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WEATHERSTRIP AND DRAIN TROUGH FOR CONVERTIBLE BODIES

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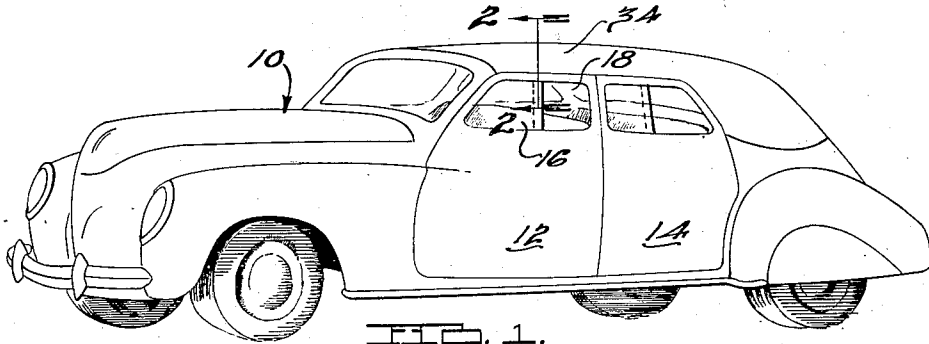


FIG. 1.

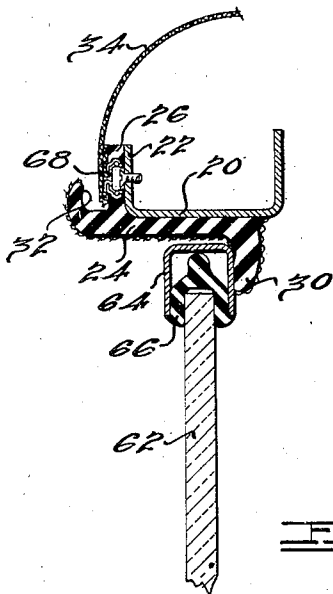


FIG. 4.

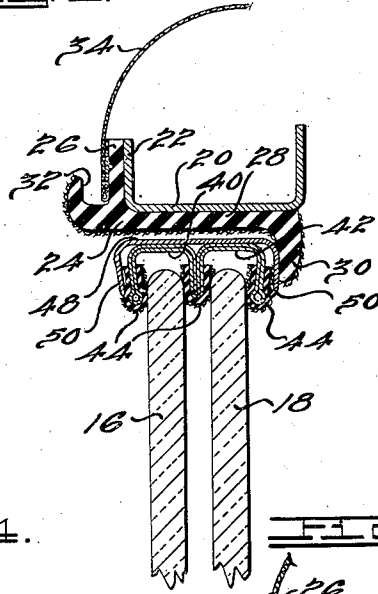


FIG. 2.

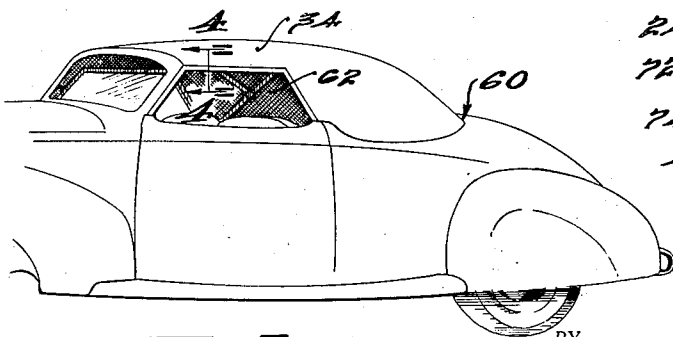


FIG. 3.

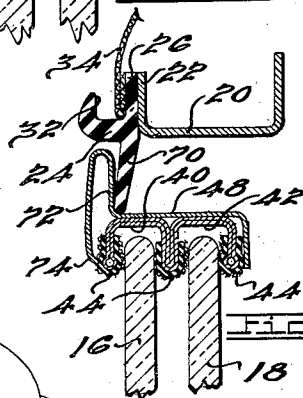


FIG. 5.

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WEATHER-STRIP AND DRAIN TROUGH FOR
CONVERTIBLE BODIES

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3 Claims. (Cl. 296—44)

This invention relates to improved automotive vehicle body structures.

One of the primary objects of the present invention is to provide a simplified and improved unitary drip trough and sealing element.

Another object of the invention is to provide an improved window mounting structure in which a plurality of sliding members are slidably sealed in separate channels.

Another object of the invention is to provide a vehicle door structure in which the door channel is shaped to receive and retain double window guides therein.

Another object of the invention is to provide an improved door structure in which the door overlap flange is formed on the outside and is adapted to engage a sealing element for effectively sealing the door when it is in its closed position.

Other objects of the invention will become apparent from the following specification, the drawing relating thereto, and from the claims hereinafter set forth.

In the drawing, in which like numerals are used to designate like parts in the several views throughout:

Figure 1 is a perspective view of an automotive vehicle embodying features of the present invention;

Fig. 2 is a fragmentary, cross-sectional view, taken substantially along the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary, perspective view of another form of automotive vehicle embodying features of the present invention;

Fig. 4 is a fragmentary, cross-sectional view taken substantially along the line 4—4 of Fig. 3; and

Fig. 5 is a view similar to Figs. 2 and 4, illustrating a modified form of the present invention.

Referring to the drawing, and referring particularly to Figs. 1 and 2, one embodiment of the present invention is illustrated in which an automotive vehicle is generally indicated at 10 and is of the two-door convertible type. The vehicle 10 has two doors 12 and 14 at each side thereof, and each of the doors is provided with a window opening therethrough, which is adapted to receive a pair of sliding windows 16 and 18 which overlap when the windows are closed.

As mentioned, the vehicle is of the convertible type in which the top frame includes top side rails 20 of suitable shape having an upstanding side wall portion 22. According to the present invention, a combination unitary drip trough and sealing element 24 of a resilient material, preferably rubber, is provided. The unitary member 24

has an upstanding wall portion 26 which is adapted to lie against and be suitably fixed to the upstanding wall portion 22 of the side rail 20, and has another main body portion 28 which lies against the under surface of the side rail 20 and is suitably fixed thereto. The body portion 28 terminates in a downwardly directed flange 30 adjacent the inner edge thereof forming a door sealing element which is adapted to be engaged by the door when the door is closed. The outer edge of the unitary member 24 is shaped to provide an upwardly directed drip trough 32. The top material 34 may be of the usual type for convertible tops and may be suitably fixed to the top frame structure by releasable fastening means, such as glove fasteners, in the usual way.

As mentioned above, two window panels 16 and 18 are provided in each of the doors and are slidably mounted within separate guide channels 40 and 42. The guide channels 40 and 42 are preferably formed of a unitary sheet metal member which is bent to provide the two separate, side-by-side substantially parallel channels 40 and 42. Suitable strip sealing elements 44 are disposed over the inwardly projecting legs forming the channels below the edges thereof so that the windows are suitably sealed within the separate channels.

Also, according to the present invention, the door channel 48 is provided with inwardly directed side walls 50 which preferably converge toward the sides of the window receiving channels and engage the outer surfaces of the outer sealing means 44 for receiving and retaining the double window guide therein.

In this embodiment, in which the vehicle has two doors at each side, the door center post, not shown, extends upwardly at the juncture line between the two doors; and a portion of the unitary drip trough and sealing member 24 may be removed so that the center post may be attached to the top side rail.

Referring to Figs. 3 and 4, the present invention is illustrated as being applied to the vehicle 60 which is of the convertible coupe type, having one door at each side. In this embodiment of the invention, a single window panel 62 is provided for each of the doors which is attached to a door channel 64 by the usual sealing means 66.

The combined drip trough and sealing element 24 is fixed to the top rail 20 in the same manner as described above, and glove fastener means 68 are illustrated which may be used to releasably attach the top material 34 to the top frame. When the door is closed, the door channel 64

is adapted to engage against the resilient sealing element 30 so that the door opening is effectively sealed.

In Fig. 5, a modified form of the invention is illustrated in which the combined drip trough and sealing element 24 is of different structure and in which the door structure is also modified. The combined drip trough and sealing element 24 has an upstanding wall portion 26 which is adapted to be secured to the upstanding wall portion 22 of the side rail 20 and which has a drip trough 32 as the embodiment described above.

In this embodiment of the invention, a downwardly directed resilient sealing element 70 is provided adjacent the outer edge of the top rail 20. The door channel 48 is provided with an outwardly directed door overlap flange 72 on the outside thereof which is adapted to bear against the sealing element 70 when the door is closed to thereby seal the door opening.

In this embodiment of the invention, the double windows are illustrated which are slidably sealed within the separate channels 40 and 42. The door overlap flange 72 has an inwardly directed portion 74 which is adapted to engage the outer sealing element 44 so that the double window guide is received and retained within the door channel.

Formal changes may be made in the specific embodiments of the invention described without departing from the spirit and substance of the invention, the scope of which is commensurate with the appended claims.

What is claimed is:

1. In an automotive vehicle, vehicle body

structure comprising a top, a top rail of upwardly presenting channel section having an upstanding side wall portion and forming a portion of a door opening, and a unitary member of resilient material having an upstanding portion lying against the upstanding portion of said side rail, said member having an upwardly directed channel-shaped portion to the outside of said side rail forming a drip trough and having another inwardly directed portion on the face forming the door opening, the inner edge of which is extended to form a downwardly directed door sealing element.

2. In an automotive vehicle, a vehicle body structure including an upwardly presenting channel shaped roof rail, a sealing strip extending over the outer flange of said rail across the under face of the web thereof and downwardly therefrom, the portion of the strip on the under face of the web portion being extended outwardly and upwardly forming a trough beyond the portion extending over the outer flange of the rail.

3. In an automotive vehicle, a vehicle body structure including an upwardly presenting channel shaped roof rail, a sealing strip extending over the outer flange of said rail across the under face of the web thereof and downwardly therefrom, the portion of the strip on the under face of the web portion being extended outwardly and upwardly forming a trough beyond the portion extending over the outer flange of the rail, and a roof element extending into said trough and secured to said rail against said sealing strip portion.

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