Feb. 7, 1956 J. R. SHEESLEY ET AL 2,733,670

STRAP ANCHOR FOR FREIGHT CARS

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Fig. 1.

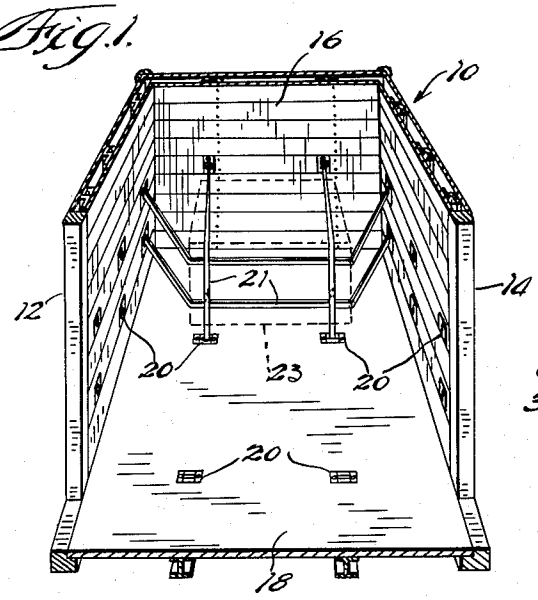


Fig. 5.

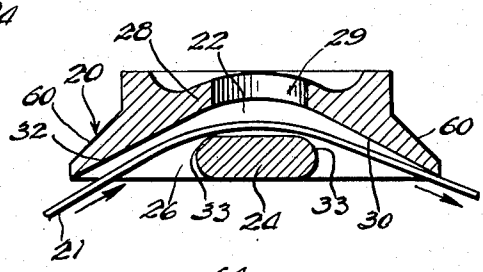
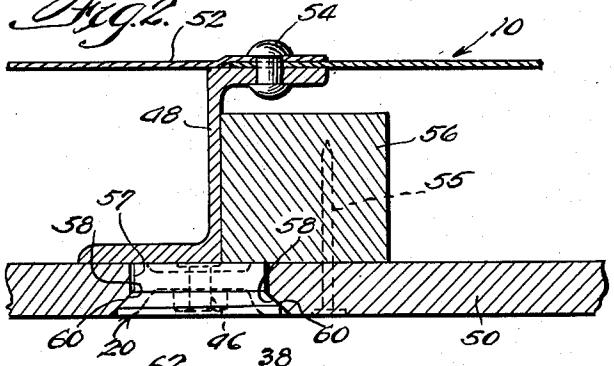


Fig. 2.



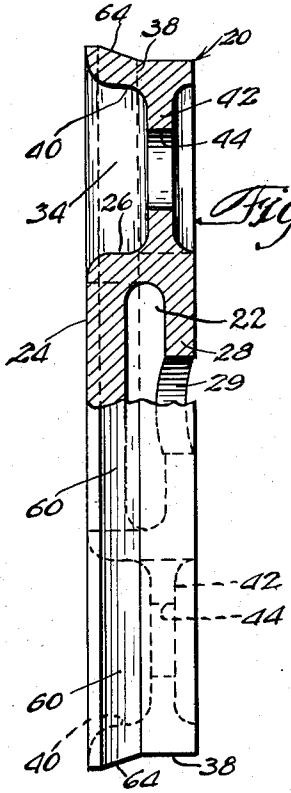


Fig. 4.

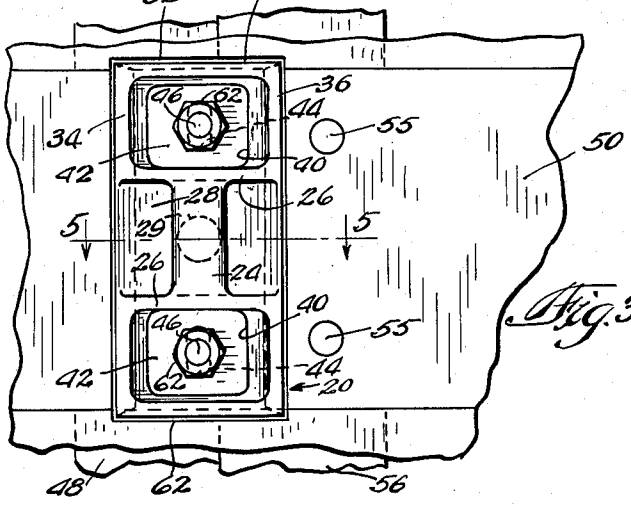


Fig. 3.

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STRAP ANCHOR FOR FREIGHT CARS

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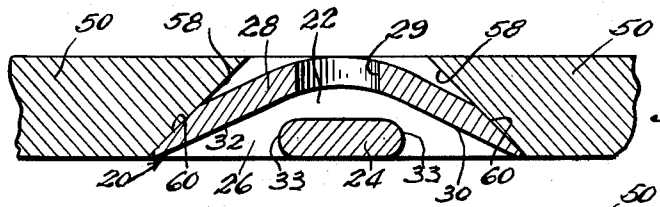

Fig. 8.

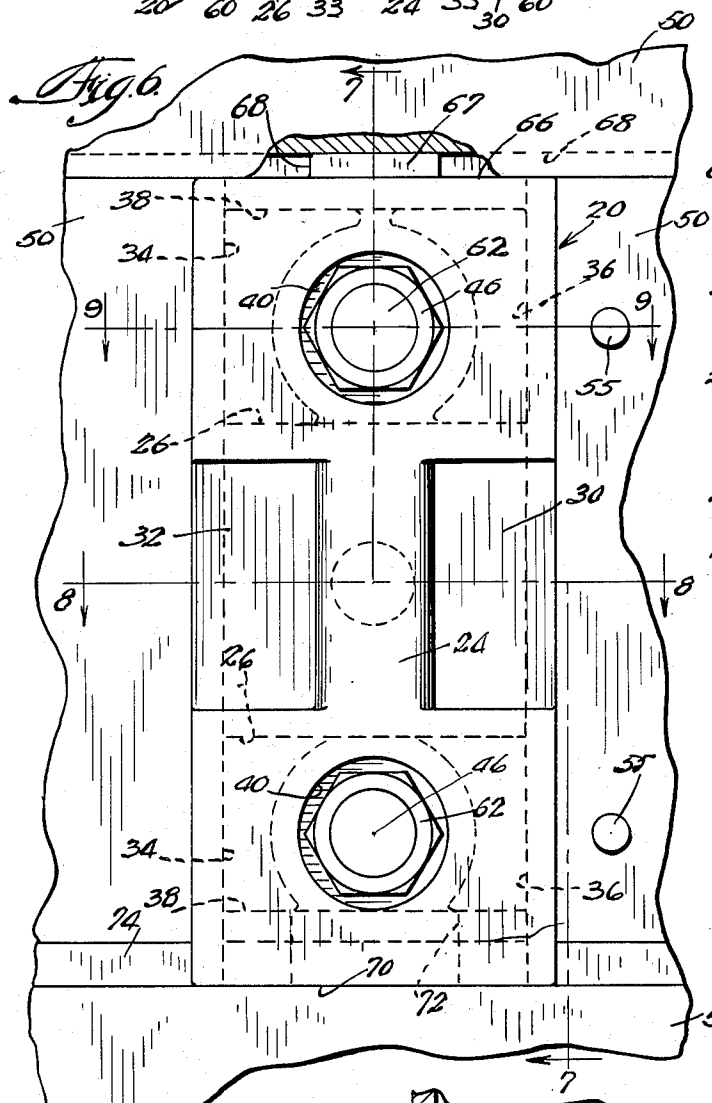

Fig. 6.

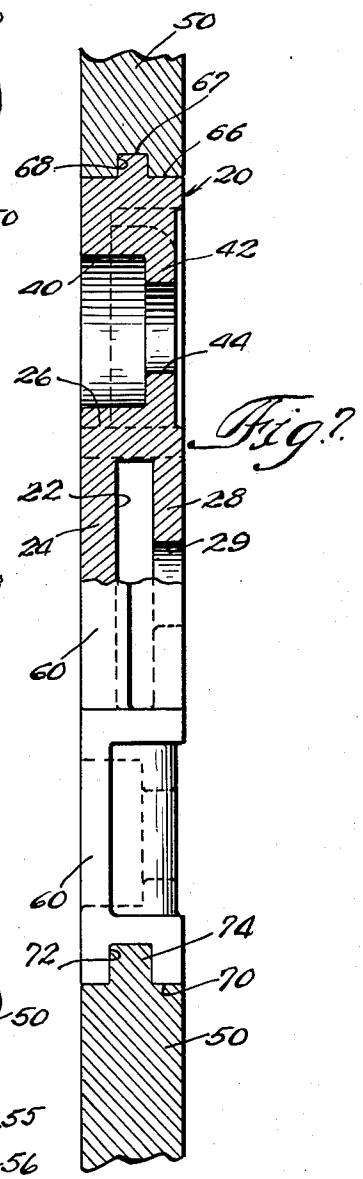

Fig. 7.

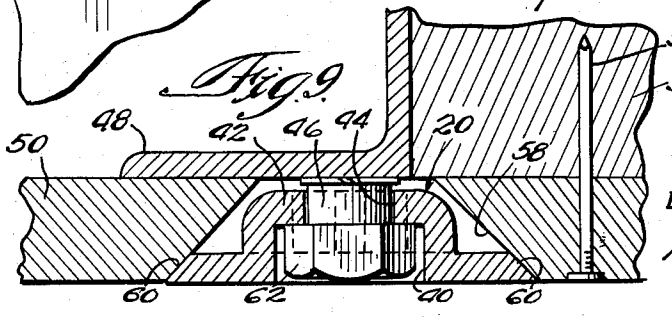

Fig. 9.

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United States Patent Office 2,733,670 Patented Feb. 7, 1956

2,733,670

STRAP ANCHOR FOR FREIGHT CARS

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Application June 26, 1951, Serial No. 233,543

3 Claims. (Cl. 105—369)

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

According to prior art practices, such anchors have been affixed to freight cars in such manner that they tend to loosen and become insecure after a short period of use and permit foreign material, such as dirt and coal dust, to be collected in the space around and on top of the anchors. The anchors, moreover, had to project into the loading space of the car causing encounter with and damage to contained lading and unduly limiting the amount of space available for the lading, or the anchor recedes into the lining of the car and thereby also facilitates the collection of dust or dirt therearound. Furthermore, prior art anchors have been generally unsatisfactory because of the difficulty in slipping the straps therethrough, thus causing loss of time and consequential expense in loading the car.

A primary object of the present invention is to devise a freight car with built-in strap anchors, so securely affixed to the freight car as to provide a fit and connection with shippage over long periods of use.

Another important object of the invention is to provide a strap anchor which can be so affixed in a freight car as to prevent collection of dust and dirt therearound.

Another object of the invention is to provide a strap anchor which occupies a minimum amount of loading space within the car, by recessing the anchors into the car walls and floor in such manner that at least a major portion of each anchor is positioned outside of the loading space.

A further object of the invention is to devise a strap anchor into which the strap may be quickly inserted without unduly bending the strap or forcing it into the anchor.

Still another object of the invention is to provide a strap anchor which may be formed as a one-piece casting or as a unitary fabricated structure, thereby eliminating the necessity of separable or movable parts such as rollers or clamps.

Yet another object of the invention is to devise a compact anchor economical in construction and capable of long life in railway service which necessarily involves severe vibration and frequent impacts, as is well known to those skilled in the art.

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;

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

Fig. 4 is an edge elevational view of the anchor with a portion thereof broken away;

Fig. 5 is a sectional view of the anchor on the line 5—5 of Fig. 3;

Fig. 6 is a front elevational view of a modified anchor applied to a car body;

Fig. 7 is a sectional view on the line 7—7 of Fig. 6;

Fig. 8 is a sectional view on the line 8—8 of Fig. 6; and

Fig. 9 is a sectional view on the line 9—9 of Fig. 6.

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 eliminated in the drawings 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 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 21 securing an article of lading 23 to the floor 18 and to the end wall 16, thereby positively preventing shifting of the lading and damage thereto by vibration and by impacts such as frequently occur in railway service.

One of the anchors 20 is shown in detail in Figures 2 to 5, and the novel mounting therefor is shown in Figures 2 and 3.

The anchor 20 is illustrated in the form of a casting, although it will be understood that if desired it may be of fabricated construction; however, in either case a primary feature of the invention resides in the unitary construction of the anchor, as hereinafter described, to eliminate the necessity of separable or movable parts.

The anchor 20 comprises a central strap slot 22 (Figs. 4 and 5) defined by a rib 24 connected at its ends to spaced transverse walls or webs 26 which are also connected to a wall or web 28 cored out as at 29 and having a shallow V-shaped configuration, as best seen in Fig. 5, for a purpose hereinafter described.

The web 28 projects laterally beyond opposite edges of the rib 24 and is provided with surfaces 30 and 32 converging inwardly of the slot 22 toward the longitudinal center line of the anchor 20. The surfaces 30 and 32 are preferably arranged at an obtuse angle to each other, to facilitate entrance and removal of a strap 21 with respect to the slot 22, and the rib 24 is preferably formed with rounded edges as at 33 to prevent binding of the strap.

Each of the transverse walls 26 is connected to spaced side walls 34 and 36 which extend lengthwise of the anchor 20 to merge with an end wall 38, whereby said walls define a socket 40 (Figures 3 and 4), the inner extremity of which is closed by a web 42 having a hole or aperture 44 therethrough to receive an associated securing member such as a stud 46 attached to a Z beam 48 (Fig. 2) of the car body 10.

The Z beam constitutes a vertical support for inner and outer side wall panels or siding boards 50 (Fig. 2), the outer panels being secured as by rivets 54, and the inner panels being secured as by nails 55 to a wood brace or beam 56, which abuts one side of the Z beam 48.

The inner panels 50 are mortised to provide slots or aperture 57, having inwardly converging lateral wedge surfaces 58 (Fig. 2) conforming with surfaces 60 on the exterior of the anchor side walls 34 and 36 and on the web 28; and the aperture 57 is also preferably defined by top and bottom wedge surfaces 62 converging inwardly conforming with surfacees 64 of the anchor end walls 38, Fig. 4.

It will be understood that the novel anchor 20 is particularly adapted for new equipment, so that the anchor is preferably attached to the Z bar 48 by the nuts 62', which are threaded on the studs 46, before the boards 50 are nailed at 55 to the beams 56; however, if desired, the

boards 50 may be placed to define the aperture 57, and thereafter the anchor may be inserted into said aperture and secured by the nuts 62'. In either case, the anchors 20 are tightly wedged in place along the surfaces 58 and 60 to afford a dust proof seal fit between the anchors and panels.

Furthermore, if desired, the anchor 20 may be applied to existing equipment, either with or without providing an aperture 57, and in such case if an aperture is provided, the wedge surfaces 58 may be eliminated, if desired. Also, when the anchor 20 is applied to existing equipment, the holes 44 may provide convenient openings for any conventional securing means, such as nails, screws, or rivets.

Figs. 6–9 shows a modified anchor 20, wherein parts corresponding to those of Figs. 1–5 are identified by corresponding numerals.

In the modification of Figs. 6–9, the anchor 20 is provided at its upper extremity with a substantially square edge 66 having a tongue 67 in tongue and groove interlock at 68 with the panel 50 abutting said edge; and the lower extremity of the anchor 20 is provided with a substantially square edge 70 having a groove 72 in tongue and groove interlock at 74 with the panel 50 abutting thereagainst.

Thus, it will be understood that when installing anchors 20 after the manner shown in Figs. 6–9, the studs 46 may be inserted through the openings 44, and then the boards 50 are fitted around them, so that the tongue and groove interlocks at 68 and 72 help to hold the anchor 20 in place. The nuts 62' are then threaded onto the studs 46 to complete assembly of the anchor 20.

It may also be noted, that although the novel anchor mounting has been described in connection with a side wall of the car body, the same mounting may be applied to the floor as indicated in Fig. 1.

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 wall mountable strip lash anchor for the interior of double walled freight cars comprising, an integrally formed member of rectangular outline, a perimeter portion to said member having a forward frame and constituting a panelled plate surface, said frame perimetrically merging with a brief rearwardly extending reducing taper and thereafter blending into an innermost smaller frame portion, opposed ends of said member having transverse holes therethrough for the reception of stud bolts that extend from the freight car wall and surrounding recessed areas for permitting recessed disposition of fastening nuts threaded to said bolts, and a lash bar formed as a continuation of the frame plate surface, said frame surface receding slopingly inward behind said lash bar from the side edges of said forward frame and merging with a curved juncture portion which is spaced from said bar.

2. The combination set forth in claim 1 including partitioning ribs which divide said forward frame face into an intermediate bar outlining section and flanking recessed area sections.

3. A load securement 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 an integral unitary member having an overall depth substantially equal to the thickness of the car-lining material, said anchor being formed in a generally rectangular configuration for vertical mounting, and being divided longitudinally by a pair of spaced transverse rib sections into flanking panels recessed from the faced surface and an intermediate panel, said flanking panels having openings in their recessed face portion for the reception of fastening means to permanently secure said anchor to said Z-beam, and said intermediate panel having a longitudinal lash bar connected to said transverse rib sections and a shallow receding wall formation spaced around said lash bar for guiding and securing lash strips around said bar, the outer walls of said anchor being wedge-shaped to form with the car lining a sealed dust-proof fit.

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