ABSTRACT

A freight car truck side frame has a window and a bolster extends through the window. There is a wedge pocket in the bolster and a wedge is spring-biased into the pocket. The pocket has a floor and the wear plate is positioned by spaced stop lugs against the floor to absorb the wear caused by movement of the wedge relative to the bolster. The wear plate is attached to the wedge pocket floor by welds along the top and bottom edges thereof.

7 Claims, 6 Drawing Figures
DAMPENED RAILWAY TRUCK BOLSTER WEAR PLATE

This application is a continuation-in-part of copending application Ser. No. 264,318 filed June 19, 1972 now abandoned.

SUMMARY OF THE INVENTION

The present invention relates to improvements in wear plates and means for attaching wear plates to the bolster of a freight car truck. Specifically, the present invention is an improvement on the wear plate construction shown in U.S. Pat. No. 3,559,589.

A primary purpose of the invention is an improved means for attaching a wear plate to a freight car truck bolster in which there are welds at opposite edges of the wear plate attaching it to the wedge pocket floor.

Another purpose is a reliably operable simply constructed wear plate and means for attaching it to the bolster wedge pocket floor.

Another purpose is a wear plate and means for attaching it in the environment described in which the weld provides a filler between the wear plate and the stop on the pocket floor, thus placing the weld in compression.

Another purpose is a wear plate of the type described having a tapered upper edge.

Another purpose is a wear plate of the type described in which the wear plate is generally rectangular in configuration.

Other purposes will appear in the ensuing specification, drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is illustrated diagrammatically in the following drawings wherein:

FIG. 1 is a partial side view of a portion of a railway car truck with parts in section to disclose the stabilizing means for the truck,

FIG. 2 is a plan view of the bolster pocket floor,

FIG. 3 is a section along plane 3—3 of FIG. 1,

FIG. 4 is a partial side view of a portion of a railway car truck, with parts in section, illustrating a modified form of stabilizing means,

FIG. 5 is a plan view of the bolster pocket floor of the construction of FIG. 4, and

FIG. 6 is a section along plane 6—6 of FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention is specifically designed as an improvement on the wear plate and the means for attaching it in the environment shown in U.S. Pat. No. 3,559,589. U.S. Pat. No. 3,127,850 issued Apr. 7, 1964 to C. J. W. Clasen, the inventor herein, for "Stabilized Railway Car Truck," illustrates the stabilizing wedge which is positioned between the bolster and the side frame of a railroad car truck. A spring biases the wedge upwardly into the wedge pocket or the tapering space between a vertical surface on the side frame and an upwardly and outwardly inclined wedging surface on the floor of the pocket in the bolster. As the bolster moves up and down in the window of the side frame, the wedge moves with it and the friction between the wedge and the side frame effectively snubs the vibratory motion of the spring supported bolster upon which a car body is carried.

In FIG. 1 the side frame of a freight car truck is indicated at 10 and it has a conventional window 12. A bolster 14 extends through the window in the conventional manner. Springs 16, positioned by projections 18, are seated on the bottom of the side frame 10 and effectively provide an upper bias on the bolster 14.

At the right-hand side of the bolster, as shown in FIG. 1, there is an upwardly and outwardly inclined surface 20 which forms the floor of the wedge pocket indicated generally at 22. A wedge 24 is positioned within the wedge pocket and is upwardly biased by nested springs, one spring being indicated at 26 and a larger spring being indicated at 28. The larger spring 28 is positioned between spring stops 30 extending upwardly from the bottom of the side frame 10.

The wedge 22 has a vertical surface 32 which will be in frictional contact with a similar vertical surface 34 forming one side of the window of the side frame. The stabilizing springs 26 and 28 bias the wedge 22 in an upward direction, with the inclined floor 20 of the wedge pocket serving to direct the wedge outwardly so as to maintain frictional contact between the wedge surface 32 and the surface 34 of the side frame. As is conventional, the wedge may be formed of cast iron. All of the above-described construction is shown in U.S. Pat. No. 3,559,589.

Positioned within the wedge pocket and against the floor 20 of the wedge pocket is a wear plate 36 illustrated in FIG. 3.

The pocket is illustrated in detail in FIG. 2. The floor 20 is bounded by recesses 38 on its opposite sides, and recesses 40 along the bottom. The recesses 40 adjoin stops 42, there being a pair of such stops, one on either side. In the intermediate area between the stops there is a recess 44 which provides access to the bottom edge of the wear plate so that the weld indicated at 46 may be used to mount the wear plate in the pocket. The weld 46 is positioned between the lower edge of the wear plate 36 and the pocket floor 20, and is in the area between the stops 42. The weld 46 extends slightly downwardly into the recessed area 44. The frictional contact between the wear plate and wedge will have a component which will apply a compressive stress to the stops 42 and welds 58 described hereinafter.

The upper end of the wear plate 36 is formed by a pair of converging sides 48, there being an intermediate side 50 between the converging sides 48. The sides 48 and 50 effectively form the upper edge of the wear plate. The upper end of the pocket 20 has similar converging sides 52 and a side 54 intermediate the converging sides 52. There are stop lugs 56 which form the converging sides 52 on the pocket floor 20. Welds 58 are formed between the converging sides 48 of the wear plate 36 and the lugs 56 at the pocket sides 52. The welds 58 fill the gap between the lugs 56 and the inside surface of the wear plate 36 and are effectively in compression during operation.

The wear plate 36 is held in position by three welds which are particularly positioned to not only absorb forces applied to the wear plate, but also to facilitate the mounting of the wear plate.

In the modification of FIGS. 4, 5 and 6, like parts have been given like numbers. The principal difference between the construction of FIGS. 4, 5 and 6 and that of FIGS. 1, 2 and 3, is the shape of the wear plate and
the wedge pocket floor. The wedge pocket floor is indicated at 60 and is bounded by recesses 62 on its opposite sides. The pocket floor is generally rectangular and may be described broadly as having four sides with an angle of on the order of about 90 degrees at each corner. There are recesses 64 along the bottom of the pocket floor which join the side recesses 62. Stops 66 are positioned along the bottom and are coextensive with the recesses 64, with both the stops and the recesses being positioned generally adjacent the bottom corners of the pocket floor. In the intermediate area of the pocket floor between the stops 66 and the recesses 64, there is an intermediate recess 68 which provides access to the bottom edge of the wear plate much as the recess 44 in FIG. 3.

The upper edge of the pocket floor has a pair of outwardly extending stop lugs 70, again spaced near the opposite corners of the upper edge and generally aligned with the bottom stops 66.

The generally rectangular-shaped wear plate 72 is illustrated in position in FIG. 6. Note that it fits generally flatly against the pocket floor and there is a bottom weld 74 positioned between the central portion of the lower edge of the wear plate and the pocket floor 60 between the stops 66. The weld 74 extends slightly downwardly into the recessed area 68. The frictional contact between the wear plate and the wedge will have a component which will apply a compressive force or stress to the stops 66 and the weld 74.

At the upper end of the wear plate 72 there are welds 76 between the stop lugs 70 and the upper edge of the wear plate, again generally adjacent the upper corner. The welds 76 will fill the gaps between the lugs and the inside surface of the wear plate much in the manner of the construction in FIGS. 1-3. Again, the weld 76 will effectively be in compression during operation.

Whereas the preferred form of the invention has been shown and described herein, it should be realized that there may be many modifications, substitutions and alterations thereto.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In a railroad car truck, a windowed side frame, a bolster extending through the window, a wedge pocket in said bolster having an upwardly and outwardly inclined floor, a stabilizing wedge in the pocket, spring means biasing the wedge upwardly into the pocket, said wedge pocket having spaced stops along the bottom of the pocket floor, said wedge pocket having a pair of spaced angularly disposed stops adjacent the top corners of said pocket floor, a wear plate positioned in said pocket against the pocket floor, said wear plate having converging sides forming a tapered upper edge, a centrally positioned weld between the bottom edge of said wear plate and said pocket floor bottom intermediate said pocket floor bottom stops, and a weld between each angularly disposed stop adjacent the top of said pocket floor and a top converging side of said wear plate.

2. The structure of claim 1 further characterized in that said wear plate has converging sides forming the tapered upper edge, with the welds at the upper edge of the wear plate being along the converging sides.

3. The structure of claim 2 further characterized in that the upper edge of said wear plate has three sides, said converging sides and a third side intermediate the converging sides.

4. The structure of claim 3 further characterized in that the bottom edge of the wear plate is generally parallel to the third side of the upper edge.

5. The structure of claim 2 further characterized in that the pocket floor, adjacent said converging sides, has outwardly extending lugs, with said welds providing a filler between said lugs and the converging sides of the wear plate.

6. The structure of claim 1 further characterized in that the weld along the bottom edge is generally centrally positioned relative to the opposite sides of the wear plate.

7. The structure of claim 6 further characterized by and including stops along the bottom of the pocket floor positioned to hold said wear plate in the pocket, said stops being on opposite sides of the bottom edge weld.

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