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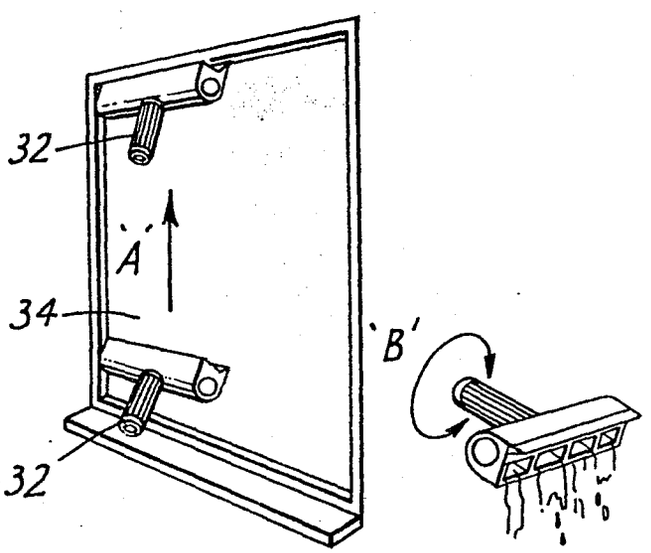
(54) Device for removing moisture from window panes and the like.

(57) A device for removing moisture such as condensation from window panes comprises a hollow body portion (2) to which is attached an elongate blade (16) of generally wedge-shape in transverse section, one or more inlets (6) to the body portion (2) being formed in said body portion (2) adjacent the trailing regions of the blade (16). On substantially horizontal engagement of the leading edge (24) of the blade (16) with the window pane (34), and on movement of the device up the pane (34), condensation is removed from the pane (34) by the leading edge (24) of the blade (16) and is forced under gravity and inertia over said blade (16), through said one or more inlets (6) and into the hollow body portion (2). The interior of the body portion (2) is of such a shape that emptying of the water from the device can be achieved by turning the device upside down from the position used to collect the water.



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DEVICE FOR REMOVING MOISTURE FROM WINDOW PANES AND THE LIKE

This invention relates to devices for removing moisture from window panes or like flat surfaces and has particular though not exclusive application to the removal of condensation from the window panes of industrial and domestic buildings.

It is well appreciated that the formation of condensation, particularly overnight in the bedrooms of domestic residences, is a considerable problem that has proved very difficult, if not impossible, to overcome. Although the installation of double glazing can reduce the problem somewhat, condensation can and does still form even after such expensive installations.

Consequently, clear windows can only be achieved by physically removing the moisture from the window panes. However, because condensation is pure water and has a relatively high surface tension, it is notoriously difficult to wipe off, the water behaving somewhat like mercury by running into globules. Even the use of the best quality chamois leather or yards of absorbent tissue does not guarantee a clean pane.

It has been proposed to provide a window cleaning device including a rubber blade which can be drawn across and/or down a wet pane whereby the water is caused to run down the window and collect at the bottom. Clearly such an arrangement is more suited to

outdoor than indoor situations - in the latter case it is necessary to mop-up the water from the window sill, while the formation of puddles can eventually cause damage to, for example, the surrounding paintwork and wallpaper as well as to the woodwork itself.

It would be desirable to provide a device which could effectively remove condensation from window panes without forming undesirable puddles of water.

According to the present invention there is provided a device for removing moisture from window panes comprising an elongate blade of generally wedge-shape in transverse section and having a leading edge adapted for engagement with a window pane, and a hollow body portion to which the blade is attached, said body portion including one or more inlets thereto located adjacent the trailing regions of the blade, the arrangement being such that, on location of the device into an operative position with the leading edge of the blade engaging substantially horizontally with the window pane and on movement of the device up the pane, any condensation on the pane is removed therefrom by the blade and is forced under gravity and inertia over an inclined guide surface of the blade through said one or more inlets into the hollow body portion, the configuration of the interior of said body portion being such as to permit removal of the content thereof

by reversing the orientation of the device from that of said operative position.

In a preferred device, the body portion is of generally cylindrical shape with its central longitudinal axis extending parallel with the length of the blade, one or more elongate slots extending longitudinally of the body portion feeding substantially tangentially into the hollow interior of the body portion.

Conveniently, with the device in its operative position, the inlet to the or each elongate slot is located upwardly relative to the hollow interior of the body portion whereby the water removed by the blade is forced under gravity and inertia through said slot or slots and into the hollow interior of the body portion, a defining wall of the or each slot preventing removal of water from the body portion other than by said reverse orientation of the device.

The body portion of the device may be provided with opposed, removable end caps to facilitate emptying of the body portion.

The interior of the body portion may be provided with one or more transverse baffle plates to inhibit movement of water within the body portion longitudinally of the body portion.

The blade may be removably attached to the body

portion, while a preferred device includes a handle projecting substantially perpendicularly from the side of the body portion opposite the blade. The handle may be removable from the body portion and may be interchangeable with one or more further handles of different lengths. Further, the handle may be hollow and communicate with the interior of the body portion to constitute a secondary reservoir for condensation removed from the window pane.

Preferably the blade is of a flexible material such as rubber or plastic, while the body portion is of moulded plastics material.

By way of example only, an embodiment of the invention will now be described in greater detail with reference to the accompanying drawings of which:

Fig. 1 is a front view of a device according to the invention:

Fig. 2 is a plan view from above of the device of Fig. 1.

Fig. 3 is an end view in the direction of arrow III of the device of Fig. 1,

Fig. 4 is the view of Fig. 3 with the end cap removed;

Fig. 5 is a section on the line V-V of Fig. 2 with the blade removed;

Fig. 6 is a section on the line VI-VI of Fig. 2;

Fig. 7 illustrates schematically a device according to the invention in use, and

Fig. 8 shows the device of Fig. 7 being emptied of water.

Referring to the drawings, the illustrated device comprises a hollow, elongate body portion of moulded plastic indicated generally at 2 and of substantially cylindrical shape. The ends of the body portion 2 are closed by removable caps 4 which are a friction push-fit into said body portion.

An elongate slot 6 extends the length of the body portion 2 and is defined by substantially parallel inner and outer walls 8,10 each extending substantially tangentially of the cylindrical body portion 2, said slot terminating in an inlet 12 within the body portion 2. The slot 6 is divided into a series of sub-slots by a series of partition walls 14.

An elongate rubber blade 16 of generally wedge shape in transverse section is releasably attached to the outside of, to extend the full length of, the body portion 2. More particularly, the rear face of the blade 16 is formed with parallel upper and lower flanges 18,20 which are received within co-operating grooves formed in the body portion 2, a series of screws (not shown) extending through the lower regions of the blade 16 and being received within corresponding

apertures 22 in the body portion 2 to hold the blade in position. The blade 16 includes a leading feather edge 24 and an inclined upper surface 26 which forms a continuation of a surface 28 on the body portion leading into the slot 6 as best seen in Fig. 6.

Integrally moulded with the body portion 2 is a hollow cylindrical stub 30 located centrally of the body portion 2 and projecting perpendicularly therefrom opposite the blade 16. A handle 32 is a friction push-fit onto the stub 30.

The described device is used to remove condensation from a window pane 34 in the manner illustrated in Figs. 7 and 8. The user grips the handle 32 and presses the leading edge 24 of the blade 16 firmly against the lower regions of the pane 34 with said blade substantially horizontal and pushes the device briskly up the pane in the direction of arrow 'A' in Fig. 7. The blade 16 cuts under the condensation which flows down over the guide surface 26 of the blade 16, through the slot 6 and into the interior of the body portion 2 by way of the inlet 12. Further upward strokes are made until the pane is dry.

In the case of the very lower regions of the pane 34, where use of the device in its normal operative position may cause obstruction of the handle 32 by the window sill, the device can be positioned

substantially perpendicular to the pane and the blade 16 can be used to push the condensation up onto the area already cleaned. The device is then tilted to the position shown in Fig. 7 and the condensation is collected in the described manner.

The body portion 2 of the device is preferably provided with a central baffle plate 36, which may be apertured as shown in Fig. 6, to prevent water in the body portion 2 slopping about during use of the device.

Further, the ends of the slot 6 are each defined by a wall 38 which tapers inwardly of the device, as best seen in Fig. 1, and which is spaced from the associated end of the body portion 2 such as to provide end regions in said body portion from which water therein cannot readily escape. This internal configuration of the body portion is particularly useful if the device is used slightly off horizontal such that water gathers in one end of the body portion and could otherwise slop out of the slot 6.

It will be appreciated that, in use of the device, the position of the device together with the inner wall 8 of the slot 6 prevents water in the body portion from flowing out of the body portion 2. In order to empty the device, it is turned through 180° as indicated by arrow 'B' in Fig. 8 and held with the slot 6 below the blade 16 such that the contents of the

body portion 2 can flow out under gravity from the slot 6. The end caps 4 could be removed to facilitate emptying, while said removal of the caps 4 also enables the interior of the device to be cleaned.

One or more additional handles longer than or shorter than the handle 32 may be provided to enable the range of uses of the device to be extended.

In an alternative embodiment of the invention, the or each handle is hollow and can be used to store condensation removed by the device. In such a case, the hollow interior of the body portion communicates into the interior of the stub 30 and thence into the handle push-fitted thereon, the free end of said handle of course being closed.

If pools of condensation have formed on a flat surface such as a window sill, the blade 16 can be used to remove said pools in conventional manner, while it will be appreciated that the device detailed above can also be used to clean smooth surfaces other than windows, for example ceilings and tiled or painted walls using appropriate wetting agents or cleaning solutions.

The outer edge of the wall 10 defining the slot 6 conveniently comprises a rigid blade 40 which can be used, for example, to defrost chest freezers. More particularly, with a longer handle on the device, the

blade 40 is used to dislodge the ice from the bottom and side walls of the freezer using short, sharp strokes. After removal of the solid ice, the device can then be used to remove any remaining slush by using the blade to sweep the slush along the floor of the chest and tilting the device into its normal operative position and moving it up the side of the freezer such that the slush is carried up the wall while the water flows into the body portion.

A further application of the described device is in the cleaning of the sides of aquaria, in which case it is preferred that the end caps 4 are replaced by filter bungs, the slime being diverted into the body portion through the slot 6 and the clean water passing out of the body portion 2 through the filter bungs.

Thus there is provided a device primarily for removing moisture from flat surfaces which, contrary to establish devices, is moved up the surface and incorporates a container portion for collecting the moisture in the device itself. It will be appreciated that such an arrangement greatly facilitates the cleaning of such surfaces compared with established techniques and at the same time greatly reduces the messiness of the job by eliminating the necessity to

absorb the moisture in chamois leathers, paper tissues, cloths, towels and the like. Being removable, the blade 16 can be replaced as and when necessary.

CLAIMS

1. A device for removing moisture from window panes (34) comprising an elongate blade (16) of generally wedge-shape in transverse section and having a leading edge (24) adapted for engagement with the window pane (34), characterised by a hollow body portion (2) to which the blade (16) is attached, said body portion (2) including one or more inlets (6) thereto located adjacent the trailing regions of the blade (16), the arrangement being such that, on location of the device into an operative position with the leading edge (24) of the blade (16) engaging substantially horizontally with the window pane (34) and on movement of the device up the pane (34), any condensation on the pane (34) is removed therefrom by the blade (16) and is forced under gravity and inertia over an inclined guide surface (26) of the blade (16) through said one or more inlets (6) into the hollow body portion (2), the configuration of the interior of the body portion (2) being such as to permit removal of the content thereof by reversing the orientation of the device from that of said operative position.

2. A device as claimed in claim 1 in which the body portion(2) is of generally cylindrical shape with its longitudinal axis extending parallel with the

length of the blade (16), one or more elongate slots (6) extending longitudinally of the body portion (2) feeding substantially tangentially into the hollow interior of the body portion (2).

3. A device as claimed in claim 2 in which, with the device in its operative position, the inlet to the or each elongate slot (6) is located upwardly relative to the hollow interior of the body portion (2) whereby the water removed by the blade (16) is forced under gravity and inertia through said slot or slots (6) and into the hollow interior of the body portion (2), a defining wall (8) of the or each slot (6) preventing removal of water from the body portion (2) other than by said reverse orientation of the device.

4. A device as claimed in any one of claims 1 to 3 in which the body portion (2) of the device is provided with opposed, removable end caps (4).

5. A device as claimed in any one of claims 1 to 4 in which the interior of the body portion is provided with one or more transverse baffle plates (36).

6. A device as claimed in any one of claims 1 to 5 in which the blade (16) is removably attached to the body portion (2).

7. A device as claimed in any one of claims 1 to 6 and including a handle (32) projecting substantially perpendicularly from the side of the

body portion (2) opposite the blade (16).

8. A device as claimed in claim 7 in which the handle (32) is removable from the body portion (2) and is interchangeable with one or more handles of different lengths.

9. A device as claimed in claim 7 or claim 8 in which the handle (32) is hollow and communicates with the interior of the body portion (2) to constitute a secondary reservoir for condensation removed from the window pane (34).

10. A device as claimed in any one of claims 1 to 9 in which the blade (16) is of rubber or a plastics material and the body portion (2) is of a moulded plastics material.

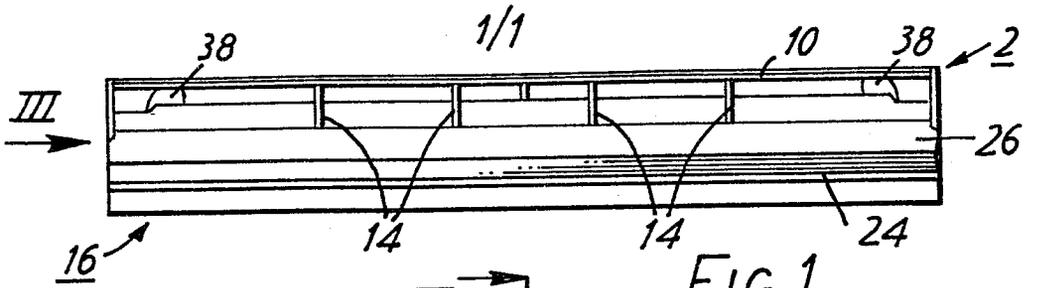

FIG.1

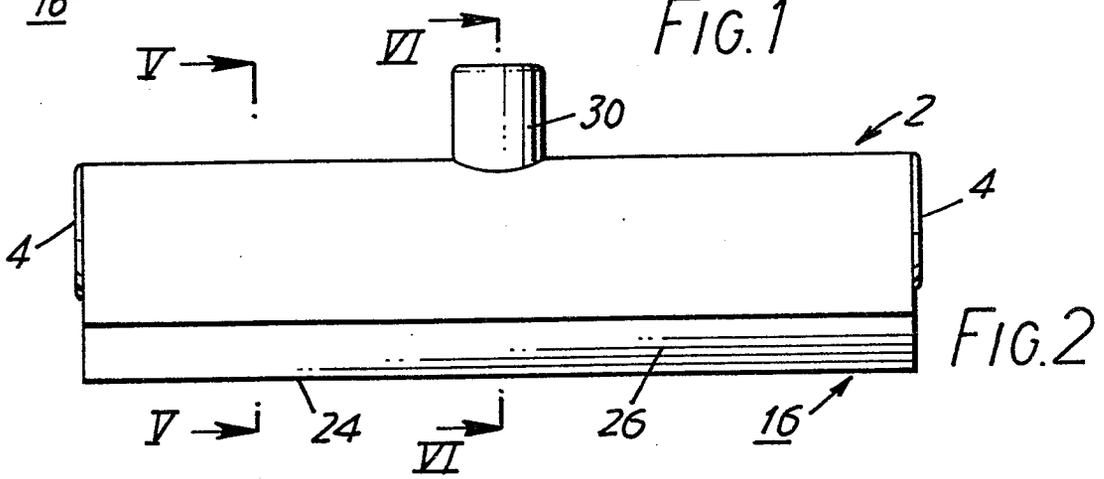

FIG.2

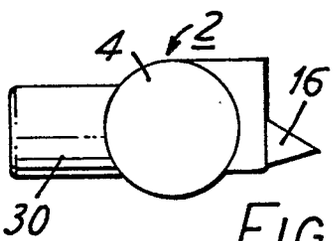

FIG.3

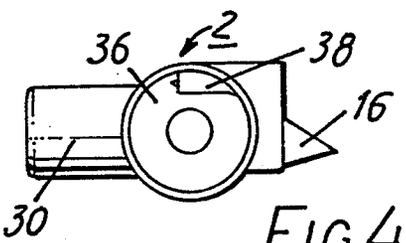

FIG.4

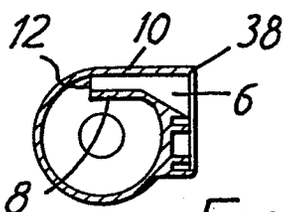

FIG.5

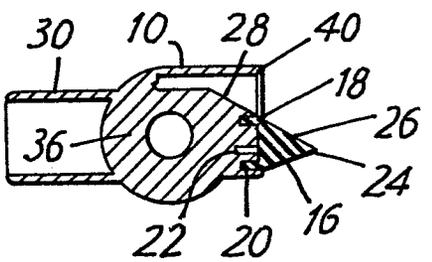

FIG.6

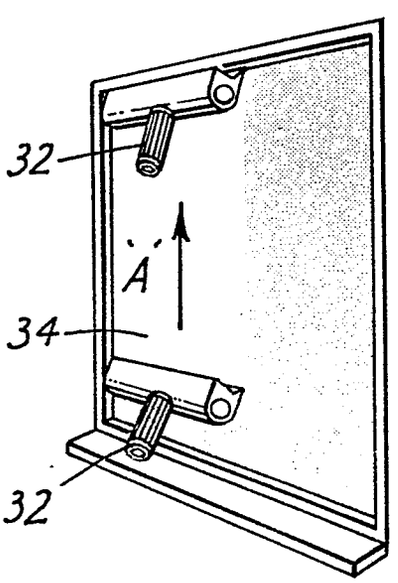

FIG.7

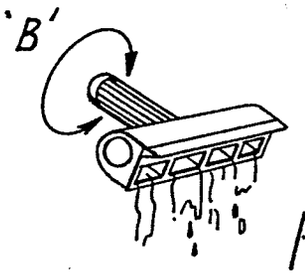

FIG.8