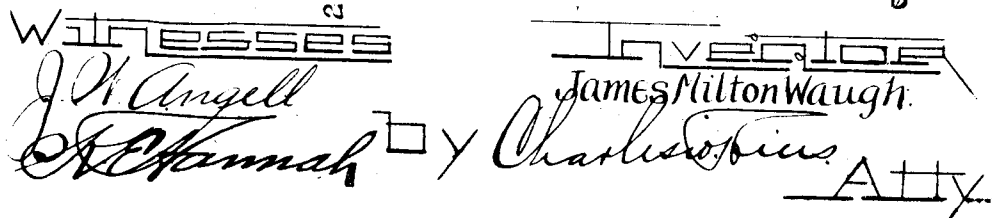


APPLICATION FILED NOV. 22, 1909.

Patented Mar. 25, 1913.

2 SHEETS--SHEET 1.



J. M. WAUGH.

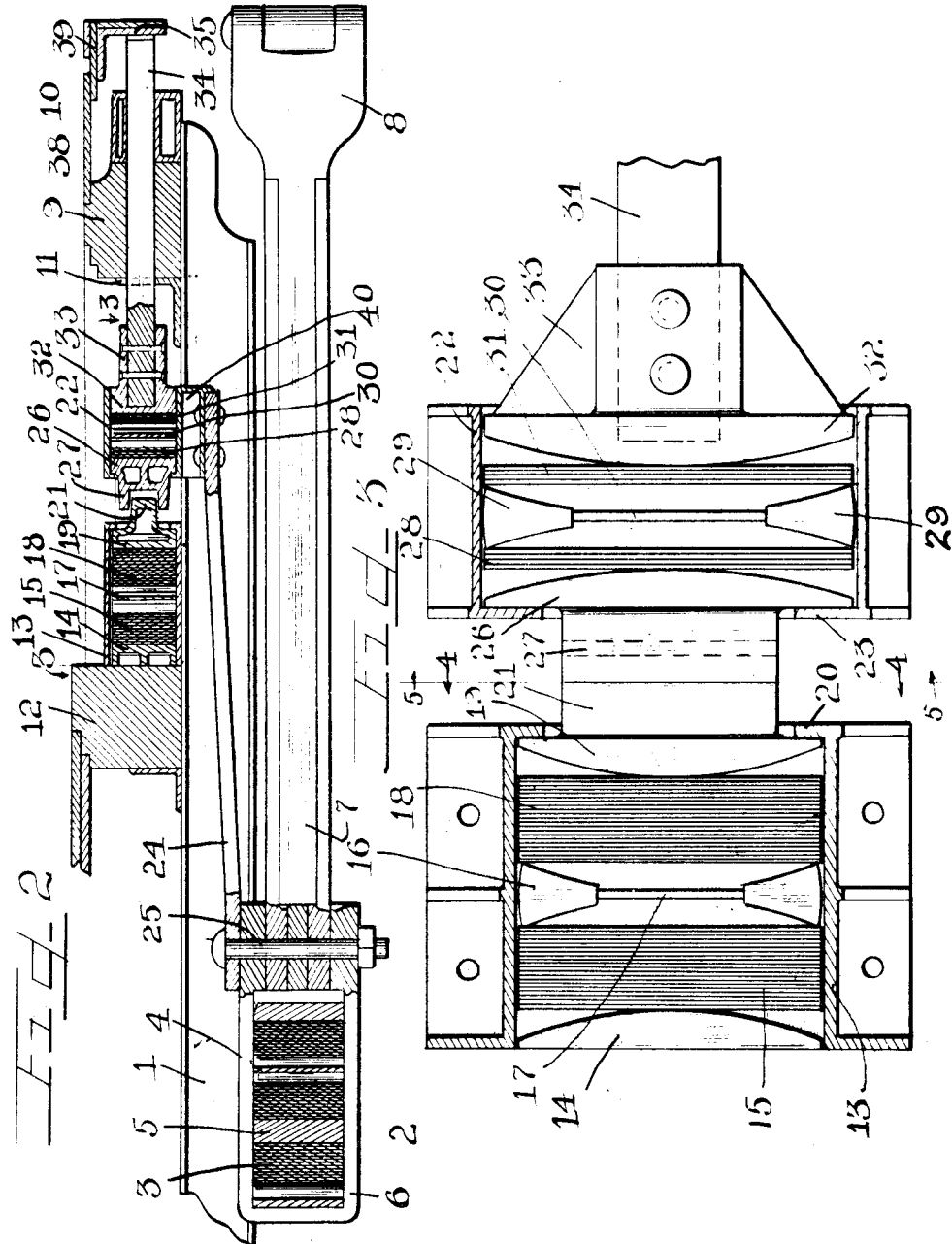
PLATFORM BUFFER.

APPLICATION FILED NOV. 22, 1909.

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2 SHEETS—SHEET 2.

1,056,863.



WITNESSES

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PLATFORM-BUFFER.

1,056,863.

Specification of Letters Patent.

Patented Mar. 25, 1913.

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To all whom it may concern:

Be it known that I, JAMES M. WAUGH, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Platform-Buffers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numbers of reference marked thereon, which form a part of this specification.

This invention relates to that class of railway platform buffers set forth in my prior application for patent therefor, filed September 28, 1908, Serial No. 455,106, and in which the lateral buffer stems were physically connected with one of the buffer springs.

The object of this invention is to afford a construction permitting the lateral buffer stems to move inwardly without resistance and centralizing the buffing stress immediately upon the buffing gear.

It is also an object of the invention to afford a construction permitting the utmost freedom of adjustment of the buffer platforms to adapt themselves to curves in the track and to afford a construction acting at all times to hold the extension for the buffer platform positively engaged against the central buffer stem or bar.

It is an object of the invention also to afford a construction of the utmost simplicity, durability and strength and in which the number of parts are reduced to the minimum and are easily accessible.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a fragmentary top plan view of the under frame of a car with the platform buffer attached. Fig. 2 is a fragmentary section on line 2-2 of Fig. 1. Fig. 3 is a fragmentary section on line 3-3 of Fig. 2. Figs. 4 and 5 are sections taken on lines 4-4 and 5-5 respectively of Fig. 3, with the abutting heads in elevation.

As shown in the drawings: 1, indicates the center or draft sills between which is supported the draft and buffing gear 2, shown as a draft gear comprising flat plates 3, and intermediate curved followers 4 and 5, all inclosed in a draft yoke 6, at its for-

ward end secured to the draw bar 7, carrying any suitable type of drawhead 8. Secured on the forward end of the center sills 1, is the end sill 9, on the outer end of which is the transversely rounded buffer block 10, as is usual and at the rear of which, as shown, is an angle bar 11, secured on the center sills and bearing against said end sill 9.

Rigidly secured on the center sills at a sufficient distance at the rear of the end sill is the cross sill 12, and bolted thereto and through the center sills is a casing 13, of cast metal or other suitable material affording within the same a chamber for the reserve buffer gear. Within said casing and bearing against the forward face of the cross sill is an abutment block or stop 14, having a transversely convex or rounded face. Fitted in the casing thereagainst are a plurality of flat spring and friction plates 15, of a length and width to permit the same to be freely movable within the casing when stood on edge transversely of the casing. Bearing against the forward faces of the outermost of said plates at their ends are spacing blocks 16, which taper inwardly, and as shown, are connected by a plate 17. Bearing against said spacing block 16, is a second group of spring and friction plates 18, such as before described and bearing centrally thereagainst is the rounded follower block 19, the ends of which engage against the inwardly directed flanges 20, on said casing. Said follower block is provided with an integral forwardly directed rib 21, having a flat, forward, vertical face, as shown in Figs. 2 and 4. Slidably supported on the center sills is a casing 22, provided with a rear wall 23, having a central elongated aperture therethrough. Rigidly secured on the under side of said casing at its forward end is a buffing bar 24, which at its rear end is rigidly connected with the main draft and buffing gear at the point of connection of the yoke with the draw bar by means of the bolt 25, which affords the connection between the same, and as shown, said casing 22, is provided centrally on its under side with a downwardly directed integral extension 40, to afford connection with the forward end of said buffing bar and also to serve at its ends as guides to centralize said casing at all times on the sills 1.

Within the casing 22, is an abutment

block 26, having its forward surface transversely curved, as shown in Fig. 3, and extending rearwardly through the aperture in the rear wall of said casing and integral with said abutment block is an elongated abutting head 27, which, as shown, is provided with a central transverse recess adapted to receive the forward face of the rib or abutting head 21, in the rear casing. Inserted in said casing and bearing against said rear abutment block, is a group of flat spring steel plates 28, and separated therefrom by inwardly and convexly tapered spacing blocks 29, connected by the steel plate 30, is a second corresponding group 31, of steel plates which, at their ends, bear on said spacing blocks 29.

Inserted in the forward open end of the casing is the rounded buffing head 32, shaped similarly to the rear abutment block 26, before described and bearing centrally on the group of spring plates 31. Said buffing head 32, is provided on its forward side with an integral extension having a central seat therein in which is fitted the rear or inner end of the central buffing stem or bar 34. This extends forwardly through a suitable aperture in the end sill 9, and buffing block 10, and bears at its forward end at all times against the buffer plate 35.

Extending slidably through the end sill 9, and buffing block 10, are the lateral buffing stems 36, which fit loosely in the apertures therefor in said members and at their outer ends are pivotally connected, as shown, in dotted lines in Fig. 1, with the inner face of the buffer plate 35, and as shown, pulling springs 37, are secured on the inner ends of said buffer stems by means of nuts, which permit the tension of said springs to be adjusted and act at all times to hold the buffer plate inwardly or in other words in contact with the central buffer stem.

The platform construction otherwise is as usual, any suitable covering plate 38, being employed to extend the platform beyond the end sill and onto the horizontal top plate 39, of the buffer.

The operation is as follows: The parts are so related and proportioned that when two cars are coupled, the act of coupling brings sufficient stress upon the buffer plates to slightly flex the groups of springs 28, and 31, inasmuch as the transversely curved opposing faces of the abutment block 26 and buffer head 32, engage said groups centrally while the spacing blocks 29, engage between said groups and at the ends thereof. In ordinary coupling and when the cars are in coupled relation, very slight flexing of said spring is sufficient to hold the buffer plates at all times in positive engagement and to prevent any separation thereof during the movement of the train. At this time the inward movement of the platforms

relieves all stress from the springs 37, and the lateral buffing stems, and in consequence, the movements of the buffer are accomplished wholly through the action of the groups 28 and 31, of spring plates, said lateral buffer stems serving only to support the buffer plate. Should the cars come together with greater force, the shock not only compresses the main draft gear and the normal buffing gear or that contained in the casing 22, but bringing the heads 27 and 21 into positive engagement, such shock is communicated and absorbed by the auxiliary buffing gear or that contained in the casing 13. This serves to absorb the stress of the shock whether imparted on the draw-head or platform and serves as an emergency buffing gear to absorb those stresses that might otherwise be destructive to the platform buffing gear. When pressure is relieved on the platforms the springs 28 and 31 in the forward casing act to force the central buffing stem or bar forwardly, carrying the buffing plate therewith, and also the lateral buffing stems until said springs 37, are again brought into tension in which event they serve at all times to support said buffing plate in operating position.

Of course, I am aware that details of this construction may be varied. I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art.

I claim as my invention:

1. A platform buffer gear embracing a casing affixed to the center sills, convex and concave spacing members therein, a group of flat spring and friction plates in contact face to face for their entire extent and interposed between each convex and each concave spacing member, a casing slidably supported on the center sills and rigidly connected with the main draft gear, groups of spacing and friction plates in said casing, spacing members separating said sets of plates, abutting blocks extending into the adjacent ends of said casings and bearing against the spring plates and a central buffing stem acting to communicate the stress in buffing to the sets of spring and friction plates in the slidably casing.

2. In a device of the class described the combination with a car platform, a buffing plate movably supported thereon at the end thereof, spring pressed buffing stems pivoted to the buffer plate and extending through the head, sill, and buffer block on the platform, a central buffer stem adapted to bear at its outer end on the buffer plate, a slidable casing, a rigid bar connecting the same with a main draft gear, groups of flat leaf springs in said casing, concave spacing blocks between said groups and a rounded head on the central buffer stem acting to engage the forward group near its middle and an auxil-

iary absorbing device at the rear of said sliding casing and connected to receive excess buffing shock.

3. In a device of the class described a main draft gear, center sills, cross sills and end sills of a car, of a buffer plate slidably engaged on the end of the car platform by means of rods pivotally connected therewith and extending through suitable apertures in the end sill, springs engaged on said rods and acting to draw the same inwardly, a central buffer stem slidably engaged in said end sill, a platform buffing gear comprising a casing, slidably secured on the center sills and rigidly connected with the main draft gear, a plurality of groups of flat spring steel plates in said casing, a head on the central buffer stem extending into said casing and bearing against the first group of plates, a casing at the rear of the sliding casing, a spring and friction gear of greater capacity secured in said casing, and abutment members extending into said casings at adjacent ends thereof affording inner bearing heads pressing at all times against the adjacent group of spring plates and said abutment members having interfitting parts.
4. In a device of the class described the combination with the buffing plate of lateral buffer stems pivotally connected thereon and extending through apertures in the end sill of the car, spiral springs engaged thereon and acting to pull the same inwardly to hold said plate in place, a central buffing bar or stem bearing against the inner face of the buffer plate, and a buffing gear including a plurality of casings each having a plurality of groups of flat spring plates therein and bearing alternately at their middles and their ends when under compression, one of said casings being rigidly secured on the center sills and the other slidable thereon, and abutting heads extending through the adjacent walls of said casings into mutual engagement, and each provided with a head affording an inner rounded surface to bear against the adjacent group of spring plates.
5. In a device of the class described a buffing gear for platform buffers including in combination with the center sills and the cross sills a cast metal casing rigidly secured on said center sills at the front side of the cross sills, a buffing or spacing block therein having a rounded outer face, alternate groups of flat friction spring plates and a concave spacing block arranged in said casing, a similar slidable casing supported on said center sills and rigidly connected with the main draft gear, a corresponding arrangement of flat spring plates in said sliding casing, and abutting heads

extending through the adjacent walls of said casings into positive bearing when the device is under maximum compression.

6. A buffing device comprising a rigid casing, a buffing gear therein, a slidable casing, a buffing gear therein, means for transmitting excessive stress from the buffing gear in one casing to the gear in the other casing, a downward extension secured to the slidable casing, a draft gear and yoke, and a rod rigidly connecting said extension and yoke.

7. In a device of the class described a plurality of independent casings in horizontal alignment, one being rigidly supported and the other slidably supported, a spring friction buffing gear in each casing, a draft gear and yoke, means rigidly connecting the slidable casing to the yoke, and abutment blocks projecting from said casings and interfitting with each other and acting to deliver the excess buffing stress to the rigid buffing gear.

8. In a device of the class described a plurality of independent casings in horizontal alignment, one being rigidly supported, the other slidably supported, a friction spring buffing gear in each casing, and abutment blocks projecting from each casing and interfitting with each other at their projecting ends and acting to deliver the excess buffing stress from the slidable gear to the rigid gear.

9. A platform buffer including a buffer plate, a guide rod pivotally engaged on each end thereof and projecting through the end sills of the car, a spring on each guide rod acting to direct the same inwardly, a slidable buffing gear including groups of spring friction plates arranged parallel to the end sill, spacing members engaged between said groups at their ends, a buffing stem having one of its ends bearing against the buffer plate and the other end bearing against the first spring group of the slidable buffing gear, a yielding abutment, having one of its ends rounded and bearing against the inner group of friction springs and the other end recessed and projecting outwardly therefrom, a stress absorbing device rigidly secured in alignment with the slidable gear and an abutment block having one of its ends rounded and bearing against said stress absorbing device and the other end projecting outwardly therefrom and into the recess in the end of the supplemental abutment.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JAMES MILTON WAUGH.

Witnesses:

K. E. HANNAH,

LAWRENCE REIBSTEIN.