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3,492,950

RAILROAD CAR SLIDING SILL GUIDE

Filed Sept. 14, 1967

2 Sheets-Sheet 1

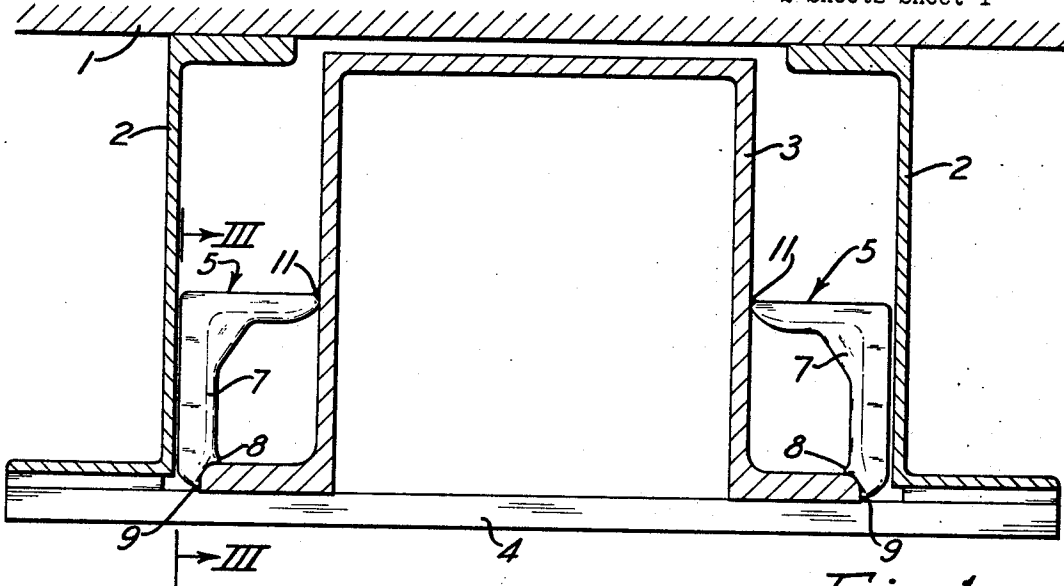


Fig. 1

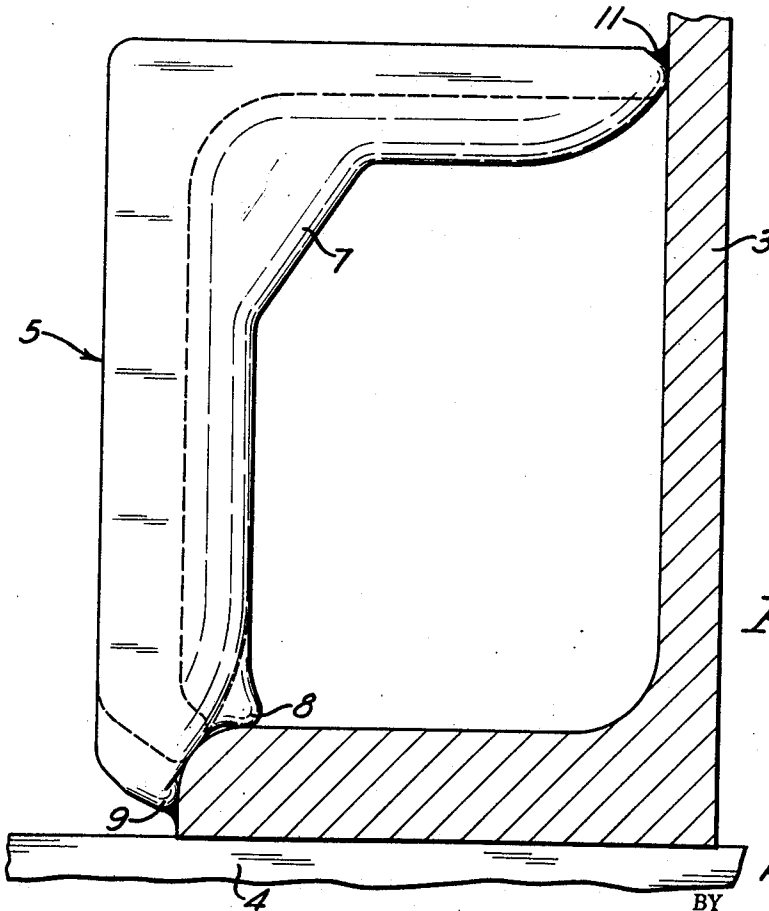


Fig. 2

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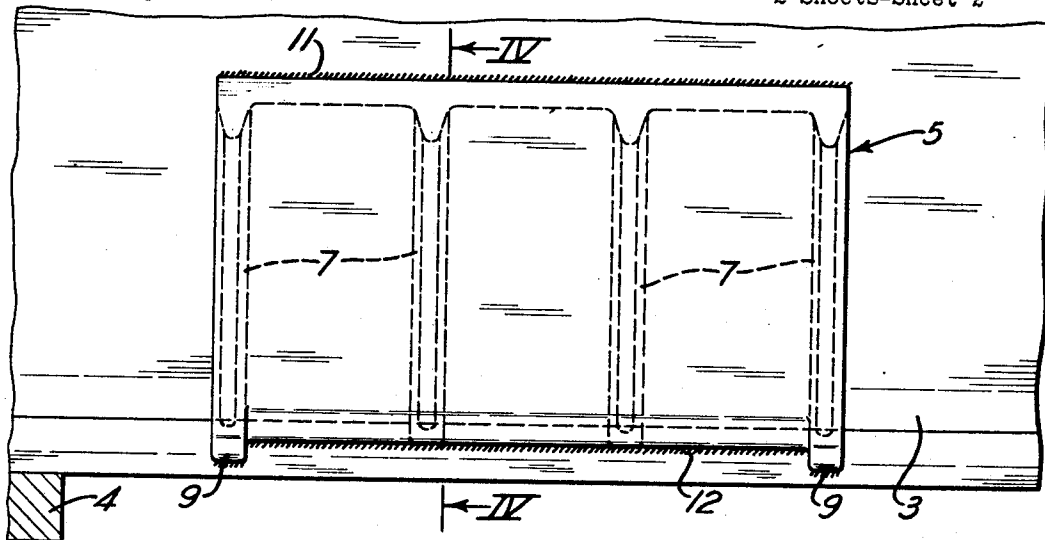


Fig. 3

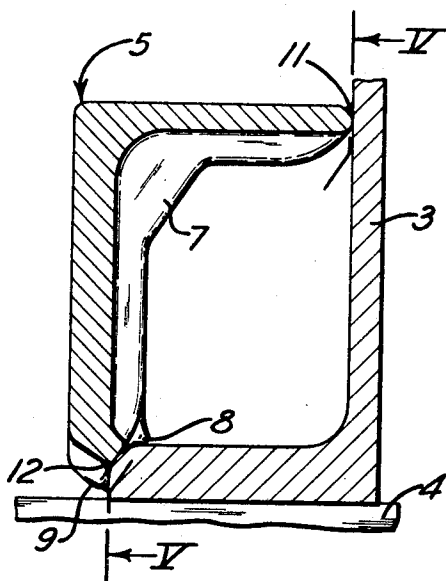


Fig. 4

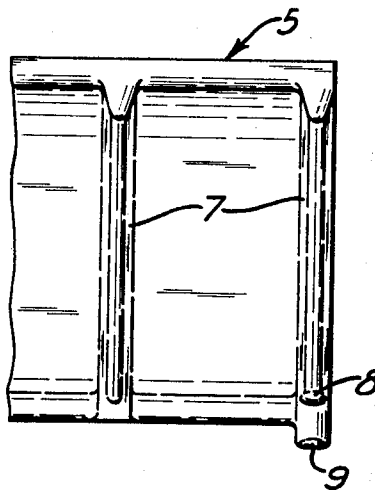


Fig. 5

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RAILROAD CAR SLIDING SILL GUIDE

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2 Claims

ABSTRACT OF THE DISCLOSURE

Welded to the opposite sides of a freight car sliding sill that has outwardly projecting bottom flanges are guides, each of which has a side wall above a sill flange and a top wall extending inwardly to the adjoining side of the sill and welded thereto. The outer side of the side wall of the guide forms a flat vertical bearing surface, and the bottom portion of the side wall engages the outer edge of the sill flange, to which it is welded. A projection from each end of the side wall seats on top of the flange, and another projection engages the outer edge of the flange below each of the other projections.

Modern freight cars often are provided with longitudinally slidable center sills, to the ends of which the car couplings are attached. Such a sill usually is in the form of an inverted channel having vertical sides, from the bottoms of which relatively narrow horizontal flanges project outwardly. These flanges rest and slide on suitable supports for the sill. The sill is mounted between parallel beams that form part of the car frame. Guides are attached to the opposite sides of the sill for sliding engagement with the adjoining beams. Heretofore, these guides have been made by welding a number of flat plates into the form of boxes and then welding the boxes to the sides and bottom flanges of the sill. The guides project a short distance beyond the bottom flanges and substantially into engagement with the adjacent beams.

It is among the objects of this invention to provide a sliding sill guide which is made in one piece, which is simpler in construction and easier and less expensive to make than the guides known heretofore, and which is shaped to facilitate welding it to a sill.

In accordance with this invention each guide is made in one piece and has a side wall above a sill flange and a top wall extending inwardly to the adjoining side of the sill. A weld along the top wall joins it to the sill. The outer side of the side wall forms a flat vertical bearing surface located outwardly beyond the sill flange for engagement with a car frame beam. The side wall of the guide has a bottom portion engaging the outer edge of the sill flange, with a weld across it joining it to the flange. To help position the guide for welding, a projection from each end of its side wall seats on top of the sill flange. As a further aid, the opposite ends of the side wall of the guide may be provided with downward projections that engage the outer edge of the flange.

The preferred embodiment of the invention is illustrated in the accompanying drawings; in which

FIG. 1 is a fragmentary cross section of a car frame, showing the ends of the sill guides;

FIG. 2 is an enlarged detail of FIG. 1;

FIG. 3 is a side view of a sill guide, taken on the line III—III of FIG. 1;

FIG. 4 is a cross section on the line IV—IV of FIG. 3; and

FIG. 5 is a fragmentary inside view taken on the line V—V of FIG. 4.

Referring to FIG. 1 of the drawings, the bottom of a railroad freight car body 1 includes a pair of spaced longitudinally extending beams 2 near its center. These beams often are Z-bars, with the lower flanges extending away from each other. Between the beams there is a center sill 3 that extends the full length of the car and supports the usual couplings (not shown) at its ends. This sill is supported at several points along its length by bottom plates 4 connecting the beams. The sill can slide lengthwise on the plates. The sill is in the form of an inverted channel having a horizontal web at its top and downwardly extending parallel sides, the bottoms of which are turned outward to form horizontal flanges. The sill is spaced a short distance from the beams at its opposite sides. To center the sill between the beams and prevent it from moving sideways, guides 5 are attached to its opposite sides at longitudinally spaced points along its length.

It is a feature of this invention that each guide is a single piece with only two walls, preferably disposed at right angles to each other. Projecting inwardly from the two walls are reinforcing ribs 7. The guide preferably is made in a forging operation but could be cast if desired. In use, one wall of the guide is vertical and usually thicker than the other wall, which projects from the top of the vertical side wall. The guide is attached to the outside of the sliding sill in such a position that the free edge of the top wall engages the side of the sill while the bottom edge of the side wall engages the outer edge of the sill flange. The guide is wide enough to position the outer surface of its side wall outwardly beyond the sill flange. This outer surface is flat and vertical and serves as a bearing surface for sliding engagement with the adjacent car beam. The guide is attached to the sill by welding.

Another feature of this invention is that the guide is provided with means to aid in seating it in the correct position against the sill for welding. Accordingly, at each end of the side wall of the guide there is a lateral projection 8 that seat on top of the sill flange and thereby holds the guide at the correct elevation on the sill while they are being welded together. These positioning projections can be bulges on the lower ends of the end ribs. Also, it is desirable to provide the opposite ends of the side wall with downward projections 9 that engage the vertical outer edge of the sill flange below the line of engagement of the side wall with the flange. These last positioning projections insure that the guides bearing surface will be parallel to the side of the sill and therefore vertical. The bottom portion of the side wall of the guide engaging the sill flange preferably is turned inwardly as shown in FIG. 4 and engages the upper outer corner area of the flange between the upper and lower projections, which therefore straddle that area. This corner area of the flange generally is rounded as shown.

A guide such as this can be correctly seated against the sill, with its upper positioning projections resting on top of the sill flange, its lower positioning projections engaging the outer edge of the flange, and the free edge of its upper wall engaging the side of the sill. While the guide is held against the sill by the welder, he can tack weld it in place at the top and at the lower positioning projections. Then he runs a line of weld 11 along the top of the joint between the top of the guide and the side of the sill, and another line of weld 12 along the bottom of the guide between the lower projections. These two welds securely hold the guide in place.

The unitary guide disclosed herein can be made quickly by forging instead of having to be built up by welding several plates together. It also is more durable than the box-like guides used heretofore. The particular form of the forging permits it to be held in proper position very easily until it has been tack welded to the center sill.

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According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. The combination with a railroad car sliding sill having sides with outwardly projecting bottom flanges, of one-piece L-shape guides welded to the outside of the sill, each of the guides comprising a longitudinal side wall above a sill flange, an integral top wall extending inwardly from the top of the side wall to the adjacent side of the sill, a weld along the inner edge of said top wall joining it to the sill, the outer side of said side wall forming a flat vertical bearing surface located outwardly beyond said sill flange, said side wall having a bottom portion engaging the outer edge of said flange, a weld along the bottom of said portion joining it to said flange, and a projection from each end of said side wall seated on top of said flange, each of said projections including a vertical rib projecting inwardly from an end of said side wall, and a bulge projecting inwardly from the lower end of the rib and engaging the top of said sill flange.

2. A one-piece L-shape guide for use with a railroad car sliding sill having sides with outwardly projecting bottom flanges, the guide comprising a side wall, an integral top wall projecting laterally from one side of the

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side wall and having a free edge adapted to be welded to one of the sill sides, the opposite side of said side wall having a flat vertical bearing surface, the side wall having a bottom portion adapted to be welded to the outer edge of a sill flange, and a projection from each end of said one side of the side wall for engaging the top of said flange while the guide is being welded to the sill, each of said projections including a vertical rib projecting inwardly from an end of said side wall, and a bulge projecting inwardly from the lower end of the rib and engaging the top of said sill flange.

References Cited

UNITED STATES PATENTS

15	1,963,215	6/1934	Simonson	213—8
	2,652,158	9/1953	Simonson	105—420
	2,870,724	1/1959	Gutridge	105—418
	3,266,441	8/1966	Pulcrano	105—414
20	3,313,246	4/1967	Koo	105—420

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