Sept. 17, 1963 H. H. WILKS 3,103,714

WINDOW CONSTRUCTION

Filed April 18, 1960

FIG. 1

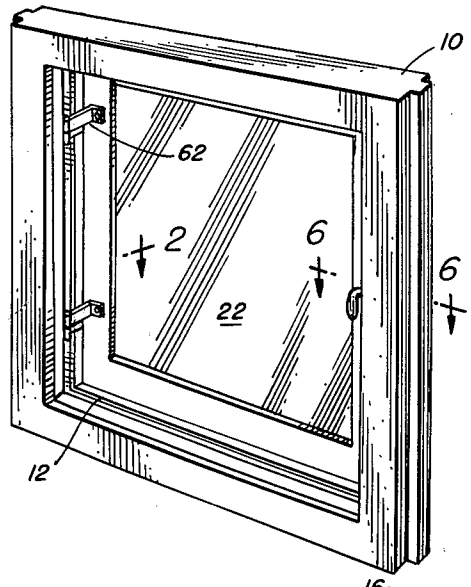


FIG. 2

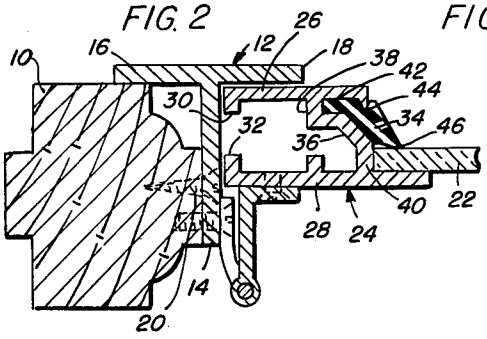


FIG. 3

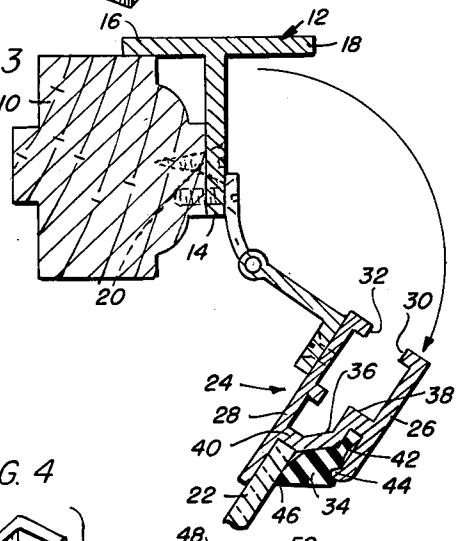


FIG. 6

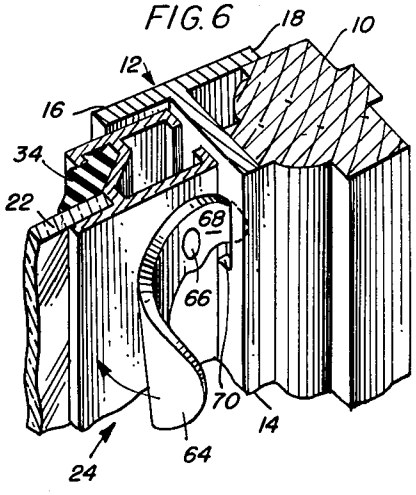


FIG. 4

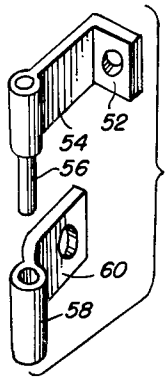
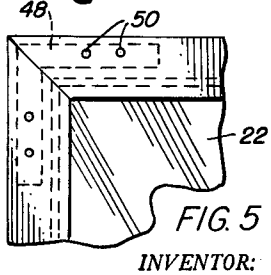


FIG. 5



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WINDOW CONSTRUCTION

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This invention relates in general to a window construction for use in houses, factories, and the like, and may be more particularly described as a hinged pane construction, adapted to be incorporated in new or existing window frames for the purpose of more easily opening the windows, presenting both sides of a window pane for cleaning, either as an original equipment for new window frames, or as an attachment which may be readily applied to window frames which are already in use.

Windows now commonly used in dwellings, apartments, factories, and the like, have upper and lower frames slidable with respect to each other, with panes fixed therein, either to cover the old window, or portions thereof, so that it is quite difficult to reach the outsides of these panes for cleaning and decorating them, and it is the common household practice for a person washing the windows to seat themselves on the frame with the body at the outside of the window, thereby subjecting themselves to great inconvenience, discomfort and even to some danger in cleaning the outsides of the window panes.

The present invention provides a hinged pane or multiple pane construction which is adapted to be hinged in a wooden or other frame so that it may be swung inwardly at one side edge of the frame or sash to make both sides of the pane or panes easily accessible from the inside of the building.

An important object of the invention is therefore in the provision of a window construction in which a sash is originally provided with a pane holding frame which is applied thereto as original equipment or may be substituted for an ordinary window sash thereafter.

A further object of the invention is to provide a window construction in which the window pane is seated and permanently held in place by a rubber or other plastic gasket making it unnecessary to apply putty or other pane securing devices as now commonly employed with window panes directly inserted in wooden frames.

A further object of the invention is to provide an improved metal frame construction in which a window pane mounting frame may be inserted in applying the latter in an ordinary wooden or metal window sash.

A further object of the invention is to provide a mounting for the pane holding frame which will swing the pane inwardly from the sash in which it is hinged and to provide hinges from which the pane mounting frame is easily separable and removable from the mounting sash.

Still a further object of the invention is to provide a metal or plastic molding for attachment to the edges of a pane of glass with means for connecting angular portions of the molding about the pane and at the same time mounting a flexible continuous fillet of rubber or other plastic material in the outside of the molding and pressing against the glass or other pane to hold it tightly, but yieldably in place, and to exclude rain and other liquids at the outside of the pane.

Still a further object of the invention is to provide a hinged removable pane holding frame of this kind which may be quickly and easily locked in place within the window sash to which it is applied.

Other objects of the invention will appear in the specification and will be apparent from the accompanying drawings in which,

FIG. 1 is a perspective view of an ordinary slidable window sash to which the present invention is applied.

FIG. 2 is a sectional view of the pane mounting construction and a wooden sash as taken on the line 2—2 of FIG. 1.

FIG. 3 is a sectional view as taken on the line 2—2 of FIG. 1, showing the hinge construction and the opening movement of the pane mounting frame with respect to a sash.

FIG. 4 is a perspective view showing the interengaging movement of the hinge elements by which a pane supporting construction may be engaged and disengaged from a sash.

FIG. 5 is a view of one corner of the pane mounting frame showing how the molding is connected at the corners; and

FIG. 6 is a perspective view of a lock construction for connecting the pane mounting frame in a sash at the side opposite the hinges.

In applying the present invention to a sash, either metal or wooden, the glass pane is either removed from a sash in which it has been mounted or the present construction is applied to a sash as ordinary and original equipment. Although the mounting parts as described are preferably of metal, they may also be of plastic or other suitable material, although a light and easily extruded metal such as aluminum is found most satisfactory for the present construction.

A pane of glass is ordinarily secured in a wood sash **10** by a molding which the pane abuts at the inside, the outside of the glass being engaged by a fillet of putty extending entirely around the edge of the pane and adhering to it and to the sash.

In applying the present invention to an existing sash, the original glass pane is removed by removing the putty, leaving the sash clear of glass, and the present construction comprising a mounting frame **12**, T-shaped in cross section is applied around the entire inner margin of the sash, a stem portion **14** of the frame extending inwardly from the outside of the sash over the central portion of the sash ordinarily occupied by a glass pane inserted therein. At the outside, one web portion **16** of the frame extends parallel to and in contact with the outer edge of the sash and an opposite web portion **18** extends inwardly from the frame to provide for engagement of a pane mounting frame therewith. This T-shaped frame is commonly mitered at the corners and both the stem portion **14** and the web portion **16** may be secured to the sash **10** by fastening screws **20** or other suitable fastening means.

To mount each glass pane **22** (or multiple panes) there is a marginal frame **24** preferably comprising an extruded metal part having spaced sides **26** and **28**, terminating in inward flanges **30** and **32**, the outside which are spaced apart and one of the sides **28** at the inner side of the frame being longer than the side **28** at the outside of the frame to receive a glass pane **22** pressed thereagainst by a rubber-gasket **34** seated between the relatively inner edges of the spaced sides **26** and **28** which are held together intermediate their ends by an angular cross piece **36**, the ends of which are secured to the sides **26** and **28** by short right angle portions **38** and **40** respectively, which provide a recess **42** adjacent the inside of the shorter space side **26** for seating a shaped portion of the rubber gasket **34** therein, the gasket being additionally held in place by an inwardly extending flange **44** at the relatively inner edge of the spaced side **26** which presses the opposite tip **46** of the gasket against the outside of a glass pane **22** seated in this marginal frame **24**. The right angle portion **40** adjacent the spaced side **28** provides a contact portion for engaging the inner marginal edge of a glass pane **22** if the pane is fitted closely in the marginal frame.

At the corners of the marginal frame **24**, it is secured

together in beveled relation as shown more clearly in FIG. 5 by an angle plate 48 seated in the ends of the adjacent marginal frames between the spaced sides 26 and 28 and may be secured to either one or both of the sides by rivets 50 or other suitable permanent fastening devices.

At one side of the marginal frame 24 are hinge elements 52 spaced apart and preferably with an outwardly projecting portion 54 having a depending pin 56 adapted to engage in a corresponding socket 58 at the outer end of a projection 60 of a hinge 62 to the mounting frame 12. The projecting portions 54 and 60 preferably extend within the confines of the sash so that they will not engage another sash relatively to which they are movably hinged but they do offset the marginal frame 24 and the pane 22 inwardly to swing clear of the sash to which they are attached so that the pane can be rotated inwardly more than a right angle to make the outer face of the pane freely accessible for cleaning and decoration when necessary or desirable. By forming the hinges with the co-operating pins and sockets 56 and 58, a mounted pane is easily disengaged from the permanent T-shaped frame 12 by simply rotating the marginal frame 24 inwardly and raising it to disengage the pins 56 from the sockets 58.

To secure the marginal frame 24 in the T-shaped mounting frame 12, a latch 64 is hinged to the frame 24 by pivots 66 and has an opposite projection 68 which engages a slot 70 in the frame 12.

With this construction, a pane of glass may be quickly mounted in a marginal frame 24 by connecting mitered portions of the frame around the edges of the glass pane and a sash 10 of wood or metal may be easily equipped with a T-shaped frame fitting within the inner marginal edge of the sash; and the frames thus formed and equipped with hinge elements are easily connected and disconnected for mounting and removing the marginal frame and its mounted pane therein. To wash the outside of a window, it is necessary only to disengage the latch 64 and swing the pane inwardly on its hinges, where the outside is easily accessible or to entirely dismount the marginal frame from the T-shaped frame if desired. The marginal frame is easily replaced by reversal of these movements.

While this preferred construction has been described in some detail, it should be regarded by way of illustration and example, rather than as a restriction or limitation thereof, as many changes in the construction, combination and arrangement of the parts may be made without departing from the spirit and scope of the invention.

I claim:

1. A hinged window construction for safety washing thereof, comprising an ordinary sash for receiving window panes, a rigid T-frame inserted at the inner periphery of the sash with one underside of the T engaged with the sash, a marginal extended frame with glass therein to fit in the rigid frame and against the other underside of the T, and hinge means at the corresponding sides of the rigid and marginal frames mounting the latter to swing inwardly at one side edge of the rigid frame so that the outside of the glass is also accessible from the inside of the window.

2. A hinged safety window construction in accordance with claim 1, in which the hinge means comprises separable hinge elements attached both to the rigid frame and to the marginal frame, one hinge element having a relatively vertical recess therein and the other frame element having a depending pin engageable in the recess so that when the marginal frame is swung inwardly from the rigid frame, the marginal frame with the glass therein may be lifted clear from its engagement with the hinge portion secured to the rigid frame for bodily removing the glass and marginal frame from the sash and the rigid frame.

3. A safety window construction in accordance with claim 2, in which the hinge elements for the marginal frame and from the rigid frame extend laterally inward at the inner side of the sash but not beyond the confines of the inner plane of the sash so that when the said window is closed on its hinges the sash may be raised and lowered relatively to another sash portion in the same window free from projecting parts to engage another sash in the same window frame.

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