April 29, 1969 R. E. CALE 3,441,301

RAILROAD CAR BRAKE DEAD LEVER LINK ANCHOR

Filed Aug. 28, 1967 Sheet 1 of 2

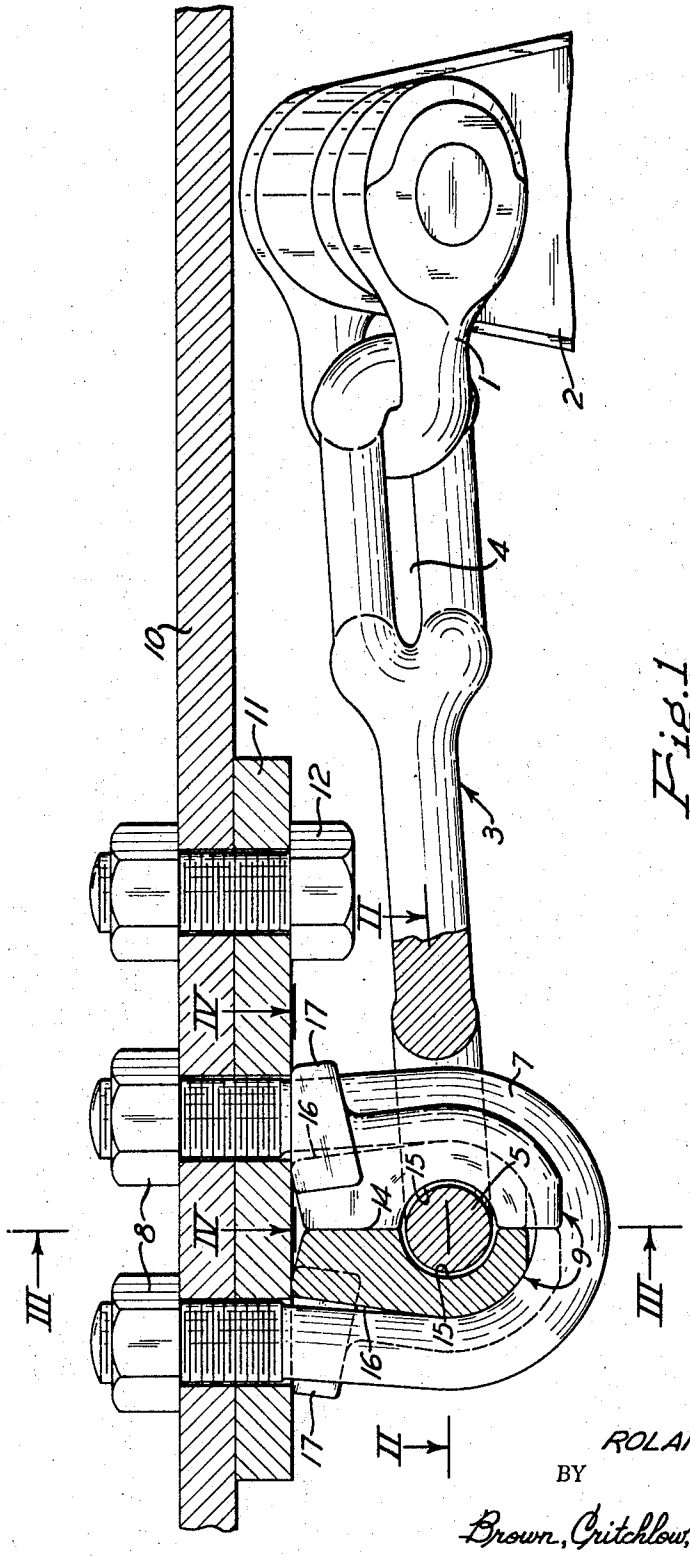


Fig. 1

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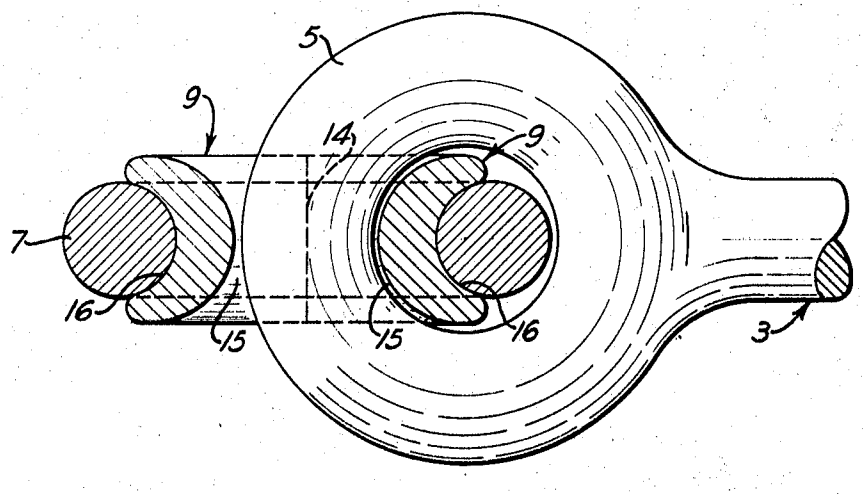


Fig. 2

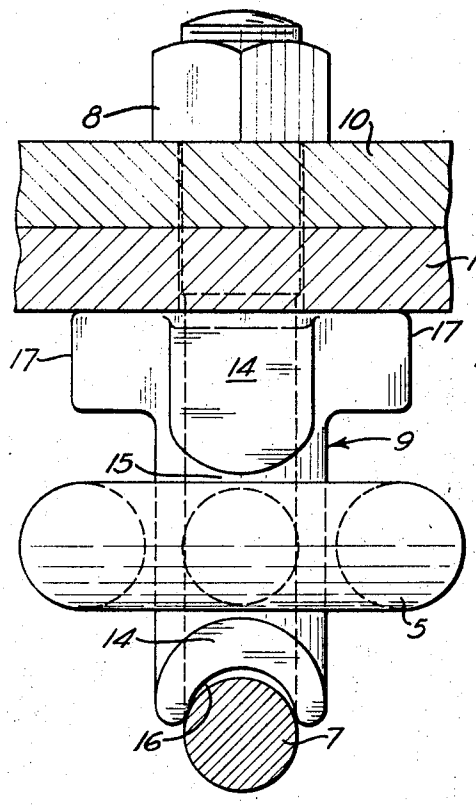


Fig. 3

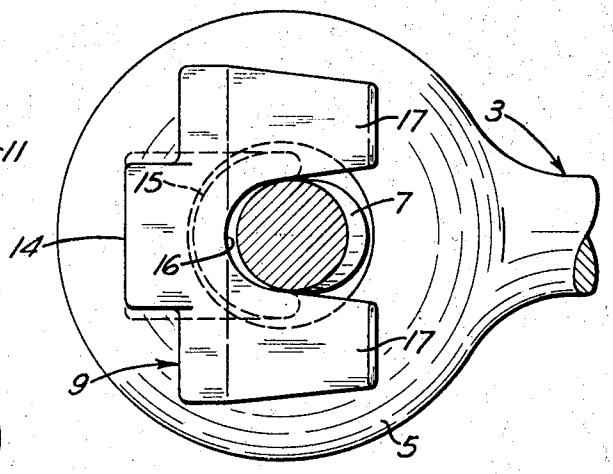


Fig. 4

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3,441,301

RAILROAD CAR BRAKE DEAD LEVER LINK ANCHOR

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U.S. Cl. 287—189.36 7 Claims

ABSTRACT OF THE DISCLOSURE

A U-bolt that is adapted to extend through a circular hole in one end of a dead lever link has parallel threaded ends for attachment to a car body. Between and in engagement with the sides of the bolt is a pair of filler blocks having engaging inner sides provided with a pair of registering recesses forming a transverse circular opening to receive the portion of the link that is between the sides of the bolt. The outer sides of the filler blocks have longitudinally extending grooves receiving the adjoining portions of the bolt to hold the blocks in place.

It is among the objects of this invention to provide a link anchor which is simpler and less expensive in construction than those used at present, which will hold itself together before installation, and which can be quickly attached to a car body without requiring new holes to receive it.

Summary of the invention

In accordance with this invention a U-bolt adapted to extend through a hole in a railroad car brake dead lever link has parallel threaded ends. Between the sides of the bolt is a pair of filler blocks provided with a transverse circular opening to receive the portion of the link between the sides of the bolt. To receive the inclined sides of the bolt the outer sides of the blocks are provided with grooves inclined toward each other as they approach the ends of the bolt. The end of each filler block adjacent a threaded end of the bolt straddles the adjoining side of the bolt and projects laterally from it to form laterally spaced feet having flat end surfaces lying in a common plane perpendicular to the axis of the threaded ends of the bolt.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

FIG. 1 is a side view, partly in section;

FIG. 2 is a horizontal section taken on the line II—II of FIG. 1;

FIG. 3 is a vertical section taken on the line III—III of FIG. 1; and

FIG. 4 is a horizontal section taken on the line IV—IV of FIG. 1.

Referring to FIG. 1 of the drawings, a clevis **1** is pivotally connected to the upper end of a railway car brake rigging dead lever **2** that is tilted in the customary manner. This clevis extends through an opening in one end of a metal link **3**. Preferably, the opening is a longitudinal slot **4** created by a loop forming one end portion of the link. The opposite end of the link is in the form of a circular loop **5** forming a circular hole through the link. This loop is circular in cross section, except where it joins the central portion of the link.

In accordance with this invention an anchor is provided for connecting the loop **5** with the body of the railroad car in such a manner that the link will be free to swing up and down and also laterally. In other words, the anchor permits universal movement of the link. The anchor consists of a U-bolt **7**, nuts **8** for holding it in place and filler blocks **9** mounted in the loop of the bolt and forming a bearing for the link. The end portions of the bolt are parallel and threaded for receiving the nuts. The bolt is of such size that its threaded ends will fit in two of the three holes through the bottom flange **10** of a car frame beam and the plate **11** that connects the beam to another beam beside it. Two of the three bolts **12** originally connecting the plate and beam are removed to open two holes for receiving the U-bolt as shown. Consequently, new holes do not have to be drilled to receive the anchor. The U-bolt extends down below the plate.

The two filler blocks **9** preferably are identical to each other. They are disposed between the unthreaded sides of the bolt before it is connected to the car. They have flat inner faces **14** that engage each other midway between the sides of the bolt. Each of these faces is provided with a semi-circular recess **15**. The two recesses register with each other to form a transverse circular opening that is only slightly larger in diameter than the diameter of the stock forming loop **5** of the link. The outer side of each filler block is provided with a longitudinally extending groove **16** that receives the adjoining portion of the bolt. As shown in FIG. 2, this groove is curved transversely to fit part way around the bolt, which tightly engages the filler block so that the two blocks not only are pressed together but also are prevented from falling sideways out of the loop formed by the bolt.

The thickness of each filler block between its recess **15** and the adjoining side of the bolt is such that one of the blocks and one side of the bolt can extend through the circular hole in the link. Also, as shown in FIG. 2, the wall of each recess **15** is convex transversely in the radial planes of the opening formed by the recesses so that the filler block in loop **5** will fit the inside of the loop and form a bearing surface against which the loop can slide when the link is swung in any direction. To avoid interference with vertical swinging of the link, the link-receiving opening between the filler blocks, and the lower or central portion of the U-bolt, are substantially concentric.

The upper ends of the filler blocks are located just short of the threaded ends of the U-bolt and, by engaging the bottom of plate **11**, limit the distance the nuts can be tightened down on the bolt. For this purpose the upper end portions of the filler blocks preferably completely straddle the adjoining sides of the bolt and also project laterally as shown in FIG. 4, thereby forming feet **17** having flat surfaces pressed against the bottom of plate **11**. These feet prevent any tendency of the filler blocks to be tilted laterally by the link.

A further feature of the invention is that the link and U-bolt and filler blocks can be assembled and will remain intact and not fall apart before the anchor is fastened to the car. For this purpose the grooves **16** in the filler blocks are inclined toward each other as they approach the ends of the bolt, and the sides of the bolt in the grooves likewise are inclined in the same general direction so that the ends of the bolt have to be sprung apart slightly in order to slide the filler blocks in between them after the blocks have been assembled with the link. When the filler blocks reach their innermost position in the U-bolt loop, the ends of the bolt move back toward each other into parallel relation, whereupon the space between them is too narrow to allow the blocks to escape from the bolt. Another reason for this particular construction is that the distance between the bolt-receiving holes in plate **11** and flange **10** is set and fairly short. By flaring out the U-bolt as it leaves those holes the filler blocks can be made thicker between the sides of the bolt and their recesses **15**, thereby strengthening them and giving them a longer useful life. Also, due to the inclination of the sides of the U-bolt, the lower surfaces of feet **17** of the filler blocks are inclined relative to their upper surfaces and therefore the feet release readily from the forging dies in which the blocks are made.

One of the major advantages of this invention is that

the anchor is symmetrical about its vertical center line, so that link 3 can embrace either side of the U-bolt. This means that it makes no difference which side of the bolt extends through loop 5.

According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. An anchor for supporting a railroad car brake dead lever link that is provided with a circular hole through one end, the anchor comprising a U-bolt adapted to extend through the link hole and having parallel threaded ends, and a pair of filler blocks between and in engagement with the sides of the bolt, the filler blocks having engaging inner sides midway between the bolt sides provided with a pair of registering recesses forming between said blocks a transverse circular opening to receive the portion of the link between the sides of the bolt, the outer side of each filler block being provided with a longitudinally extending groove receiving the adjoining portion of the bolt to hold said block in place, said grooves being inclined toward each other as they approach the ends of the bolt, and the sides of the bolt in the grooves being inclined likewise to keep the filler blocks from sliding out between the threaded ends of the bolt, the end of each filler block adjacent a threaded end of the bolt straddling the adjoining side of the bolt and projecting laterally therefrom to form laterally spaced feet, and said ends of the filler blocks having flat end surfaces lying in a common plane perpendicular to the axes of said threaded ends.

2. An anchor according to claim 1, including a railroad car brake dead lever link provided at one end with a circular loop extending through said circular opening and

forming a circular hole receiving one of said filler blocks and the adjoining side of the U-bolt.

3. An anchor according to claim 1, in which the wall of each recess is convex transversely.

4. An anchor according to claim 1, in which said circular opening and the arc formed by the central portion of the U-bolt are substantially concentric.

5. An anchor according to claim 1, in which said grooves are inclined toward each other as they approach the ends of the bolt, and the sides of the bolt in the grooves are inclined likewise to keep the filler blocks from sliding out between the threaded ends of the bolt.

6. An anchor according to claim 5, in which the end of each filler block adjacent a threaded end of the bolt straddles the adjoining side of the bolt and has a flat end surface in a plane perpendicular to the axis of said threaded end.

7. An anchor according to claim 1, in which the end of each filler block adjacent a threaded end of the bolt straddles the adjoining side of the bolt and projects laterally therefrom to form laterally spaced feet.

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U.S. Cl. X.R.

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