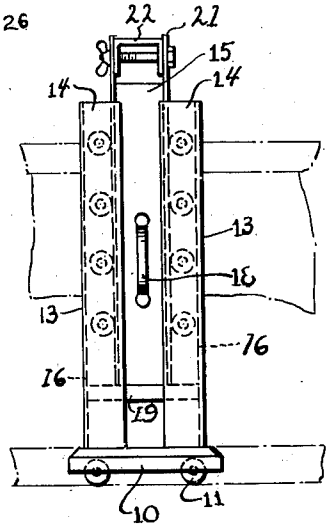


Fig. 4

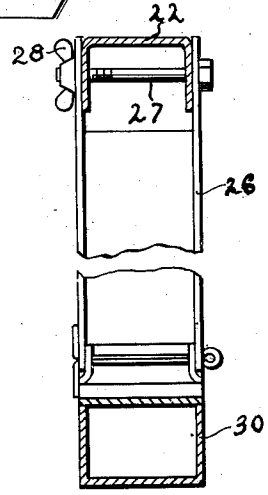


Fig. 5

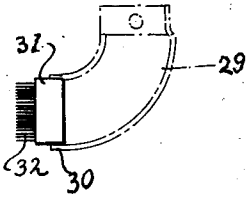
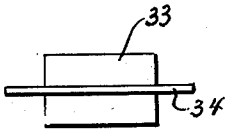


Fig. 6



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PORTABLE WINDOW CLEANER

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1 Claim. (Cl. 15—103)

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This invention relates particularly to portable window cleaners.

Heretofore great inconvenience has been experienced in the cleaning of windows due to the fact that it is necessary for the window cleaner to climb to the outside sill or to stand or sit on the window sill with the body outside of the window and clean the window from that position. When this action is necessary there is always the danger of falling and in order to eliminate this hazard we have constructed our device which can be readily and efficiently operated from the inside of the room with the cleaning or drying implement outside of the room and in contact with the surface of the window pane.

Another method used for cleaning windows is to provide a cleaning device which has to be balanced in cleaning position with one hand and operated with the other. Such devices are usually impractical as the cleaning device is heavy, and awkward and it is very difficult to hold it in operative position or to manipulate it.

A principal object of the present invention is to provide a window cleaner for cleaning the surface of a window pane exterior of the room from a position within the room without danger to the person operating the cleaner.

Another object is to provide a device of this kind that can easily be transported to cleaning position at the window.

Still another object is to provide a window cleaner that is adjustable to clean either the inside or outside surface of the window pane, to fit various sized windows and one that is extremely useful for home windows, store windows and the like.

Yet another object is to provide a window cleaner that may be used readily for washing with a sponge and the like or drying or polishing with a squeegee.

A further object is to provide a portable window cleaner that is easy to manipulate, simple in construction, positive and efficient in action, inexpensive to manufacture and highly serviceable in use.

Other objects and advantages of the improved cleaner will be apparent from the description thereof to follow taken in connection with the accompanying drawing in which—

Fig. 1 is a side view of the improved window cleaner, parts being broken away and parts being shown in section.

Fig. 2 is a view similar to Fig. 1 but with the moving parts in uppermost position.

Fig. 3 is a front elevation of the window cleaner.

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Fig. 4 is a sectional view taken on the plane of the line 4—4 of Fig. 1.

Fig. 5 is a detail of the cleaning brush.

Fig. 6 is a detail view of the wiper.

Referring to the drawing in detail, the improved window cleaner comprises a base member 10 which may be mounted on wheels 11 whereby it is readily transported from place to place. Supported on the base and fastened thereto in any suitable manner such as welding is a vertically disposed outer stationary frame 11' having a rear wall 12, side walls 13 and a split front wall forming two spaced sections 14. An inner plate 15 with flanges 16 fittingly slides in the outer frame with flanges 16 sliding on rollers 17 supported between the rear wall 12 and front wall sections 14. The movable plate extends above the outer frame and is provided about midway its length with a handle 18 for moving it up and down. A transverse bar 19 is supported on the outer frame adjacent its lower end for limiting the downward movement of the movable plate.

The plate is extended at its upper end as at 20 and terminates in a bifurcated end 21. A link member 22 has one end pivotally connected to said upper end 21 by means of a threaded bolt 23 extending therethrough and through the bifurcated portions of said upper end. A wing nut 24 on the outer end of the bolt fastens the parts together. The other end of the link member has a bifurcated end 25 and an arm 26 is pivotally connected thereto by a pivot bolt 27 and wing nut 28. The other end of the arm is curved as indicated at 29 terminating in a horizontally disposed portion 30 extending at right angles to the body of the lever. This portion 30 detachably supports a tool such as a block 31 carrying a brush 32 for cleaning the window pane.

The device when used as a window cleaner for cleaning and polishing the outside surface of the upper pane from within a room is moved and its base mounted on the window sill in front of the window. The upper pane is lowered to align it with the lower pane. The link member 22 is adjusted so that it is disposed horizontally over the aligned panes outwardly of the window. Arm 26 is then adjusted so that it extends downwardly parallel with the panes with its portion 30 which carries the brush 32 extending inwardly toward the aligned panes and with the brush in engagement with the outer surface of the outer upper pane. By reciprocating the movable plate 15 by means of the handle 18, the arm 26 which is operatively connected thereto will cause the brush

to move over the surface of the pane and clean it as will be understood.

When it is desired to clean the outer surface of the lower pane, the upper pane is raised to its uppermost position and the lower pane is raised somewhat so that the window is open at the bottom and the lower portion of the lower pane is free of the upper pane and such portion is exposed. The device is positioned on the floor in front of the window and the link member **22** with the lever **26** is inserted through the opening below the lower pane. The lever **26** is now outside of the window. The arm is then adjusted so that it extends upwardly therefrom with its portion **30** disposed at the top and extending inwardly with its brush **32** against the outer surface of the exposed portion of the lower pane. Reciprocation of the inner frame by the handle **18** will move the brush over said exposed surface of the lower portion of the lower pane and clean the same.

For cleaning the remainder or outer upper portion of the lower pane, the device is mounted on the sill of the window and the upper pane is lowered and the lower pane raised until only the uncleaned portion thereof is exposed, thus leaving an opening above said lower pane. The upper exposed portion of the outer surface is then cleaned similarly to the outer surface of the upper pane by positioning the link member **22** out through the opening with the lever **26** outside of the said upper exposed portion of the lower pane, with its brush in engagement with the said exposed portion. Movement up and down of the plate **15** will of course clean said exposed portion.

After the window pane has been washed and cleaned by the brush **32**, the block **31** with the brush is removed and a block **33** supporting a rubber or felt wiper **34** is mounted on the end of the portion **30** of the lever. The wiper is moved over the surface of the pane the same as the brush **32** thereby drying the pane.

The device is readily portable so that it can be easily moved to any window in the room or house yet is sufficiently sturdy and heavy to prevent it from becoming unbalanced and tipping over. It is easily adjusted for cleaning the inside surfaces

of the window panes and for cleaning windows of considerable areas such as store windows.

Furthermore, the device may be made of metal, plastic or any other suitable material and changes in details of construction might be made without departing from the principle or scope of the invention and it is desired to be limited only by the state of the prior art and the appended claim.

We claim:

A portable window cleaner of the character described consisting of a base supported on wheels, a vertically disposed frame member secured to said base and having rear, side and front wall portions, the front wall portion being split forming spaced sections, a flanged plate slidable in said frame member with its flanged portions guided by said front wall sections, a rigid extension on the upper end of said flanged plate above the frame member, a handle on the plate movable in the space between the front wall sections for reciprocating the plate, a link member having one end pivotally connected to said extension, and adapted to be selectively held in a horizontal position forwardly or rearwardly of the frame member, an arm having one end pivotally connected to the other end of said link member to depend therefrom and adapted to be anchored in a position substantially parallel with the frame member, a cleaning tool detachably supported on the other end of said arm and a cross-bar within the lower end of the frame member for limiting downward reciprocatory movement of the plate and to provide a support therefor.

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