April 8, 1924. 1,489,799

J. A. TISCORNIA

WINDOW CLEANING DEVICE

Filed Feb. 9, 1923

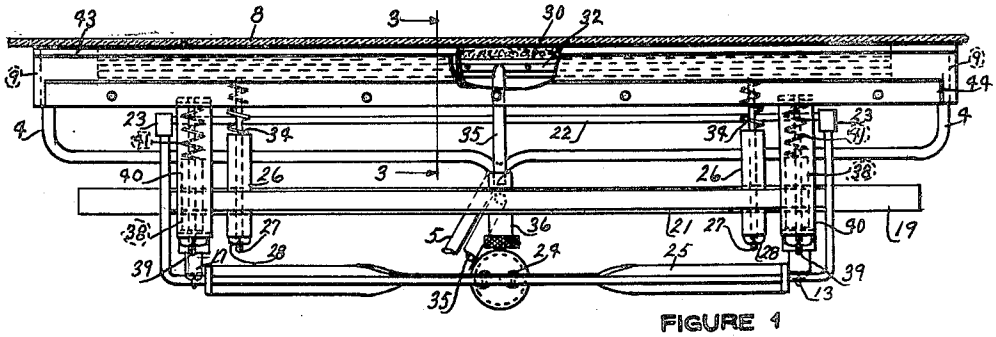


FIGURE 1

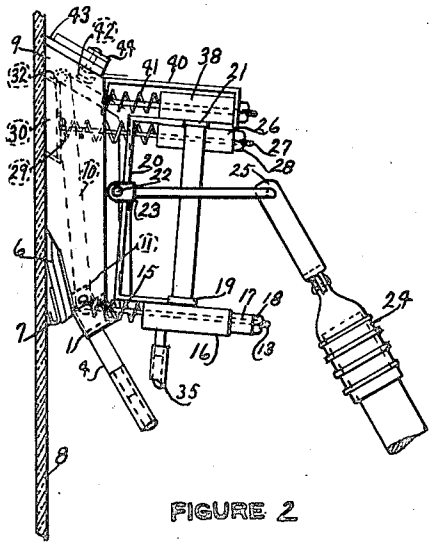


FIGURE 2

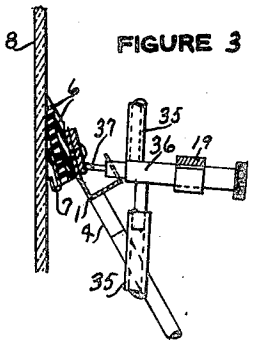


FIGURE 3

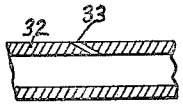


FIGURE 7

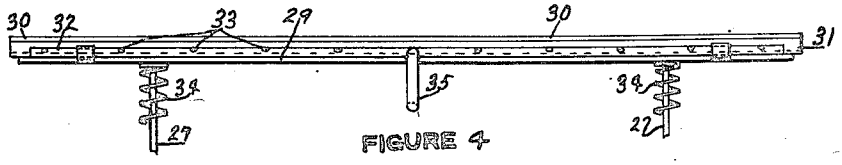


FIGURE 4

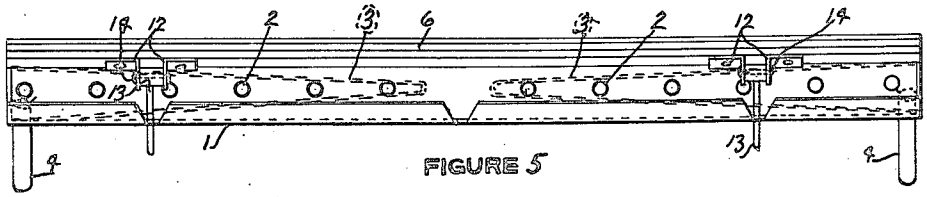


FIGURE 5

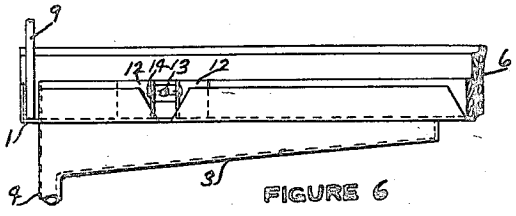


FIGURE 6

INVENTOR

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UNITED STATES PATENT OFFICE.

JAMES A. TISCORNIA, OF SAN JOSE, CALIFORNIA.

WINDOW-CLEANING DEVICE.

Application filed February 9, 1923. Serial No. 618,016.

To all whom it may concern:

Be it known that I, JAMES A. TISCORNIA, a citizen of the United States, and residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Window-Cleaning Devices, of which the following is a specification.

It is the object of my invention to provide a device of the character indicated that will become automatically operative when placed in an operative position.

It is another object of my invention to provide a device of the character indicated that will in the one operation wash, clean and dry the surface over which it is moved, and that will remove the water used in the cleansing operation to a receptacle or discharge point prepared to receive it.

It is still a further object to provide a device of the character indicated that will be economical to manufacture, simple in construction, easily operated, and highly efficient in its practical application.

In the drawing:—

Figure 1 is a plan view of my improved window washing device, part broken away.

Figure 2 is an end elevation of the same.

Figure 3 is a sectional view on line 3—3 of Figure 1.

Figure 4 is a detail plan view of the jet tube and cleaning pad.

Figure 5 is a detail plan view of the waste water remover.

Figure 6 is a rear elevation of one half of the waste water remover.

Figure 7 is an enlarged section through a portion of the jet tube.

Referring more particularly to the drawing, 1 indicates a trough provided with orifices 2 in its bottom. Mounted upon the bottom of trough 1 are conduits 3—3 into which orifices 2 discharge, each conduit beginning at a point near the center of trough 1 and sloping downwardly toward the end thereof and discharging into a tube 4, the two tubes 4—4 converging to a single pipe 5 through which water from trough 1 is conducted to a receptacle not shown.

Rigidly mounted upon the forward edge of the trough 1 is a rubber strip 6 having a narrow trough 7 mounted upon its lower edge and so formed and positioned with relation to trough 1 that its upper edge will lie flat against a window pane 8 when in an operative position. This construction is such that when water is thrown on the window above strip 6 it flows down over said strip and into trough 1 and thence to the discharge pipe as described. Trough 1 also supports rubber end members 9 by means of metal strips 10 secured thereto and to trough 1 as at 11.

Arranged in spaced relation on trough 1 are lugs 12, in each pair of which is pivotally mounted a pin 13 as at 14. On each pin 13 is arranged first a spring 15, then a collar 16, then a rubber sleeve 17, and finally a nut 18, the latter being screwed into place as shown. The two collars 16 are connected by a bar 19, and each collar supports together with 19 a bracket 20 connected at their upper portions by a bar 21. On the front side of brackets 20 is pivotally mounted a rod 22 as at 23—23, this rod having a handle 24 secured thereto by means of a rod 25.

Mounted on the under side of bar 21 and near each bracket 20 is a bearing or guide member 26 in which is slidably mounted rod 27. Each rod 27 is fitted with a nut at 28 and is attached at its forward end to a bar 29 carrying a felt pad 30 and, by means of supports 31, a conduit 32 provided with forwardly and angularly arranged orifices 33. On each rod 27 between bearing 26 and bar 29 is a spring 34 arranged to urge the bar forwardly against the window pane. Conduit 32 is connected to a suitable source of water supply under pressure by means of a tube 35 in which is inserted a valve 36 mounted on the bar 19 as shown, the stem 37 of the valve extending forwardly and contacting with the front portion of trough 1.

Upon the top of each bracket 20 is fixedly mounted a bearing 38 having rod 39 slidably mounted therein. On each rod 39 is secured a bracket 40, a spring 41 being inserted between the forward end of the bracket and the bearing 38. Attached to the forward ends of bracket 40 is a narrow trough 42 upon which is mounted a rubber strip 43 backed by a metal bar 44.

In operation the pipe 35 is connected to a source of water supply not shown, the said water being under some pressure. By means of handle 24 the device is raised to the upper edge of a window pane and placed flat against the same. A slight pressure on handle 24 now secures perfect contact of rubber strips 6 and 43 and also pad 30

against the glass. In effecting this contact, however, the whole structure mounted on pins 13, that is all parts except the trough 1 and parts referred to as rigidly mounted thereon, are moved forwardly on pins 13 and upwardly about pivotal points 14 thereby causing stem 37 of valve 36 to be pushed in by contact with the forward wall of trough 1 and permitting the discharge of water through orifices 33 in conduit 32. The parts 43 and 30 being urged into perfect contact with the glass by means of their respective springs the device is now drawn downwardly over the window. The water flowing in jets over the glass keeps the pad 30 wet so that it removes the dirt from the surface over which it passes, the surface being flushed and rinsed by the water jets after the pad has passed thereover. Since these parts are followed by the rubber strip 43, all the water remaining on the glass after their passage is removed by said strip 43. The water removed by strip 43 and flowing down from the jets discharged by conduit 32 is directed into trough 1 by strip 6 and thence carried away as described.

It will be readily seen from the foregoing that I have provided a device that will wash and dry a window in one passage thereover, and one that is economical to manufacture, easily operated and highly efficient in its practical application.

It is to be understood, of course, that while I have herein shown and described one specific embodiment of my invention, changes in form, construction and method of operation may be made within the scope of the appended claims.

I claim:

1. A window cleaner comprising a frame and a handle therefor, a window engaging trough pivotally and resiliently mounted thereon, a window engaging pad and a window engaging drying strip resiliently mounted thereon with their contact surfaces lying in the same plane, a water supply conduit arranged to discharge water between said pad and drying strip, a normally closed valve in said conduit, and means actuated by the relative movement of said frame and trough for opening said valve.

2. A window cleaner comprising a frame and a handle therefor, a window engaging trough pivotally and slidably mounted thereon, a window engaging pad carried by said frame, a conduit arranged to carry water to said pad, a normally closed valve in said conduit, and means actuated by the movement of said frame relative to said trough for actuating said valve to an open position.

3. A window cleaner comprising a frame and a handle therefor, a window engaging trough pivotally and slidably mounted thereon, a window engaging pad carried by said frame, a conduit arranged to carry water to said pad, a normally closed valve in said conduit having a stem adapted to engage said trough and actuated by the movement of said frame relative to said trough.

4. A window cleaner comprising a frame and a handle therefor, a window engaging trough mounted thereon and movable with relation thereto, a window engaging pad carried by said frame, a conduit supported by said frame arranged to carry water to said pad, a normally closed valve in said conduit, and means actuated by movement of said frame relative to said trough for opening said valve.

5. A window cleaner comprising a frame and a handle therefor, a window engaging trough mounted thereon, a window engaging pad resiliently mounted thereon and adapted to follow said trough over the surface being cleaned, a conduit supported by said frame arranged to carry water to said pad, and a drying strip resiliently mounted on said frame and arranged to follow said pad and trough over the surface being cleaned.

JAMES A. TISCORNIA.