

Nov. 14, 1939.

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2,179,668

DOUBLE WINDOW CONSTRUCTION

Filed June 7, 1938

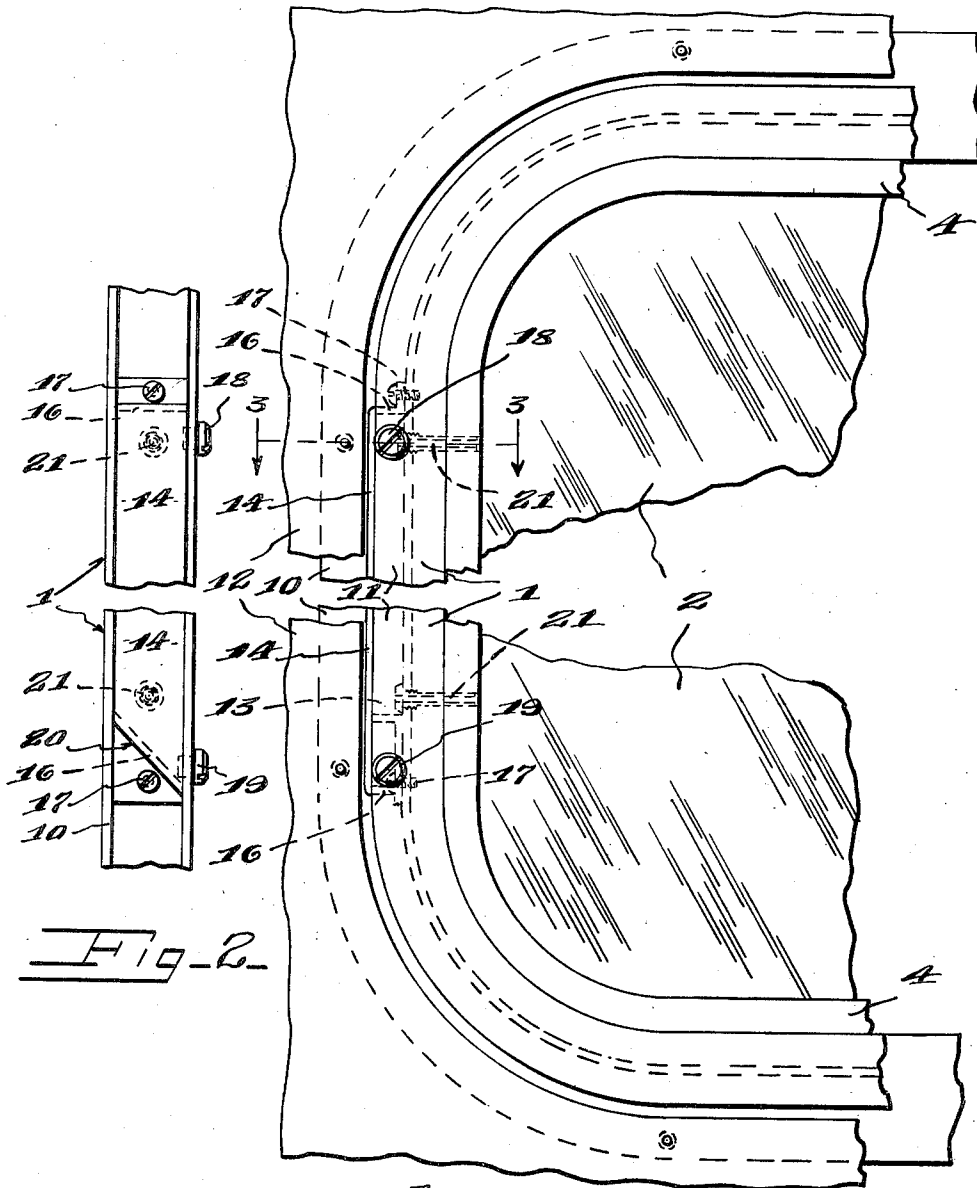


Fig. 2

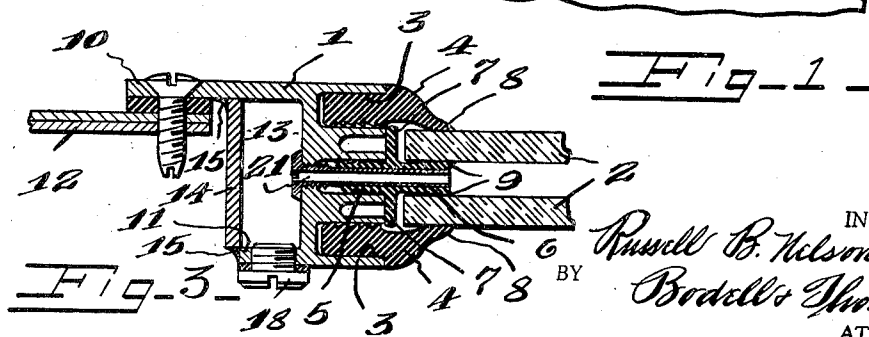


Fig. 1

Fig. 3

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UNITED STATES PATENT OFFICE

2,179,668

DOUBLE WINDOW CONSTRUCTION

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Application June 7, 1938, Serial No. 212,315

3 Claims. (Cl. 189-64)

This invention relates to double window constructions, such as are used in railway cars, buses, and other structures, and particularly window units for air conditioned rooms or interiors, in which units a moisture-absorbing material is used to prevent clouding of the glass panels, by absorbing moisture from the air trapped between the glass panels; and has for its object a window sash construction in which a chamber for a moisture-absorbing material is a unitary structure with the sash and is of such capacity as to carry a relatively large quantity of moisture-absorbing material without increasing the width-wise dimension of the sash or the area of the sash, and occupies a space that is always available in the car body structure and used for no purpose and also such a chamber in which the relatively large quantity of moisture-absorbing material is easily removable when it becomes inactive and replaceable with fresh material.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary elevation of a sash embodying this invention, the contiguous portion of the walls of the car body being also shown.

Figure 2 is a fragmentary edge view of one of the upright members of the sash showing the chamber for the moisture-absorbing material applied thereto.

Figure 3 is an enlarged sectional view on line 3-3, Figure 1.

1 designates the body of the sash, and 2 the spaced apart glass panels, the body being formed with inwardly facing channels 3 in which are located glazing strips 4. The body is also formed with an intermediate channel opening into the space between the panels 2 and in which is seated the base flange 5 of a spacer 6 extending between the margins of the glass panels. The spacer also has laterally extending flanges 7 extending across the edges of the glass panels.

The glazing strips 4 and the spacer 6 together with the flanges 7 provide channels in the sash for receiving the margins of the glass panels 2. The glazing strips and spacer are of resilient compressible material, as rubber, and the glazing strips include base portions fitting the channels 3 and headed portions, which press against the margins of the glass pane, these headed portions being provided with lips 8 which press

against the margins of the glass panels. The headed portions are under compression to press the lips against the panels. The spacers are also formed with lips 9, which are likewise under compression, to press against the inner margins of the glass panels in opposition to the lips 8. These parts 7 and 9 are spaced apart from the margins of the glass panels, except along the lines engaged by the lips 8 and 9, and they have a give-and-take or follow-up action for maintaining the seal between them and the panels by compensating for the unequal pressures of the outside air and the atmosphere between the panels 2, as the outside pressure varies with altitude and with low and high barometer readings. The compensating action prevents the outside air from seeping into the space between the glass panels when the outside pressure is higher than the pressure between the glass panels and also prevents the leaking out of the dry or conditioned air from between the glass panels, when the outside air pressure is lower than the pressure between the panels 2.

The body of the sash 1 is formed with an exterior channel around its edge. One of the side walls 10 of this channel is of greater width than the other side wall 11 and the side wall 10 laps the sheathing 12 of the car body and is secured thereto. The side walls or flanges are face plates for the sash when the sash is mounted in the window opening.

The inside trim around the window covers the joint between the flange 11 and the inner wall or facing of the car body. The trim along the upright or stiles of the sash is usually a sheet metal window stop formed with a curtain guide, and this stop is removable. It also covers the closures 16 and 19 in order to remove any temptation of persons to meddle with them. As this trim is well known, it is thought that illustration thereof is unnecessary.

By this invention, the space at the edge of the sash is utilized for a moisture-absorbing chamber of such proportion as to hold a large quantity of moisture-absorbing material, as activated alumina, sufficient to remain active over a long period of time. 13 designates the chamber, this being preferably located along either or both upright members of the sash, so that the chamber is elongated in a vertical direction. The side walls 10 and 11 and the bottom of the channel in the edge of the sash form three of the walls of the chamber, and the other wall is formed by a partition 14 extending between the side walls 10 and 11 and joined thereto, as by cement at

15, and the upper and lower ends of the partition are inset inwardly at 16 to form the top and bottom walls of the chamber. They are secured to the bottom of the channel at the edge of the sash, as by screws 17. The chamber 13 is provided with a loading opening near its upper end and an unloading opening near its lower end, these openings having suitable closures, as plugs 18 and 19, and the lower end of the partition 14 is formed inclined at 20 to provide a chute toward the unloading opening normally closed by the plug 19. Suitable ducts or tubes 21 lead from the chamber 13 through the sash and the spacer, and communicate with the space between the panels 2.

The moisture-absorbing material, as activated alumina, preferably in small pellets or in granulated form, is filled in through the loading opening normally closed by the plug 18, and when the material becomes inactive, it can be removed by removing the closure 19 for the unloading opening. Thus, by reason of the location of the chamber 13 relatively to the sash, it occupies what has heretofore been a dead space, and hence can be applied to the sash without increasing the dimension of the sash in any direction, and also can be of such proportions that enough material can be placed therein to last indefinitely. Furthermore, after the moisture has been first absorbed from the air in the space between the panels 2, the dry condition of the air is maintained, due to the relatively large capacity of the chamber 13 and its location, and also due to the compensating action of the glazing strips 4 and the spacer 6.

What I claim is:

1. A double window construction comprising a sash, glass panels mounted in the sash in spaced relation with an air space between them, and a chamber for a moisture-absorbing agent carried by the sash at the edge of one of the upwardly extending edges of the sash and communicating with the space between the panels, the chamber having a loading and an unloading opening ad-

jacent its upper and lower ends respectively, said openings extending through one of the faces of the sash and closures for said openings.

2. A double window construction comprising a sash, glass panels mounted in the sash in spaced relation with an air space between them, the sash being formed with a channel in the edge thereof facing outwardly in an edgewise direction, the side walls of the channel forming face plates for the sash when mounted in a window opening, a partition between said side walls of an upwardly extending portion of the channel and spaced from the bottom of the channel, forming a chamber for a moisture-absorbing agent, loading and unloading openings extending through one of said face plates and located near upper and lower ends of the channel, said chamber communicating through ducts in the sash with the space between the panels.

3. A double window construction comprising a sash, glass panels mounted in the sash in spaced apart relation with an air space between them, the sash having means for sealing the joint between the panels and the sash and providing a spacer between the panels, the sash being formed with an external channel along an upright edge thereof, facing outwardly in an edgewise direction, the side walls of the channel forming inner and outer facing plates for the sash, a partition extending lengthwise of said side walls between the same and spaced from the bottom of the channel, said partition having top and bottom walls secured to the bottom of the channel, the partition, top and bottom walls and channel forming a chamber for receiving a moisture-absorbing material, passages leading from the chamber through the bottom of said channel and through the spacer to the space between the glass panels, one of said face plates having a loading opening into the chamber near the upper end thereof and an unloading opening into the chamber at the lower end thereof, and closures for said openings.

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