

June 7, 1955

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2,709,972

DUAL ANCHORING MEANS FOR FLAT BOTTOM RAILWAY CARS

Filed Nov. 1, 1954

2 Sheets-Sheet 1

Fig. 1.

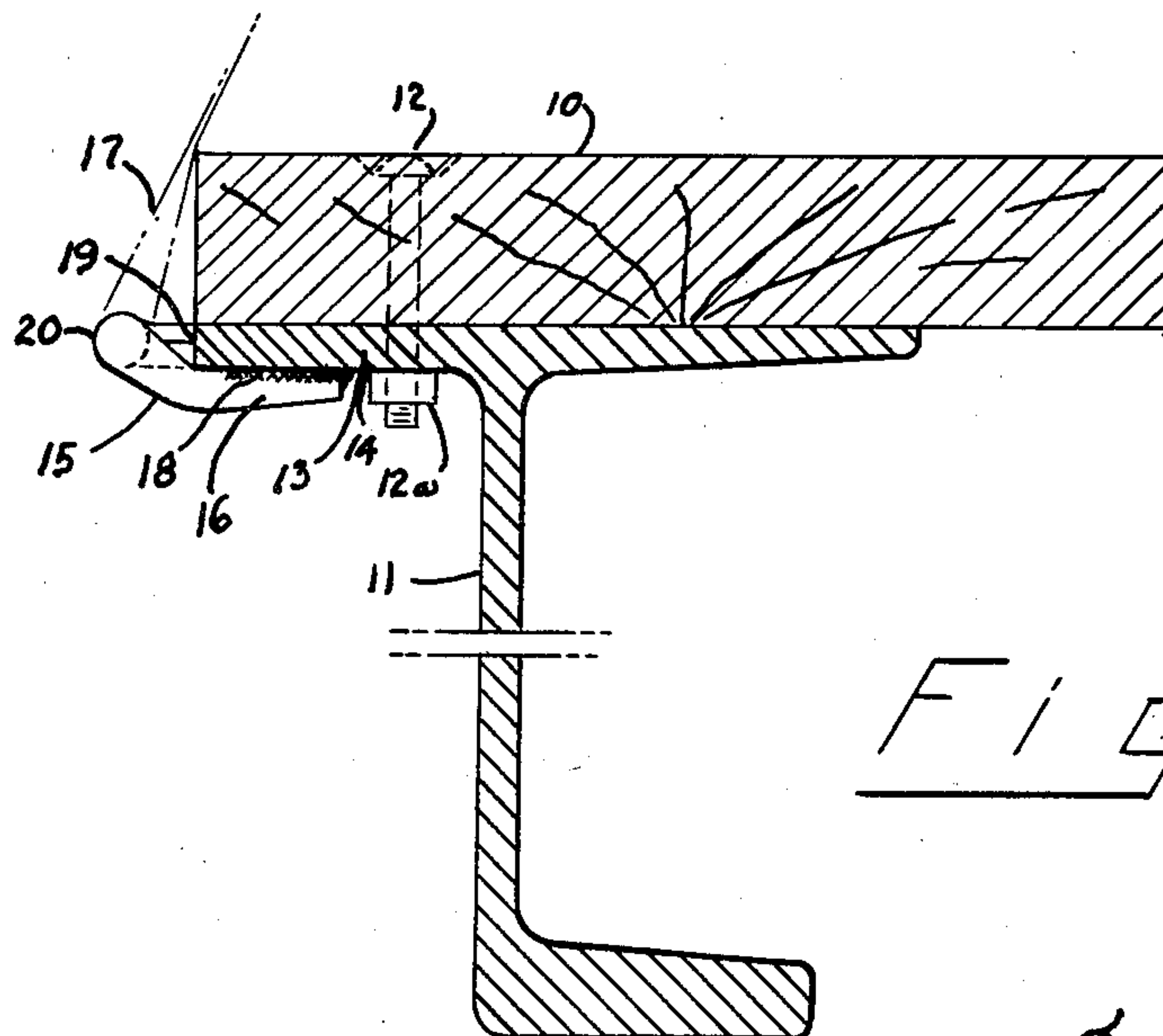
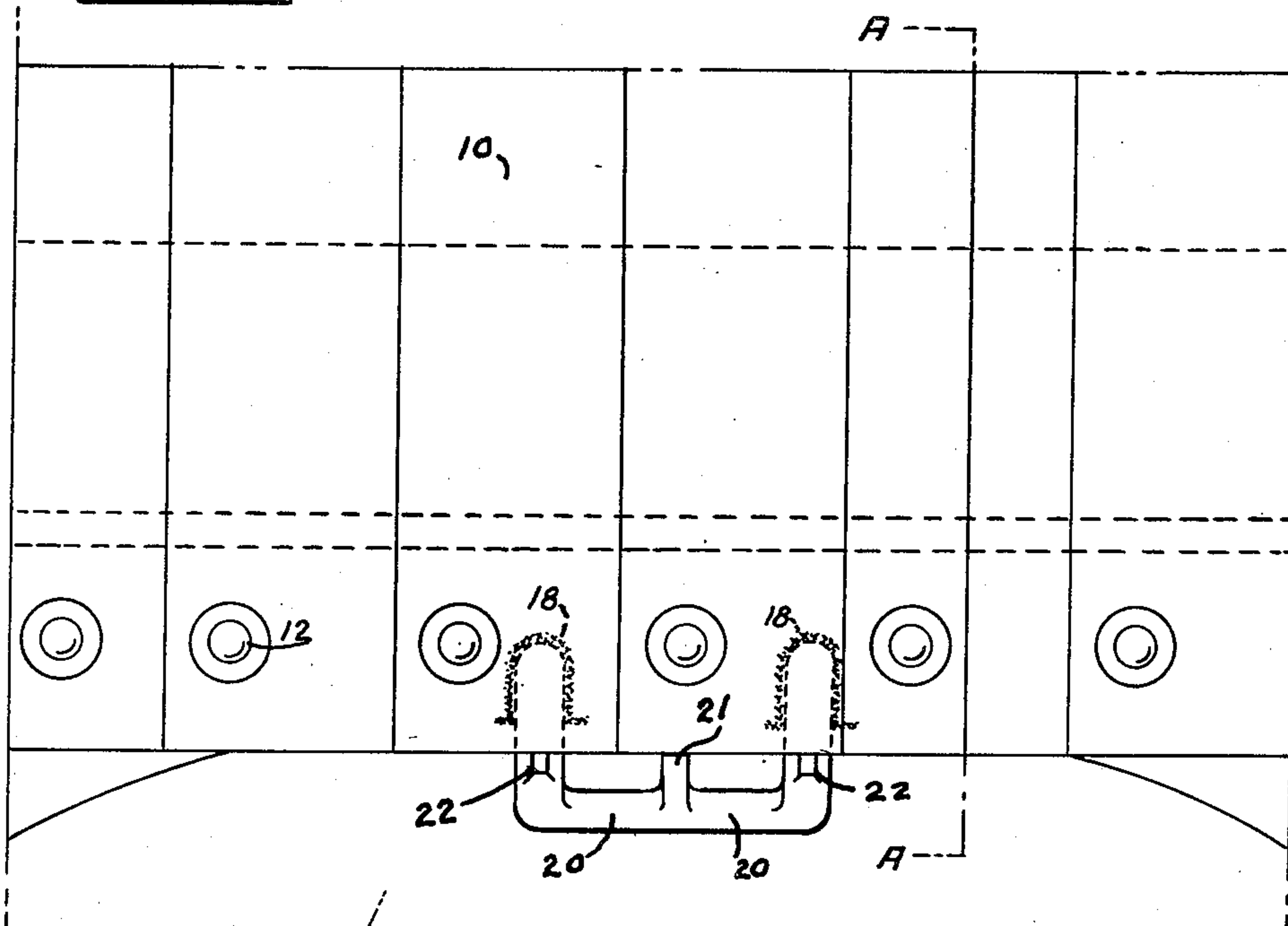


Fig. 2.

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Fig. 3.

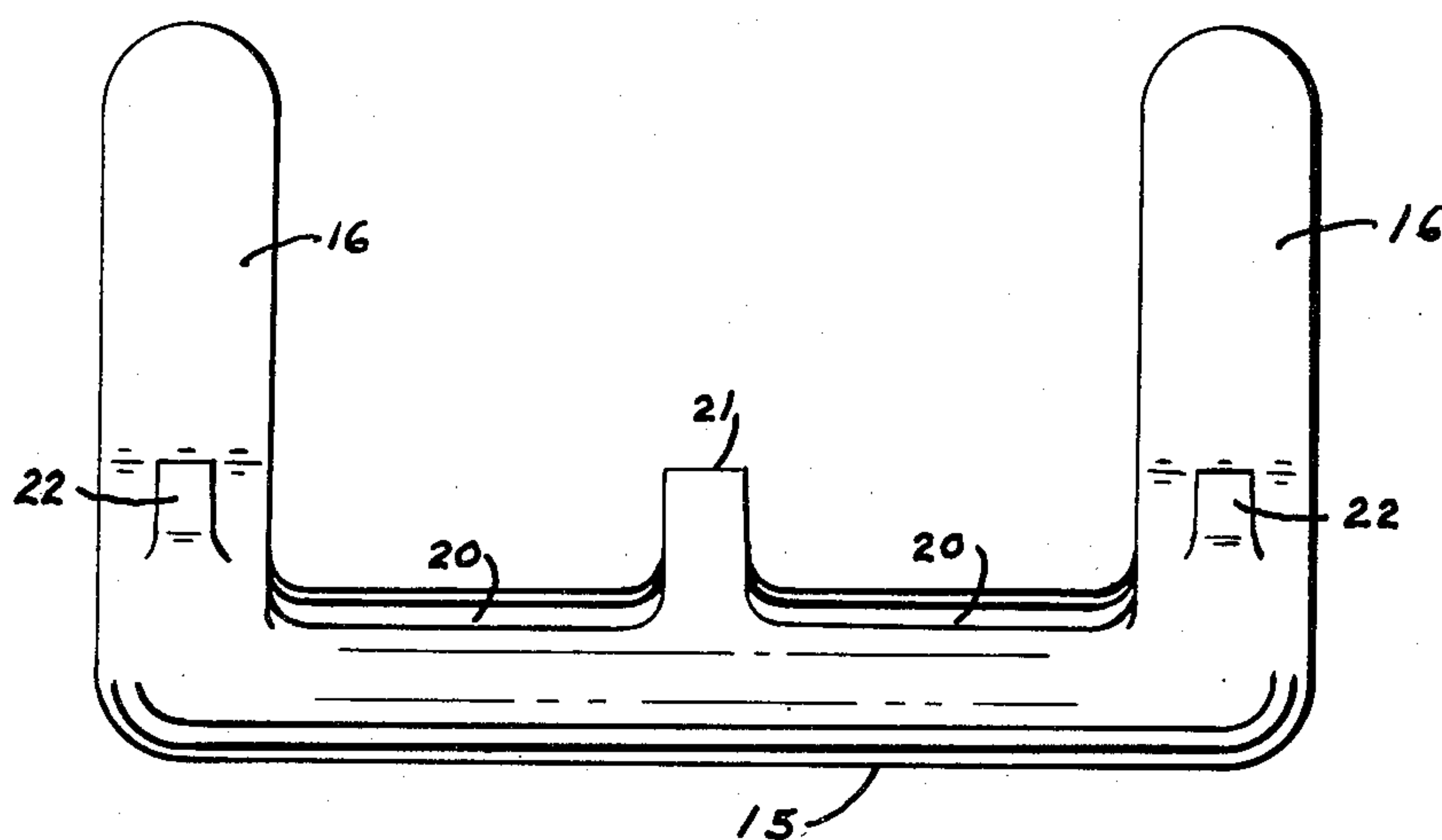
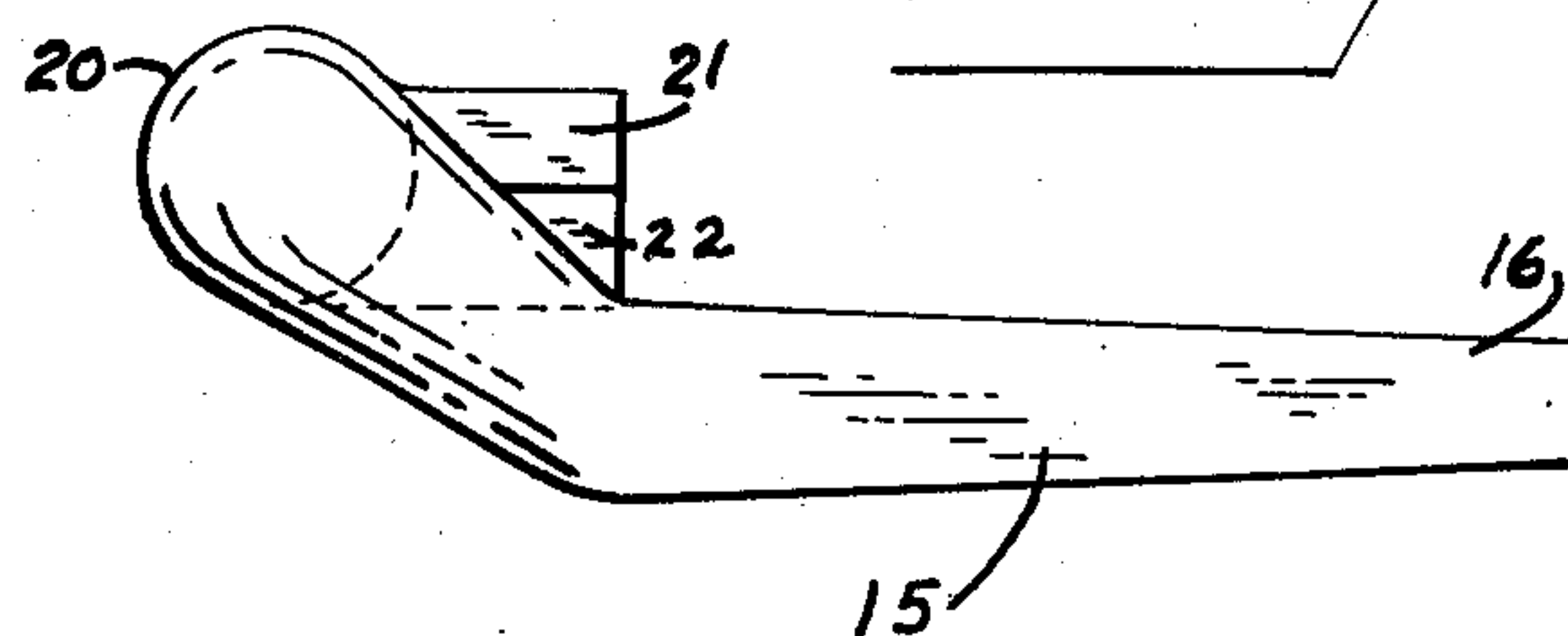


Fig. 4



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DUAL ANCHORING MEANS FOR FLAT BOTTOM RAILWAY CARS

Orville Ingram, Alexandria, Va.

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2 Claims. (Cl. 105—369)

My invention relates to the anchor for high-tension lading bands, which are employed on flat-bottom railway cars for securing lading to the deck or bottom of the railway flat car.

Previously devised anchors have been limited to providing an anchoring means for a single lading band at a single position relative to the lading, thereby limiting at the single anchoring position the effective holding force to one standard lading band strap. When the forces necessary to properly secure the lading at a point exceeds the tension value of one standard lading band it is not unusual for train workmen to burn holes in the side sill of the flat car through which the ends of the lading bands may be inserted and then looped for connection with the main body portion of the band. This is done to provide an anchoring means which will co-act with the adjacent lading band to effectively hold down loads which frequently are sufficiently heavy to approach the maximum axle capacity of a car and exceed the strength of a single lading band. The problem of shippers burning holes, in the car structure or welding make shift attachments to the car, is magnified when the underframe of a flat car has been cast integral, because uncontrolled burning, or welding will weaken the important load carrying members, and repairing, by replacing, an integrally cast side sill of an underframe is most difficult without destroying the value of an integral flat car underframe.

The principal object of the invention, therefore, is to provide effective anchoring positions for lading bands which are juxta-positioned, and which may easily be attached to the car, particularly railway flat cars having an underframe cast in one piece.

The primary feature of the invention consists of providing in a lading band anchor juxta-positioned anchors having attachments to the underside of the outwardly extending web of the side sill, with a means adapted to bear against the marginal edge of the outstanding web of the side sill so as to resist overturning moments caused by the tension of the lading band at the anchoring point.

Another feature of the invention consists of providing a lading band anchor having spaced legs for attachment to the underside of the outstanding web of the side sill of a railway flat car having positioning lugs on the spaced legs so that the arcuate anchor will always be easily and properly positioned with respect to the side of the car.

A further feature of the invention consists of providing legs extending inwardly and under the outstanding web of the side sill so that it may be securely welded thereto without extending the weld to the outer marginal edge of the web of the side sill.

Still further feature of the invention consists of providing the minimum amount of material to provide an effective anchor for multiple lading bands at one point.

Other and more specific features of the invention, residing in advantageous forms, combination and relation of parts, will, hereinafter appear and be pointed out in the claims.

In the drawings,

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Figure 1 is a partial section of the plan view of a flat-bottom railway car showing a portion of the car between two stake pockets; showing the recommended positioning of the lading band anchor.

Figure 2 is a section taken on lines A—A of Figure 1.

Figure 3 is a detail of the top view of the anchor showing the positioning lugs and the intermediate means which is integral with the arcuate anchoring portion, which in cooperation with the marginal edge of the side sill resists overturning moments caused by tension of the lading band.

Figure 4 is a side view of Figure 3 showing the relation of the front edges of the positioning lugs and the means to resist overturning moments.

Referring more particularly to the drawings, 10 indicates the wooden floor of the flat car and 11 indicates the substantially J section side sill which is cast integral with the balance of the underframe. The balance of the underframe is not shown as it is not germane to the invention. The wooden floor 10 is anchored to the side sill by nuts 12 and bolts 12a. The outwardly extending web 13 reinforce the outer edge of the wooden floor as is required and the underside 14 provides a place at which the anchor 15 may be conveniently attached by welding. The leg 16 of the anchor 15 is of a sufficient length to provide sufficient weld 18 to withstand the tension applied by tightening of the lading band 17. Note that the weld 18 does not extend to the outer marginal edge 19 of the side sill 11. This is done so that the intense heat of the welding will not damage the outer marginal edge of the web 19. The outer legs 16 of the anchor 15 are spaced apart and rigidly connected by arcuate means 20 and intermediate and integral therewith lug 21, which when engaging the marginal edge 19 of the side sill 11 functions to resist overturning moments caused by tension on lading band 17. Positioning lugs 22 are provided on the legs 16 to insure easy application of the anchor per se and proper positioning of the arcuate means 20 with the respect to the marginal edge of the side sill 19, so that a lading band 17 may easily be threaded about the arcuate means 20.

The integral lug 21 acts as a spacer for lading retaining bands, when threaded about arcuate means 20, so that dual bands may embrace the anchor and co-act to secure the lading to the floor of the car, as well as functioning to resist overturning moments caused by tension on the lading band 17.

I claim:

1. An anchor for a high-tension lading band for a flat-bottom railway car having side sills cast integral and forming a part of the underframe of the car, the side sill provided with a substantially horizontal portion projecting outwardly from the body portion of the side sill, said anchor involving an attaching means secured to the underside of the outwardly projecting portion of the side sill and said attaching means comprising spaced legs extending beyond the marginal edge of the side sill, an arcuate element rigidly connecting said spaced legs adjacent the outer ends thereof to be embraced by a lading retaining band, and means rigid with the arcuate element which engage the marginal edge of the side sill for resisting the overturning moments on the anchor by said lading retaining band.

2. An anchor for a high-tension lading retaining band for a flat-bottom railway car having side sills cast integral with and forming a part of the underframe of the car, the side sill provided with a substantially horizontal portion projecting outwardly from the body portion of the side sill, said anchor involving attaching means secured to the underside of the outwardly projecting portion of the side sill, said attaching means comprising spaced legs extending toward and beyond the marginal edge of the side sill and extending upwardly and around said marginal edge of the side sill, an element rigidly connecting said

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spaced legs at the outer ends thereof to be embraced by a lading retaining band, and said spaced legs having positioning lugs thereon, located beyond the marginal edge of the side sill and engaging said side sill marginal edge so as to provide uniform elongated openings defined by the marginal edge of the side sill, the upwardly extending portions of the spaced legs, the arcuate element connecting the spaced members at their outer ends, and a dividing means rigid with the arcuate element which connects the

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spaced legs and positioned along the marginal edge of the side sill and intermediate the positioning lugs on said spaced legs, providing dual anchoring positions, said intermediate dividing means formed to contact the marginal edge of the outwardly projecting portion of the side sill of the car for resisting the overturning moments on the anchor by said lading retaining band.

No references cited.