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R. A. JEWELL

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VEHICLE WALL STRUCTURE

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Fig. 1.

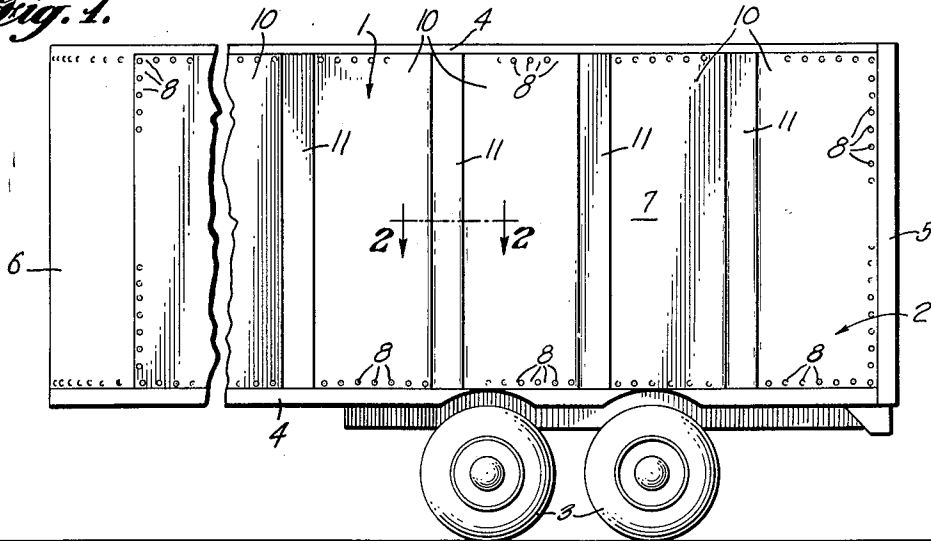


Fig. 2.

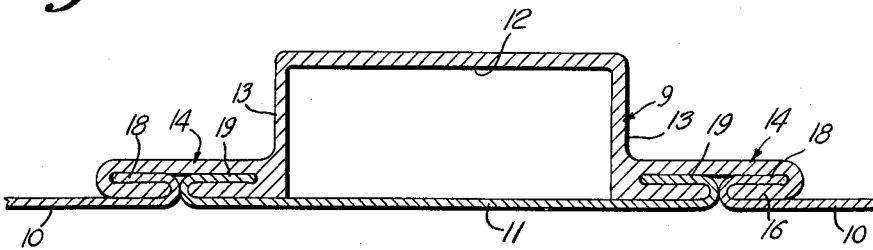
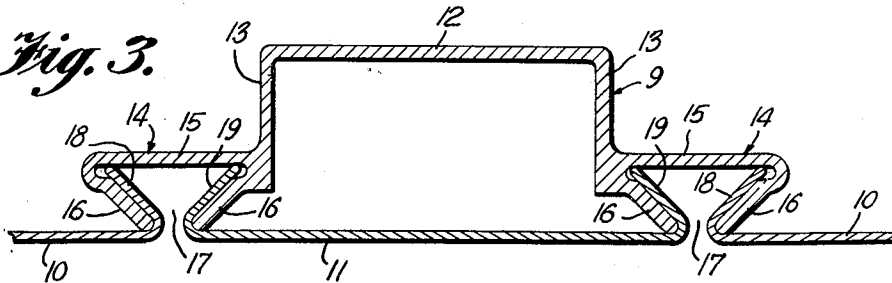


Fig. 3.



INVENTOR
Robert A. Jewell

BY
Mason, Fenwick & Lawrence
ATTORNEYS

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VEHICLE WALL STRUCTURE

Robert A. Jewell, Savannah, Ga., assignor to Great Dane Trailers, Inc., Savannah, Ga., a corporation of Georgia
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This invention relates to vehicle body structure, and particularly sidewall structure suitable for trailers, van type truck bodies and other vehicles having similar body types, and to the sheet stiffening posts used therewith.

The usual van, or similar type, body has a side wall which consists of bottom and top longerons, front and back end posts, and a plurality of vertical intermediate posts, or skin stiffeners. These members are riveted together to form a side frame, and sheets of siding are placed over the frame and riveted to the several frame members. As the longerons and front and back posts form part of the vehicle frame, it is necessary that the vertical intermediate posts and side sheeting be put in place individually on the frame and riveted in place. This means of building a body does not lend itself to assembly line methods of production.

The present invention has for its object the provision of an improved side structure which will eliminate the greater proportion of the riveting now necessary.

Another object is to provide a side structure which can be preassembled apart from the vehicle frame, carried to the frame and installed as a unit on the frame.

A further object is the provision of a siding sub-assembly which employs a novel stiffening post having gripping members to engage, and hold, the side sheeting.

Yet another object is to provide a novel post structure with a jumper sheet to bridge the post and form a box-like element, and to span the space between adjacent siding sheets.

A still further object of the invention is to provide a side wall for a trailer, or similar vehicle body, which can be assembled quickly, and will provide a smooth wall for either the inside or outside of the vehicle.

Other objects of the invention will become apparent from the following description of one practical embodiment thereof when taken in conjunction with the drawings which accompany, and form part of, this specification.

In the drawings:

FIGURE 1 is a side elevation of a van type trailer having a side wall constructed in accordance with the principles of the present invention;

FIGURE 2 is a fragmentary horizontal section through the side wall, and is taken substantially on the line 2—2 of FIGURE 1; and

FIGURE 3 is a horizontal section similar to FIGURE 2, showing the parts illustrated in FIGURE 2 in assembled relation but before clinching to secure the elements together.

In general, the invention as illustrated herein consists of a vehicle side wall including a plurality of channel-like stiffener posts having gripping elements along their edges, a plurality of side sheets extending between the posts and caught in the gripping elements, and jumper strips to span the open channels of the posts and having their edges also caught in the grippers, whereby the jumpers serve to close the open faces of the posts and bridge the spaces between adjacent side sheets to provide a smooth wall structure.

Referring to the drawings in detail, there is shown in FIGURE 1 a trailer 1 having a body 2 mounted on tandem wheels 3. The body includes bottom and top longerons 4, rear posts 5, and front posts, or curved section, 6. A side wall structure 7 is secured along its

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edges to the longerons and front and back posts by means of rivets 8.

The side wall is constructed from a plurality of stiffener posts 9, siding sheets 10 and jumpers 11. These elements may be assembled, as will be described, to form the side wall as a unitary sub-assembly.

The stiffener posts, of course, will be long enough to extend from one longeron to the other. Each has a substantially U-shaped cross-section having a back wall 12 and spaced, and parallel, legs 13. At the free end of each leg there is a clincher type gripper 14, extending laterally from the legs and lying parallel to the backs of the posts, with the grippers of each post lying in a common plane. The gripper will be coextensive with the posts and, in fact, the entire post including the grippers may be formed as an extrusion and cut to desired length.

The grippers also are substantially U-shaped in cross-section, having backs 15, and the forwardly extending and convergent jaws 16. The free edges of the jaws define between them a slot 17 providing a vertically disposed entrance into the gripper.

The side sheets 10 are sufficiently long to extend the full height of the wall, and sufficiently wide to bridge the gap between adjacent posts. The side edges of the sheets are bent rearwardly to form flanges 18 running the full length of the sheets. The angle of the flange relative to the sheet is such that the flanges will lie flat upon the outer jaws of the grippers on the posts when assembled.

The jumpers 11 may be formed as extrusions, and will be sufficiently wide to bridge the posts from one gripper to the other, and they, too, will have angularly turned edge flanges 19 to lie along the inner jaws of the grippers when assembled.

When a vehicle side is to be assembled, the posts are laid out in the positions they are to assume in the completed side. The posts will be in the form in which they are extruded, with the gripper jaws open and converging toward one another, as shown in FIGURE 3. The posts may be positioned by use of a jig, or in any other suitable manner. The jumpers 11 will then be put into place on the posts by placing the jumpers at the ends of the posts, dovetailing the inner gripper jaws and the jumper flanges, and sliding the jumpers endwise onto the posts. The side sheets 10 are then put into place in a manner similar to the jumpers. The side sheets will have their edge flanges 18 slipped under the outer jaws of the grippers of adjacent posts and the side sheet slid into place. Through the use of a suitable die, the jaws of the grippers are then closed to grip the flanges 18 and 19 tightly between the back wall 14 of the grippers and the gripper jaws. The movement of the jaws from the open position, as seen in FIGURE 3, and the closed position, as shown in FIGURE 2, will exert a pull on the side sheets and jumpers which will stretch out the sheets and jumpers to their full extent so that a flat, taut outer skin will result. The entire side, when completed, can be lifted as a unit and carried to the point of vehicle frame assembly and put in place. It will be necessary only for the builder to rivet along the top and bottom longerons, the front and back posts to complete the body assembly.

A side wall of this type can be assembled very quickly without rivets, and will provide a strong, rigid construction. It can be used as an interior or exterior wall, and will present a smooth surface.

Although the invention has been described in connection with a vehicle body sidewall, it will be obvious that the structure may be used elsewhere in the vehicle body, or anywhere that a braced, smooth wall is needed.

While in the above one practical embodiment of the invention has been disclosed, it will be understood that

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the details of construction shown and described are merely for purposes of illustration, and the invention may take other forms within the scope of the appended claims.

What is claimed is:

1. A wall structure comprising, a plurality of posts, each being channel-shaped in cross-section with a back wall and spaced legs extending from the back wall, clincher-type grippers at the face ends of each leg, the grippers being U-shaped and having backs and spaced convergent jaws extending longitudinally of the posts, whereby each gripper has an inner jaw adjacent a channel leg and an outer jaw spaced from a channel leg, wall sheets having folded edge flanges clinched between the outer jaws and backs of the grippers, and a jumper across each post having folded edge flanges clinched between the inner jaws and backs of the grippers.

2. A wall structure as claimed in claim 1 wherein the grippers extend the full length of the posts.

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3. A wall structure as claimed in claim 1 wherein the grippers extend laterally outward from the legs of the posts, with the grippers of each post lying in a common plane parallel to the backs of the posts.

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