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ROTATABLE STRAP ANCHOR FOR FREIGHT CARS

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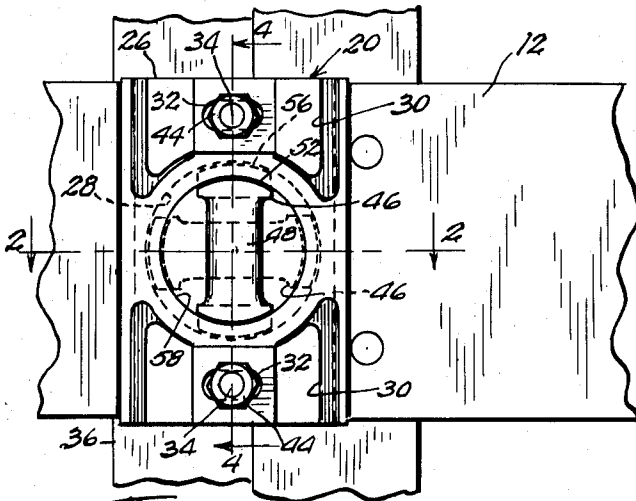
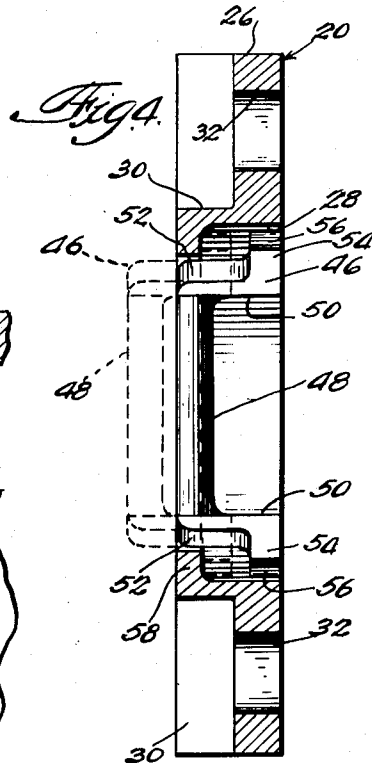
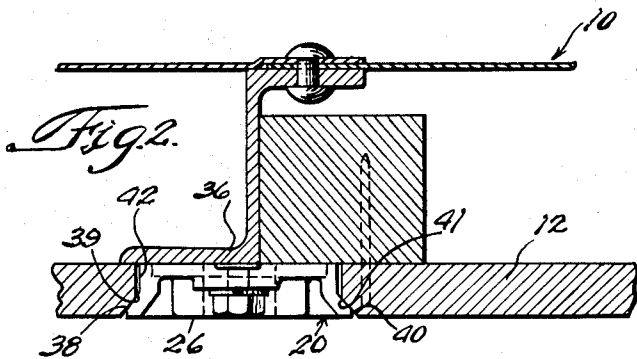
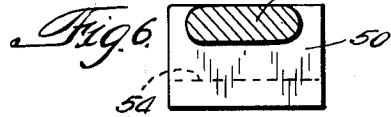
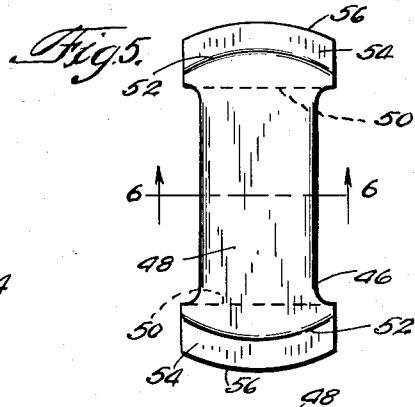
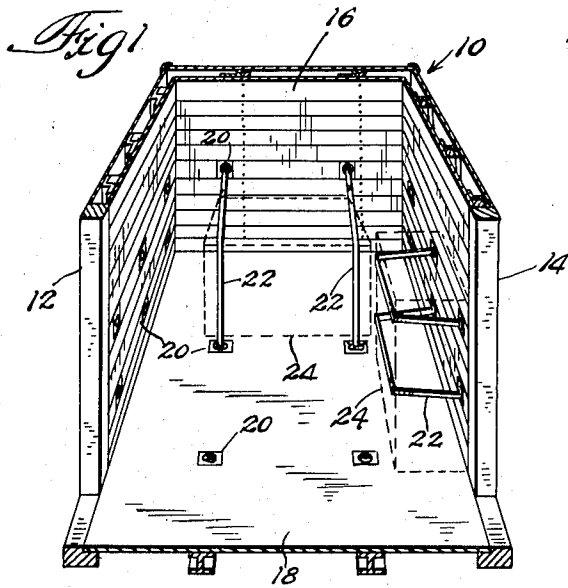


Fig. 3.

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ROTATABLE STRAP ANCHOR FOR FREIGHT CARS

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3 Claims. (Cl. 105—369)

This invention relates to railway freight cars and more particularly to freight cars having anchors for strapping such as is commonly utilized to secure lading against shifting in transit.

Prior art anchors of this type have been objectionable because they tend to loosen and become insecure after a short period of use; they occupy and project into the space in such manner as to damage lading and they permit dust and dirt of all kinds to collect around the anchors. Furthermore, strap anchors known in the prior art tend to cause shear stresses in the straps and consequent failure thereof unless the straps are very accurately positioned and are positively held against movement.

Other objections to prior art strap anchors have been the difficulty of securing the straps thereto, and the necessity of providing a great number of such anchors in a given loading space.

Accordingly, a primary object of the present invention is to devise a strap anchor which, when in use, occupies a minimum amount of loading space and, when out of use, may recede from the loading space.

Another object of the invention is to reduce the required number of anchors and to prevent shear stresses on the straps by the provision of means for rotatably aligning the tie portions of the anchor as the straps are placed under tension to secure the lading within the working space.

Still another object of the invention is to avoid the necessity of bending the strap in order to insert it into the anchor slot.

A further object of the invention is to devise a strap anchor wherein the parts may be quickly assembled and disassembled as may be desirable during installation and replacement of the device.

Yet another object of the invention is to incorporate the foregoing features in a strap anchor, so constructed as to withstand the intense vibration as well as the severe impacts which occasionally occur in railway service.

A different object of the invention is to devise a freight car with built-in strap anchors so arranged as to afford maximum loading space within the car.

The foregoing and other objects and advantages of the invention will become apparent from a consideration of the following specification and the accompanying drawings, wherein—

Fig. 1 is a fragmentary perspective view of a freight car embodying the novel strap anchor construction;

Fig. 2 is an end elevational view of one of the anchors with the car body shown in section on the line 2—2 of Fig. 3;

Fig. 3 is a front elevational view of the anchor with the car body fragmentarily illustrated;

Fig. 4 is a sectional view of the anchor on the line 4—4 of Fig. 3 with a portion of the anchor shown in elevation to clarify the illustration;

Fig. 5 is a front elevational view of the rotatable strap anchor member; and

Fig. 6 is a sectional view on the line 6—6 of Fig. 5.

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Describing the invention in detail and referring first to Fig. 1, the car body is generally designated 10 and comprises side walls 12 and 14, an end wall 16, and a floor 18, the roof and opposite end wall being broken away to clarify the construction of the strap anchors 20 and their mounting.

As shown in Fig. 1, a plurality of anchors 20 are secured to the floor 18 and to the walls 12, 14 and 16 of the car body 10 and are utilized in the illustrated embodiment to anchor straps 22 securing articles of lading 24 against the end wall 16 or against the side wall 14. As will be readily understood from the following description of the strap anchor construction, the anchors 20 may be utilized as shown in Fig. 1 to secure straps extending from the floor 18 to one of the walls or to secure straps to the floor or any one of the walls as shown at the right of Fig. 1. For this reason, relatively few of the straps anchors 20 are needed, inasmuch as they are adjustable, as hereinafter described, to accommodate any desired position of the associated straps.

Referring now to Figs. 2 to 6, it will be noted that the novel strap anchor comprises a base or support member 26 having a substantially cylindrical opening or socket 28 centrally thereof. The member 26 is preferably formed as a casting and is cored away, as at 30, to recess the mount bolts. The member 26 is also provided at each end thereof with elongated slots 32 for the reception of securing means, such as a stud 34, secured in any desired manner, as by welding, to a Z bar 36 of a support, such as, for example, the side wall 12 of the car body 10.

The base member 26 is preferably provided at opposite sides thereof with wedge surfaces 38 and 40 converging inwardly of an aperture 42 of the wall 12, within which aperture the member 26 is positioned and is tightly wedged along complementary wedge surfaces 39 and 41 of the wall 12 by means of nuts 44 on the outer ends of the studs 34.

In this connection, it may be noted, as best seen in Figure 2, that the cored recesses 30 in the outer face of the member 26 are adapted to accommodate the nuts 44 which are thus positioned within the aperture 42 so that the member 26 and nuts 44 preferably do not project into the loading space of the car body 10. It is to be understood that the novel anchor 20 is particularly adapted for installation on new equipment and is preferably secured to the freight car in the manner more fully set forth in our co-pending application filed on even date hereof. Furthermore, the upper and lower extremity of the anchor 20 may be made with a tongue and groove construction to facilitate assembly as is more fully described and shown in the co-pending application above identified.

It is to be further understood that the anchor 20 may be used with or without the aperture 42 and may be built into new equipment or may be applied to existing equipment.

A rotatable member 46 is positioned within the opening 28 and comprises a web or rib 48 extending across the opening 28. The web 48 is connected to end walls 50 having oppositely facing arcuate surfaces 52 formed as segments of a cylinder substantially concentric complementary to the cylindrical opening 28 to accommodate rotation of the member 46 therein for a purpose hereinafter described.

The inner ends of the walls 50 are provided with flanges 54 having oppositely facing arcuate surfaces 56 formed as cylindrical segments substantially complementary to the shape of the opening 28. The flanges 56 are adapted to engage the inner surface of an annular flange 58 of the member 26 projecting into its cylindrical opening 28 at the outer side thereof. As best seen in Fig. 3, the inner perimeter of the flange 58 is preferably

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approximately cylindrical and complementary to the surfaces 52 of the member 46.

Thus, when the novel strap anchor 20 is in use, the member 46 may be pulled outwardly of the opening 28 until the flanges 54 engage the annular flange 58 of the member 28, whereupon a strap 22 may be inserted into a strap slot defined by the rib 48 and the walls 50, said slot extending transversely of the opening 28.

As shown in phantom lines in Fig. 3, the member 46 is rotatable within the opening 28 to any desired rotational position for reception of the associated strap. Furthermore, as the strap is placed under tension by a conventional strap tightening device (not shown), the member 46 automatically rotates so that its strap slot is in alignment with the strap and the rib 48 is perpendicular thereto, to prevent shearing stresses thereon which might otherwise be imposed upon the strap by relative angularity thereof with respect to the rib 48 against which the strap is tightened.

As will be best understood from a consideration of Figs. 2 and 4, when the member 46 is not in use it may be pushed into the opening 28 and is preferably substantially entirely disposed therein under such conditions, as shown in Figs. 2 and 4.

It may also be noted that, before and after assembly of the anchor 20 in the aperture 42, the member 46 may be freely inserted in or removed from the opening 28 to accommodate assembly and disassembly of the anchor parts.

It is apparent that the specific illustrations shown above have been given by way of illustration and not by way of limitation and that the structures above described are subject to variation and modification without departing from the scope or intent of the invention, all of which variations and modifications are to be included within the scope of the present invention.

What is claimed as new and desired to be secured by Letters Patent is as follows:

1. A flush mountable anchor bracket for lashing strapping material within wall lined transportation vehicles including, an integral mount fixture having a central cylindrical opening, a foremost reduced diameter flange

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terminating said opening and a lashing rib adapted to reside rotatably within said opening and be limited against forward withdrawal by said flange comprising a linear beam member having at its ends arcuate shoe segments offset from the plane of said rib whereby limited forward motion may permit the rib portion to be extracted frontally beyond the surface of said fixture and to be rotated axially about the center of said cylindrical bore to accommodate angular variations of lashing strips approaching said rib from different directions.

2. A mount fixture for securing lash strips to vehicle walls comprising an integral base structure having a central cylindrical bore, a ring flange portion defining the forward limit of said bore and having a reduced diameter with respect thereto, means for mounting said base structure in substantially full mortise position with respect to the wall lining in a freight car or similar vehicle, and a lashing rib having rearwardly offset arcuate segments adapted to ride rotatably within said cylindrical bore, said segments being narrower than the width of said bore so that said rib member may be extended and retracted to occupy respectively utility and non-utility positions.

3. A load-securement strap anchor for lined railroad freight cars adapted to be permanently secured to a Z-beam vertical support and for mounting flush with the interior lining of said freight car, comprising a unitary member divided into a pair of flanking panels and an intermediate panel, said intermediate panel including a central portion having a shallow receding wall formation to form a socket, a ring flange around the outer perimeter of said socket, and a lower bar adapted to ride rotatably within said socket and to be limited against forward extraction by said ring flange.

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