C. T. WESTLAKE & C. F. FREDE.

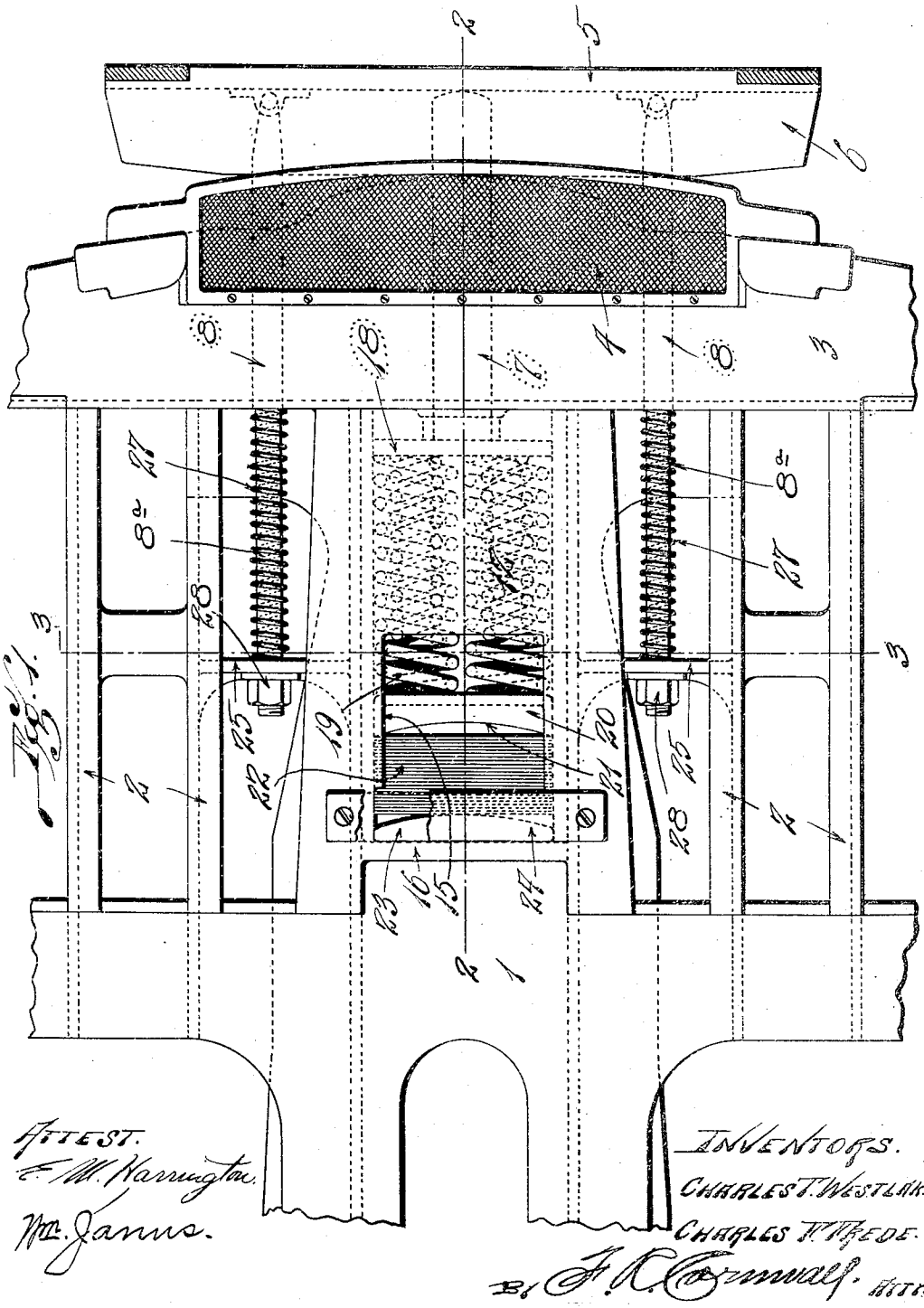
BUFFING MECHANISM FOR CAR PLATFORMS.

APPLICATION FILED SEPT. 15, 1911.

1,049,017.

Patented Dec. 31, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

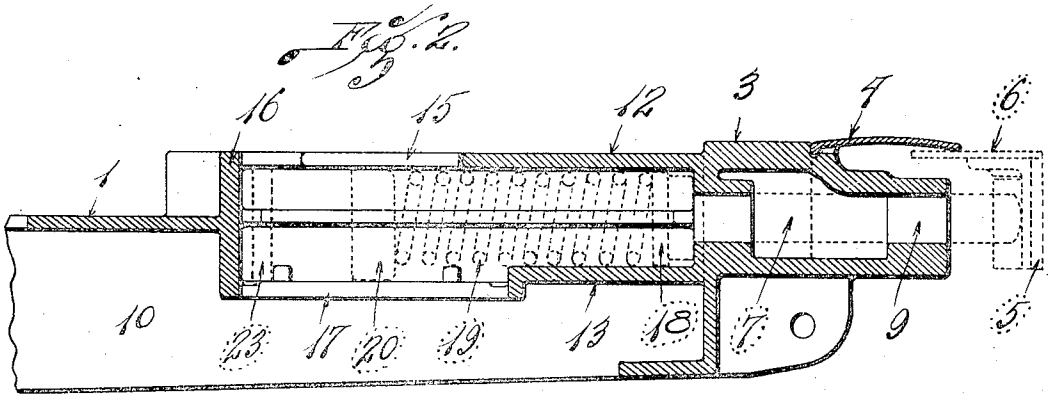
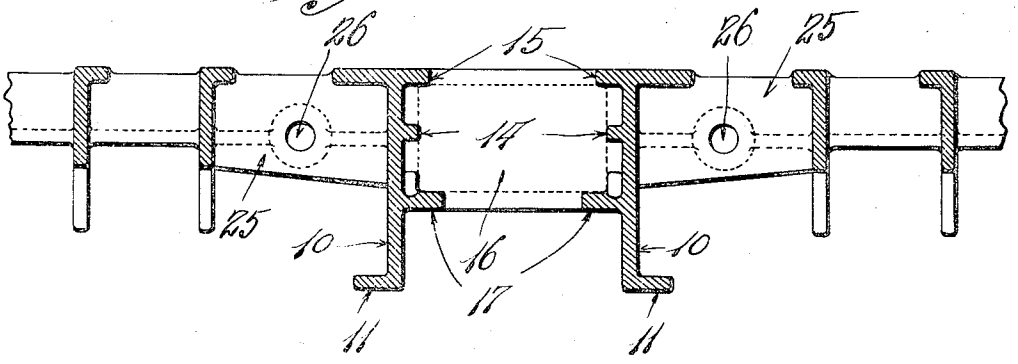


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES T. WESTLAKE AND CHARLES F. FREDE, OF ST. LOUIS, MISSOURI, ASSIGNORS TO DOUBLE BODY BOLSTER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

BUFFING MECHANISM FOR CAR-PLATFORMS.

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To all whom it may concern:

Be it known that we, CHARLES T. WESTLAKE and CHARLES F. FREDE, citizens of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Buffing Mechanism for Car-Platforms, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a cast metal platform with portions of the buffer beam and end sill, and showing the buffing mechanism in position thereon. Fig. 2 is a longitudinal section taken approximately on line 2—2 of Fig. 1. Fig. 3 is a transverse section taken on line 3—3 of Fig. 1.

This invention relates generally to railway car platform construction and more particularly to the buffing mechanism applied to cast metal platforms such as are now in general use in passenger car construction, and the principal objects of the invention are to construct the skeleton platform and buffer beam so that a form of buffing mechanism now in use on a number of passenger cars may be readily applied to the platform and buffer beam, to provide a construction wherein the operating parts of the buffing mechanism can readily be placed in or removed from position without detaching the vestibule or the buffer from its stems, thereby permitting the buffing mechanism to be easily and quickly repaired when any of the operating parts have become broken or unfit for service.

With the above objects in view our invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring in detail to the accompanying drawings, 1 designates the end sill of a cast metal under frame of the type now in general use, and formed integral with and projecting forwardly therefrom is a series of vertically disposed webs 2 which form a skeleton platform. Formed integral with the forward ends of the webs 2 is a buffer beam 3 of the usual box shape, and positioned on top of the central portion of said beam is a threshold plate 4.

5 designates the buffing member which occupies a position immediately in front of the buffer beam, and positioned on top of the buffer is a plate 6 which is adapted to slide beneath the threshold plate 4. The buffer 5 is carried by the forward ends of a center buffer stem 7 and a pair of side buffer stems 8, all of which are arranged to slide freely through corresponding openings 9 formed through the front and rear walls of the buffer beam 3.

10 designates a pair of vertically disposed walls which extend lengthwise between the central portion of the end sill 1 and beam 3, and between these walls are located the springs and follower plates of the center buffing mechanism. Formed integral with the upper and lower edges of these walls 10 and extending outwardly therefrom are horizontally disposed strengthening flanges 11. A horizontally disposed plate 12, which, if desired, may be perforated, is formed integral with the upper edges of the front portions of the walls 10 and thus covers the corresponding front portions of the space between said walls. A corresponding horizontally disposed plate 13 is formed integral with the walls 10 a short distance below the plate 12, thereby forming a housing between the front portion of said walls 10, and which housing is occupied by the coil springs of the center buffing mechanism. Formed integral with the inner faces of the walls 10 and extending longitudinally thereon are ribs 14 which serve as bearings for the ends of the spring follower plates and for the sides of the center buffing springs located between the walls 10.

15 designates inwardly projecting flanges which are formed integral with the upper portions of the walls 10, and said flanges extend rearwardly from the rear end of the top plate 12, said flanges terminating a short distance from a wall 16 which is formed integral with and extends transversely between the walls 10 adjacent the end sill 1. By thus terminating the flanges 15 a short distance in front of the wall 16 ample space is provided at the rear end of the compartment in which the center buffing gear is positioned, through which the follower plates and leaf springs of the center buffing mechanism may be inserted. Flanges 17 are formed integral with the inner faces of the walls 10 and extend rearwardly from the bottom plate 13 to the lower end of the

transverse plate 16, and these flanges serve as bearings for the ends of the spring follower plates and the leaf springs which form a part of the center buffing gear.

The rear end of the center stem 7 is provided with a follower block 18, and positioned within the spring pocket between the plates 12 and 13 are coil springs 19 which bear against the follower plate 18. The rear ends of these coil springs 19 bear directly against a follower plate 20 which is provided with a concave rear face 21, and this plate is supported by flanges 17, and during operation the ends of said plate bear against the ribs 14. Positioned to the rear of the plate 20 is a series of leaf springs 22 which are supported by the flanges 17, and located to the rear of these leaf springs against the wall 16 is a rear follower plate 23 having a convex face against which the rear one of the leaf springs engages. The follower plates 20 and 23 and the leaf springs 22 are arranged in the space between the walls 10 by being inserted through the space between the transverse wall 16 and the rear ends of the flanges 15, and after the parts have been placed in operative position a plate 24 is placed over the space through which the parts have been inserted, and said plate is fixed to the flanges 11 in any suitable manner.

Transversely disposed plates 25 are formed integral with the platform and extend between the central portions of the plates 10 and the adjacent webs 2. Formed through the central portions of these plates 25 are openings 26 through which the rear ends of the side stems 8 engage. The forward portions of the side stems 8, or those portions which operate through the beam 3, are preferably square or non-circular in cross section, and the rear portions of said stems are round in cross section, as designated by 8^a. Arranged on the rounded rear portions of the side stems are coil springs 27 the forward ends of which bear against shoulders formed between the rounded rear portions of said side stems and the square or non-circular forward portions thereof, and the rear ends of these springs bear against the plates 25. The portions of the stems 8 which project through the plates 25 are threaded and receive nuts 28. Under normal conditions the side buffer springs 27 hold the buffer 5 at its outward limit of movement, and when said buffer is moved toward the beam 3 during the coupling of two cars the coil springs 19 are first compressed, after which the leaf springs 22 are bent between the blocks 20 and 23, and thus the coil springs and leaf springs combine and yieldingly resist the inward movement of the buffer and buffing mechanism until said buffer has been moved to a point where the coupling of the cars is effected. In addition to the natural resiliency of the leaf springs 22 considerable friction is developed between the leaves of said springs during the rearward movement of the buffing mechanism, and this friction combines with the resiliency of the springs to resist the inward movement of the parts of the buffing gear. By utilizing a leaf spring of this form it is not necessary to provide extra heavy coil springs in the forward portion of the center buffing mechanism. The ribs 14 and flanges 17 serve as supports and guides for the ends of the follower plates 18 and 20 and the leaf springs 22, and when necessary, these ribs and flanges may be ground off or chipped away to provide an accurate working fit for the various moving parts of the buffing gear.

The construction herein described is comparatively light in weight, is very strong and rigid and the entire buffing mechanism can be easily and quickly placed in operative position upon the platform or removed therefrom without detaching the vestibule or the buffer from its stems, and therefore said construction is especially advantageous when it is necessary to make repairs or to renew any parts which have become worn or broken in service.

It will be readily understood that minor changes in the size, form and construction of the various parts of our improved buffing mechanism can be made and substituted for those herein shown and described without departing from the spirit of our invention, the scope of which is set forth in the appended claims.

We claim:

1. In a buffing mechanism of the class described, the combination with a platform and integral buffing beam, of a pair of vertical walls forming a part of the platform and extending rearwardly from the central portion of the buffer beam, a spring pocket formed between the forward portions of said walls the space between the rear portions of said walls being adapted to receive parts of the buffing gear and flanges integral with and projecting inwardly from the upper edges of the vertical walls to the rear of the spring pocket, which flanges overlie the ends of parts of the buffing gear positioned in the space between the rear portions of said walls.

2. In a buffing mechanism of the class described, a cast metal platform, an end sill and buffer beam integral therewith, vertically disposed walls integral with the platform and extending from the buffer beam to the end sill, a spring pocket formed between the forward portions of said walls, the space between the rear portions of said walls being adapted to receive parts of a buffing gear flanges integral with and projecting inwardly from the upper edges of the ver-

tical walls to the rear of the spring pocket, which flanges overlie the ends of parts of the buffing gear positioned in the space between the rear portions of said walls supporting flanges formed on the inner faces of the walls to the rear of the spring pocket and longitudinally extending guide ribs formed on the inner faces of the vertically disposed walls, which guide ribs are continuous throughout the length of said walls.

3. In a buffing mechanism of the class described, a cast metal platform, an end sill and buffer beam integral therewith, a pair of vertically disposed longitudinally extending walls forming a part of the skeleton platform, top and bottom plates integral with the forward portions of said walls to form a spring pocket, integral inwardly projecting flanges on the vertical walls, which flanges extend rearwardly from the top and bottom plates and the rear portions of the flanges on the tops of said vertical walls being cut away to permit the insertion of parts of the buffing gear into the space between said walls.

4. In a buffing mechanism of the class described, a cast metal platform, an end sill and buffer beam integral therewith, a pair of walls forming a part of the platform between the end sill and buffer beam, top and bottom plates uniting the forward portions of said walls to form a spring pocket, supporting flanges formed on the inner faces of the walls to the rear of the bottom plate, flanges projecting inwardly from the upper edges of the walls to the rear of the top plate and the rear portions of which last mentioned flanges are cut away to form a space whereby parts of the buffing mechanism are positioned between the vertical walls.

5. In a buffing mechanism of the class described, a cast metal platform, an end sill and buffer beam integral therewith, a pair of walls forming a part of the platform between the end sill and buffer beam, top and bottom plates uniting the forward portions of said walls to form a spring pocket, supporting flanges formed on the inner faces of the walls to the rear of the bottom plate, flanges projecting inwardly from the upper edges of the walls to the rear of the top plate, the rear portions of which last mentioned flanges are cut away to permit the insertion of parts of the buffing mechanism between the vertical walls, a member removably applied to the platform above the cut away portions of said flanges longitudinally extending bearing ribs formed on the inner faces of the walls between the top and bottom plates longitudinally extending walls forming a part of the platform and arranged to the sides of the first mentioned pair of walls, transversely disposed plates arranged between the first mentioned pair of walls and the side walls, which plates are perforated to form bearings for the rear portions of the side buffer stems.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses, this 6th day of Sept., 1911.

CHARLES T. WESTLAKE.
CHARLES F. FREDE.

Witnesses:
HAL C. BELLVILLE,
FRED W. DIECKMANN.