Oct. 14, 1958 F. P. ADLER 2,855,866

LADING STRAP ANCHOR

Filed Nov. 28, 1952 2 Sheets-Sheet 1

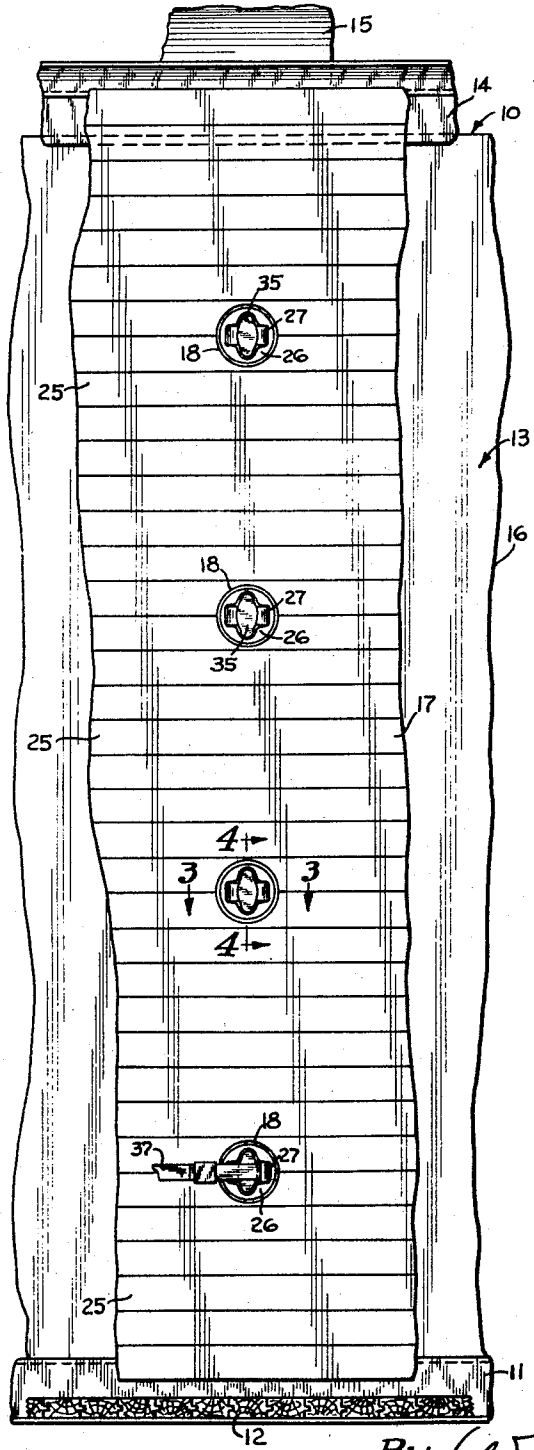

Fig. 1

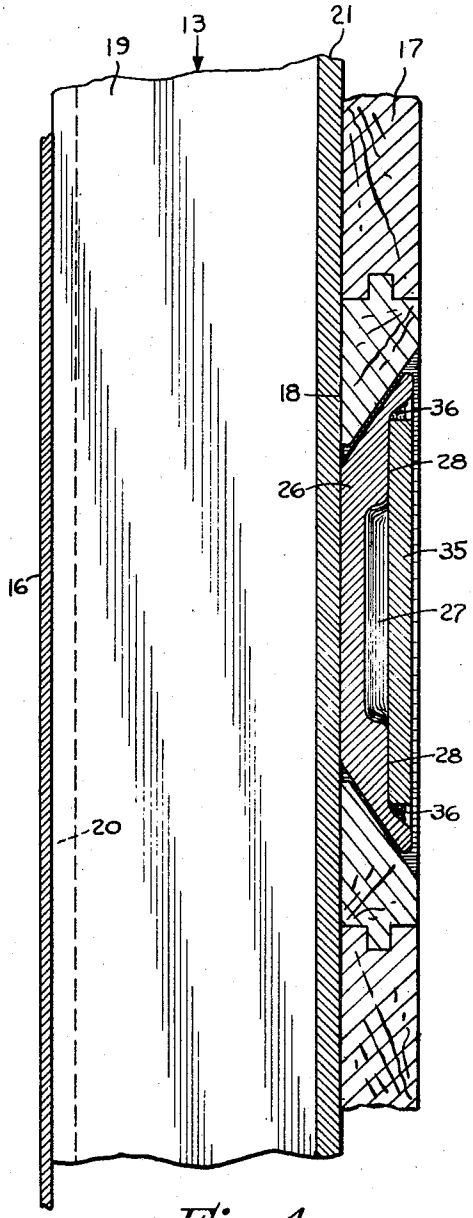

Fig. 4

Inventor
Franklin P Adler
By Wayne Morris Russell
Attorney

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LADING STRAP ANCHOR

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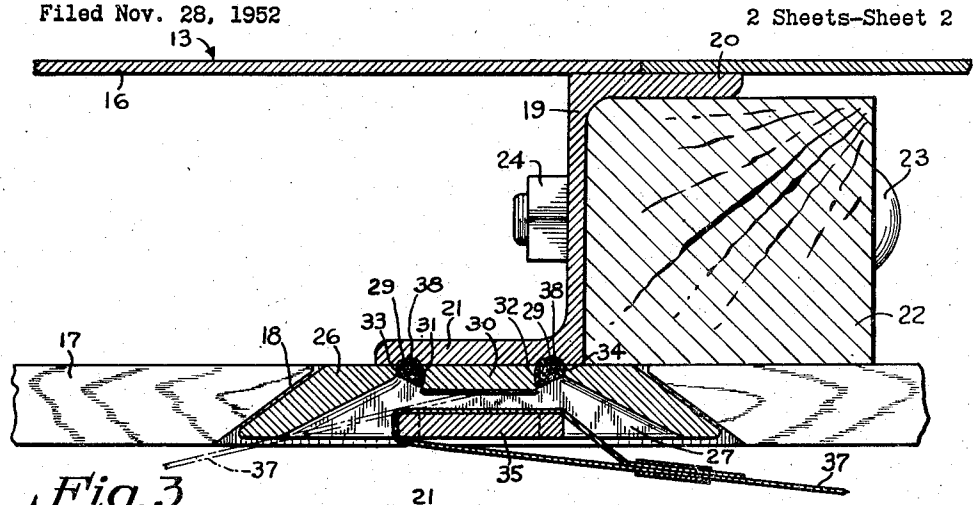

Fig. 3

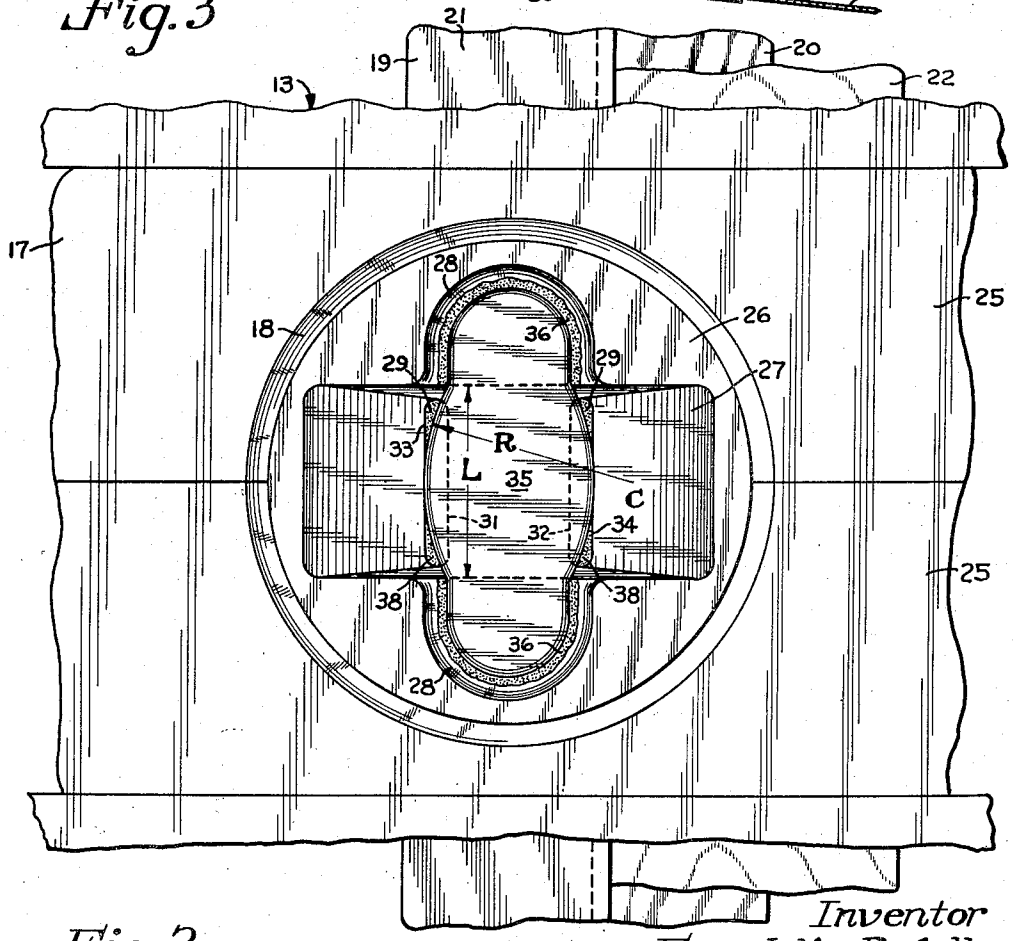

Fig. 2

Inventor
Franklin P. Adler
By Wayne Morris Russell,
Attorney

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LADING STRAP ANCHOR

Franklin P. Adler, Michigan City, Ind., assignor to Pullman-Standard Car Manufacturing Company, Chicago, Ill., a corporation of Delaware

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1 Claim. (Cl. 105—369)

This invention relates to railway freight cars and is primarily concerned with a lading strap anchor for a railway box car.

The principal object of the invention is to provide a structurally novel lading strap anchor to prevent the lading strap from getting caught on the means securing the anchor to the wall of the car when the lading strap is threaded through the anchor.

Another object of the invention is to provide in a railway freight car having a wall having a framing element, a base plate positioned against the element and provided with a pair of spaced slots and a base plate section between the slots having a gerater thickness than adjacent portions of the base plate, a member on the base plate spaced from said section, and welds in the slots securing the base plate to the framing element, a lading strap being adapted to be threaded around the member and the greater thickness of the section being adapted to prevent the strap from getting caught on the welds while being threaded around the member.

An important object of the invention is to provide in a railway freight car having a wall, a base plate secured to the wall and a member on the base plate, each side of the member being in the shape of an arc having a radius of one-half to two times the effective length of the member, a lading strap being adapted to be threaded around the member and the arc-shaped sides on the member being adapted to cause the stress on the strap to be directed toward the center thereof.

A more specific object of the invention is to provide in a railway freight car having a side wall having an outside sheathing and a lining provided with an opening therein and a side post disposed between the sheathing and the lining having a flange extending across the opening, a base plate positioned in the opening against the flange and provided with a recess and a pair of spaced parallel slots, with a base plate section formed between the slots having a greater thickness than adjacent portions of the base plate and a member extending across the recess, each side of the member being in the shape of an arc having a radius of one-half to two times the effective length of the member and welds in the slots securing the base plate to the flange of the post, a lading strap being adapted to be threaded through the recess and around the member and the greater thickness of the section being adapted to prevent the end of the strap from getting caught on the welds while the strap is being threaded through the anchor and the arc-shaped sides on the member being adapted to cause the stress on the strap to be directed toward the center thereof.

The foregoing and other objects of the invention are attained by the construction and arrangement illustrated in the accompanying drawings, wherein—

Fig. 1 is an interior side elevational view of a portion of a side wall of a railway box car showing a plurality of lading strap anchors of the present invention installed thereon;

Fig. 2 is an enlarged side elevational view of one of the lading strap anchors shown installed in the side wall of the car;

Fig. 3 is a horizontal cross sectional view taken on the line 3—3 of Fig. 1; and

Fig. 4 is a vertical cross sectional view taken on the line 4—4 of Fig. 1.

The invention proposes a new type lading strap anchor arrangement for a railway freight car. An opening is provided in the side wall lining exposing the flange of the side post. A base plate is positioned in the opening against the flange of the post and is provided with a recess and a pair of spaced parallel slots with a plate section between them of greater thickness than the adjacent portions of the base plate. A member extends across the recess, and each side of this member is in the shape of an arc having a radius of one-half to two times the effective length of the member. Welds fill the slots and these welds secure the base plate to the flange of the post. A lading strap is adapted to be threaded through the recess and around the member. The greater thickness of the section prevents the lading strap from getting caught on the welds while the strap is being threaded through the anchor, and the arc-shaped sides on the member cause the stress on the strap to be directed toward the center thereof.

In the drawings, 10 generally designates a railway freight car or railway box can having side sills 11, a floor 12 positioned upon the side sills, side walls 13, side plates 14, and a roof 15 secured to the side plates. Each side wall 13 has an outside sheathing 16 secured to its respective side sill 11 and to its respective side plate 14 and a lining 17 spaced from the sheathing and provided with a plurality of vertically spaced openings 18 therein and a plurality of horizontally spaced framing elements or Z-shaped side posts 19 disposed between the sheathing and the lining and each having one flange 20 secured to the sheathing and having the other flange 21 extending across the openings. Each post 19 has a nailer 22 secured thereto by a plurality of vertically spaced bolts 23 extending through the nailer and the web of the post and having nuts 24 on their free ends. The lining 17 is made up of the usual horizontally disposed tongue and groove boards 25 which are nailed to the nailers 22.

A circular base plate 26 is positioned in each opening 18 in the lining 17 against the flange 21 of the post 19. It will be noted that the opening 18 in the lining is countersunk and base plate 26 is correspondingly shaped. The base plate 26 has a horizontally extending recess 27 therein and is provided with a pair of opposed U-shaped seats 28 on opposite sides of the recess. A pair of spaced parallel slots 29 are located in the bottom of the recess 27 and a section 30 of the base plate is disposed between them. One bounding wall 31 of one slot 29 is formed by one side of the section 30, and one bounding wall 32 of the other slot 29 is formed by the other side of the section. The section 30 has a greater thickness than the other bounding wall 33 of said one slot and has a greater thickness than the other bounding wall 34 of the other slot, as best shown in Fig. 3.

A flat member 35 extends across the recess 27 in the base plate 26 and has its ends positioned in the seats 28 and the ends of the member terminate at locations spaced from the walls of the seats. A weld 36 extends around each rounded end of the member 35, and this weld is in contact with the bottom of the respective seat 28 and fills the space between the respective end of the member and the wall of the respective seat. Each side of the member 35 is in the shape of an arc having a radius R, and this radius has a center C located on a horizontal axis through the center of the base plate 26, and the dimension of the radius may be from one-half to two times the effective length L of the member 35, all as best shown

in Fig. 2. The effective length L of the member **35** is that part of the member which a lading strap **37** can actually come into contact with, or bear against, or encircle when the lading strap is threaded around the member and is pulled taut. The arc-shaped sides on the member **35** cause the stress on the lading strap **37** to be directed toward the center thereof.

Welds **38** fill the slots **29** and come into contact with the flange **21** of the post **19**, thus securing the base plate **26** to the post. The lading strap **37** is adapted to be threaded through the recess **27** and around the member **35**. The greater thickness of the section **30** is adapted to prevent the end of the lading strap **37** from getting caught on the welds **38** while the lading strap is being threaded through the recess and around the member, as indicated by the broken line illustration in Fig. 3.

The mode of installing an anchor on the side wall of a car is as follows: First, the entire side wall **13** including the lining **17** is put on the car. That is, the car can be completely constructed before the anchor is installed in the side wall **13**. The member **35** is welded to the base plate **26** to form an assembled anchor ready to be installed in the car. The countersunk openings **18** are made in the lining **17** exposing the flange **21** of the side post **19**. The base plate **26** is placed in one of the openings **18** and the welds **38** are made in the slots **29** thus securing the base plate to the flange **21** of the side post **19**.

As stated, the section **30** has a greater thickness than the adjacent portions of the base plate **26** which prevents the end of the lading strap **37** from getting caught on the welds **38** when it is being threaded through the anchor. This feature is very important because other types of anchors are forced to use special type fasteners to accomplish this result. More specifically, when the lading strap **37** is threaded through the anchor the end of the strap is inserted into the recess **27** at one side of the anchor behind the member **35** and comes into contact with the base plate adjacent the periphery thereof and the rear edge of member **35** passing over the area where the first weld **38** is located. The inserted end of the lading strap **37** then comes into contact with the face of the raised section **30** and as the lading strap **37** continues to move through the anchor the end of the strap slides on this raised section until it slides over the edge of the section. With the strap sliding on the edge of the section **30**, the end of the strap then moves over the area of the second weld **38** in spaced relation thereto and comes into contact with the adjacent sloping portion of the recess **27** at the other side of the anchor. The end of the lading strap gradually slides up this slopping portion until it goes beyond the periphery of the base plate to complete the threading of the strap through the anchor.

If the member about which a lading strap is threaded has straight sides a high stress is produced at the edge of the strap when the strap is used at an angle and this high stress causes tearing of the strap. The arc shaped sides of the member **35** causes the maximum stress to be in the center of the lading strap **37** and this is so regardless of what angle the lading strap may be used at. Therefore, the arc shaped sides of the member **35** causes the maximum stress to be at the center of the lading strap and thus prevents tearing of the strap.

It will be noted that each opening **18** in the lining **17** is centered on the horizontal joint of two boards **25** to avoid cutting one board completely in two. As stated, each opening **18** is countersunk so as to retain as much of the strength of the board as possible and to avoid adding any extra nailers. The correspondingly shaped

periphery of the base plate **26** urges the boards **25** toward the outside of the car and in effect the base plate helps hold the lining boards on the car. The anchor is substantially flush with the lining **17** which assures that the lading will not be damaged by the anchor.

Only one side wall of the car is shown in the drawings and only one side post is shown in this side wall and four anchors are shown secured to this side post. In practice, four additional anchors would be secured to the side post on the opposite side wall of the car opposite the side post shown. An anchor of the set of four on one side wall of the car would be located directly opposite an anchor of the set of four on the other side wall of the car and one end of a lading strap would be threaded through one of the anchors and the other end of the lading strap would be threaded through the other of the anchors. A set of four anchors would be secured to all of the side posts in both side walls of a conventional railway box car.

From the foregoing it will be seen that there has been provided a lading strap anchor having a raised section to prevent a lading strap from getting caught on the means securing the anchor to the car when the strap is being threaded through the anchor and an anchor member having arc shaped sides causing the maximum stress on the lading strap to be at the center thereof regardless of the angle at which the strap may be disposed and thus preventing tearing of the strap.

What is claimed is:

In a railway freight car including a side wall having an outside sheathing and a lining spaced from the sheathing and provided with an opening therein and a side post disposed between the sheathing and the lining and secured to the sheathing and extending across the opening, a lading strap anchor comprising a base plate positioned in the opening in the lining against the post and provided with a recess and a pair of spaced parallel elongated slots in the bottom of the recess and each extending substantially the full length thereof and defining a section of the base between the slots, the inner bounding wall of each slot being formed by the outer side of the section and the outer bounding wall of each slot being formed by the material of the base plate outwardly beyond the section, the section having greater thickness than the material of the plate forming the outer walls of said slots, a member secured to the base plate in spaced parallelism to said section and said slots and having side edges substantially directly overlying said slots along the full length of each, and welds in the slots securing the base plate to the post, whereby the base plate and attached member may be applied to the post as a unit by welds applied in said slots and the lading strap may be passed around said member from one side of the recess to the other, the greater thickness of the section being adapted to prevent the lading strap from getting caught on the weld in the slot adjacent the other side of the recess while the lading strap is being passed through the recess and around the member.

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