Sept. 30, 1958 E. G. GOODWIN 2,853,959

LADING BAND ANCHOR

Filed Oct. 29, 1953 2 Sheets-Sheet 1

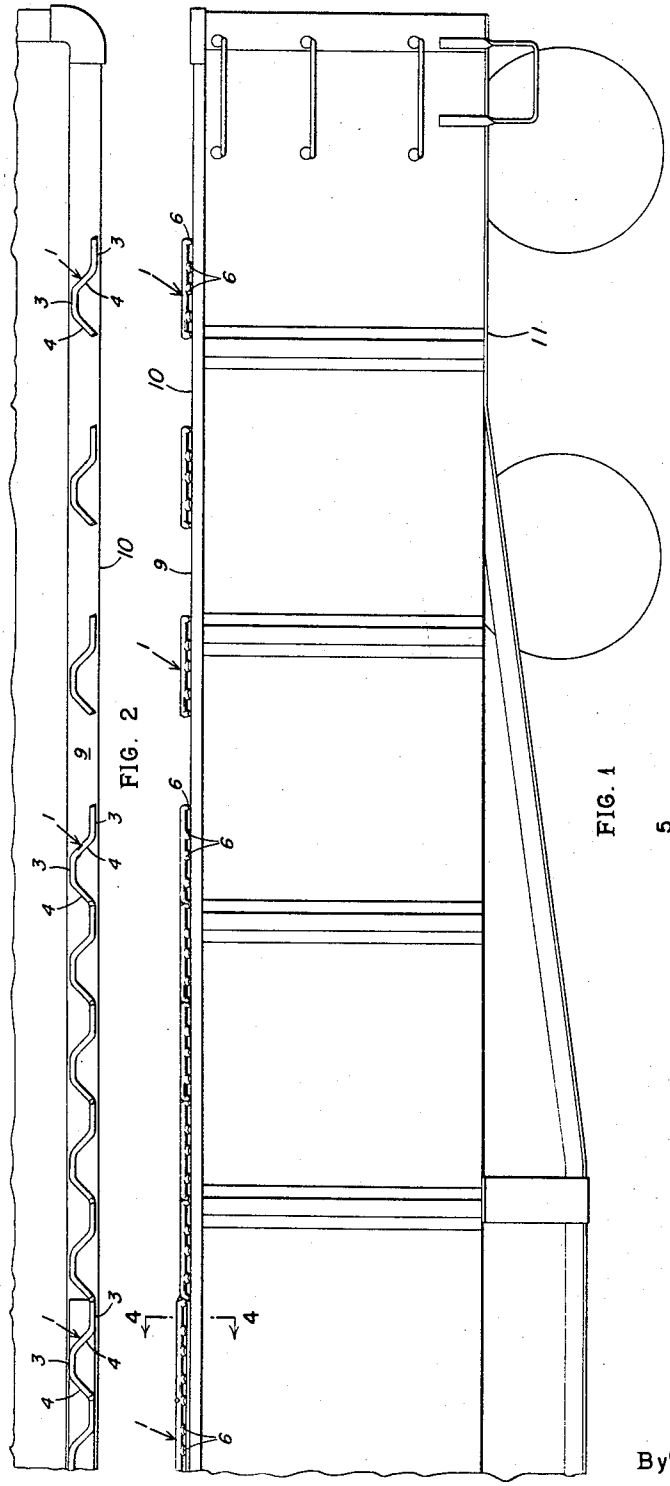


FIG. 1

FIG. 2

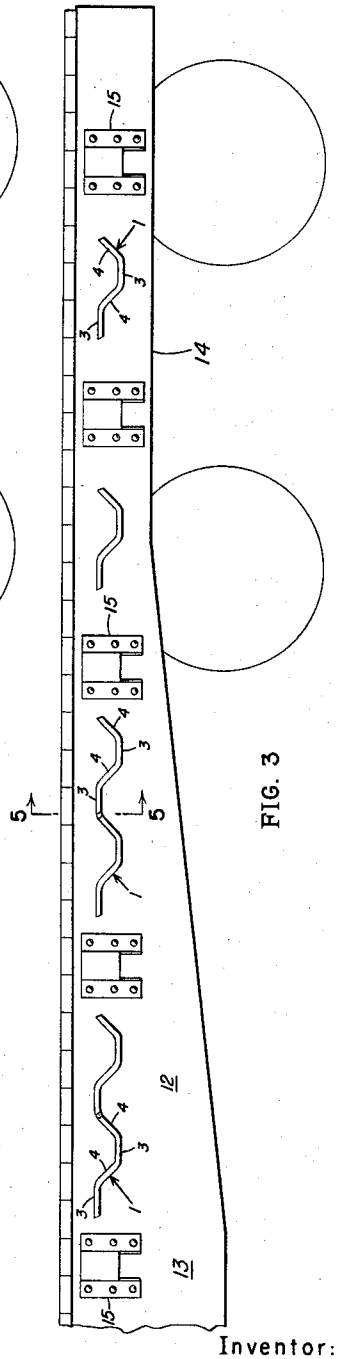


FIG. 3

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LADING BAND ANCHOR

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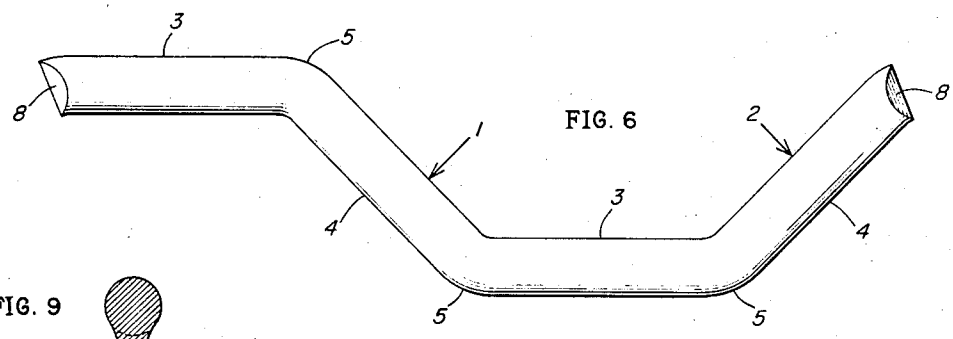


FIG. 6

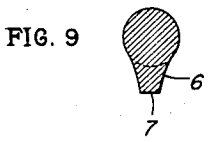


FIG. 9

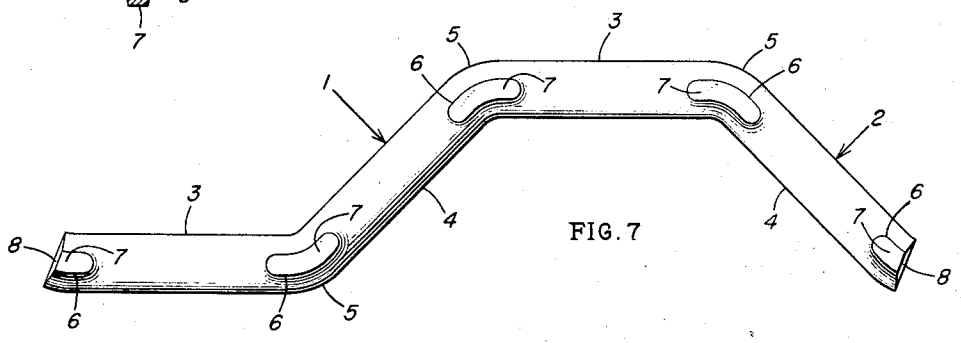


FIG. 7

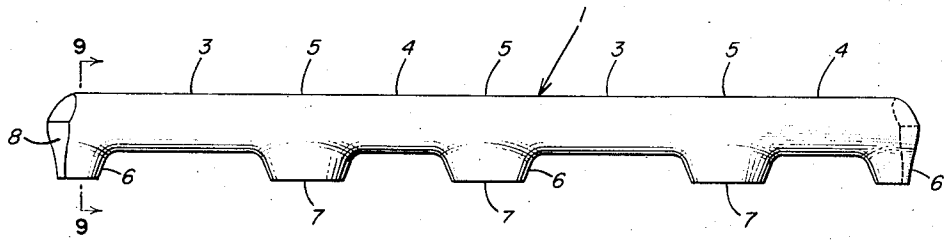


FIG. 8

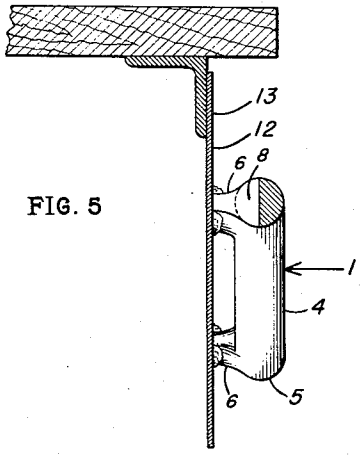


FIG. 5

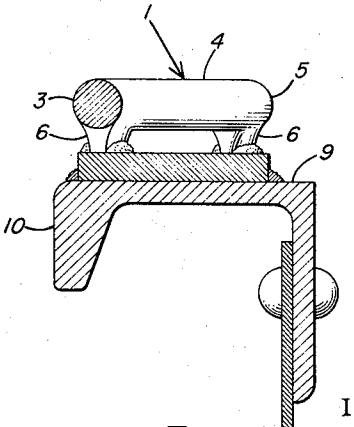


FIG. 4

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LADING BAND ANCHOR

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6 Claims. (Cl. 105—369)

This invention relates to lading band anchors for railway freight cars and has for its primary object the provision of an anchor unit which may be welded to a framing member of such a car either as spaced units or as a continuous anchor.

Another object of the invention is to provide a lading band anchor of zigzag configuration wherein adjoining segments, while spaced from the framing member to which they are fixed, are inclined relative to each other to facilitate both side and end banding of lading.

An additional object of the invention is to provide a lading band anchor which may be formed of cast sections and has in each section segments which are alternately parallel and oblique to the longitudinal axis of the framing member to which the anchor is applied, the ends of each section being so constructed as to permit the sections to be employed individually or joined together by welding as a continuous anchor of the desired length.

A further object of the invention is to provide a lading band anchor of zigzag configuration wherein a supporting foot, instanding from the anchor at each of its bends, serves as a weld point for welding the anchor to the framing member to which it is fixed.

Another object of the invention is to provide a lading band anchor of zigzag configuration and having instanding feet at its several bends, wherein the feet serve both as weld points for attachment of the anchor to a framing member and as separators for containing an attached lading band within the segment to which it is initially applied.

Another object of the invention is to provide a lading band anchor of zigzag configuration, weldable in spaced relation to a framing member, which provides anchoring stations of a plurality of angular dispositions for side and end anchoring of lading and also serves to reinforce the framing member against both longitudinal and lateral stresses.

Other objects and advantages of the invention will appear hereinafter in the detailed description, be particularly pointed out in the appended claims, and be illustrated in the accompanying drawings, in which:

Figure 1 is a fragmentary side elevational view of a railway gondola car with a preferred form of the lading band anchor of the present invention applied to its bulb angle.

Figure 2 is a fragmentary plan view of the car of Figure 1.

Figure 3 is a fragmentary side elevational view of a flat car showing the application of the lading band anchor of the present invention to a side sill of such a car.

Figure 4 is a fragmentary vertical sectional view on an enlarged scale, taken along the lines 4—4 of Figure 1.

Figure 5 is a fragmentary vertical sectional view on the scale of Figure 4, taken along the lines 5—5 of Figure 3.

Figure 6 is a top plan view on the scale of Figure 4,

of an anchor unit of the lading band anchor before mounting on a railway car.

Figure 7 is a bottom plan view on the scale of Figures 4 and 5 of the unit of Figure 6.

Figure 8 is a side elevational view of the unit of Figure 6; and

Figure 9 is a vertical sectional view taken along the lines 9—9 of Figure 8.

Referring now in detail to the drawings, in which like reference characters designate like parts, the improved lading band anchor of the present invention is comprised of a basic unit or section 1 which may readily be made as a steel casting and is adapted to be fixed to a framing or structural member of a railway freight car in a manner to be hereinafter described.

As shown in Figure 6, each of the units 1 is of zigzag or sinuous configuration in a plane substantially parallel to the framing member to which it is applied, and is formed of a plurality of substantially straight legs or segments 2 connected thereto and the adjoining of the legs being inclined and preferably obliquely disposed relative to each other. Each of the units may conveniently have four such legs, two spaced and parallel and two spaced and oblique to each other and the parallel legs. The spaced pair of parallel legs 3 alternate with the oblique legs 4, the parallel legs 3 being relatively offset and adapted to extend longitudinally or parallel to the longitudinal axis of the framing member. The other spaced pair of legs 4 are disposed at different angles to the parallel legs 3, thus diverging from each other outwardly of the parallel leg to which they are connected and being diagonal to the framing member. Such a unit has been selected as the basic unit because sufficiently short to fit within a limited available space on a framing member and at the same time providing within its short compass anchor stations of three different angular dispositions for the attachment of a lading band (not shown).

At and instanding from each of the intersections, connections, bends or corners 5 of the anchor unit 1, where the adjoining legs 2 intersect or are connected, is a foot 6, integral with the unit and of truncated pyramidal shape, each foot having a flat undersurface or sole 7, preferably coplaner with that of the several other feet. The feet 6 serve two purposes—first as weld points for fixing the unit to a framing member, their flat undersurfaces 7 then providing a firm flat base which bears against the framing member. Second, the feet serve as separators to contain a lading band anchor within the particular leg to which it is attached and prevent it from sliding over to an adjoining leg, thus fixing the position and angularity of the lading band and preventing it from slipping relative to the lading which it secures.

It will be noted that the feet 6 at either end of the unit 1 are segmental feet and that the end faces or ends 8 of the unit are disposed substantially parallel to each other, though with a slight bevel or taper towards their axial centers. With the ends of each of the units so formed, it is evident that when the parallel legs 3 of the two units are disposed parallel to each other, the confronting ends of these units will be parallel and, when brought together, will maintain the alignment of the units. The beveling of these ends then provides space for the application of weld metal for connecting adjoining units and forming, by the use of a plurality of units, a continuous lading band anchor of any desired length. In such a continuous anchor, as when the units are employed as individual spaced anchors, the several legs are equally spaced from the framing member to which they are applied by the feet 6 and provide the several angularities of anchor stations previously

mentioned. Although the legs **2** are shown as round or circular in cross-section, and the feet as tapering inwardly from the legs, it will be apparent that these shapes are a matter of convenience and may be varied to suit a particular application.

The advantage of a lading band anchor of sectional construction and yet able to provide anchor stations of different angularity, will be apparent from the applications of the anchor shown in Figures 1–3. In Figures 1 and 2 the anchor has been applied to the upper face **9** of the bulb angle **10** of a gondola car **11** with the units, centrally of the car, connected to form a continuous lading band anchor, and those toward the end of the car separated to provide spaced individual anchors. Welded to the bulb angle **10** and with their parallel legs **3** disposed longitudinally of the bulb angle, the anchor, through its parallel legs **3**, provides anchor stations for lading bands strapped over the tops or sides of the lading with which the gondola car is loaded, and, through its obliquely or diagonal disposed legs **4**, provides anchors for bands strapping the end **8** of the lading. Though desirable, such end banding is a practical impossibility with anchors whose anchor stations are parallel to the longitudinal dimension of the car, due to the resistance of the banding steel of which the bands are conventionally formed, to twisting in the order of 90°, which end banding under such circumstances would require. On the other hand, the banding steel will readily take a twist or change in direction somewhat in excess of 45°, adequate for end banding through the oblique legs **4**.

In Figure 3 the anchor units are shown applied to the outboard or outer face **12** of a side sill **13** of a flat car **14**. Such side sills conventionally are interrupted longitudinally by stake brackets **15**, inhibiting the application thereto of continuous lading band anchors. However, the sectionalized anchor of the present invention is readily applied to such a surface whether as individual units or with two or more units joined to form an anchor of greater length. Here again, the parallel legs **3** of the anchor form anchor stations for side banding of the lading and the obliquely disposed legs **4** permit the lading to be banded at its ends. The lading so secured is effectively held against undesired movement.

It will be evident that the illustrated applications of the lading band anchor of the present invention are exemplary and that they may be applied to framing or structural members of other railway cars where their sectionalized construction and the varied angularity of their anchor stations is of advantage, the anchor units either being welded directly to the framing member or, where the latter is of insufficient strength, through a reinforcing plate, such as the plate **16** shown in Figures 1 and 4. Not only is the instant anchor versatile in application and operation, but by its zigzag configuration in a plane parallel to the face of the framing member to which it is applied, the anchor serves to rigidify or reinforce the framing member both laterally and longitudinally.

Having described my invention, I claim:

1. A lading band anchor for attachment to a framing member of a railway freight car comprising a plurality of substantially straight legs connected end to end and disposed parallel to the framing member, each of said legs being inclined relative to an adjoining leg, and feet instanding from said legs and separating adjoining legs into spaced anchor stations of different angularity.

2. A lading band anchor for attachment to a framing member of a railway freight car comprising a plurality of substantially straight legs connected end to end and disposed substantially parallel to the framing member, alternate of said legs being parallel but offset and the legs connected thereto being oblique relative to said parallel legs, and feet instanding from the intersections of said legs for weldably connecting said anchor to the framing member.

3. A lading band anchor for attachment to a framing member of a railway freight car comprising a plurality of substantially straight legs connected end to end and disposed substantially parallel to the framing member, alternate of said legs being substantially parallel and offset and the legs connected thereto being obliquely disposed relative to said parallel legs, and feet instanding from the intersections of said legs for weldably connecting said anchor to the framing member, said anchor on welding to said framing member having its parallel legs disposed longitudinally thereof.

4. A lading band anchor unit for attachment to a framing member of a railway freight car comprising a plurality of substantially straight legs connected end to end and disposed substantially parallel to the framing member, certain of said legs being oblique to other of said legs, and feet instanding from connections between said legs for separating said legs into spaced anchor stations and weldably connecting said unit to the framing member.

5. A lading band anchor unit for attachment to a framing member of a railway freight car comprising a plurality of substantially straight legs connected end to end and disposed substantially parallel to the framing member, certain of said legs being oblique to other of said legs, and feet instanding from connections of said legs for separating said legs into spaced anchor stations and weldably connecting said unit to the framing member, said unit having its opposite end faces substantially parallel for weldable connection at either end to a like unit.

6. A lading band anchor unit for attachment to a framing member of a railway freight car comprising a plurality of substantially straight legs connected end to end and disposed substantially parallel to the framing member, said legs being arranged in pairs, the legs of each pair being spaced and connected by a leg of another pair, the legs of one of said pairs being offset and parallel and of another of said pairs being oblique to and diverging from the parallel leg to which they are connected, and feet at and instanding from connections between said legs for separating said legs into spaced anchor stations and weldably connecting said unit to the framing member, said unit having its opposite end faces substantially parallel for weldable connection at either end to a like unit.

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