March 5, 1935. H. J. LOUNSBURY 1,993,106

BUFFER

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Fig. 1

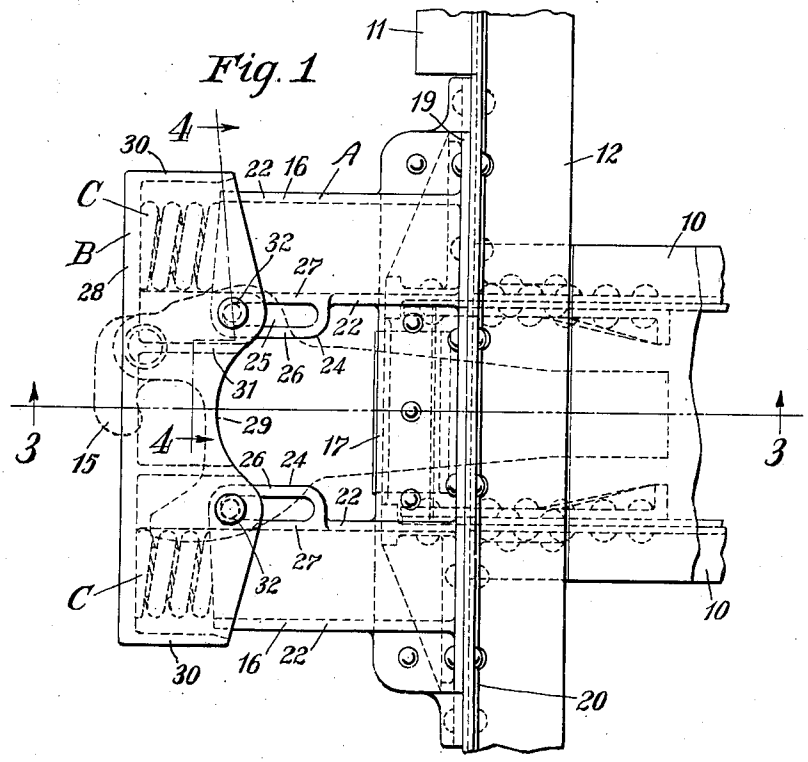

Fig. 2

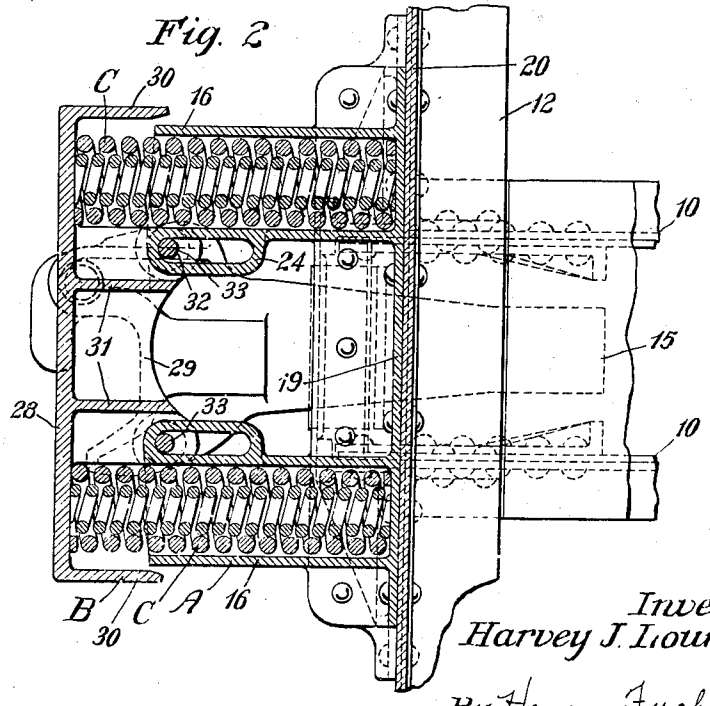

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Fig. 3

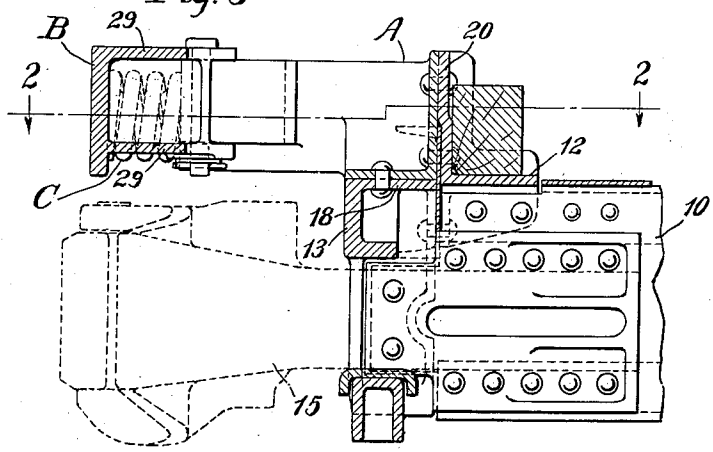
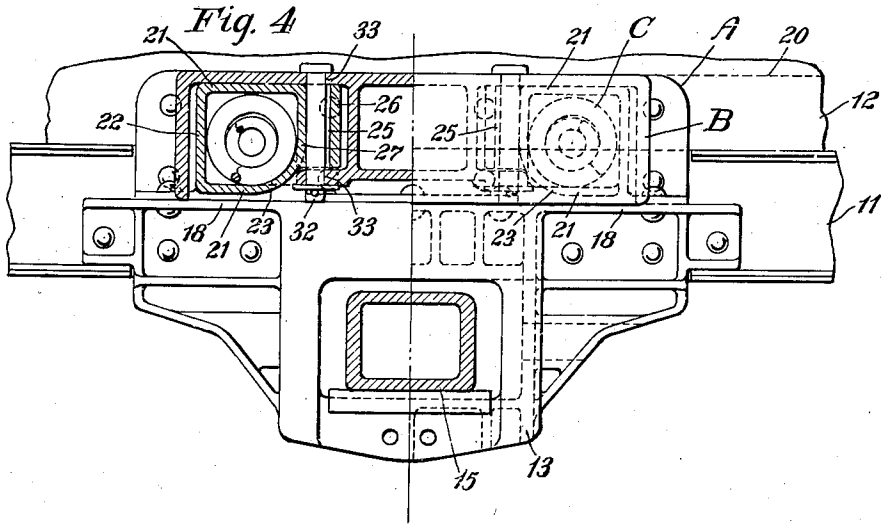


Fig. 4



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UNITED STATES PATENT OFFICE

1,993,106

BUFFER

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Application May 18, 1933, Serial No. 671,625

2 Claims. (Cl. 213—221)

This invention relates to improvements in buffers for railway cars.

One object of the invention is to provide a buffing mechanism for railway cars, of simple and rugged design, which is efficient in operation and has the required amount of flexibility to properly accommodate itself to the operation of cars on both straight and curved tracks.

A more specific object of the invention is to provide a buffer for railway cars, comprising a spring housing, a buffing cap movable inwardly of the housing and having tilting action with respect to the housing, and spring means within the housing opposing inward movement of the cap, wherein simple and efficient means is provided for guiding the cap during the buffing action.

Other objects of the invention will more clearly appear from the description and claims hereinafter following.

In the drawings, forming a part of this specification, Figure 1 is a top plan view, partly broken away, of the underframe at one end of a railway car, illustrating my improvements in connection therewith. Figure 2 is a horizontal sectional view, corresponding substantially to the line 2—2 of Figure 3. Figure 3 is a vertical sectional view, corresponding substantially to the line 3—3 of Figure 1. And Figure 4 is a part end elevational view and part vertical sectional view of Figure 1, the section corresponding substantially to the line 4—4 of Figure 1.

In said drawings, 10—10 designate the center sills of a railway car, to which is secured the end sill structure comprising a beam 11 having top and bottom flanges and an angle beam 12. The angle beam 12 is secured to the upper section of the web of the beam 11. The usual striking casting is indicated by 13. This striking casting is supported by the draft sills and end sill structure and has the usual opening therein, which accommodates the shank of the coupler 15, the coupler being illustrated in dotted lines in Figures 1 and 3 and in full lines in Figure 2.

My improved buffer, which is mounted on the end of the car, comprises broadly a supporting casting A, a cap B, and a pair of springs C—C.

The supporting casting A includes a pair of casings 16—16 connected by a horizontal web 17 which extends laterally outwardly beyond the outer sides of the casings 16—16 and is secured to the upper horizontal flange 18 of the striking casting 13. The supporting casting also has a vertical rear wall 19, which forms the end wall sections of the casings 16—16. The wall 19 is formed integral with the web 17 and is secured to the vertical section 20 of the angle beam 12 of the end sill structure. Each casing 16 has spaced horizontal top and bottom walls 21—21 and spaced vertical side walls 22—22. At the inner lower corner, each casing is rounded off, as indicated at 23. Each casing is also provided with a lateral inward enlargement 24 at the forward end thereof, which enlargement is formed integral with the inner side wall 22 of said casing. The enlargement 24 is provided with a longitudinally extending guideway 25 in the form of a slot, which is parallel to the longitudinal axis of the railway car. Each slot has relatively high, spaced, vertical inner and outer side walls 26 and 27.

The cap B is in the form of a casting having a vertical front wall 28, spaced top and bottom rearwardly extending horizontal walls 29—29, and vertical end walls 30—30. The opposite ends of the bottom wall 29 are spaced from the end walls 30—30, as clearly shown in Figures 2 and 4. The cap B is reinforced by spaced vertical webs 31—31 formed integral with the front wall 28 and the top and bottom walls 29—29. The rear edges of the top and bottom walls are of the contour illustrated in Figures 1 and 2 respectively. The cap B is telescoped over the front ends of the casings 16—16 of the supporting casting A, and the top wall 29 of the cap B has sliding movement on the flat upper surfaces of the top walls 21—21 of the two casings 16—16. The cap B is anchored to the supporting casting A by means of a pair of pins 32—32 extending through aligned openings 33—33 and 33—33 in the top and bottom walls 29—29 of the cap B and through the guideways 25—25 of the casings 16—16. As clearly shown in Figures 1, 2, and 4, the pins 32—32 are of lesser width than the guideways 25—25 and are so spaced apart laterally as to normally engage the outer walls 27—27 of the guideways 25—25, as clearly shown in Figures 1, 2, and 3. The guideways 25—25 are of such a size that lateral swinging movement of the cap B with respect to the supporting casting A is permitted to take care of the angular displacement of the car with respect to the next car of a train when operated on a track of the maximum curvature.

The springs C—C are arranged at opposite sides of the buffer and yieldingly oppose inward movement of the cap B with respect to the casting A. Each spring is disposed within the corresponding casing 16 and comprises inner and outer coils having their opposite ends bearing

respectively on the rear wall of the corresponding casing and the front wall of the cap B.

In the operation of my improved buffer, the buffing force is transmitted to the outer face of the cap B, thereby forcing the cap inwardly toward the end of the car and compressing the springs C—C. Inward movement of the cap is limited by engagement of the wall 28 with the front ends of the casings 16—16. When the cap is returned to its normal position by the expansive action of the springs C—C, movement of the cap is limited by the pins 32—32 engaging the front ends of the guideways 25—25 of the casting A. When the car is being operated on straight track, the pins 32—32 of the buffing cap B are guided along the outer walls 27—27 of the guideways 25—25. When the buffing cap B is swung to either side of the centered position during a buffing action, the pins 32—32 will be correspondingly displaced, this displacement of the pins being permitted by the width of the guideways 25—25.

I have herein shown and described what I now consider the preferred manner of carrying out my invention, but the same is merely illustrative and I contemplate all changes and modifications that come within the scope of the claims appended hereto.

I claim:

1. In a buffer for railway cars, the combination with a support fixed to the end of the car, said support having forwardly projecting spring casings formed integral therewith, each of said casings having a flat top wall and a lateral enlargement on the inner side thereof, said enlargement being longitudinally slotted; of a transversely disposed buffing head having an outer buffing face and a horizontal top wall, said top wall being slidingly supported on the top walls of said casings; spaced guide pins fixed to said top wall of the buffing head, said pins extending through the slots of the enlargements of the casings; and springs within said casings yieldingly opposing inward movement of the buffing head.

2. In a buffer for railway cars, the combination with a support fixed to the end of the car, said support having forwardly projecting, spaced casings connected at their inner ends by a transverse web, each casing having a flat top wall; of a buffing cap having a transverse front wall and spaced, rearwardly projecting, top and bottom walls, said front wall having an outer buffing surface, said cap being telescoped over the outer ends of said casings and having the top wall thereof slidingly supported on the top walls of the casings; springs within said casings opposing inward movement of the buffing cap; and means for connecting said cap to the support, comprising laterally spaced pins extending through the top and bottom walls of the buffing cap, and guideways on said casings respectively, in which the pins are guided.

HARVEY J. LOUNSBURY.