

April 23, 1929.

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GUARD RAIL AND OUTER PANEL CONSTRUCTION

Filed July 19, 1926

2 Sheets-Sheet 1

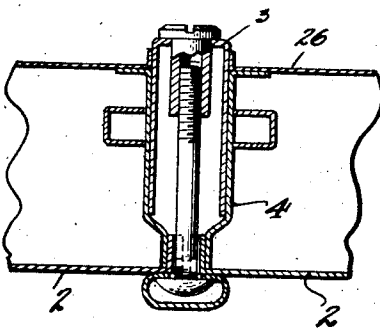
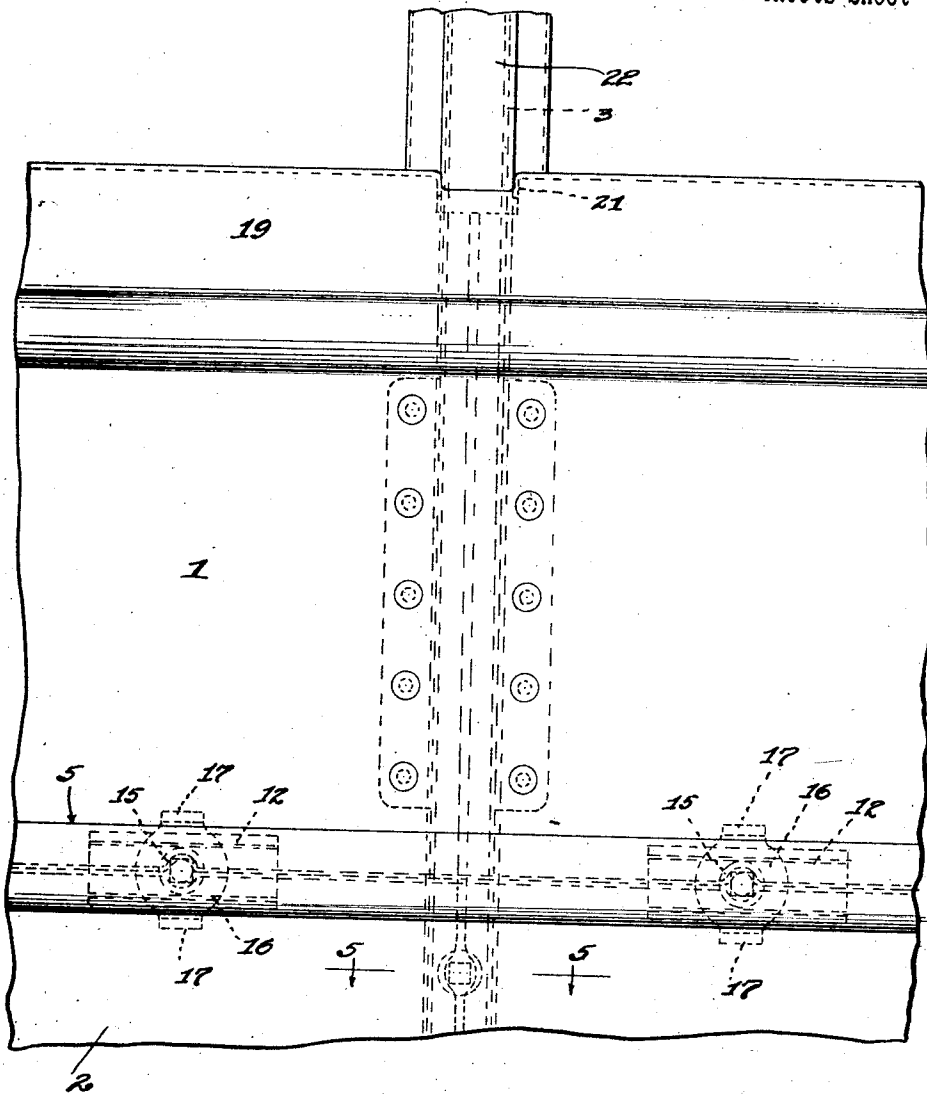


*Fig. 1*

*Fig. 5*

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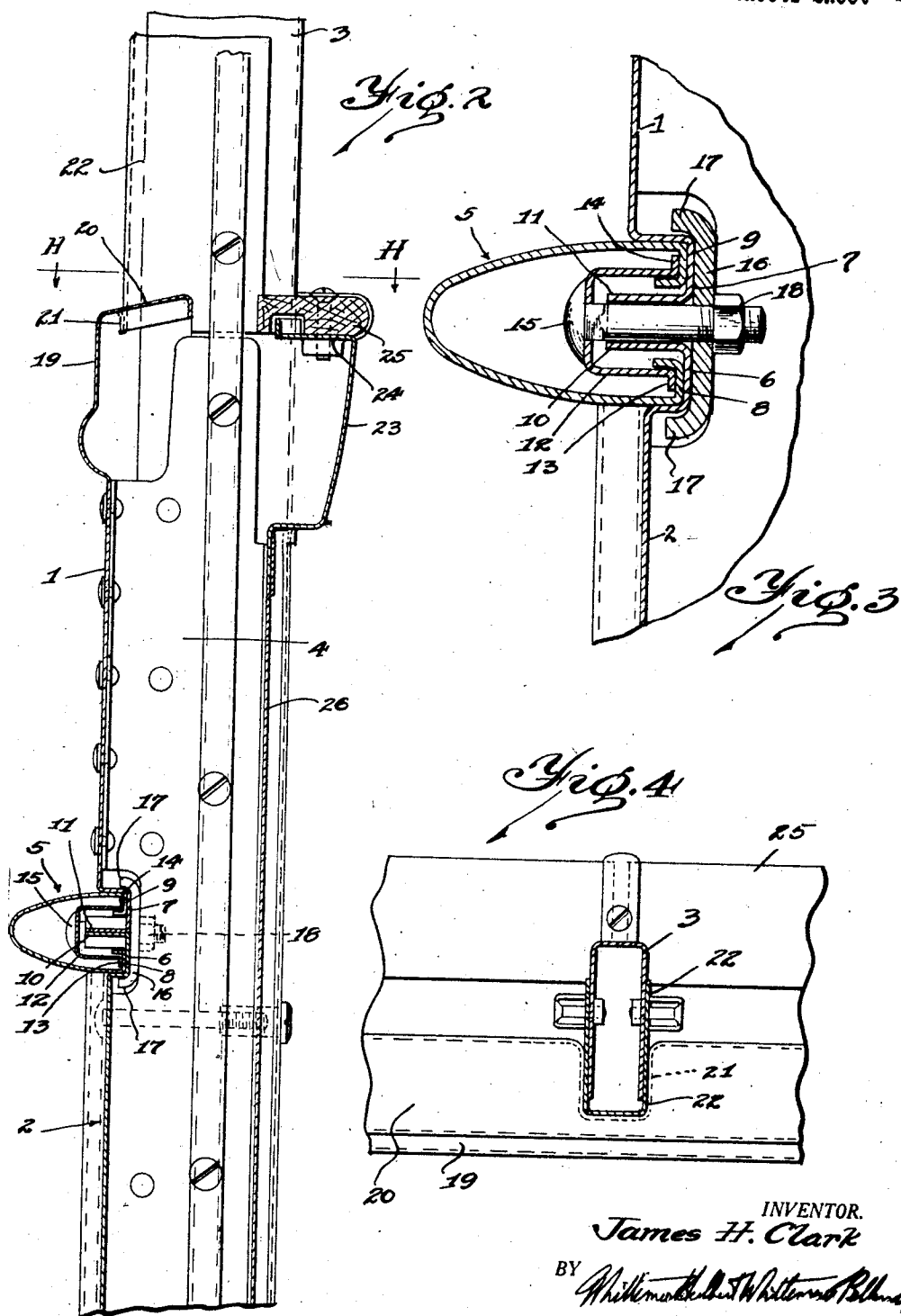
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GUARD RAIL AND OUTER PANEL CONSTRUCTION

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2 Sheets-Sheet 2



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Patented Apr. 23, 1929.

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# UNITED STATES PATENT OFFICE.

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## GUARD RAIL AND OUTER-PANEL CONSTRUCTION.

Application filed July 19, 1926. Serial No. 123,455.

This invention relates generally to the side frame construction of vehicle bodies and particularly to that type designed for use in motor bus bodies and consists of certain novel features of construction, combinations and arrangements of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a side elevation of a side frame construction embodying my invention;

Figure 2 is a sectional view thereof;

Figure 3 is an enlarged view of the joint connecting the panels and belt guard rail;

Figure 4 is a section taken on line H—H of Figure 2.

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 1.

In the drawings the numerals 1 and 2 designate upper and lower outside sheet metal panels pressed to the desired shape, while the numeral 3 denotes a supporting pillar therefor which extends vertically from top to bottom of the side frame structure of a motor bus and is of channel-shaped formation having its open portion facing outwardly. Any suitable means may be employed for attaching the panels 1 and 2 to the pillar 3, and in the present instance, I provide a substantially channel-shaped pillar reinforcing member 4, embracing the pillar, the base portion thereof enclosing the open portion of the pillar and abutting against the inner sides of the upper and lower panels 1 and 2 and being securely fastened thereto in any suitable manner.

Extending the length of the bus is a substantially channel-shaped belt guard rail 5 which cooperates with the upper edge of the panel 2 and the lower edge of the panel 1 to form a neat, easily assembled and compact joint. These panels are provided with inturned channel portions 6 and 7 respectively the base portions of which receive lateral inturned portions 8 and 9 of the belt guard rail 5. As shown in Figure 3, the outer side walls 10 and 11 of the inturned channel portions abut against each other and the portions 8 and 9 are preferably turned outwardly and extend along said side walls for a portion of their length.

Slidably mounted within the belt guard rail 5 is a short channel bar 12 having out-turned end portions 13 and 14 abutting against the lateral inturned portions 8 and 9 respectively of the belt guard rail 5. As

shown, the side walls 10 and 11 are provided with corresponding outwardly rounded portions forming an opening to receive a bolt 15, while the channel bar 12 is provided with a cooperating squared opening through which the bolt is inserted and which prevents it from turning.

At the point where the panels 1 and 2 meet, the pillar 3 and reinforcing member 4 are both cut away for a portion of their length to allow for the reception of the inturned channel portions 6 and 7. In order to secure the belt guard rail to the panels, a clamp 16 is provided which rests against the base portions of the inturned channel portions and which is provided with laterally extending portions 17 for holding the outer side walls 10 and 11 in contacting relation with each other.

From the above description it will be apparent that when the nut 18 is screwed upon the bolt 15, the channel bar 12 and clamp 16 will be drawn toward each other, thereby clamping the panels 1 and 2 and belt guard rail 5 securely together. Any desired number of channel bars 12 and clamping members 16 may be placed at predetermined points along the sides of the bus structure for securely joining the panels 1 and 2 to the belt guard rail 5 and to each other.

The upper extreme portion of the panel 1 is formed into an outside belt rail 19, which is provided with a horizontal inwardly extending portion 20 constituting an outside window frame portion having at its inner end a downturned flange 21 extending along the edge thereof.

The upper edge of the pillar reinforcing member 4 terminates short of and below the window frame portion 20, while a channel-shaped pillar cover 22 has its lower edge associated with the flange 21. This cover embraces the walls of the pillar, closing the open portion thereof, and as shown, the side walls of the pillar terminate short of the base of the cover, while the side walls of the cover terminate short of the base of the pillar. The flanged portion 21 of the outside window frame portion abuts against the pillar cover 22 embracing the base and a portion of the side walls thereof, the lower end of the cover terminating with the edge of the flange 21 and being butt welded thereto. With such an arrangement any up and down variation in the length of the cover can be readily taken care of and if the cover should be a

trifle too long, the surplus length can extend beyond the adjacent flange and the cover can be welded to the flange 21 as aforesaid. For this arrangement, I have filed a divisional application, Serial #198,490 on June 13, 1927.

Secured to the inside of the pillar in any suitable manner is an inside belt rail 23 provided at its upper end with a lateral horizontal flange 24, to which a window ledge 25 is attached. An inside panel 26 is secured to the lower edge of the inside belt rail and is supported upon the pillar 3 in any suitable manner.

While it is believed that from the foregoing description the nature and advantage of my invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What I claim as my invention is:

1. In a vehicle body, the combination with adjacent panels provided with inturned channel portions, the outer side wall of the channel portion of one panel lying adjacent to the outer side wall of the channel portion of the other panel, a belt guard rail provided with inturned end portions seating in said channel portions, and means for securing said panels to said belt guard rail and to each other.

2. In a vehicle body, the combination with adjacent panels provided with channel portions, a channel-shaped belt guard rail provided with inturned end portions seating in said channel portions, a channel bar having its end portions resting against the inturned portions of said belt guard rail, and a clamp abutting against the outside of the base portions of said channel portions for securing said panels to said belt guard rail and to each other.

3. In a vehicle body, the combination with adjacent panels provided with channel portions, a belt guard rail provided with inturned end portions seating in said channel portions, a channel bar having its end portions resting against the inturned end portions of said belt guard rail, a clamp abutting

against the outside of the base portions of said channel portions, said channel bar, panels and clamp having openings therein for accommodating a bolt for securing the panels to said belt guard rail and to each other.

4. In a vehicle body, the combination with upper and lower panels provided with channel portions, the outer side wall of the channel portions in the upper panel lying in contacting relation with the outer side wall of the channel portion in the lower panel, a belt guard rail provided with inturned end portions seating in said channel portions, a channel bar enclosing the outer side walls of said channel portions and having its end portions resting against the inturned end portions of said belt guard rail, a clamp abutting against the outside of the base portions of said channel portions, said channel bar and clamp being provided with openings and the outside walls of said channel portions having rounded cooperating portions in alignment with said openings for receiving a bolt for securing said upper and lower panels to said belt guard rail and to each other.

5. The combination with a lower panel, of an upper panel abutting against said lower panel, a belt guard rail having inturned end portions in contacting relation with said upper and lower panels, a channel bar having its end portions resting against the inturned end portions of said belt guard rail, and means including a clamp for securing said upper and lower panels to said belt guard rail and to each other.

6. In a vehicle body, the combination with a lower panel, an upper panel abutting against said lower panel, a belt guard rail having inturned end portions in contacting relation with said upper and lower panels, a channel bar located within said belt guard rail and having end portions resting against the inturned end portions thereof, and means including a clamp abutting against the inside faces of said upper and lower panels for securing the said panels to said belt guard rail and to each other.

In testimony whereof I affix my signature.

JAMES H. CLARK.