April 14, 1953 G. COLEMAN 2,634,444

WINDOW CLEANER HAVING COMPANION MAGNETS

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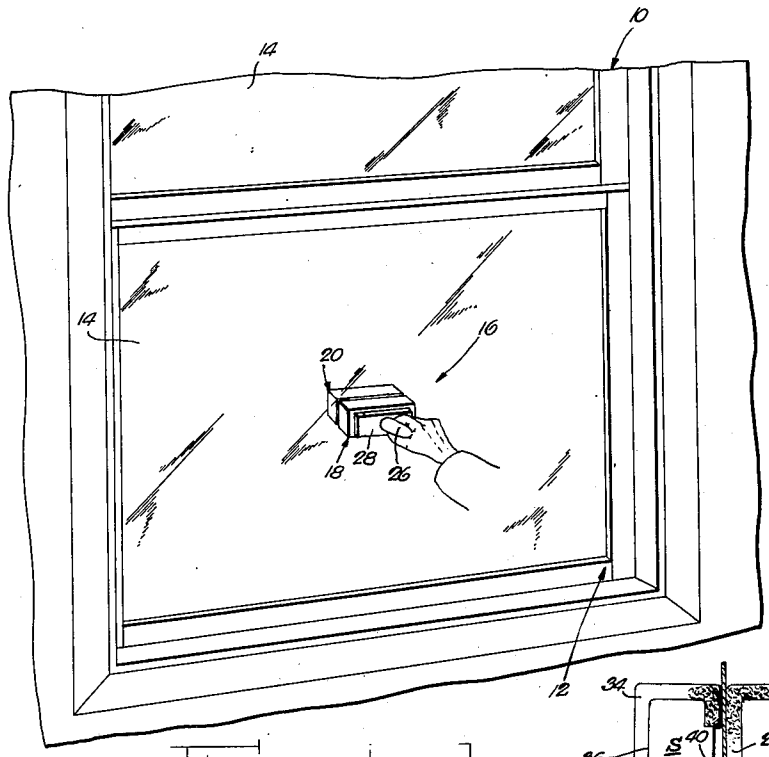


FIG. 1

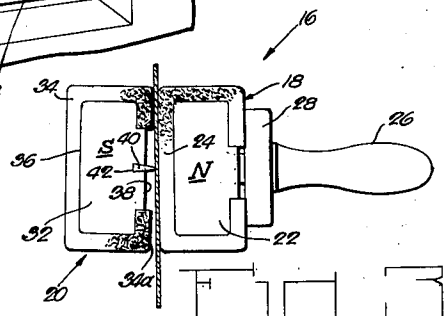
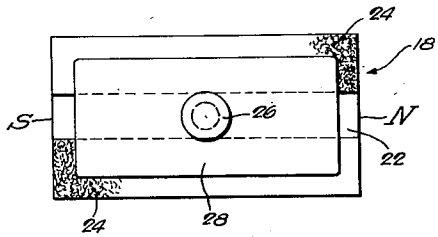


FIG. 3

FIG. 4



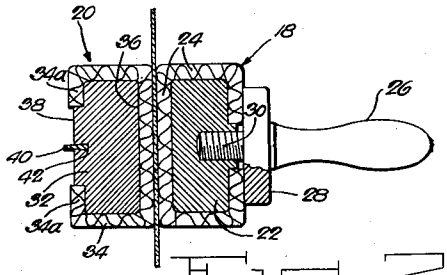


FIG. 2

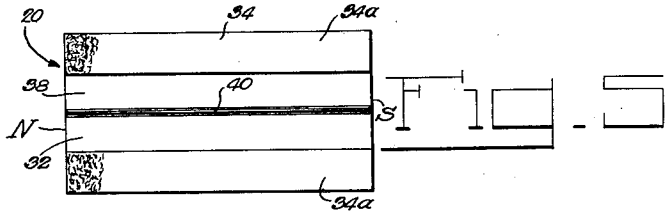


FIG. 5

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WINDOW CLEANER HAVING COMPANION MAGNETS

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3 Claims. (Cl. 15—121)

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This invention relates to window cleaning devices and more particularly to magnetic window-cleaners.

The primary object of the present invention is the provision of a magnetic window-cleaning device to enable the outside of a window to be cleaned by manipulation of the device at the inner side of the window, without requiring the use of electricity during the operation of the device, thus eliminating electrical wiring and the cost and disadvantages thereof.

Another object of the invention is the provision of a magnetic window-cleaning device which is of simple construction and convenient in use, and which can be produced at low cost.

The above and other objects, features and disadvantages of the present invention will be fully understood from the following description considered in connection with the accompanying drawings which, however, are to be taken as illustrative of the invention but not in limitation thereon.

In the drawings:

Fig. 1 is a perspective view of a magnetic window-cleaning-device embodying the present invention showing said device applied to a window;

Fig. 2 is a vertical sectional view of the device;

Fig. 3 is an end view of the device showing one of the cleaning members disposed with the squeegee carried thereby in operative relation to the window;

Fig. 4 is a side view of the inner cleaning member;

Fig. 5 is a side or face view of the outer cleaning member.

Referring now to the drawings in detail, there is shown in Fig. 1, a window having the upper and lower vertically slideable window sashes 10 and 12 of the usual construction each having a glass window pane 14 mounted therein. The window cleaning device 16 of the present invention comprises the inner and outer window-cleaning members 18 and 20, respectively, which, in the use of the device are disposed at the inner and outer sides of the glass window pane 14.

The inner window-cleaning member 18 comprises a permanent magnet 22 which is preferably in the form of an elongated rectangular bar. The magnet 22 is provided with a layer of cleaning material 24 disposed on the face thereof which is adjacent the window pane 14 for cleaning the latter. Said layer 24 of cleaning material is preferably formed of felt or of any other suitable fabric or cleaning pad material and is secured to the magnet 22, preferably removably, in any suitable way, as by screws or by a retaining ring (not shown). As here shown, a handle 26 provided on a base 28 of wood, plastic, or any other suitable material is attached to the magnet 22 by a screw threaded part 30 which is threaded into

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the magnet. The base 28 may be utilized, as here shown, for securing the layer 24 of cleaning material in position on the magnet. In this connection it will be understood that upon unfastening or partially unfastening the handle 26 so as to unclamp base 28, the layer 24 may be removed for replacement by another layer of cleaning material.

The outer window-cleaning member 20 comprises a permanent magnet 32 which is preferably but not necessarily of the same size as magnet 20. A layer 34 of cleaning material which may be the same material as the layer 24 of member 18 is disposed so as to cover one face 36 of magnet 32. The opposite face 38 of the magnet has a squeegee 40 mounted thereon and extending longitudinally thereof, said squeegee being preferably, but not necessarily, secured in a groove 42 provided in said face 38 of the magnet. Portions 34a of layer 34 are overlapped on face 38 so as to provide cushioning material at opposite sides of the squeegee 40. It will be understood that the cleaning material 34 may be attached to the magnet 32 in any suitable way, preferably removably, as by screws or by a retaining ring (not shown).

In the use of the device, for cleaning the lower window pane 14, the members 18 and 20 having been moistened with water or other cleaning liquid are disposed at the opposite sides of said window pane in confronting relation, with said members 18 and 20 disposed so that the north and south poles of member 18 are adjacent the south and north poles, respectively, of member 20, said north and south poles of each magnet being indicated by the reference characters N and S respectively in Figs. 3, 4 and 5. Cleaning members 18 and 20 are preferably provided with these or other indicia of polarity to aid the user in positioning the cleaning members in the correct relation.

It will be noted that since each of the cleaning members includes a permanent magnet said cleaning members are disposed in mutually attracting relation so that as said inner member 18 is moved over the window pane 14 for cleaning the inside of said window pane, the outer member 20 is correspondingly moved over the outer side of said window pane for cleaning said outer side thereto simultaneously with the cleaning of the inner side of the window pane. The relative position of the cleaning members with the cleaning material 24 and 34 respectively thereof disposed adjacent the opposite sides, respectively, of the window pane as illustrated in Fig. 2, and it will be understood that in this relative position of the cleaning members the layer of cleaning material prevents contact of the magnets 22 and 32 with the glass of the window pane. When the cleaning member 20 is reversed from its position shown in Fig. 2 to its position shown

in Fig. 3, so as to operate the squeegee 40, the portions 34a of the material 34 prevent contact of the magnet 32 with the window pane. It will be understood that any suitable squeegee can be used at the inner side of the window pane, if desired, after the operation of the squeegee 40 at the outer side of the window pane is completed so that the two cleaning members 18 and 20 may be removed from the window pane. It will be understood that after the lower window pane is cleaned, the magnetic cleaning members 18 and 20 may be applied to the upper window pane, the sash 10 being lowered so as to enable the outer cleaning member 20 to be placed at the outer side of the upper window pane while the inner cleaning member is positioned at the inner side of the upper window pane.

Thus it is seen that the magnet window-cleaning device is well adapted to accomplish the purposes thereof, and in this connection it will be noted that with reasonable care in the use of the device the cleaning member 20 at the outside of the window is at all times held in position in movable relation over the outside surface of the window by manipulation of the inner cleaning member 18. If desired, the inner and outer cleaning members 18 and 20 may be tethered to each other by a flexible cord or chain of sufficient length to allow for the proper range of movement of the two cleaning members over the entire surface of the window pane. It will be noted that as pointed out above the two cleaning members are disposed in mutually attracting relation by reason of the magnetic attraction of each of the magnets on the other, so that there is no danger of either of the magnets being removed from the window accidentally or thoughtlessly, since the mutual magnetic attraction between members 18 and 20 does not depend upon the connection of any electric wiring to a source of energizing current or to the continuous flow of such current which would be required if either of the cleaning members were operated by an electro-magnet. The provision of a permanent magnet and the elimination of electrical wiring and the iron core required for an electro-magnet considerably reduces the weight of the device and correspondingly facilitates the use thereof and materially reduces the cost of the device.

It will be understood that various changes in the details of construction and in the form and arrangement of the parts of each of the cleaning members may be made without departing from the underlying idea or principles of this invention within the scope of the appended claims.

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

1. A window cleaning device adapted to be actuated at the inner side of a window for cleaning both the inside and outside thereof simultaneously, comprising a pair of individual magnetic window-cleaning members adapted to be disposed in mutually attracting relation at the opposite sides, respectively, of the window, each of said members comprising a permanent magnet, said magnet being in the form of a bar, each of said bars having a layer of cleaning material releasably held on the face thereof which is adjacent to the adjacent side of the window, one of said members having a handle for facilitating the movement thereof, said handle being movable relative to its associated permanent magnet for clamping and unclamping cleaning material to said associated magnet, whereby movement of the cleaning member at the inner side of said window for cleaning the latter results in corresponding movement of the cleaning member at the outer side of said window for cleaning the outer side thereof.

2. A window cleaning device adapted to be actuated at the inner side of a window for cleaning both the inside and outside thereof simultaneously, comprising a pair of individual magnetic window-cleaning members adapted to be disposed in mutually attracting relation at the opposite sides, respectively, of the window, each of said members comprising a permanent magnet, said magnet being in the form of a bar, each of said bars having a layer of cleaning material releasably held on the face thereof which is adjacent to the adjacent side of the window, one of said members having a handle for facilitating the movement thereof, said handle being movable relative to its associated permanent magnet for clamping and unclamping cleaning material to said associated magnet, and the other of said members having on its opposite faces a covering layer of cleaning material and a squeegee, respectively, said last mentioned bar having a longitudinal groove in one of said faces thereof and said squeegee being fixed in said groove, and cushioning material disposed on said one of said faces at opposite sides of said squeegee, the latter projecting outwardly beyond said cushioning material, said cushioning material comprising end portions of said covering layer of cleaning material on said last mentioned bar.

3. A window cleaning device adapted to be actuated at the inner side of a window for cleaning both the inside and outside thereof simultaneously, comprising a pair of individual magnetic window-cleaning members adapted to be disposed in mutually attracting relation at the opposite sides, respectively, of the window, each of said members comprising a permanent magnet, said magnets being in the form of elongated bars, each of said elongated bars having a layer of cleaning material releasably held on the face thereof which is adjacent to the adjacent side of the window, one of said members having a handle for facilitating the movement thereof, said handle being axially movable inwardly and outwardly of its associated permanent magnet for clamping and unclamping, respectively, cleaning material to said associated magnet, the movement of the cleaning member at the inner side of said window for cleaning the latter results in corresponding movement of the cleaning member at the outer side thereof.

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