May 12, 1931. C. F. FISHER 1,804,867

WINDOW CLEANER

Filed Dec. 27, 1927 2 Sheets-Sheet 1

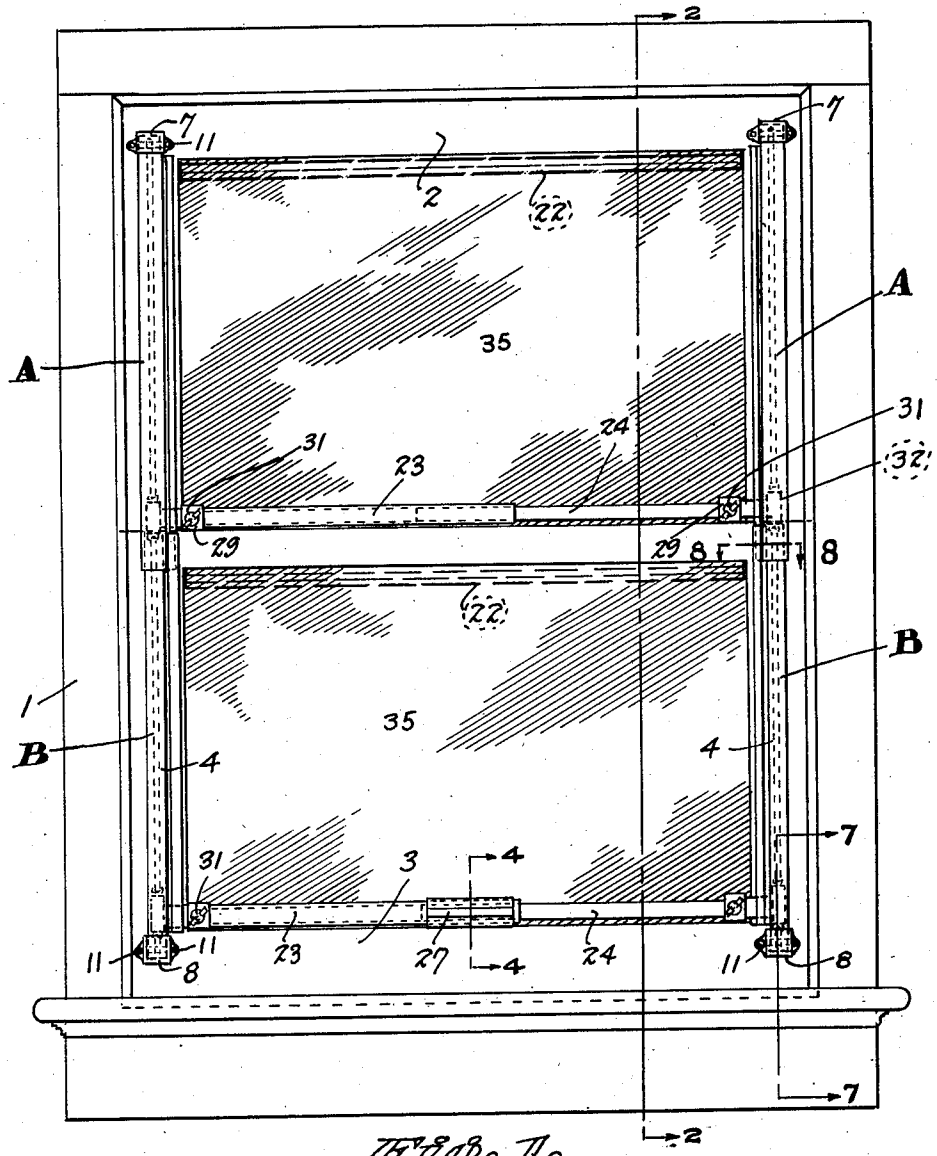


Fig. 1.

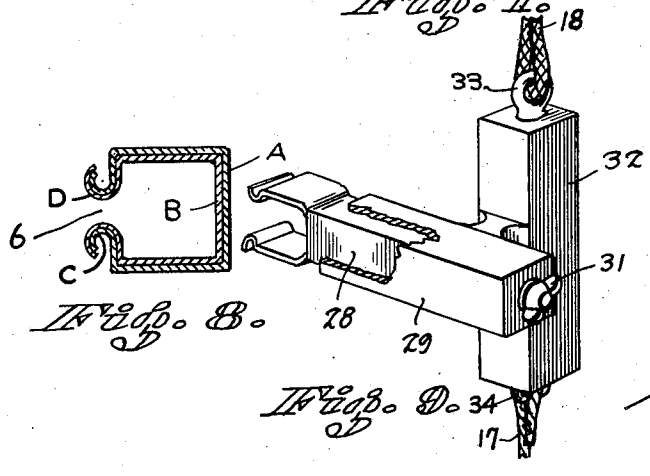


Fig. 2. Fig. 3. Fig. 4.

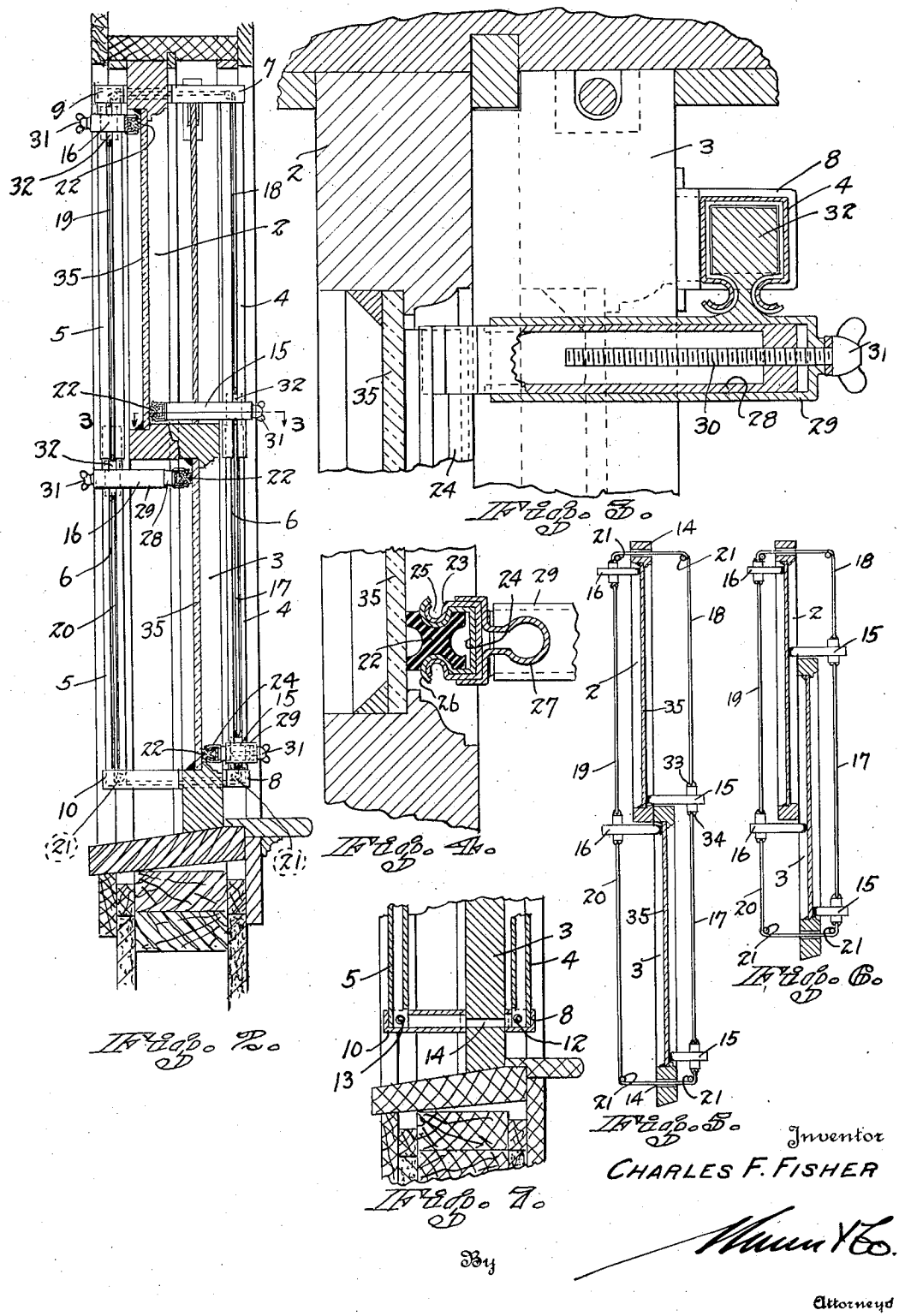
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Patented May 12, 1931 1,804,867

UNITED STATES PATENT OFFICE

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WINDOW CLEANER

Application filed December 27, 1927. Serial No. 242,810.

My invention relates to improvements in window cleaners, and it consists in the combinations, constructions, and arrangements hereinafter described and claimed.

An object of my invention is to provide a window cleaner that is adjustable for various size windows, and constructed so that it may be permanently applied and be used at the will of the operator. The device does not interfere with the ordinary functioning of the sashes, yet may be used at any time for cleaning purposes.

The device may be attached to any window with but slight alterations being necessary in the latter. The device employs novel means for varying the pressure of the cleaning elements upon the window panes.

Other objects and advantages will appear in the following specification, and the novel features of my invention will be particularly pointed out in what I hereinafter claim.

My invention is illustrated in the accompanying drawings forming a part of this application, in which:

Figure 1 is a front elevation of the device;

Figure 2 is a section along the line 2—2 of Figure 1;

Figure 3 is a section along the line 3—3 of Figure 2;

Figure 4 is a section along the line 4—4 of Figure 1;

Figures 5 and 6 are diagrammatic showings of the device in two positions;

Figure 7 is a section along the line 7—7 of Figure 1;

Figure 8 is a section along the line 8—8 of Figure 1; and

Figure 9 is a perspective view of a portion of the device.

In carrying out my invention I make use of a window frame 1 that has the usual window sashes 2 and 3 mounted therein. My device comprises two pairs of extensible hollow guide rods 4—4 and 5—5. The cross sectional view of these rods is shown in Figure 8. Each telescoping rod comprises an outer slidable member A and an inner slidable member B. These members are rectangular in cross section and have beads C and D formed thereon that are spaced far enough away to provide a guide channel 6.

Each telescoping rod is secured at its top and bottom ends by brackets 7 and 8. I will give the brackets on the inner side of the window numbers 7 and 8, while the brackets on the outer side, i. e., the ones connected to the telescoping rods 5, numbers 9 and 10. The brackets 7, 8, 9, and 10 are secured to the sashes by screws 11, or other suitable fastening means, see Figure 1. The brackets 7 and 9 are disposed opposite to each other and in like manner also the brackets 8 and 10, see Figure 2. The brackets are hollow and permit a cord passing from one telescoping rod to pass into the other telescoping rod. Figure 7 shows how the brackets 8 and 10 are secured to the rods 4 and 5 by pins 12 and 13. These pins also support rollers around which cables are mounted. An opening 14 in the sash places the bracket 8 in communication with the bracket 10.

Reference to Figures 5 and 6 illustrate diagrammatically the function of the window wiping mechanism. Squeegee supporting members 15—15 and 16—16 are disposed on each side of the sashes 2 and 3 and are connected by cords 17, 18, 19, and 20. It should be noted at this point that the cords 18 and 20 are elastic and can therefore shorten or elongate. The cords 17 and 19 are flexible, yet at the same time will not change in length. The cords 17 and 18 are disposed in the telescoping rods 4, while the cords 19 and 20 are disposed in the telescoping rods 5. As shown, the cords are passed around pulleys 21.

A movement of either squeegee 15 upwardly will move the squeegee 16 downwardly and thus clean the inner and outer surfaces of both window panes. The elastic cords 18 and 20 are already elongated to their greatest extent when the sashes 2 and 3 are in closed position, as shown in Figure 5. These cords will therefore act in the same manner as cords 17 and 19 and all of the cords will form an endless connection between the four squeegees. When the sashes are moved with respect to each other, as shown in Figure 6, the cords 18 and 20 will instantly

shorten and will take up any play. This permits the window to be used in the ordinary manner without in any way interfering with the functioning thereof, nor with the window cleaning mechanism.

I will now describe the particular construction of the squeegee support. As already stated, there are four squeegees, and since all of them are identical, a description of one will suffice for all. Each squeegee comprises a rubber member 22 of the cross sectional shape shown in Figure 4. This rubber member extends across the entire width of the window pane, and is clamped in a telescoping bar consisting of an outer member 23 and an inner member 24. These members are provided with beads 25 and 26, that grip the member 22. A handle 27 is mounted on the lower squeegee 15, see Figure 1, this handle is used for raising and lowering all of the squeegees. The casings 23 and 24 extend to supporting devices of the shape shown in Figure 3. In this figure I show the casing 24 as being secured to an element 28 that is slidably received in a casing 29. A screw 30 connects the inner casing 28 with the outer casing 29 and when turned by a wing nut 31 it will move the inner casing with respect to the outer casing. The outer casing has a projection 32 that is slidably received in the extensible rod 4 or 5. The projection 32 has an eyelet 33 at the top thereof and another eyelet 34 at the bottom thereof, see Figure 9. Figures 5 and 6 show how these eyelets have the cords 17, 18, 19, and 20 connected therewith so that the entire device operates as a unit.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The device may be readily attached to any window. Its principal use is for automobile windows or for standard windows used in buildings. The only requirement is to provide openings 14, see Figure 7, in the upper and lower sash. The telescoping rods 4 and 5 are then disposed in place and the squeegees are then connected to the rods by the cables 18 to 20, inclusive. The desired pressure may be exerted by the rubber element 22 against the window pane 35 by manipulating the screw 30 so that the element 28 will be moved toward the window pane.

All four squeegees may be simultaneously moved by grasping the handle 27 and moving the squeegee connected therewith. It will also be clear from the previous explanation that the window sashes may be raised or lowered without in any way affecting the window cleaning mechanism. The device is adaptable to all sizes of windows and assumes an inconspicuous position on the window when not in use.

Although I have shown and described one embodiment of my invention, it is to be understood that the same is susceptible of various changes and I reserve the right to employ such changes as may come within the scope of the invention as claimed.

I claim:

1. A window cleaner for standard two sash windows comprising four squeegees for simultaneously cleaning the inner and outer surfaces of two window panes, and means connecting said squeegees together for causing all of said squeegees to operate simultaneously.

2. A window cleaner adapted to be secured to a window having upper and lower sashes, and comprising vertically disposed extensible guides arranged at the sides of said sashes, and on the inner and outer surfaces thereof, endless members disposed in said guides and having elastic portions, and squeegees slidably carried by said guides and being connected to said members, said squeegees simultaneously cleaning the entire inner and outer surfaces of both panes when said squeegees are moved.

3. In a window cleaner, parallel guides disposed at the sides of a window, casings slidably carried by the guides and having their open ends facing toward the window panes, squeegee carrying members slidably mounted in said casings, squeegees carried by said members, and manually controlled means for adjusting the members with respect to the casings for creating the desired squeegee pressure on the window panes.

CHARLES F. FISHER.