March 19, 1940. R. T. AXE 2,193,853

DOUBLE GLASS PANEL ADAPTER FOR WINDOW SASH

Filed Jan. 30, 1939

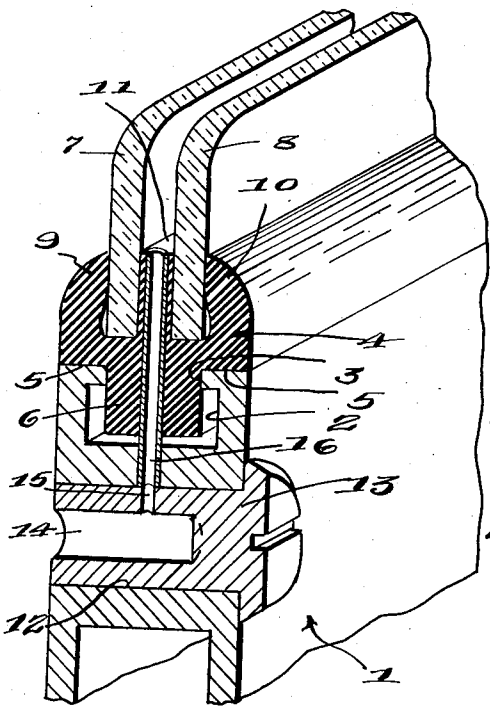



Fig-1

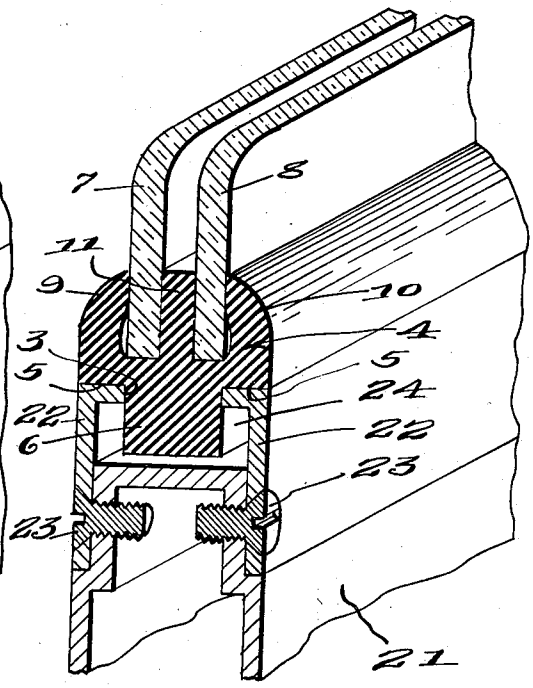



Fig-2

INVENTOR.

BY Roy T. Axe.

Bordell & Thompson.

ATTORNEYS.

Patented Mar. 19, 1940 2,193,853

# UNITED STATES PATENT OFFICE

2,193,853

## DOUBLE GLASS PANEL ADAPTER FOR WINDOW SASH

Roy T. Axe, Syracuse, N. Y., assignor to The O. M. Edwards Company, Inc., Syracuse, N. Y., a corporation of New York

Application January 30, 1939, Serial No. 253,474

5 Claims. (Cl. 189—64)

This invention relates to sash constructions for railway cars, buses and other enclosures, and has for its object an adapter by which a sash of the type for holding a single glass panel may be readily and economically converted into a sash of the type supporting two spaced apart and substantially hermetically sealed glass panels.

Many railway cars, buses and the like are now in use which are comparatively new or which are equipped with comparatively new single glass panel sash. The cost of re-equipping these cars and vehicles with new sash equipment with double glass panels for installing air conditioning is thought to be uneconomical, too expensive and oppressive.

The object of this invention is a simple and inexpensive adapter, which is readily applied to a sash intended to support a single glass panel.

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.

Figures 1 and 2 are fragmentary isometric views of different forms of sash equipped with this adapter.

In Figure 1, 1 designates a member of the sash frame, as the bottom rail, this being usually but not necessarily formed of extruded metal. It is formed with a channel 2 on the inner edge thereof for receiving a mounting for a single glass panel. This channel is shown as formed with a contracted entrance at 3.

4 designates the adapter, this being formed of a resilient or compressible material, as rubber, and including a body portion which rests on the inner edge of the sash at 5 on opposite sides of the channel and which is provided with a rib 6 extending into the channel 2 and fitting the contracted entrance at 3. The body portion is also formed with parallel channels for receiving the margins of the glass panels 7 and 8, the channels providing the body portion with heads or glazing strips 9, 10 which press against the outer faces of the panels 7 and 8 respectively, and with an intermediate compressible spacer 11 between the margins of the glass panels. In some instances, it is desirable to ventilate the space between the glass panels and as here shown, the sash is provided with a transverse valve chamber or bore 12 and a rotary valve 13 therein having a bore 14 opening through one end in communication with the air outside the enclosure or car or the air inside, and a radial port 15 communicating with a passage 16 which extends through the channel 2, the rib 6 and the spacer 11. The valve is shown as provided with a head formed with a screwdriver slot by which it may be given a partial turn to bring the port 15 into or out of alinement with the passage 16. The valve may be located in any suitable location on the sash, but as will be understood by those skilled in the art, a valve is located at one or more corners of the sash. It will be understood that in some sashes, the interior angles of the corners of the sash are rounding, and in others, square, and that the exterior angles of the corners are usually square.

In the form of sash shown in Figure 1, one of the rails, usually the top rail, of the sash, is demountable for the purpose of removing and replacing a single glass panel and also demountable for the purpose of placing the adapter in the double glass panels 7 and 8 in the sash and for removing them. The adapter, when the interior angles of the sash are rounding, may be of one piece extending tirelike fashion around the edges of the glass and may have its abutting ends cemented or vulcanized together, or the adapter may be made up of sections or lengths.

In Figure 2, the sash 21 is shown as having side strips 22 which are removable and held in position by screws, as 23, these side pieces forming the sides of the channel 24 corresponding to the channel 2. The adapter is of the same construction as that shown in Figure 1.

In the sash shown in Figure 2, the adapter may be applied without removing the top rail or any other member of the sash, by demounting one or the other of the strips 22 and then replacing it when the adapter, with the glass panels therein, is placed in position.

The glazing strip portions 9, 10 are preferably integral or unitary with the spacer and the rib 6 and overhang or extend laterally beyond the rib 6 and rest or engage at 5 with the sash frame member 1 on opposite sides of the channel 2. Hence, when the adapter is applied to the sash and the rib pressed into the channel 2, the glazing strip portions 9, 10, owing to their engagement at 5 with the sash, tend to press inwardly in a direction transversely of the glass panels and compress against the outer margins of the glass panels and in so doing press the glass panels against the spacer and compress the spacer, thus forming and maintaining a tight joint between the glass panels and the adapter which prevents unintentional interchange of air between the outside atmosphere and the space between the glass

panels. Also, due to the resiliency of the adapter, the glazing strip portions 9, 10 and the adapter have a follow-up or compensating action to maintain the sealed joint during variations in atmospheric pressure. Skilled workmen are not necessary, and the parts can not be misapplied in assembling the adapter and the sash to provide the sealed joint between the glass panels and the adapter.

What I claim is:

1. A window construction comprising a sash having an inwardly facing channel, and a mounting for supporting two spaced apart glass panels of substantially the same width as the sash, the mounting resting on the inner edge of the sash and having a rib extending into the channel.

2. A window construction comprising a sash having an inwardly facing channel, and a mounting of compressible resilient material for supporting two spaced apart glass panels, the mounting having a rib extending into the channel, and the mounting being of substantially the same width as the sash and resting on the inner edge of the sash on opposite sides of the rib.

3. A window construction comprising a sash having an inwardly facing channel, and a mounting of resilient compressible material formed with parallel channels for receiving the margins of spaced apart glass panels, thereby providing glazing strip portions on the outer sides of the glass panels, and a spacer between them, the mounting being of substantially the same width as the sash and resting on the sash on opposite sides of the channel, the mounting having a rib extending into the channel of the sash.

4. A window construction comprising a sash having an inwardly facing channel, and a mounting of resilient compressible material formed with parallel channels for receiving the margins of spaced apart glass panels, thereby providing glazing strip portions on the outer sides of the glass panels, and a spacer between them, the mounting being of substantially the same width as the sash and resting on the sash on opposite sides of the channel, the mounting having a rib extending into the channel of the sash, the glazing strip portions overhanging the rib and engaging the sash on opposite sides of the channel, whereby when the mounting is applied to the sash and the rib pressed into the channel, the glazing strip portions and the spacer are compressed in a transverse direction against the margins of the glass panels.

5. A window construction comprising a sash having an inwardly facing channel, and a mounting of resilient compressible material formed with parallel channels for receiving the margins of spaced apart glass panels, thereby providing glazing strip portions on the outer sides of the glass panels, and a spacer between them, the mounting being of substantially the same width as the sash and resting on the sash on opposite sides of the channel, the mounting having a rib extending into the channel of the sash, the mounting, including the glazing strip portions, spacer and rib, being an integral unitary structure.

ROY T. AXE.