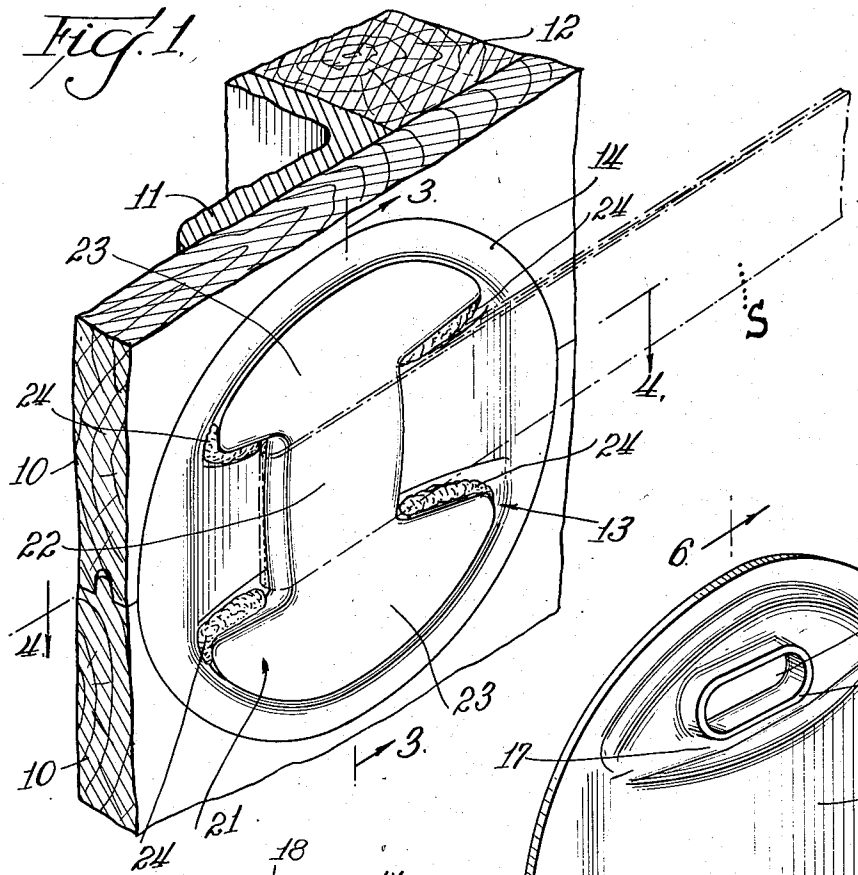
Dec. 8, 1953 M. S. JOHNSON 2,661,704

LADING TIE ANCHOR

Filed July 16, 1951 2 Sheets-Sheet 1

Fig. 1.



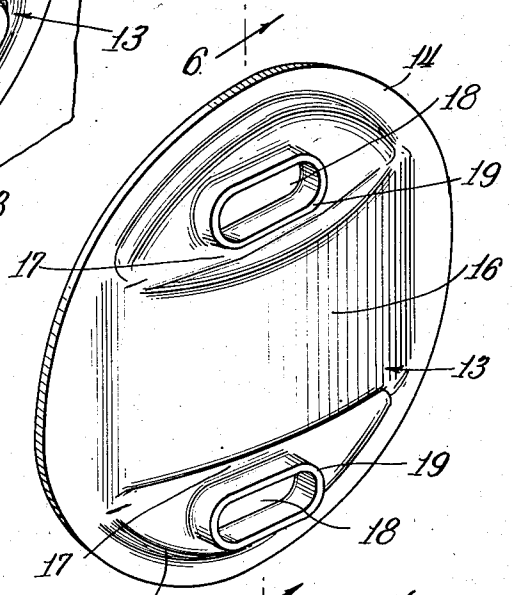


Fig. 5.

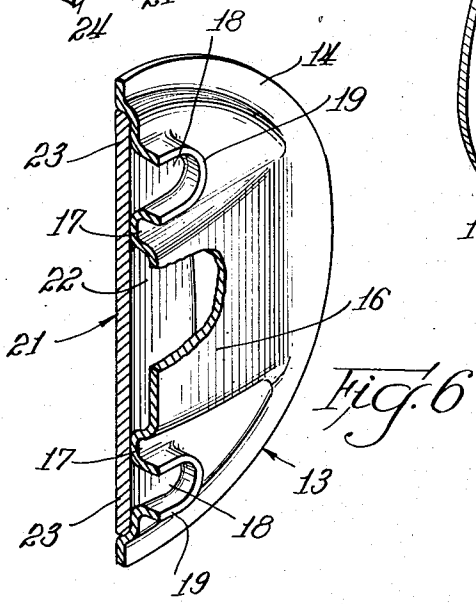


Fig. 6

INVENTOR.
Malcolm S. Johnson
BY George Heidemann
Atty.

Dec. 8, 1953 M. S. JOHNSON 2,661,704

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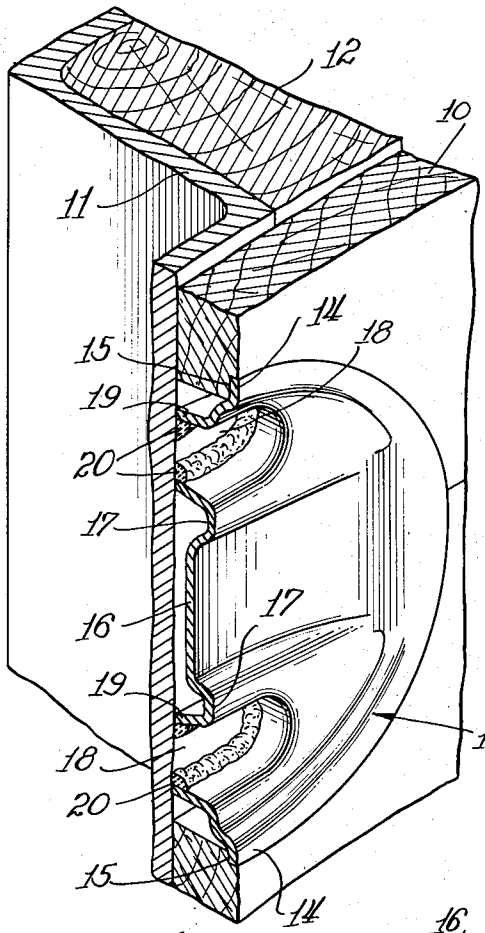


Fig. 2.

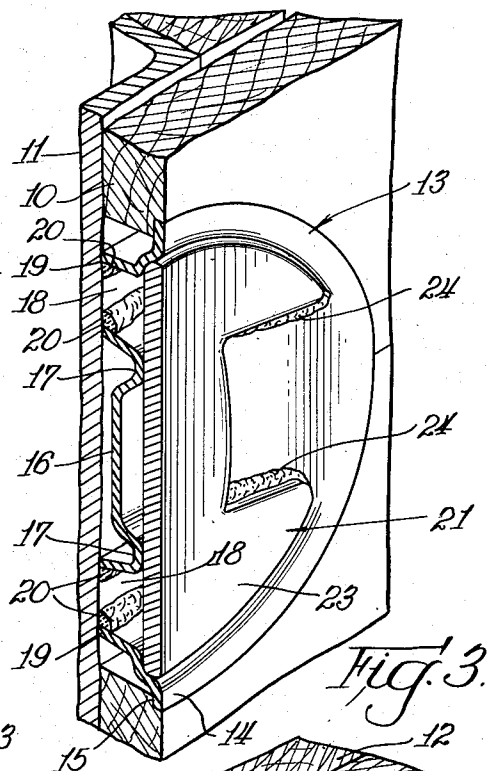


Fig. 3.

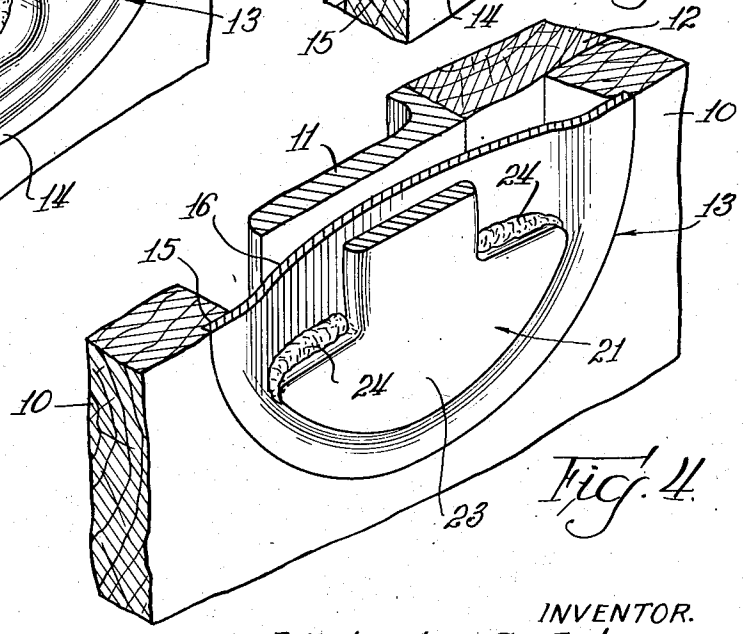


Fig. 4.

INVENTOR.

Malcolm S. Johnson

BY Geo. H. Heidman

Abby.

Patented Dec. 8, 1953

2,661,704

UNITED STATES PATENT OFFICE

2,661,704

LADING TIE ANCHOR

Malcolm S. Johnson, Chicago, Ill., assignor to Illinois Railway Equipment Company, Chicago, Ill., a corporation of Illinois

Application July 16, 1951, Serial No. 236,899

7 Claims. (Cl. 105—369)

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My invention relates to means to be employed in railroad house or box cars and become a permanent unit or part of the car to permit repeated use and has for its object the provision of anchoring means for the metal bands or wires employed to anchor or tie down lading in a freight car.

The invention has for one of its objects the provision of an anchor which may be secured to be flush with the car inner wall or lining and present no protrusions or sharp edges which might interfere with certain lading or commodities subsequently loaded in the car and which will not damage or tear bags containing flour or the like, or in any way cause injury to shipment handlers.

Another object of the invention is the provision of anchoring means which may be easily applied to existing freight car walls and have sufficient strength and anchorage through intimate attachment to the steel structural members or uprights of the car side walls; while at the same time providing an anchor to which the usual steel tie straps or wires may be readily secured. The anchor also being designed to reenforce the portions of the car lining adjacent the anchor and leave no insect-harboring crevices; the anchor being designed also to eliminate the very objectionable method of nailing cleats to the wood lining which results in splitting and macerating of the car lining.

The objects of my invention and other inherent advantages will all be readily comprehended from the detailed description of the accompanying drawings, wherein:

Figure 1 is a perspective view of a portion of a freight car wall structure and inner lining with my improved tie fastener or anchor in place.

Figure 2 is a somewhat similar perspective with one-half of the tie fastener and the anchor member or plate omitted.

Figure 3 is a sectional perspective view taken on the line 3—3 of Figure 1, as viewed by the arrows.

Figure 4 is a sectional perspective view taken substantially on the line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is a perspective view of the rear side of my anchor.

Figure 6 is a perspective view of the rear side of one-half of the anchor, with a portion of the transverse channel broken away and showing a portion of the tie bar in place on the front side, on line 6—6 of Figure 5.

My invention relates to lading tie anchors intended for permanent installation in railroad box

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cars and to permit repeated use but which, when not in use, will not interfere with the shipment of other commodities and which will not cause injury to the shipment nor to the shipment handlers.

One of the objects of the invention is to eliminate the present-day method of nailing cleats to the car inner wall or wood lining, a method which causes considerable damage and splitting of the car lining, particularly during the unloading operation and removal of the nailed steel bands or wires.

Another object of the invention is the provision of an anchor which may be readily installed in the car inner wall by first boring a circular depression or hole in the wood lining 10, 10 at the desired place and at a point coincident with a steel structural member or vertical metal post of the car, shown at 11, generally of Z-bar cross-section as shown in Figure 2. A wood or filler post 12 is arranged and secured flush with the metal post 11 as shown and affords opportunity for nailing the lining boards 10, in place.

The anchor preferably consists of a circular metal plate 13 formed to have a plane, flat-surfaced or flange-like perimeter as at 14 and more clearly seen in Figures 2 and 3.

The holes in the lining boards are counterbored to provide an annular shoulder as at 15, see Figures 2, 3 and 4, adapted to receive the perimeter 14 of the plate 13 and permit the latter to lie flush with the outer surface of the lining 10 as shown.

The plate 13 is concaved or dished throughout its major surface and at a slight distance removed from the rim and the dished portion provided with a transversely extending concaved channel as at 16 in Figures 2 and 4, which dips or slopes toward the center of the plate, with the ends of the channel vanishing into the flat-faced perimeter 14, thereby providing a smooth, curve-surfaced channel adapted to receive and guide the steel tie strap or fastening means during threading the metal strap or tie wire into place, as shown at S.

The channel 16 extends into a plane slightly beneath the plane of the major portions of the recess on opposite sides, or above and below, the channel 16, and thereby provides the strap or tie wire guiding shoulders 17, 17, see Figures 2 and 3, which bound the sides of the channel 16.

The recessed areas above and below the channel 16 are provided with openings as at 18, 18 and the walls of the openings extruded on the rear side of the plate 13 to provide the encircling flanges 19, 19 of height sufficient to contact the

steel post or frame member 11 to which it preferably is intimately secured or welded as indicated at 20 in Figures 2 and 3, thereby integrally uniting the anchor plate 13 with the structural metal post of the car, as shown in Figures 2 and 3. The openings 18 preferably are of somewhat oval or oblong shape to readily accommodate the welding rod and at the same time, afford a comparatively large welding surface.

With the continuous walls 19 about the openings and sufficiently below the outer face of plate 13, it is apparent that sparks produced during welding will be confined within the walls of the openings and be prevented from flying or passing rearward of the wood lining where it might start a fire; the opening-defining flanges or walls are out of contact with or considerably removed from the wood siding or car lining so that possibility of fire, by reason of conduction of heat from the metal to the wood, is eliminated.

After the plate 13 has been secured in place in the manner described, the strap or tie-receiving outer member 21 is then applied to the annular plate. The tie bar member 21 is adapted to lie in the depressed portion and flush with or in the same plane as the plate perimetrical flange 14 and consists of the flat bar portion 22, of length sufficient to span the channel 16 of the plate 13 with its ends enlarged to form the segment-like portions 23, 23 which match and are seated on the recessed plateau-like portion of the plate 13 at opposite sides—namely, above and below the channel 16 (which is disposed horizontally when the plate is secured in place) and completely cover the openings 18, 18 in the plate 13 as seen in Figure 1. The flared or enlarged ends 23, 23 afford comparatively large welding surfaces, with the welding preferably being done along the inner edges of the enlarged ends 23, 23 and the shoulders 17, 17 of the plate 13 as shown at 24 in Figures 1, 3 and 4.

Here again, the welding takes place away from the wood lining and beyond the normal range of the welding arc and resultant sparks.

As shown in the drawings, the vertical edges of the tie-bar 22 preferably are rounded to prevent tearing the bands; while the scooped-out cavity 16 and its side walls 17, 17 guide the band rearward of the tie bar 22 and out into the car at the opposite side of the tie bar, so that application of a tie strap or wire is very easily accomplished. The channel 16, in installation of the anchor, is arranged horizontally and the depth of the channel at its longitudinal center beneath the bar 22 is of sufficient depth to provide ample clearance for the free passage of the tie strap or wire.

As is apparent from my improved anchor, the pulling strains of heavy lurching commodities will be transmitted to the structural steel members of the car and not to the inner lining or sheathing of the car and hence rupture of the joints between the adjacent tongue-and-grooved lining boards is prevented.

The specific exemplification of the invention as shown and described is believed to be the best embodiment of the invention as employed in connection with a railroad house car, but it is apparent that the device may be employed in connection with a different type of car and that certain modifications are possible and may be made without, however, departing from the spirit of the invention as defined in the appended claims.

What I claim is:

1. A lading tie anchor for railroad house cars adapted to be recessed in the car lining and comprising a single piece circular member whose outer face at a uniform distance removed from the perimeter is recessed and provided with a transversely disposed concave channel having upwardly sloping ends terminating adjacent the perimetrical portion of the member, the member at opposite sides of the channel having openings with rearwardly extending side walls adapted to be secured to a metallic structural member of the car wall; and a tie strap attaching member secured to the face of the circular member and extending transversely of said channel.

2. A lading tie anchor for railroad cars comprising a member adapted to be arranged substantially flush with the car wall and formed to provide a tie strap or wire-receiving channel and a tie fastening portion disposed in a direction transversely of the channel, the anchor being provided at the rear face with openings and rearwardly disposed weldable portions adapted to extend through the car wall into contact with the metallic parts of the car wall and to be intimately secured thereto.

3. A lading tie anchor for railroad cars composed of a metallic member adapted to lie substantially flush with the car wall and formed on its outer face with a tie element receiving channel, while its outer face is provided with a tie bar disposed transversely of the channel, the rear face of the anchor having integral rearwardly disposed hollow embossments adapted to extend into contact with the metallic structural parts of the car and to be welded thereto.

4. A lading tie anchor for railroad house cars composed of a metallic plate having a recessed face, adapted to be countersunk in the car lining and having a concaved channel formed transversely of the plate, with the ends of the channel sloping toward the forward face of the plate, the plate on opposite sides of the channel having rearwardly disposed hollow embossments adapted to extend through to the structural metallic posts of the car and to be welded thereto; and a tie bar member with laterally enlarged ends adapted to extend across said channel and the hollow embossments and to lie in the recessed face of said plate substantially flush with the perimetrical portions of the plate, said tie bar member being intimately secured in the recessed portion of the plate.

5. A lading tie anchor for railroad house cars adapted to be recessed in the car lining and comprising a single piece member provided with a transversely disposed concaved channel with ends sloping toward the forward face of the member, the member at opposite sides of the channel having openings with rearwardly extending weldable marginal portions adapted to extend through the car lining and be intimately secured to a metallic structural member of the car; and a tie strap attaching bar arranged transversely of said channel with its ends intimately secured to the forward face of said first member.

6. A lading tie anchor for railroad house cars adapted to be recessed in the car lining, consisting of a circular metallic plate provided with a transversely disposed channel having ends sloping toward the forward face of the member and with rearwardly extending hollow embossments adapted to be intimately secured to a metallic structural part of the car wall; and a tie strap attaching member disposed transversely of the intermediate portion of the channel and having enlarged ends adapted to extend across the ori-

fices of said hollow embossments and to be intimately secured to the first member.

7. In a lading tie anchor for railroad house cars, the combination of the metallic structural posts of the car and the car lining provided with an opening therethrough provided with a countersunk shoulder; a metallic plate provided with a recessed outer face formed to provide a perimetrical flange-like portion adapted to seat on said countersunk shoulder and having openings and a transversely disposed channel whose ends slope toward the outer forward face of the plate;

and a tie bar member disposed transversely of the channel and within the recess of said plate, with the ends intimately secured to said plate; and rearwardly projecting weldable portions adjacent said openings and integral with the rear face of said plate and extending into contact with a structural post of the car and intimately secured thereto.

MALCOLM S. JOHNSON.

No references cited.