

June 17, 1958

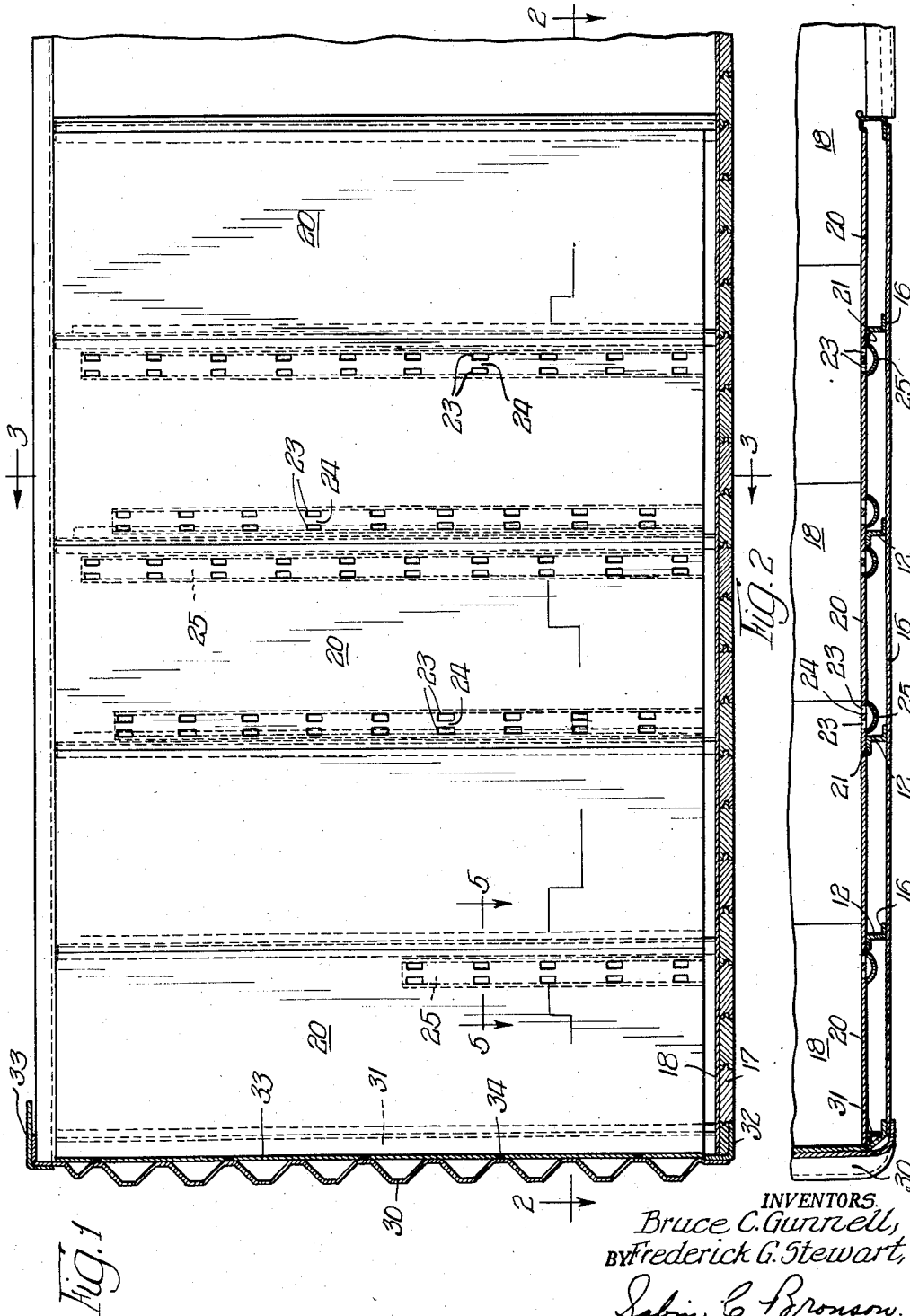
B. C. GUNNELL ET AL

2,839,013

STEEL LINED CAR WITH INTEGRAL LADING STRAP ANCHOR

Filed May 27, 1954

2 Sheets-Sheet 1



INVENTORS.
Bruce C. Gunnell,
BY Frederick G. Stewart,
Sabine C. Bronson.

June 17, 1958

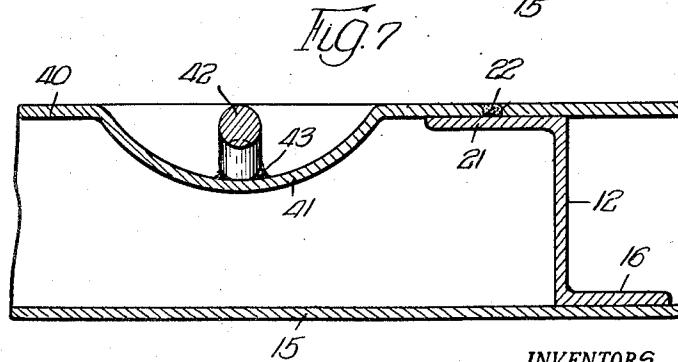
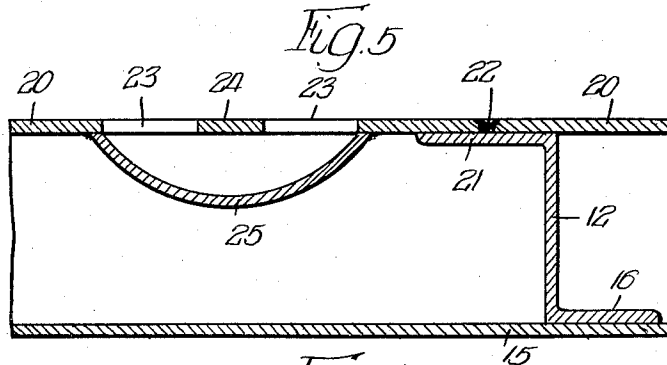
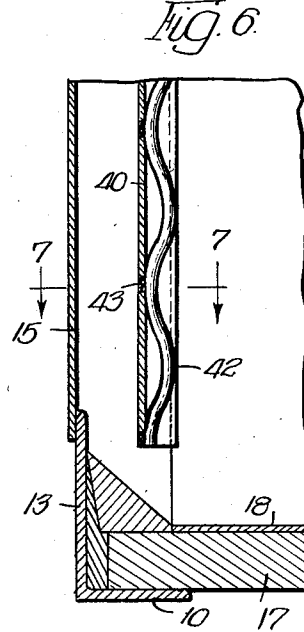
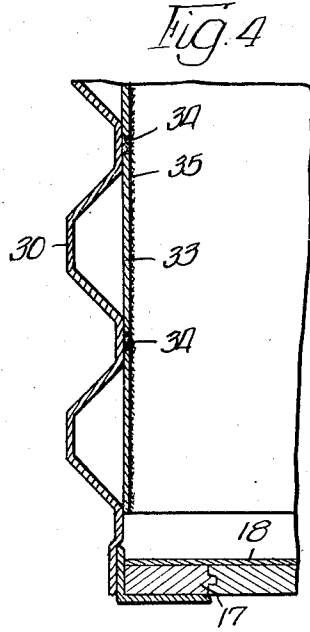
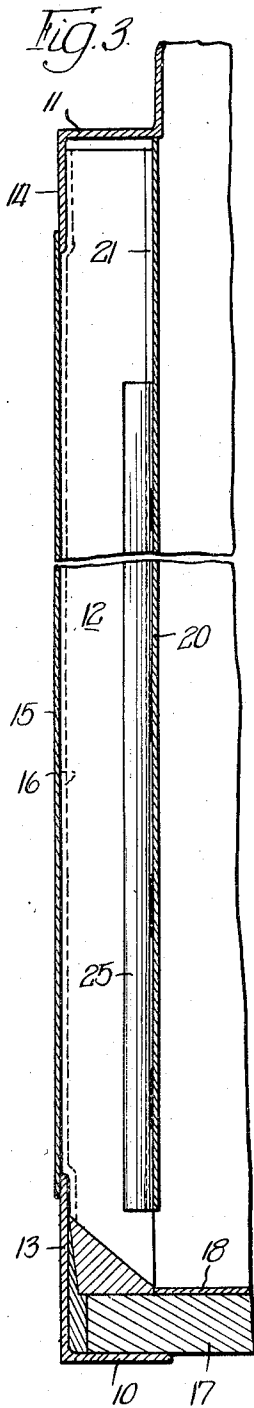
B. C. GUNNELL ET AL

2,839,013

STEEL LINED CAR WITH INTEGRAL LADING STRAP ANCHOR

Filed May 27, 1954

2 Sheets-Sheet 2



INVENTORS:
 Bruce C. Gunnell,
 BY Frederick G. Stewart,
 Sabin C. Brown

1

2,839,013

STEEL LINED CAR WITH INTEGRAL LADING STRAP ANCHOR

Bruce C. Gunnell, Alexandria, Va., and Frederick G. Stewart, Washington, D. C.,

Application May 27, 1954, Serial No. 432,857

4 Claims. (Cl. 105—369)

This invention relates to improvements in the wall structure of railway house cars and in particular to steel lined cars having a smooth surface to the lading with said lining provided with integrally formed means to anchor the ends of high tension lading straps thereto.

Box cars generally are provided with wood lining, usually about $\frac{5}{8}$ " to $\frac{3}{4}$ " in thickness attached to the car side posts and to which blocking braces on the ends of load retaining bands or straps are attached by nailing thereto. Such linings after some use become splintered, have holes punched therein by the forks of lift trucks, etc., and are generally not substantial enough to withstand repeated nailing and abuse to which they are almost continuously subjected, and, consequently, have to be replaced all too frequently and at considerable expense to the car owner. It is the primary object of the present invention to provide a car with a metal lining which has a smooth surface presented to the lading and which is provided with integrally formed means for attaching the ends of lading straps thereto.

It is a further object of the invention to provide the rear face of the lining, behind the strap anchoring means, with means to guide the lading strap around such strap anchoring means.

Other objects and advantages of the invention will appear in the following description of the invention.

Referring now to the accompanying drawing forming part of this application and wherein like reference characters indicate like parts.

Fig. 1 is a longitudinal section through a car end and floor showing in side elevation a portion of the inside of a car wall including my invention.

Fig. 2 is a section on line 2—2, Fig. 1.

Fig. 3 is a vertical section on line 3—3, Fig. 1.

Fig. 4 is an enlarged vertical section through the end wall of the car.

Fig. 5 is a section on line 5—5, Fig. 1.

Fig. 6 is a view similar to Fig. 4 of a modified form of the invention.

Fig. 7 is a view similar to Fig. 5 of said modified form of the invention.

Referring now particularly to the modification shown in Figs. 1-5 inclusive, the car parts shown comprise the side sill 10, side plate 11, side posts 12 which extend vertically between the side plate and side wall and comprise the side wall framing. Side sill 10 is of angle section, with an outside flange 13 vertically disposed. Side plate 11 is of W-section likewise with an outside flange 14 vertically disposed. Flanges 13 and 14 occur in the same plane. Side sheathing 15 extends between and is secured to said flanges 13 and 14. Side posts 12 are of Z-bar section, the outer flanges 16 of which occur in the plane of flanges 13 and 14 but are offset at their ends so as to underlap said flanges, as clearly shown in Fig. 3. Side sheathing 15 is skip welded or otherwise secured to flange 16 of the side posts. Flooring 17 rests

2

upon horizontal flanges of the side sill from side to side of the car, and upon this flooring are metal floor plates 18 to take the abuse of lading, and the loading and unloading thereof. All of the above is common construction in steel sheathed box or house cars.

As stated in the preamble, ordinarily these cars are provided with wood lining, but we prefer to use, and our invention contemplates, a metal lining comprising a plurality of panels 20, each resting upon the inner flanges 21 of the side posts, and extending from the horizontal flange of the side plate 11 to adjacent the floor of the car, and flanges 21 are cut away from the bottom of said side posts for reasons which will hereinafter appear. Each panel 20 is of a width to span the space between adjacent side post flanges 21 and be securely edge welded thereto and to each other, as clearly shown at 22 in Fig. 5.

At least one vertical margin of each sheet, closely adjacent a side post 12, is punched with a vertical row of spaced openings 23, leaving a relatively narrow strip of material 24 therebetween. On the rear face of the panels, spanning each row of openings 23, is an arcuate metal strip 25, skip or continuously welded along the edges to the lining sheet 20. This strip 25 is for the dual purpose of confining any granular lading material which may leak through openings 23 and conducting the same down and out through the space between the bottom edge of sheet 20 and the floor 18 of the car (see Fig. 3), and also for forming a guide for the end of banding strap material in passing it in one opening 23 and out the other opening of a pair, so as to wrap around the strap 24 which then forms an anchor for said strap. It will be noted that the pair of openings 23 in adjacent vertical rows are staggered in their vertical spacing, thus being more versatile for the application of bands thereto.

The pattern of punching of the openings 23 in the side lining panels may be varied to suit desired circumstances. It may be desired that one panel will have no anchors formed therein, whereas an adjacent panel may have anchors formed in each vertical margin, or in one vertical margin.

The end wall of the car comprises a corrugated metal end 30 which extends between the vertical corner posts of the car, one of which is shown at 31, and also between the end sill 32, and end roof sheet, fragmentally indicated at 36. A flat metal end lining sheet 33 extends between the corner posts 31 of the car, is plug welded to the valleys of the corrugations of the end, as indicated at 34, or otherwise secured thereto, and edge welded to the corner posts, as indicated at 35. Said end lining 33 is also edge welded along its top edge to the upper margin of the end 30, and along the bottom edge to the end sill 32. Lining 33, therefore, presents a smooth inner surface to the lading, and being secured to the valleys of the corrugations of the end, to the top and bottom margins thereof as well, and to the corner posts, materially strengthens the end and aids in preventing outward buckling of the end due to horizontal forces applied thereagainst.

As an alternate form of the invention, we have shown in Figs. 6 and 7, a side lining sheet 40 wherein are formed therein vertical depressions, arcuate in cross section, as at 41, similar in all practical respects to the arcuate strips 25 of the former described modification. In the valley of each of these depressions 41, however, is positioned a serpentine-like rod 42, and intermittently where the rod engages the part 41 is welded thereto and therefore made integral by the weldments, as indicated at 43. Between these weldments 43 the rod may be encircled by a lading band and secured thereto.

In either modification, the part of the lining to which

the ends of the lading band is attached is as closely as practicable to a side post, as there is considerable tension applied to said bands, and, consequently, the closer the band anchor portion of the lining is to the side post the stronger it will be.

It will be apparent from the drawings and claims that the principle of this invention could be applied to a single sheathed car, especially in the case of new cars being built. In this event the outer sheathing 15 would be omitted, and the side posts exposed, such as is the case at present with most open top cars.

We claim:

1. A wall for a railway car comprising a plurality of vertically disposed spaced side posts, a flat metallic lining secured to said posts, and covering the interior of said wall, vertically arranged rows of pairs of spaced openings through said lining adjacent a side post, said side post being located between adjacent rows of said pairs of spaced openings, the openings of each pair, confronting and in registry with each other, and the material between each pair of said confronting openings forming a lading band anchor, the pairs of openings in the row on one side of said post being staggered in relation to the pairs of openings in the row on the other side of said post.

2. In combination with a railway car, spaced structural members, having coplanar flat surfaces, a metallic lining secured to said flat surfaces, a vertically arranged row of pairs of spaced openings through said lining adjacent a structural member, the openings of each pair confronting and in registry with each other, the material between each pair of said confronting openings forming a lading band anchor, and a vertical member arcuate in horizontal cross section behind said openings, the vertical edges of said member spanning said row of pairs of spaced openings horizontally and extending the length of said row, and secured to said lining to guide banding strap material in one opening and out another.

3. A wall for a railway house car comprising a plurality of vertically disposed spaced side posts, a flat metallic

lining secured to said posts and covering the interior of said wall, a vertically arranged row of pairs of confronting registering spaced openings through said lining adjacent a side post, the material between each pair of said confronting openings forming a banding strap anchor, and an elongated vertical member, arcuate in horizontal cross section behind said openings, the vertical edges of said member spanning said row of pairs of spaced openings horizontally the entire length of said row and secured to said lining, to guide banding strap material around said banding strap anchor.

4. A wall for a railway house car comprising a plurality of vertically disposed spaced side posts, a flat metallic lining secured to said posts and covering the interior of said wall, vertically arranged rows of pairs of confronting registering spaced openings through said lining adjacent a side post, the material between each pair of said confronting openings forming a banding strap anchor, and an elongated vertical member, arcuate in horizontal cross section behind each row of pairs of said openings, the vertical edges of each said member spanning a row of pairs of said spaced openings horizontally and extending the entire length of said row and secured to said lining, to guide banding strap material around said banding strap anchor.

References Cited in the file of this patent

UNITED STATES PATENTS

2,226,667	Love	Dec. 31, 1940
2,570,368	Moon	Oct. 9, 1951
2,581,529	Hall	Jan. 8, 1952
2,583,257	Dietrichson	Jan. 22, 1952
2,601,103	Dietrichson	June 17, 1952
2,605,719	Smith et al.	Aug. 5, 1952
2,610,587	Pietzsch	Sept. 16, 1952
2,613,614	Goodwin	Oct. 14, 1952
2,627,821	Sjogren	Feb. 10, 1953
2,733,670	Sheesley et al.	Feb. 6, 1956
2,747,520	Brown et al.	May 29, 1956