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(54) **RESILIENT PAD FOR RAILROAD VEHICLE**

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(58) **Field of Classification Search**
USPC 105/218.1, 218.2, 219, 220, 222, 223, 105/224, 225
See application file for complete search history.

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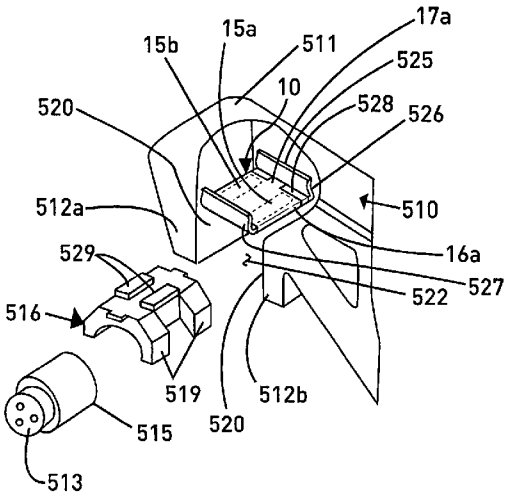
(57) **ABSTRACT**

A resilient pad having a base with two side arms and two side lips for resiliently holding the base on a pedestal wear plate, the pad being configured with dome shaped portions disposed substantially perpendicular to the direction of the pad and being spaced apart from each other, where the pad, when installed with a pedestal wear plate serves to improve the force load handling and preferably re-distributes the load bearing surface from the edges and center of the adapter to the flat load bearing surface of the adapter, thus eliminating load on areas that have no support. Because the spring arms do not depend on bending of the base for their resiliency, the pad of the invention provides improved service stress capabilities and allows for longer life of the wear plate.

33 Claims, 7 Drawing Sheets



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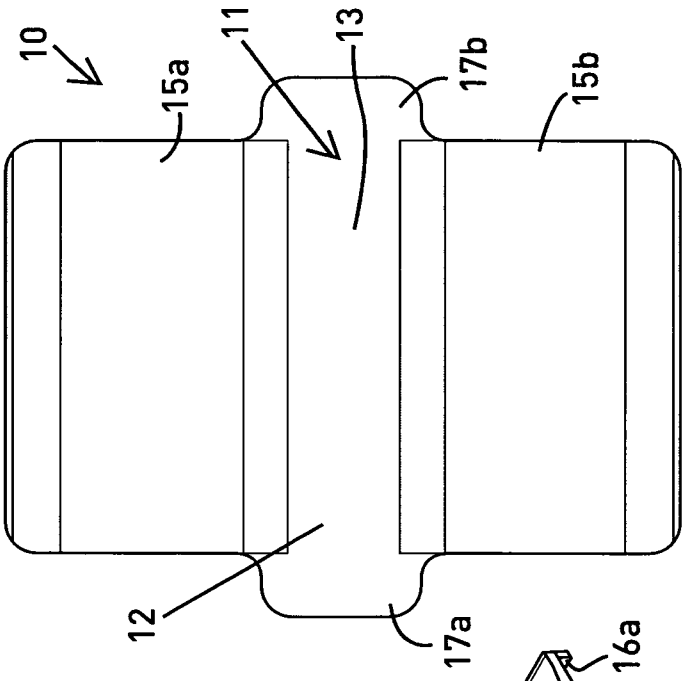

FIG. 1

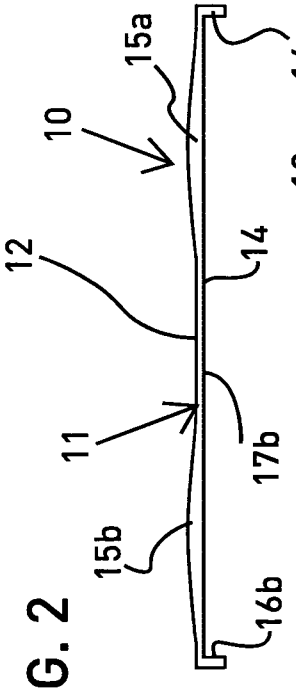

FIG. 2

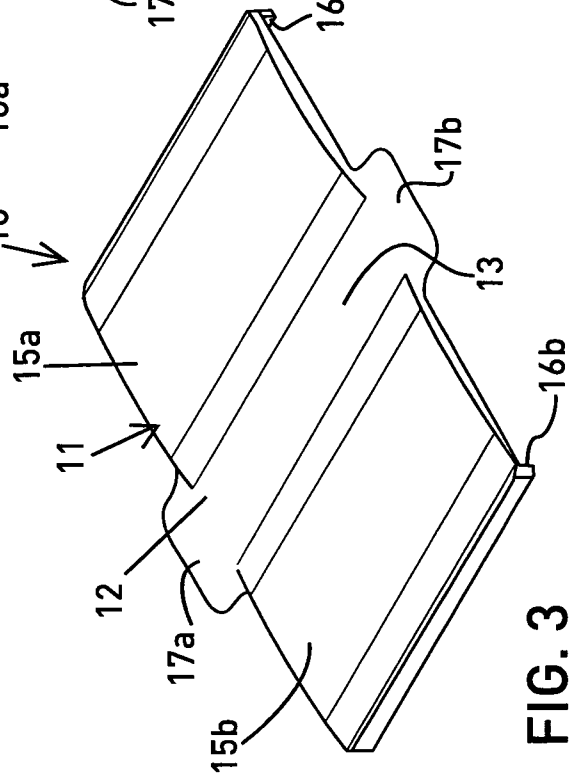

FIG. 3

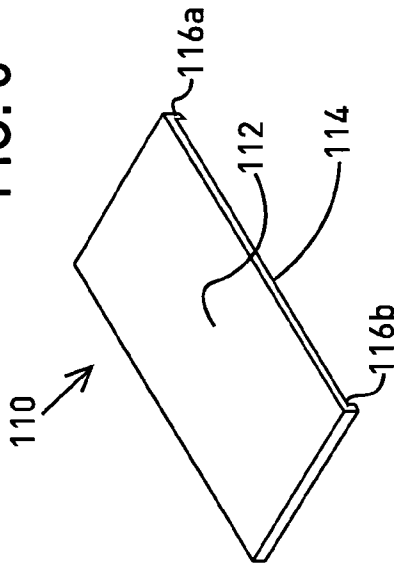

FIG. 6

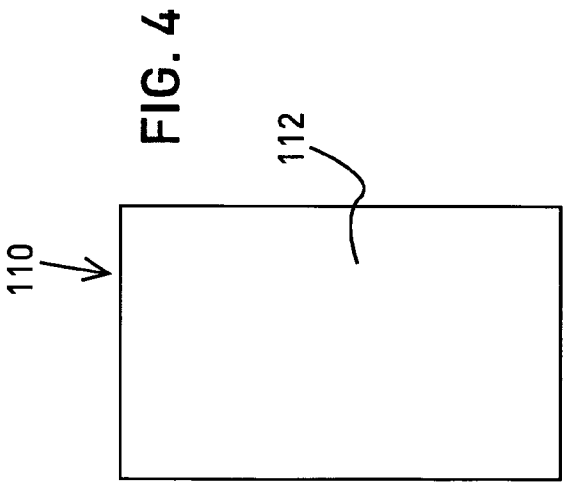

FIG. 4

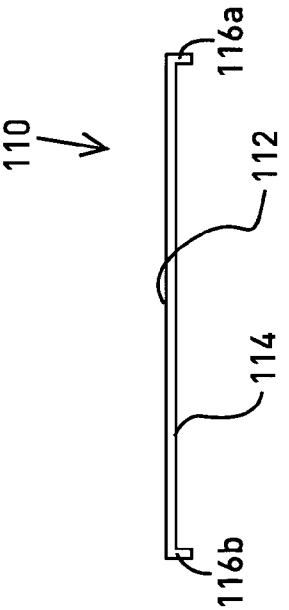

FIG. 5

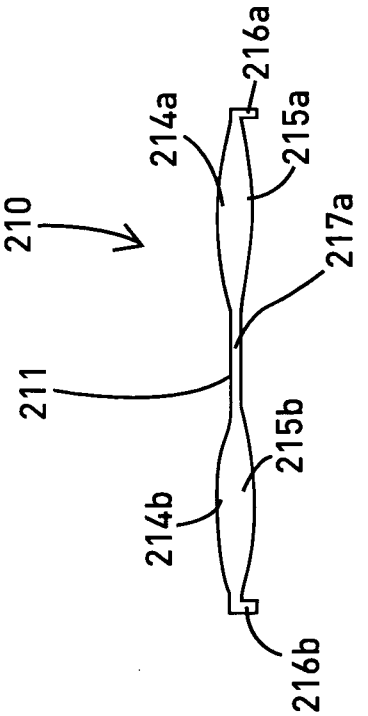
210
214a
216a
215a
217a
211
215b
214b
216b

FIG. 7

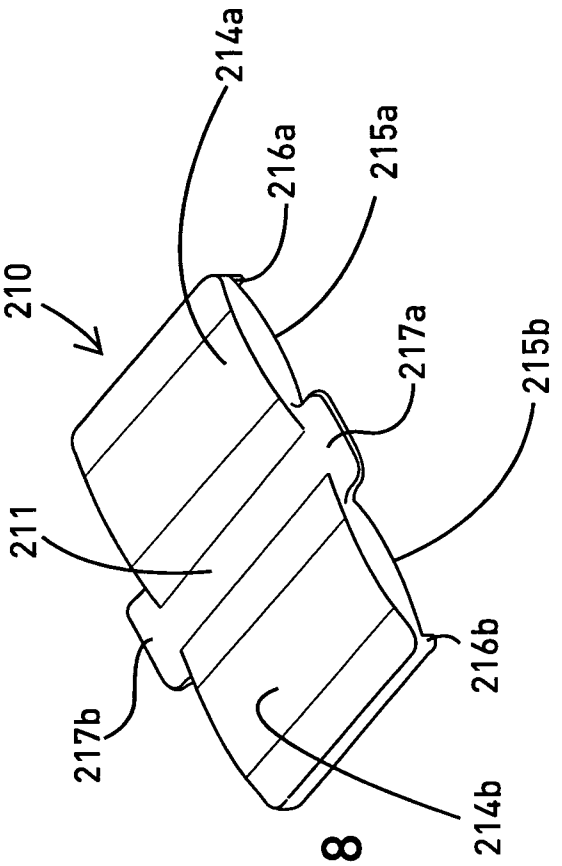
214a
216a
215a
210
217a
215b
211
216b
217b
214b

FIG. 8

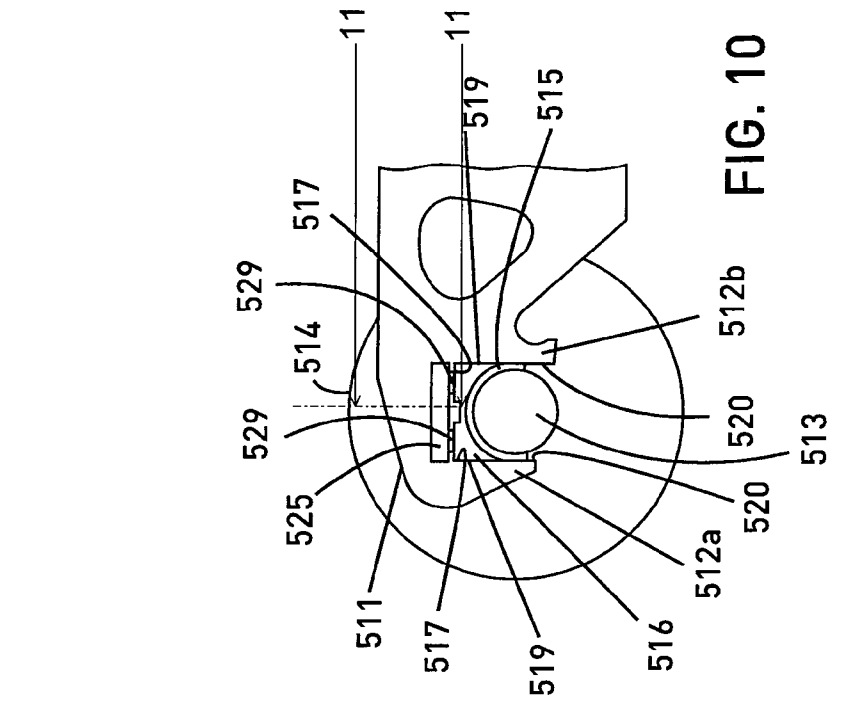
11
11
519
515
517
529
514
529
525
511
517
519
516
512a
520
520
513
512b

FIG. 10

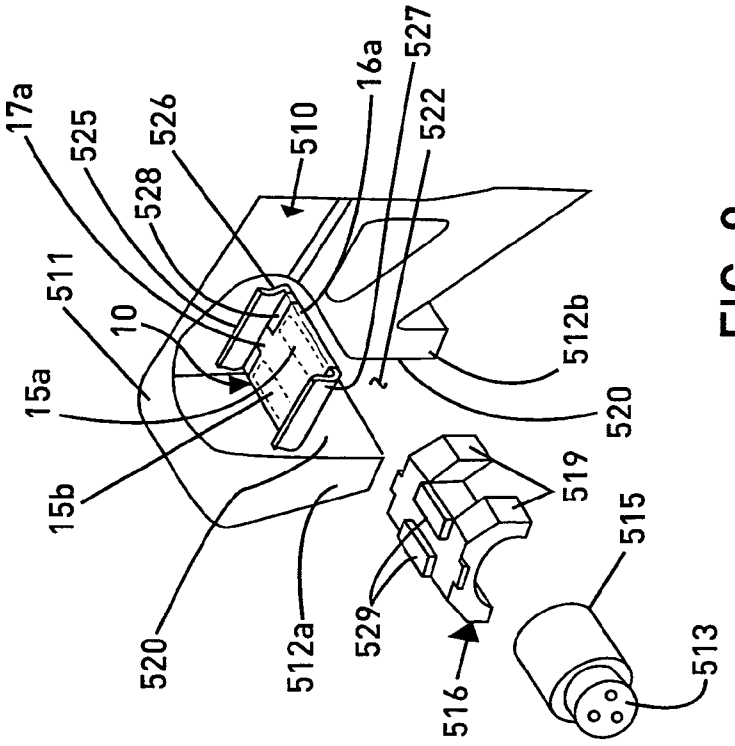
17a
525
526
528
511
10
15a
15b
520
512a
529
516
513
515
519
520
512b
522
527
16a
510

FIG. 9

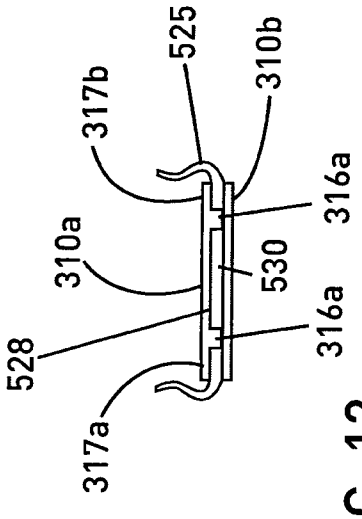
525
310b
317b
316a
310a
530
316a
528
317a

FIG. 12

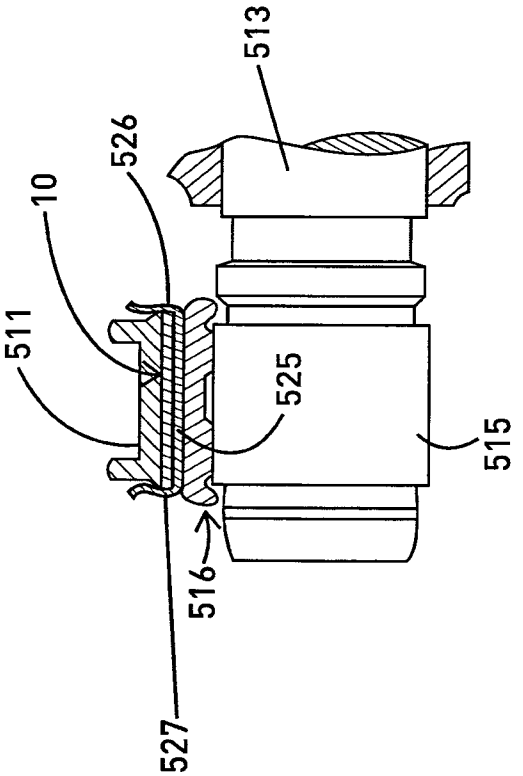
513
526
10
511
525
515
516
527

FIG. 11

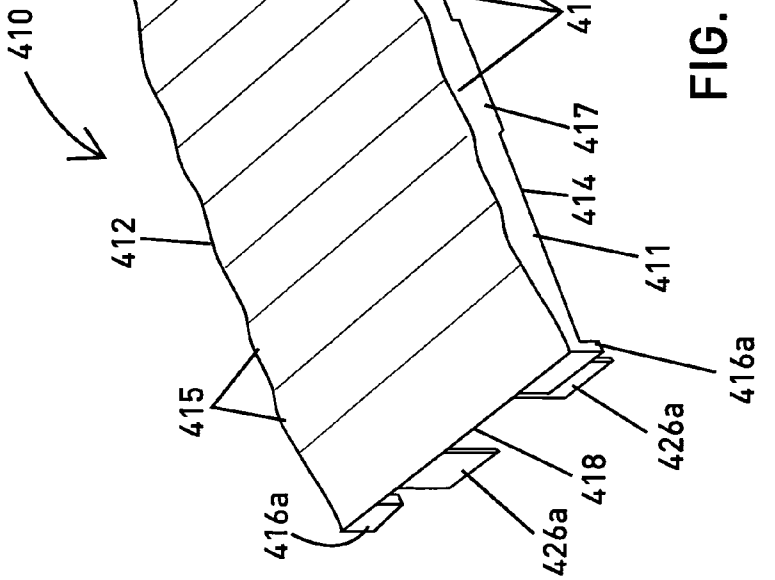
410
412
416b
419
426b
415
417
414
411
416a
426a
418

FIG. 13

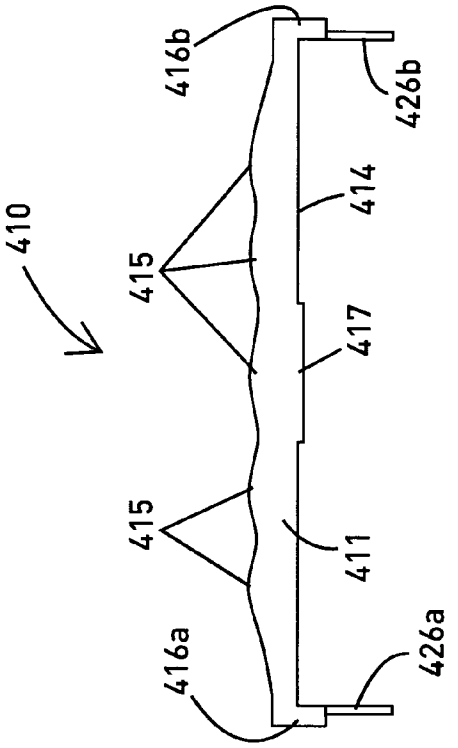
410
416b
426b
414
415
417
415
411
416a
426a

FIG. 14

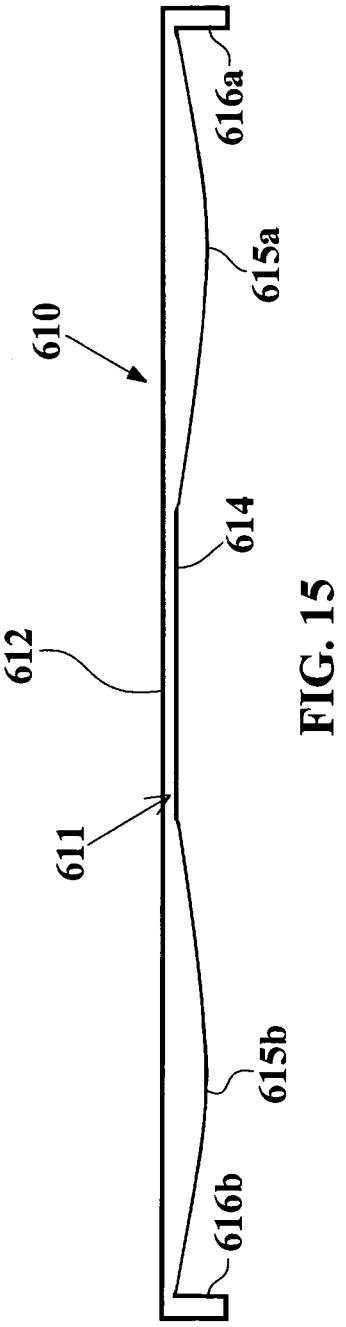

FIG. 15

RESILIENT PAD FOR RAILROAD VEHICLE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a pad for handling force loads to prevent wear on the load bearing surface of a pedestal of a rail vehicle, and more particularly relates to improvements in force handling in an arrangement where a wear plate specifically designed for convenient and removable installation in the pedestal opening of a railway side frame is used in order to prevent wear on the load bearing surface of the pedestal.

2. Brief Description of the Related Art

For the sake of brevity, the teachings and complete disclosures of previous U.S. Pat. Nos. 3,897,736 and 4,203,371 are incorporated herein by reference. In many cases, a bearing adapter is provided over the axle bearing, said adapter having a slightly arcuate top surface which bears directly against a corresponding downwardly facing surface in the pedestal opening of the side frame. This arcuate top surface provides the wheel and axle with a freely pivoting end condition to avoid binding loads on the roller bearing. In order to reduce wear on the pedestal, a wear plate is placed between the downwardly facing pedestal surface and the top surface of the bearing adapter. The wear plate may have side lips and may clip onto the pedestal.

In service, movement or frictional sliding may occur between the bearing adapter and the clip-on pedestal wear plate, which may cause damage to the clip-on pedestal wear plate, resulting in the need to replace the wear plate. This condition also may result in the loss of the freely pivoting end condition and may weaken the frame at a load-bearing location. Repair of the frame surface is both expensive and time-consuming, since the worn surface must be ground down to return it to a flat condition. The amount of grinding allowed, however, is limited by structural considerations; after the limit has been reached, the side frame casting is condemned. Replacing the clip-on wear plate is less expensive, but still costly, as it involves removing the railroad car from service and jacking the car so that the broken clip-on wear plates can be removed and replaced.

The plate working load and stress are defined as the frictional forces applied to the wear plate by the bearing adapter as a rail car in service shifts and moves about laterally. These frictional forces induce a tendency for lateral movement of the wear plate, and are opposed by the corresponding friction developed between the plate top and the pedestal roof surface. If this opposing frictional force is insufficient to resist this movement, additional bending load and stress are imposed on the side lips of the wear plate. The sensitivity to imbalance in these frictional forces, and hence the tendency to impose stress and load on the plate side lips, increases with heavily loaded rail cars such as coal cars.

The result of the total installation related tensile stresses in combination with stress related to bearing adapter friction can result in a significant shortening of the plate service life. In some cases, the total tensile stresses developed may reach the yield strength of the plate and thereby cause bending of the plate. In other more severe cases the ultimate strength of the plate may be reached causing cracking of the plate.

The problem of the frictional force load handling has been further complicated as of late because of recent frame painting practices. As environmental concerns have caused an effort to reduce volatile organic emissions from sources including paints, rail car frames are increasingly being painted with solvent-free and alternative solvent based paints. One of the disadvantages of these paints is that a resultant

painted surface will have a significantly lower coefficient of friction as compared to a surface painted by older "traditional" paints; at times the new paint may even be thought of as acting as a sort of lubricant. This has the disadvantageous result of greatly reducing the frictional force between the plate top surface and the pedestal roof surface, thereby increasing the effective tensile stress in the plate. This has in turn resulted in an increased occurrence in wear plate bending and cracking.

Increasing the thickness of the plate would seem to offer a means to achieving increased plate strength sufficient to resist lateral movement and consequent failure. The benefits of increasing plate thickness, however, are limited. A practical limit on plate thickness exists as installation bending stresses caused as the side lips are forced apart during plate installation increase in direct proportion to the plate thickness. The difference between these installation bending stresses and the ultimate stress at which failure occurs determine the working capacity of the plate to resist movement. At some thickness a maximum plate working capacity is reached and further thickness increases actually decrease working capacity.

For the above stated reasons, an unresolved need exists for a pedestal wear plate or wear plate assembly with an improved ability to withstand tensile stresses and thereby enjoy a reduced occurrence of bending and cracking.

SUMMARY OF THE INVENTION

According to a preferred embodiment, a resilient pad for use in connection with a pedestal wear plate is provided. The pad prevents or minimizes the aforesaid problems associated with plate tensile stress bending and cracking, while not introducing any significant increase in required installation effort. The pad is configured to facilitate handling of the load forces and stresses, and preferably accomplishes this by substantially absorbing and distributing the stresses while increasing the friction between the clip-on wear plate and the pedestal roof.

According to preferred embodiments, the pad has a configuration that facilitates the distribution of force loads and prevents or minimizes the concentration of force loads at a particular location.

According to a preferred embodiment, the pad comprises a face with a substantially flat surface that engages the pedestal wear plate and has a bulged opposite face. Retaining elements preferably are provided to facilitate holding of the pad on the wear plate. According to one embodiment, two lips at opposite ends of the pad running perpendicular to the pad's length, as well as two extensions on either side of the pad running parallel to the pad's length, hold the pad in a preferred location, centered on the clip-on wear plate.

According to a preferred embodiment, the force handling structures include two bulges, which preferably are dome-shaped, and act to distribute downward force loads and horizontally spread these loads out over the surface of the clip-on wear plate.

According to one embodiment, the force handling structures are provided on both sides of the pad. According to another embodiment, one side of the pad has a substantially flat surface and the other side of the pad has a surface that contains bulged regions.

It is an object of the invention to provide a pad that provides a more evenly distributed force load relative to the wear plate so as to avoid concentration of force loads in a particular location on the wear plate.

It is another object of the present invention to provide a pad that reduces or eliminates point loading associated with the

poor surface finish of the cast pedestal roof, where the surface finishes are associated with lower coefficients of friction.

It is an object of the invention to extend the life of a resilient pedestal wear plate by changing the load bearing and friction characteristics to offer improved capacity to withstand tensile stresses, while not significantly increasing required installation effort.

According to an alternate embodiment, a pad is provided and is configured for disposition between a bearing adapter and a pedestal surface to facilitate the handling of force loads. The alternate embodiment preferably is constructed with one or more features to facilitate alignment of the pad with the bearing adapter surface. According to some embodiments, the pad may be installed between the bearing adapter and the pedestal roof surface (such as the flat surface in a pedestal opening), with the lower surface of the pad engaging the bearing adapter and the upper surface of the pad engaging the pedestal roof surface.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top plan view of a first embodiment of a pad according to the invention.

FIG. **2** is a right side elevation view of the pad of FIG. **1**.

FIG. **3** is a perspective view of the pad of FIG. **1**.

FIG. **4** is a top plan view of a second embodiment of a pad according to the invention.

FIG. **5** is a right side elevation view of the second embodiment of the pad shown in FIG. **4**.

FIG. **6** is a perspective view of the pad of FIG. **4**.

FIG. **7** is a right side elevation view of a third embodiment of a pad according to the invention.

FIG. **8** is a perspective view of the third embodiment of the pad shown in FIG. **7**.

FIG. **9** is an exploded view of an example of a side frame and axle of a railway truck, with a portion of the frame being shown in a cut away view to expose the wear plate.

FIG. **10** is a side elevation view of the side frame and axle assembly of FIG. **9**, shown with the components, including the pad of FIG. **1**, installed in an assembled condition.

FIG. **11** is a sectional view of the frame and axle assembly of FIG. **10**, with the bearing adapter, wear plate, pad and pedestal shown in a sectional view taken through the line **11-11** of FIG. **10**.

FIG. **12** is a right side elevation view showing an alternate installation of a pad according to the invention shown in use with a wear plate, where a first pad is provided on one side of the wear plate and a second pad is provided on the other side of the wear plate.

FIG. **13** is a perspective view of a fourth embodiment of a pad according to the invention.

FIG. **14** is a right side elevation view of the fourth embodiment of the pad shown in FIG. **13**.

FIG. **15** is a right side elevation view of a fifth embodiment of a pad according to the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. **1-3**, a preferred embodiment of a pad **10** for a wear plate is shown having a main body **11** with an upper surface **12** and lower surface **14**. According to a preferred embodiment, the lower surface **14** is configured as a substantially planar surface. Preferably, the upper surface **12** is provided having force handling means comprising a force handling configuration. According to a preferred embodiment, the force handling means is illustrated comprising raised portions **15***a*, **15***b* of the surface **12**. The raised portions **15***a*, **15***b* preferably are bulged and are disposed transversely on the pad **10** in a spaced apart relation to each other. As illustrated in FIGS. **1-3**, the pad **10** has a spacing portion **13**, with the raised portions **15***a*, **15***b* being provided on opposite sides of the spacing portion **13**. The pad **10** preferably includes a feature for holding and aligning the pad **10** in an appropriate location for installation. Holding means for facilitating holding and aligning of the pad **10** is illustrated comprising the centering wings or extended portions **17***a*, **17***b* disposed protruding outwardly from the pad **10** on opposite lateral sides thereof. In addition, the holding means preferably includes holding elements, such as, for example, the lips **16***a*, **16***b*, which are shown transversely disposed on each'end of the pad **10**. The lips **16***a*, **16***b* are provided at each pad end and run perpendicular to the pad's length at opposite ends of the pad. The extended portions **17***a*, **17***b*, preferably are disposed on each lateral side of the pad **10**, parallel to the pad's length, to hold the pad in a centered position when installed on a clip-on wear plate. Preferably, the pad **10** is constructed having dimensions that conform to the wear plate in which the pad **10** is to be installed. The lips **16***a*, **16***b* preferably, are disposed at each end of the pad **10** so that the lips **16***a*, **16***b* may engage an edge of a wear plate when installed. This facilitates aligning the pad **10** relative to a wear plate, as well as maintaining the pad **10** in an aligned position during installation of other components, or, for example, when lowering a jacked truck back to its original position. Although illustrated as a continuous portion, the lips **16***a*, **16***b* may be provided as one or more segmented portions, including, for example, a pair of segments on each opposite edge of the pad **10**.

Preferably, the raised portions **15***a*, **15***b* are configured as two dome shaped bulges which, when encountering the force from the frame **510** or pedestal **511** (see FIGS. **9-11**) act to distribute the downward force, and, preferably, to evenly spread the force out on the surface of the clip-on wear plate **525**. The pad **10** also eliminates or minimizes the point loading associated with the poor surface finishes that may be present on the cast pedestal roof.

FIGS. **4-6** illustrate a pad **110** constructed according to a second preferred embodiment of the invention. Referring to the side elevation view of FIG. **5**, the pad **110** preferably has a substantially flat base **114** and top surface **112** to provide for a more uniform and integral fit to the clip-on wear plate and roof liner. In this embodiment, the pad **110** is constructed to be substantially as wide as the clip-on wear plate, and the extended portions **17***a*, **17***b* on the pad **10** of FIGS. **1-3**, are not provided. The second embodiment of the pad **110** is also shown with locking lips **116***a*, **116***b* running perpendicular to the length of the pad **110** and being transversely disposed at each end of the pad **110**.

Referring to FIGS. **7-8**, a third preferred embodiment of a pad **210** constructed according to the invention is illustrated. Referring to the side elevation view of FIG. **7**, the pad **210** is shown having a main body **211** that is preferably substantially flat with a first pair of bulges **214***a*, **214***b* protruding upward from the main body **211**, and a second pair of bulges **215***a*, **215***b* protruding downward from the main body **211**. The pad **210** in this alternate embodiment has centering wings **217***a*, **217***b* as well as locking lips **216***a*, **216***b* to hold the pad **210** in the center of a clip-on wear plate.

Preferably, the pads **10**, **110**, **210** are constructed from a suitable elastomeric material that is durable and resilient. Preferred materials from which the pads **10**, **110**, **210** may be made include natural and synthetic rubbers, polyurethanes, urethanes, elastomers, co-elastomers, thermoplastic elastomers (TPE), copolyester elastomers (COPE) and other suit-

able materials. Preferably, the durometer of the pad is from about 58 A to 75 D, and more preferably from about 70 A to 75 D, or from about 90 A to 58 D. Although the pads **10**, **110**, **210** shown and described herein preferably may be constructed having a thickness suitable to handle the force loads that are anticipated being received from the truck and associated rail cars and the car loads, it has been found that preferred pad thicknesses may range from between about 1/32" and 4/7". The pads shown and described herein may be constructed from a one-piece component, or alternately, the pads may be constructed from one or more components. For example, in some instances it may be advantageous to utilize a two-part pad, where, for example, the locking lips **16***a*, **16***b*, **116***a*, **116***b*, **216***a*, **216***b*, and centering arms, **17***a*, **17***b*, **217***a*, **217***b* are made from lower cost tougher plastic or metal. The pad **10**, **110**, **210** may be constructed by molding, casting, extruding, or other suitable production technique.

The present invention thereby offers a practical and effective solution to the serious tensile stress related plate bending and breaking problems experienced by clip-on pedestal wear plates. An exemplary environment is illustrated in FIGS. **9-11**, where a fragmentary portion of a pedestal **511** and frame **510** of a rail car truck is shown. The frame **510**, although shown in part is generally part of a railway truck, which are commercially known in the industry to include a pair of spaced apart side frames supported on wheel and axle assemblies, with a bolster connected between the side frames for supporting the rail car body. FIG. **9** illustrates one end of a side frame **510** terminating in the pedestal **511** in the form of a downwardly open pedestal jaw **512***a*, **512***b* engaged over the axle **513** on which the car wheels **514** (FIG. **10**) are mounted. As shown in FIGS. **9-11**, a roller bearing **515** is carried on the axle **513** near the end thereof, and a bearing adapter **516** is provided between the top portion of the bearing **515** and the internal surfaces **517** of the pedestal **511**. The downwardly facing surface **518** of the adapter **516** is curved to correspond to the cylindrical outer race of the bearing **515**, and the upper portion of the adapter comprises a top slightly convex surface which normally bears against a downwardly facing flat surface **517** in the pedestal opening. A pedestal wear plate **525**, or wear liner as it is sometimes referred to, is shown between the pedestal roof and the bearing **516**. In the illustration, the pedestal wear plate **525** is a clip-on pedestal wear plate **525** having upward side lips **526**, **527** that clamp the plate **525** on the pedestal **511**. Side surfaces **519** are provided on the adapter **516** in engagement with corresponding surfaces **520** in the pedestal opening **522**. Thus, the upper portion of the adapter **516** is generally rectangular so as to be received in the rectangular pedestal opening **522** or roof, although the adapter corners are omitted or cut away to prevent galling of the corners in the pedestal opening. Although only a single side of the rail car truck pedestal is shown in partial view, preferably, similar to the left side shown, there is a pedestal at the right side of the side frame that is similar to the pedestal shown. According to a preferred installation configuration, the pads **10**, **110**, **210** shown and described herein are designed to be placed on the pedestal facing surface **528** of the wear plate **525**. The pad **10** is shown installed on the wear plate **525**. In the example illustrated, the adapter **516** includes a pair of raised surfaces **529**, and the raised portions **15***a*, **15***b* are provided over the raised surfaces **529**.

Referring to FIG. **12**, an alternate embodiment of a pad configuration **310** for a wear plate is shown in an alternate installation configuration. The pad installation is illustrated including a first pad **310***a*, that may comprise a pad such as those pads **10**, **110**, **210**, shown and described herein, and a second pad **310***b* that also may comprise a pad, such as those pads **10**, **110**, **210**, shown and described herein. In the embodiment illustrated in FIG. **12**, the first pad **310***a* is shown configured like the pad **10**, and has locking lip segments **316***a* (only one being shown) and tab portions **317***a*, **317***b*. The second pad **310***b*, which preferably may be a second one of any of those pads **10**, **110** and **210** shown and described herein, is shown in FIG. **12**, according to a preferred embodiment, having a configuration like the pad **110**. The dimensions of the lower pad **310***b* may be provided to correspond with an adapter with which the pad **310***b* is used, such as the adapter **516** (shown in FIGS. **9-11**), and may provide locking lips not shown (that are similar to those **316** of the upper pad **310***a*). The pads **310***a*, **310***b*, according to preferred embodiments, may be constructed from material that is the same as that described herein in connection with the pads **10**, **110**, and **210**. The first pad **310***a*, when installed in a pedestal **511** with a wear plate **525**, engages the upper surface **528** of the wear plate **525** and engages the downwardly facing pedestal surface, such as, for example, the flat surface **517** in the pedestal opening (see e.g., FIGS. **9-11** where a pedestal **511** is illustrated). The second pad **310***b* is designed for disposition between the wear plate lower surface **530** and the upper surface of a bearing adapter, such as, for example, the adapter **516** illustrated in FIGS. **9-11**.

According to an alternate configuration, the second pad **310***b* is provided and installed between the wear plate **525** and the adapter **516**, and the wear plate upper surface **528** is permitted to carry the pedestal **511** directly thereon. According to another alternate installation configuration, a pad, such as those pads **10**, **110**, and **210** shown and described herein, is positioned between the bearing adapter **516** and the downwardly facing flat surface **517** in the pedestal opening so that the flat surface **517** engages a surface on one side of the pad and the upper portion of the bearing adapter **516** engages the surface on the other side of the pad. The pad **10**, **110**, **210** facilitates the force handling by handling force loads received through the pedestal **511**. In FIGS. **13** and **14**, an alternate embodiment of a pad **410** is illustrated having a preferred configuration for placement between a bearing adapter **516** and the downwardly facing flat surface **517** of the pedestal **511** (as illustrated in connection with the pad **310** in FIGS. **9-11**). The pad **41.0** preferably is configured for disposition on a bearing adapter, such as, for example the bearing adapter **516** shown in FIGS. **9-11**. The pad **410** has an upper surface **412** and a lower surface **414**. The upper surface **412** preferably has force handling means for handling force loads. According to a preferred construction, a plurality of force handling means is illustrated comprising raised portions **415** of the upper surface **412**. The raised portions **415** preferably are bulged and are disposed transversely on the pad **410** in a spaced apart relation to each other. According to a preferred embodiment, the pad **410** preferably is configured with a lower surface **414** having one or more corresponding surface features that preferably align with a bearing adapter, such as, for example, the bearing adapter **516** illustrated herein. An alignment feature is illustrated comprising a centering tab **417** that is transversely disposed relative to the length of the pad **410**. The pad **410** includes a first end **418** and a second end **419**. Locking lips **416***a*, **416***b* are provided at the ends of the pad **410**. A second set of lips, the second lips **426***a*, **426***b*, are provided on the pad **410**. According to a preferred construction, the second lips **426***a*, **426***b* protrude downwardly from the pad body **411** and are disposed relatively inward from the first lips **416***a*, **416***b* in relation to the length of the pad **410** and the pad ends **418**, **419**. Although a plurality of raised portions **415** are illustrated, the pad **410** may be constructed with a number of raised portions greater or lesser

than those shown in FIGS. **13** and **14**. The pad **410** may be utilized in an installation where the pedestal roof or upper surface **517** engages with the upper surface **412** of the pad **410**. The lower surface **414** may engage the upper surface of a bearing adapter **516**. According to a preferred embodiment, the central portion **417** may be constructed for disposition on the bearing adapter, such as, for example, the installation between the raised surface portions **529** of the bearing adapter **516** illustrated in FIGS. **9-11**. Although the central portion **417** and the first locking lips **416***a*, **416***b* and second lips **417***a*, **417***b* are illustrated in a preferred arrangement, the first and/or second lips may be provided having different configurations and numbers that aid in aligning and positioning the pad **410** relative to a bearing adapter and/or pedestal.

FIG. **15** shows an alternate embodiment of a pad **610** having a main body **611** with an upper surface **612** and lower surface **614**, where the upper surface **12** is configured as a substantially planar surface, and where the lower surface **614** is provided having force handling means comprising a force handling configuration similar to those shown and described herein, such as, for example, raised portions **615***a*, **615***b* (similar to those raised portions **15***a*, **15***b* shown in FIG. **2**). The raised portions **615***a*, **615***b* preferably are bulged and are disposed transversely on the pad **610** in a spaced apart relation to each other. The pad **610** may be constructed similar to the pad **10** shown and described in connection with FIGS. **1-3**. The pad **610** may be used in installations similar to those pads shown and described herein, including, for example, on top of the pedestal wear plate **525**, or below the pedestal wear plate **525**, or with another pad (as in FIG. **11**) that is placed above or below the pedestal wear plate **525**; or without a pedestal wear plate, where the pad is placed on the top of the adapter **516**.

While preferred embodiments and example configurations have been shown and described, it is to be understood that various further modifications and additional configurations will be apparent to those skilled in the art. Other embodiments of the invention, for example, may comprise more or fewer bulges on the top face and/or bottom face. Although locking lips **16**, **116** and **216** are illustrated along the edge of the pad **19**, **110**, **210**, respectively, the locking lips may be configured as one or more segments or elements, such as, for example, the locking segments **316** shown in FIG. **12**. Further, although the locking lips and extended portions are illustrated in preferred embodiments having preferred arrangements, different configurations and numbers of locking lips and/or extended portions may be provided. In addition, the pads shown and described herein may be made having a dimension suitable for the size of the pedestal, adapter and/or other components that the pad is to be used with. According to some embodiments; the pad may have a thickness ranging from about 1/32" to 4/7", and more preferably, according to some embodiments, from about 1/16" to 1/3". It is intended that the specific embodiments and configurations disclosed are illustrative of the preferred and best modes for practicing the invention, and should not be interpreted as limitations on the scope of the invention as defined by the appended claims.

What is claimed is:

1. A system for a railway truck bearing adapter assembly including:

a bearing adapter, and

a non-metallic pad and clip-on pedestal wear plate for installation between a downwardly facing flat surface in a pedestal opening of a side frame of a railway truck, the non-metallic pad being configured for engagement with said clip-on pedestal wear plate and the pedestal roof, the truck having lateral side walls, the pedestal opening having a downwardly facing surface, wherein said clip-on pedestal wear plate includes means for connecting said wear plate to said truck lateral side walls;

wherein said non-metallic pad has bulges disposed thereon,

wherein said non-metallic pad is disposed between the wear plate and the downwardly facing flat surface of said pedestal opening of the side frame of said railway truck pedestal, and

wherein said bearing adapter is disposed below said wear plate and supports said wear plate.

2. The system of claim **1**, wherein said non-metallic pad has a first surface that contacts the flat surface of said pedestal opening and wherein said non-metallic pad has a second surface that contacts said clip-on pedestal wear plate.

3. The system of claim **1**, wherein said clip-on wear plate has a pair of upstanding side walls.

4. The system of claim **3** wherein said non-metallic pad includes a pair of arms outwardly disposed from a longitudinal side of said body, and wherein said arms are disposed between said upstanding side walls.

5. In a railway vehicle truck bearing adapter assembly, including a bearing adapter and a clip-on pedestal wear plate having resilient arms for clipping on to the side of a pedestal of the railway truck, wherein the improvement comprises a non-metallic pad for disposition between a railway truck pedestal of a rail vehicle and the clip on wear plate, the pad comprising:

a body having a first surface and a second surface;

wherein at least one of said first surface and said second surface has a plurality of raised portions,

wherein the pad has a longitudinal dimension defining a length of the pad,

wherein said raised portions are transversely disposed in relation to said longitudinal dimension, and

wherein said pad has a thickness that is substantially uniform in height across its transverse cross-sectional width.

6. The invention defined in claim **5** where said non-metallic pad is cast, molded or extruded from a material having a hardness in the range of 70 A to 75 D durometer.

7. The invention defined in claim **5** where said non-metallic pad is cast, molded or extruded from a material having a hardness in the range of 90 A to 58 D durometer.

8. The invention defined in claim **5** where said non-metallic pad is preferably cast, molded or extruded from an elastomeric material.

9. The invention defined in claim **5** where aid non-metallic pad is cast, molded or extruded from an elastomeric material such as polyurethane, rubber or TPE.

10. The invention defined in claim **5** where said non-metallic pad is preferably in the thickness range of 1/32" to 4/7".

11. The invention defined in claim **5** where said non-metallic pad is in the thickness range of 1/16" to 1/3".

12. The invention defined in claim **5** wherein at least one of said non-metallic pad first surface and said non-metallic pad second surface is a flat surface and wherein at least the other of said first surface and said non-metallic pad second surface has two bulges.

13. The invention defined in claim **12**, wherein said bearing adapter has raised surfaces, where said two bulges run perpendicular to the pad length and are positioned to align with said bearing adapter raised surfaces.

14. The invention defined in claim **5** where said non-metallic pad has a contact surface area smaller than the clip-on pedestal wear plate.

15. The invention defined in claim 5 where said non-metallic pad has a contact surface of similar size to the adapter.

16. The invention of claim 5, including holding means for holding the pad in alignment at a location on a pedestal wear plate.

17. The invention of claim 16, wherein said holding means comprises a lip disposed at each longitudinal end of said pad.

18. The invention of claim 17, wherein said lip is transversely disposed in relation to said longitudinal pad dimension.

19. The invention of claim 5, wherein said first surface comprises a substantially flat surface and wherein said second surface has a plurality of raised portions.

20. The invention of claim 5, wherein said first surface has a plurality of raised portions and wherein said second surface has a plurality of raised portions.

21. The invention of claim 20 wherein said raised portions comprises bulges, and wherein said bulges of said first surface are provided in locations above the bulges in said second surface.

22. The invention of claim 21, including a lip disposed at each longitudinal end of said pad.

23. The invention of claim 19, wherein said raised portions comprise bulges.

24. The invention of claim 19, wherein said pad includes a pair of arms outwardly disposed from a longitudinal side of said body.

25. The invention of claim 19, wherein said arms are disposed at locations along the longitudinal edge of the pad between said plurality of raised portions.

26. The invention of claim 5, including a wear plate having a first surface and a second surface, wherein said pad is disposed on said wear plate first surface.

27. The invention of claim 26, including a second pad, a bearing adapter and a pedestal, wherein said second pad is disposed on said wear plate second surface, said second pad engaging said bearing adapter and said wear plate second surface, and said first pad engaging said wear plate upper surface and said pedestal.

28. The invention of claim 5, including holding means for holding the pad in alignment in relation to a pedestal.

29. The invention of claim 28, wherein said holding means comprises a first lip disposed at each longitudinal end of said pad, and a second lip disposed at each longitudinal end of said pad and being located longitudinally inward of said first lip.

30. The invention of claim 5, wherein said pad is constructed having alignment means for aligning said pad on the surface of a bearing adapter.

31. The invention of claim 30, wherein at least one of said first surface and said second surface has a plurality of raised portions, and wherein alignment means is provided on the other of said first surface and said second surface, and wherein said alignment means comprises a central portion that is a raised portion.

32. A non-metallic pad for a railway truck pedestal of a rail vehicle, the pad comprising:

a body having a first surface and a second surface;

holding means for holding the pad in alignment in relation to a pedestal;

wherein at least one of said first surface and said second surface has a plurality of raised portions,

wherein the pad has a longitudinal dimension defining a length of the pad,

wherein said raised portions are transversely disposed in relation to said longitudinal dimension; and

wherein said holding means comprises a first lip disposed at each longitudinal end of said pad, and a second lip disposed at each longitudinal end of said pad and being located longitudinally inward of said first lip.

33. A non-metallic pad for a railway truck pedestal of a rail vehicle, the pad comprising:

a body having a first surface and a second surface;

wherein at least one of said first surface and said second surface has a plurality of raised portions,

wherein the pad has a longitudinal dimension defining a length of the pad,

wherein said raised portions are transversely disposed in relation to said longitudinal dimension;

wherein said pad is constructed having alignment means for aligning said pad on the surface of a bearing adapter; and

wherein at least one of said first surface and said second surface has a plurality of raised portions, and wherein alignment means is provided on the other of said first surface and said second surface, and wherein said alignment means comprises a central portion that is a raised portion.

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