April 23, 1940. R. T. AXE 2,197,913

WINDOW CONSTRUCTION

Filed Jan. 30, 1939

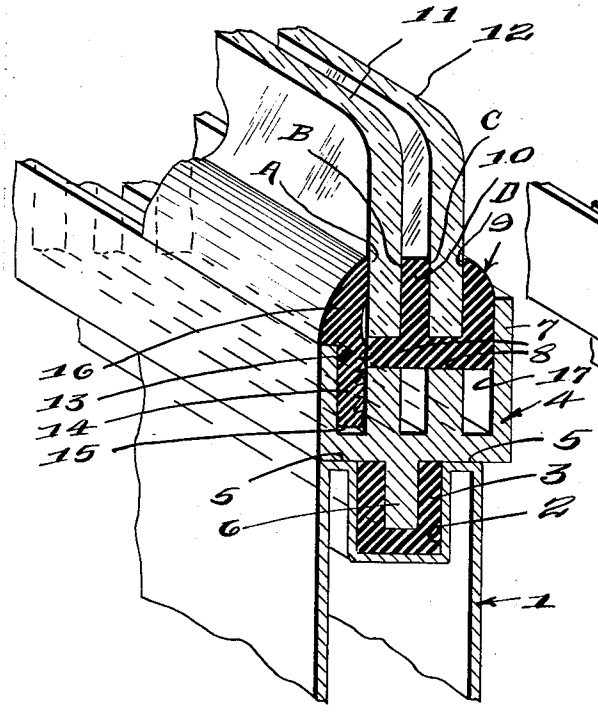

Fig-1-

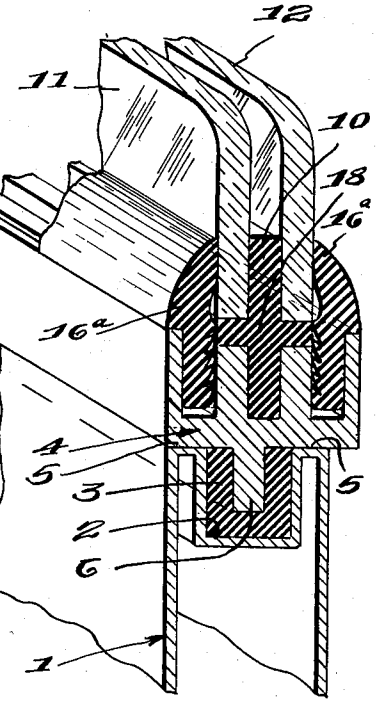

Fig-2-

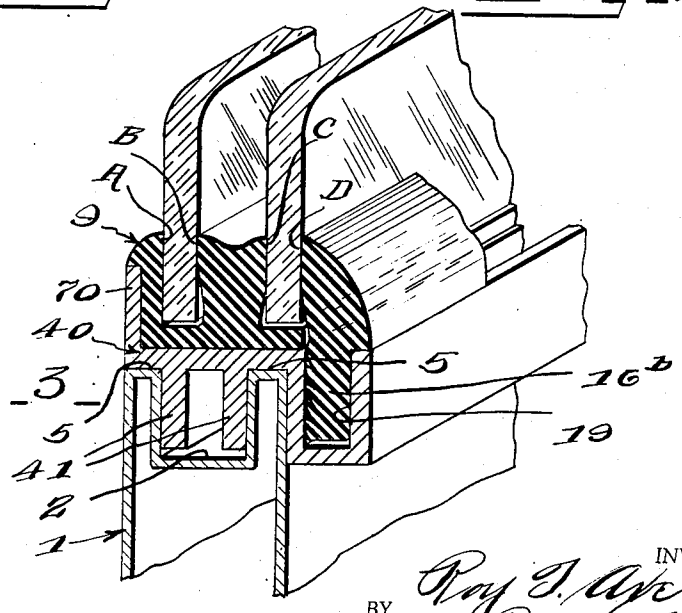

Fig-3-

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WINDOW CONSTRUCTION

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5 Claims. (Cl. 189—64)

The invention relates to window sashes, and has for its object a particularly simple double glass panel adapter frame for sashes originally intended to carry a single glass panel, which adapter frame may be readily applied to the sash without modifying or materially modifying the sash. Many comparatively new railway cars, buses, etc. are equipped with comparatively new single glass window equipment. Air conditioning requires double glass windows in which the space between the glass panels is accessible. The sash equipment of such cars, buses, and vehicle being comparatively new, the discarding of them for new double sash equipment is expensive and oppressive. The object of the invention is a particularly simple and economical adapter by which such single glass panel sash may be readily and economically converted into a double glass panel sash.

The invention comprises, generally, a double glass panel adapted frame including a body for coacting with or resting on the inner edge of the sash on opposite sides of the channel provided in said sash for receiving the margin of the single glass panel, the body bridging such channel and having a peripheral rib extending into or interlocking in the channel, and also having means for mounting spaced apart glass panels therein. Also, preferably the mounting means includes at least one removable glazing strip by which the glass panels may be easily removed and replaced without taking the sash frame apart or without removing one of the rails, usually the top rail of the sash.

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, 2 and 3 are fragmentary isometric views of this double glass panel adapter applied to a conventional form of sash.

1 designates any one of the members of a sash, that is, the top or bottom rail or either one of the stiles, these being formed of metal to have a re-entrant channel 2 in which the margin of the single glass panel is located, together with a packing or lining 3 of rubber or other suitable material.

4 designates the adapter frame, this including a body mounted on the inner edge of the sash and coacting therewith at 5 on opposite sides of the channel and bridging the channel and having a peripheral rib 6 extending into the channel 2, the rib being located in the position usually occupied by the margin of the single glass panel. The body of the adapter frame is provided with means for mounting a pair of spaced apart glass panels with a sealed space between the glass panels, this mounting including at least one removable glazing strip.

In Figure 1, the body is formed with a recess in the general form of an angular channel having a side wall or flange 7 and a bottom at 8, the side of the adapter frame opposite to that on which the flange or side 7 is located, terminating near the level of the bottom 8. The mounting means is a strip 9 of resilient compressible material, as rubber, seated in the channel on the bottom 8 thrusting against a side wall 7, this strip being formed with a spacer 10 extending between glass panels 11 and 12. The strip is thus of such form as to provide a channel for receiving one glass panel 12 and a second channel open at one side for receiving the other glass panel 11. The mounting means also includes a removable glazing strip 13 having a base flange 14 fitting into a groove 15 formed in the body on the side thereof remote from the side wall 7 and a head portion 16 projecting above the bottom 8 of the channel and pressing against the outer face of the margin of the glass panel 11. The parts of this mounting thus form two channels for receiving the glass panels respectively and the side of one channel, being a removable glazing strip. The mounting, including the glazing strip, is of resilient compressible material, as rubber.

The adapter frame is usually formed of metal, and that here shown, of extruded metal, and in order to lighten the same, the body is formed with recesses as 17.

In the form shown in Figure 2, the mounting means includes two glazing strips 16^a, one for each glass panel 11 and 12, and the intermediate part 18 of the mounting, including the spacer 10, is formed separate from the glazing strips.

In Figure 3, an adapter for the same type of sash for a single glass panel is shown including a body 40 having a pair of spaced apart peripheral ribs 41 which fit directly against the side walls of the re-entrant channel 2 of the sash instead of being seated in the packing strip 3, as in Figure 1. In this form of the invention, the body is formed with a channel 19 located beyond the plane of the inner edge 5 of the sash and lapping one side of the sash, this channel 19 receiving a glazing strip 16^b. The side of the body located opposite to that on which the channel

19 is located is provided with a side flange 10 similar to the flange 7. The mounting means 9 coacts with the body and the flange 10 thereof in a manner similar to that shown in Figure 1, with the exception that the glazing strip is located in the outside channel 19.

Owing to the mounting means, as the strip 9, or the mounting means shown in Figure 2, the margins of the glass panels are seated in a resilient compressible backing or mounting which is compressed transversely of the glass panels, so that the mounting has a give-and-take or a follow-up action during variations in pressure of the air between the glass panels and the air on the outer sides thereof. Hence, the seals between the mounting and the glass panels are maintained indefinitely both between the spacer and the inner faces of the glass panels and between the outer glazing strip portions and the outer faces of the glass panels, particularly at A, B, C and D.

By any one of the forms of this invention, a conventional sash intended to support but one glass panel may be easily and economically adapted to support double glass panels which are readily removable and which are practically sealed against exchange of air in the space between the glass panels and the outer air. If desired, ventilation into the space between the glass panels may be provided in any well known manner or any well known dehydrating means may be employed.

What I claim is:

1. The combination with a window sash formed with a channel; of a double glass panel adapter frame including a body for coacting with the sash on opposite sides of the channel and bridging the same and having a peripheral rib extending into the channel and also having means for mounting spaced apart glass panels therein.

2. The combination with a window sash formed with a channel; of a double glass panel adapter frame including a body for coacting with the sash on opposite sides of the channel and bridging the same and having a peripheral rib extending into the channel and also having means for mounting spaced apart glass panels therein, said body and said mounting means forming a channel for receiving the margins of the glass panels and for providing a spacer between the margins of the glass panels, the mounting means being of resilient compressible material.

3. The combination with a window sash formed with a channel; of a double glass panel adapter frame including a body for coacting with the sash on opposite sides of the channel and bridging the same and having a peripheral rib extending into the channel and also having means for mounting spaced apart glass panels therein, said body and said mounting means forming a channel for receiving the margins of the glass panels and for providing a spacer between the margins of the glass panels, at least one side portion of the mounting constituting a removable glazing strip, the mounting means being of compressible resilient material.

4. The combination with a window sash formed with a channel; of a double glass panel adapter frame including a body for coacting with the sash on opposite sides of the channel and bridging the channel and having a peripheral rib for interlocking in the channel, the body being formed with an angular channel having one side wall and being open at its other side, mounting means for double glass panels mounted in the angular channel, the mounting means being of resilient compressible material and including a spacer extending between the glass panels, and a removable glazing strip, the body being also formed with a lengthwise groove extending below the bottom of the channel, said glazing strip having a base flange located in said groove, and a head portion pressing against the outer face of the adjacent glass panel.

5. The combination with a window sash formed with a channel; of a double glass panel adapter frame including a body for coacting with the sash on opposite sides of the channel and bridging the same and having a peripheral rib extending into the channel and also having means of resilient compressible material for mounting spaced apart glass panels therein including a removable glazing strip, the body being formed along one side thereof with a channel located along the side of the sash beyond the edge of the glass panel and the glazing strip having a base flange extending into the last-mentioned channel, and a head portion pressing against the outer margin of the adjacent glass panel.

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