Oct. 21, 1958 H. W. REYNOLDS ET AL 2,856,865

LADING BAND ANCHOR

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FIG. 1.

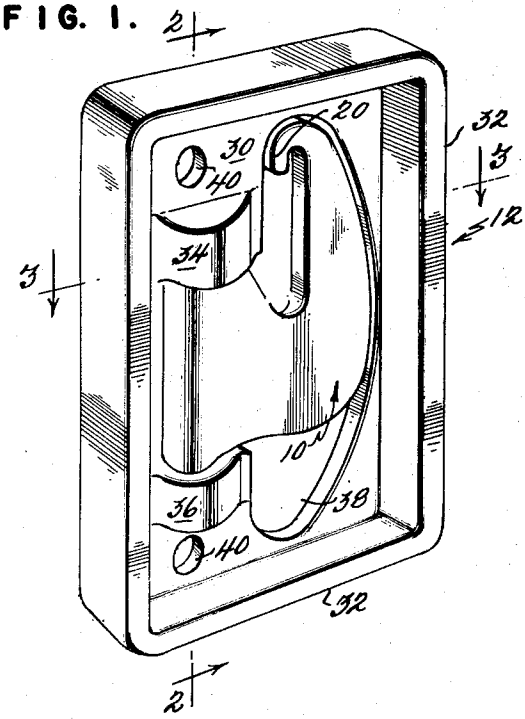


FIG. 2.

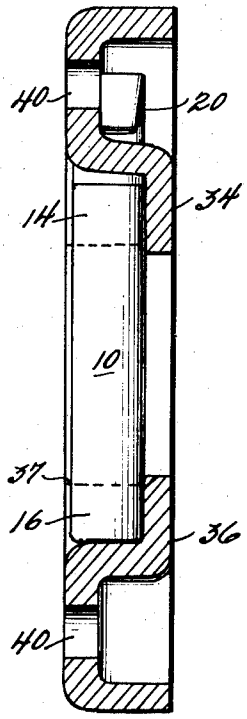


FIG. 4.

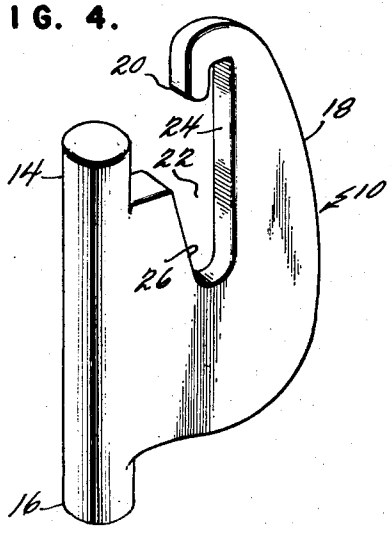
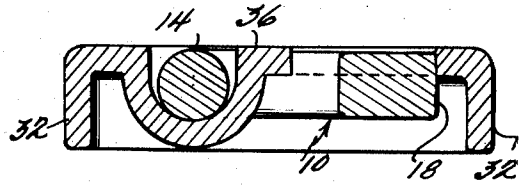


FIG. 3.



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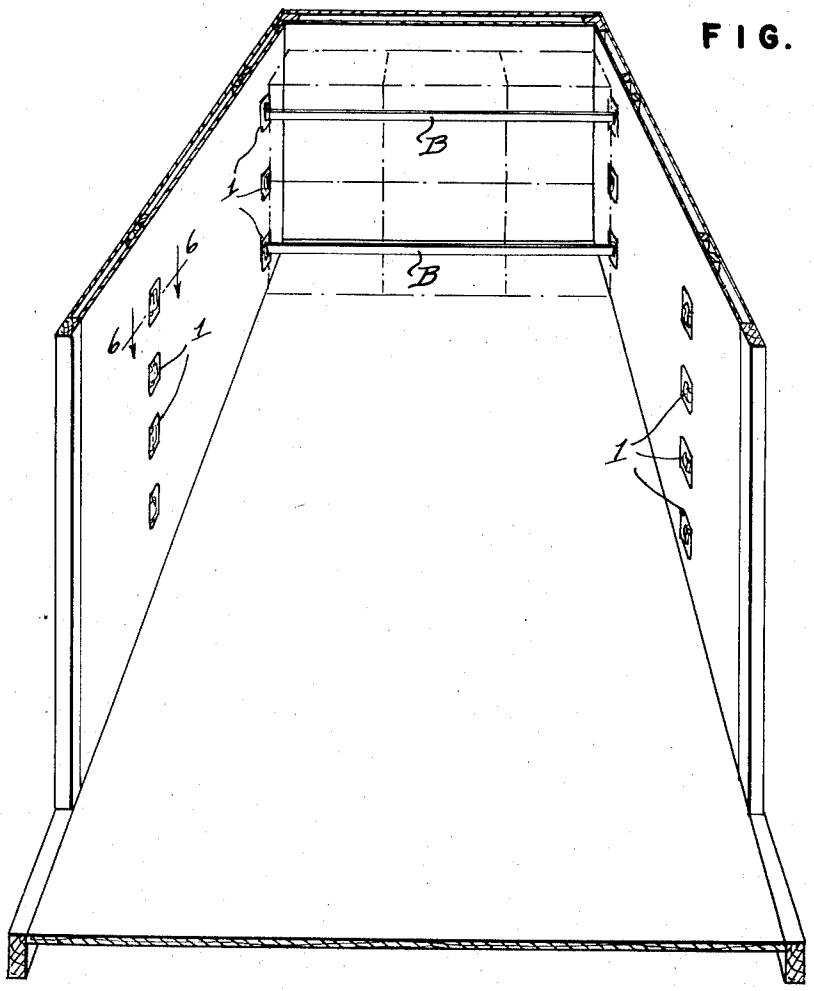
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FIG. 5.



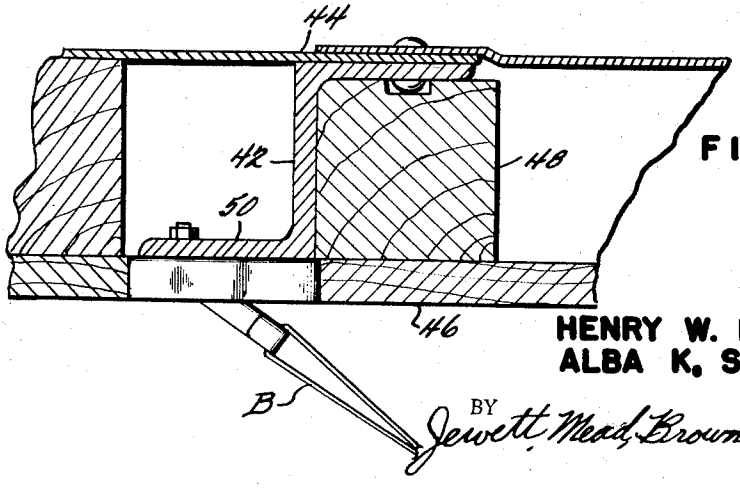


FIG. 6.

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LADING BAND ANCHOR

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3 Claims. (Cl. 105—369)

This invention relates to anchoring devices for lading straps of the type used to secure freight in railroad box cars.

In the shipment of certain types of freight in railroad box cars, it is the practice to use load retaining metal bands or straps to prevent shifting of the load in transit. When such bands are used, it is necessary to provide some means for anchoring the bands to the car walls so that the bands will be held tightly against the lading which they are intended to confine.

It is desirable that the device used for anchoring the lading bands be so constructed as not to project outwardly into the lading space when not in use. Furthermore, it is desirable that the anchoring device be so constructed as to permit easy threading of the lading strap. Many of the anchoring devices in accordance with the prior art achieve one of the aforementioned objectives at the sacrifice of the other. That is, in order to provide a lading band anchor which will remain clear of the lading space when not in normal operative position, many of the prior art patents show constructions which are difficult to use when in position for their intended purpose. Most lading band anchors with which we are familiar are recessed into the lining of the box car even when in use. In threading a lading band into a recessed anchor, it is necessary to bend the band to a relatively small radius. This is very difficult to do with lading bands of the type usually employed, which generally have bending characteristics somewhat similar to those of clock spring metal.

Furthermore, it is desirable that a lading band anchor be so constructed as to permit its use interchangeably on either side of the railroad box car, without alteration of the structural detail of the anchor.

Accordingly, it is an object of this invention to provide an anchor for lading bands comprising a recessed assembled unit which cooperates with the inside wall of the box car in such manner as not to project into the lading space when not in use, but a portion of which is adapted for movement into the lading space when in use to facilitate threading of the lading band.

It is a further object of our invention to provide a lading anchor which is easily threaded and which is adapted to receive a lading band bent to a relatively large radius of curvature.

It is a still further object of our invention to provide an anchoring device for lading bands which is simple in construction and inexpensive to manufacture.

It is another object of our invention to provide an anchor device which is adapted to cooperate with a conventional box car structure, and which may be installed with a minimum of alteration of the existing wall structure of the car.

It is still another object of our invention to provide a lading band anchor construction which is adapted for use on opposing sides of the interior of a box car without change in the detail structure of the anchor.

In accordance with these objectives, this invention provides an anchoring device for lading bands comprising

a pivotally mounted hook member adapted for engagement with a lading band, and a housing device for the hook member adapted to be recessed into the box car lining and provided with trunnion sockets for the hook member. The hook member is provided with trunnions which permit movement about the trunnion sockets into either a position in which the hook projects into the lading space for engagement with the lading band, or into a position in which it is received entirely within the housing when not in use.

The features of our invention which we believe to be novel are set forth with particularity in the appended claims. Our invention itself, however, both as to its organization and use, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of an assembled lading band anchor in accordance with our invention;

Fig. 2 is a view along section line 2—2 of Fig. 1;

Fig. 3 is a view along section line 3—3 of Fig. 1;

Fig. 4 is a perspective view of the hook member which engages the lading band in accordance with our invention;

Fig. 5 is a perspective view of the interior of a railroad box car equipped with lading band anchors in accordance with our invention; and

Fig. 6 is a view along section line 6—6 of Fig. 5, showing the hook member in operative position.

Referring now to the drawings and more particularly to Figs. 1–4, the lading band anchor **1** in accordance with our invention comprises a hook member generally indicated at **10** and adapted to be received in a hollow box-like housing generally designated at **12**. Hook member **10** is provided on one side with a pair of oppositely disposed axially aligned trunnion members **14** and **16** which are adapted to be received in trunnion sockets in the housing **12**, as will be described hereinafter. The hook member **10** is provided at the side opposite the location of the axis of trunnions **14** and **16** with a vertically extending hook element **18** which terminates in a downwardly inclined lip portion **20**. The hook element **18** is disposed adjacent the main body portion of the hook **10** in such manner as to provide a groove **22** formed by the edge **24** of the hook element and the edge **26** of the main body portion. The groove **22** is adapted to receive a lading band B.

The housing **12** for receiving the hook member **10** is of generally hollow rectangular configuration, being provided with a base portion **30** and side wall portions **32** which extend in a plane substantially perpendicular to the base **30**. One side of the base **30** is provided with arcuate, or U-shaped hollow portions **34** and **36** extending forwardly of base **30** which serve as trunnion sockets for the reception of trunnions **14** and **16** of the hook member **10**. The trunnion sockets **34** and **36** are open at their rear to receive trunnions **14** and **16**. The base portion **30** is provided with a generally oval-shaped aperture **38**, and is also apertured in the space between the respective trunnion socket members **34** and **36** to receive the body portion and hook element **18** of the hook member **10**. It can be seen therefore that the construction just described permits the hook member **10** to be positioned in the housing **12** from the rear by placing the respective trunnion members **14** and **16** in the respective trunnion socket members **34** and **36**, while the body of the hook member **10**, including the hook element **18**, is received by the cut away portions of the base **30**.

It is also evident that the generally oval-shaped aperture **38** will permit reversing hook member **10**, within housing **12**, thereby permitting the use of housing **12**

without a change in the detail structure of the housing when disposed on the opposite side of the car to cooperate with its opposing anchor member.

To restrain the hook member **10** from movement when it is not in use, the lower trunnion socket member **36** is provided at its side adjacent opening **38** with an upper edge portion, indicated at **37** in Fig. 2, which is lower than the remaining portion of the upper edge of trunnion socket member **36**. When hook member **10** is not in use and is rotated to the position shown in Fig. 1, the bottom edge of the hook member drops down to the edge portion **37**. This serves to lock the hook member in place since it is necessary to raise the bottom edge of hook member **10** to the level of the remaining portion of the upper edge of the trunnion socket member **36** before the hook can be rotated forwardly from the position shown in Fig. 1.

The anchor assembly just described, comprising the hook **10** and the housing **12**, may be mounted with respect to the wall structure of the railroad box car in the manner best shown in Figs. 5 and 6, using the conventional Z-bar between the inner and outer walls of the box car as a support.

As best seen in Fig. 6, the Z-bar **42** is positioned between the side **44** of the box car and the lining **46** of the box car, a web and flange of the Z-bar abutting against the wood post **48**. The Z-bar and the wood post **48** are part of the conventional construction of railroad freight car sides. In order to accommodate the anchor assembly of our invention, the lining **46** is cut adjacent the inner flange **50** of the Z-bar to provide an aperture of a size conforming to the dimensions of the anchor assembly. The housing **12** may be secured to flange **50** of the Z-bar **42** in any convenient manner. For example, the flange **50** may be provided with studs which engage apertures **40** in the base portion **30** of housing **12**. After the housing **12** has been positioned on the studs, suitable cap nuts may then be positioned on the ends of the studs to securely hold the housing in place. The depth of the housing **12** is such that it is substantially equal to the thickness of the lining **46**. Thus, the outer surfaces of the sides **32** of housing **12** are substantially flush with the outer surfaces of lining **46** when the anchor assembly is in place.

As may best be seen in Fig. 5, any desired number of the anchor devices of our invention may be vertically aligned with each other and attached to the same Z-bar. Vertical rows of these anchor devices may be positioned at suitably spaced intervals along the Z-bar posts of the box car.

In using the anchoring device of our invention, the hook member **10**, when not in use, is pivotally moved about the trunnions **14** and **16** to a retracted position such as that shown in Fig. 1 where it is locked in position by the edge portion **37**. When it is desired to use the anchoring device, the hook member is pivotally moved about its trunnions into a position at an angle to the box car lining surface, as shown in Fig. 6. The lading bands B which hold the freight shipment in place are then positioned in the groove portion **22** of the hook member and the overlapped end of the band is sealed in the conventional manner.

Due to the fact that the pivoted hook member **10** may be moved out into the lading space when in use, it is much more accessible for threading of a lading band than anchoring devices which are entirely recessed in the box car lining even when in use. Furthermore, the groove **22** of the hook member of our invention is open from the top and permits the lading band to be dropped down into the groove from above. This accessibility of the open hook groove from the top, in combination with the fact that the hook member **10** may be pivotally moved into the lading space, permits the lading band to be bent to a large radius of curvature when it is threaded into the anchor, a factor of considerable importance in view of the bending qualities of material usually used for lading bands.

It can be seen that we have provided in accordance with our invention an improved anchoring device for lading bands which is received into a recess in the wall structure of the box car without substantially altering the wall structure, the same anchor structure being usable on opposing sides of the box car. Furthermore, the anchoring device has a retracted position in which no portion of the anchor projects into the lading space and an in use position in which the hook element of the anchoring device is pivotally movable into the lading space to permit engagement with the lading band. This construction insures that the anchoring device is out of the way when not in use and yet is accessible for easy threading of the lading band when it is desired to anchor a lading band to the device. The open groove construction of the hook element also facilitates the threading of the lading band into the anchor. Furthermore, the anchoring device of our invention is simple in construction and economical to manufacture.

While there has been shown and described a particular embodiment of our invention, it will be obvious to those skilled in the art that various changes and modifications can be made therein without departing from the invention and, therefore, it is aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

We claim:

1. A lading band anchor for box cars comprising a housing member adapted to be recessed in a wall of a box car, said housing member having a base portion which lies in a plane substantially parallel to and flush against a portion of said wall, upper and lower trunnion sockets formed in axial alignment in said base, said sockets comprising U-shaped hollow portions formed in said base, said base portion having an enlarged extended aperture disposed between said trunnion sockets and extending further into said base away from said trunnion sockets, the upper portion of a lower trunnion socket on the side of said trunnion socket facing toward said extended aperture having a pocket formed therein, an element provided with a hook for receiving lading bands, a pair of oppositely disposed trunnions pivotally carried in said upper and lower trunnion sockets and retained in said sockets by said portion of said wall and a body portion connecting said trunnions and said hook, said hook being receivable in said extended aperture and said body portion being provided with a projection receivable in said pocket when said hook and body portion of said element are in substantially parallel relation with said base to lock said hook and body portion of said element in said parallel relation with said base.

2. A lading band anchor as defined in claim 1 in which said element is provided with a hook coplanar with said trunnion members and extending substantially parallel to the axis of said trunnion members, the interior of said hook being provided with a straight portion of substantially the width of a lading band for receiving the same.

3. A lading band anchor as defined in claim 1 in which said enlarged extended aperture is of sufficient size and shape to permit reversal of said hook in respect to said housing by interchanging the respective coacting trunnions and sockets, said body portion including another projection adapted to be received in said pocket when the trunnions of said element are interchanged with respect to said trunnion sockets.

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