(No Model.)

C. BROWNING.

CAR BUFFER.

No. 273,665. Patented Mar. 6, 1883.

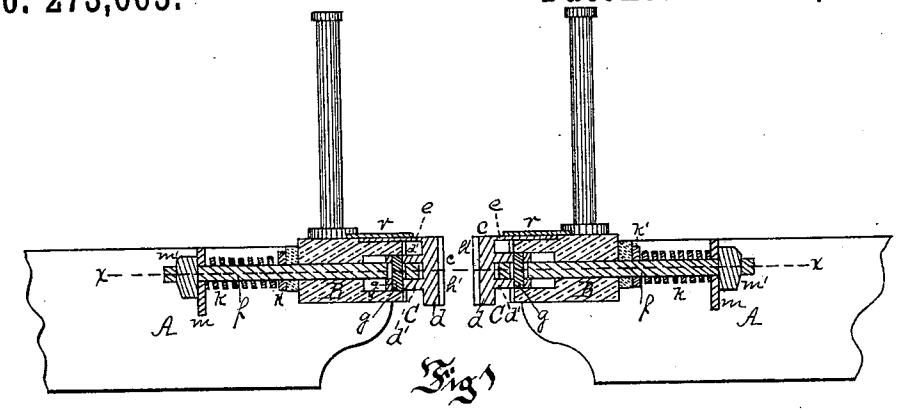

Fig 1

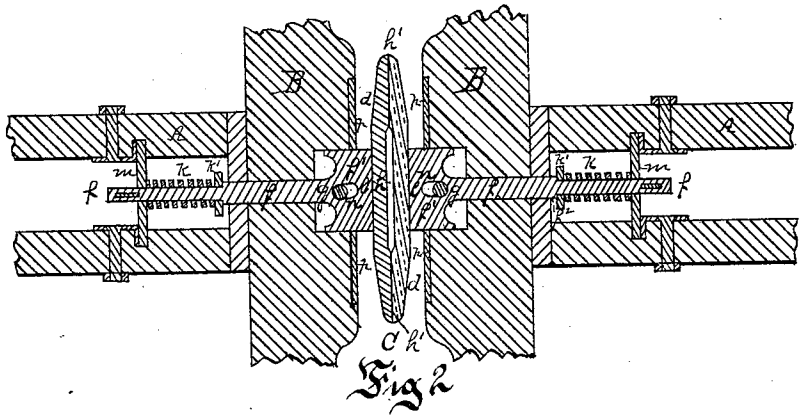

Fig 2

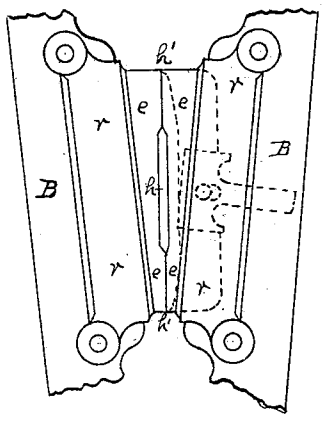

Fig 3

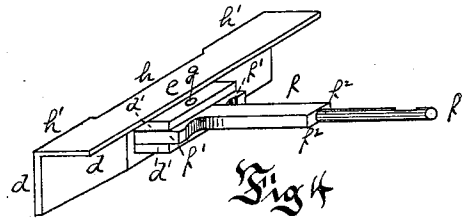

Fig 4

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UNITED STATES PATENT OFFICE.

CLINTON BROWNING, OF SHOUSETOWN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO JAMES H. LINDSAY, TRUSTEE, OF ALLEGHENY CITY, PENNSYLVANIA.

CAR-BUFFER.

SPECIFICATION forming part of Letters Patent No. 273,665, dated March 6, 1883.

Application filed July 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, CLINTON BROWNING, of Shousetown, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Combined Car-Buffers and Yielding Platforms; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to buffers and platforms employed on railroad-cars for preventing the jarring and uneven movement of the cars, and forming platforms between the cars to afford a sure footing for passengers in passing from the platform of one car to that of the adjoining car. The usual yielding car-buffers are formed of bars, one on either side of the center of the car, mounted in springs, and having heads to bear against the buffers of the adjoining car, so that upon the stopping, backing, or longitudinal motion of one car the pressure will come against these yielding buffers and prevent the sudden concussion and consequent jarring of the cars, and the buffers will bear against each other and by their friction prevent uneven lateral or vertical strain on the cars by side motion or rocking, or when passing around curves. The yielding platforms have heretofore been employed to form a continuous platform between the cars, and to act as buffers on the longitudinal motion of the cars, but have not been successfully constructed to hold the cars against the side or rocking motion; and the principal object of my invention is to provide a combined buffer and platform, which will not only form the continuous platform between the cars, but will act as a buffer both to the longitudinal motion and the side, rocking, or twisting motion to which the cars are subjected.

To this end it consists, first, in providing the car with a yielding buffer-platform having bearing-faces at or near the ends thereof, and a depression in the center between them, so that the frictional contact of the platforms will be at the ends thereof, and they will, by this frictional action of the ends, hold the cars against the lateral, vertical, or rocking motion; second, in pivoting the yielding platform to the central pressure-bar close to its bearing-face, and so enabling it, in following the motion of the cars on curves, to turn without causing any frictional movement across the face of the opposite platform; third, in the method of pivoting the platform to prevent heavy strain and wear upon the pivoting-pin; and, finally, in details of construction hereinafter specifically set forth.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation, referring for that purpose to the accompanying drawings, in which—

Figure 1 is a longitudinal central section of two car-platforms, illustrating my invention. Fig. 2 is a horizontal section on the lines $x\,x$, Fig. 1. Fig. 3 is a top view, illustrating the movement of the buffer and platform; and Fig. 4 is a perspective view of the buffer-platform and bar.

Like letters of reference indicate like parts in each.

In the drawings, A represents the platform of an ordinary passenger-car, having the usual transverse beam, B, extending along the end thereof; and C represents my combined buffer and platform, supported in front of the said beam at the center thereof. The buffer-platform c of the combined buffer and platform is formed of the bearing-plate d and the horizontal plate e, extending at right angles therefrom. This buffer-platform is pivoted to the buffer-bar f by means of the flanges d', which extend out from the back of the bearing-plate d, the connecting-pivot g extending through these flanges and the head of the buffer-bar. The bearing-face of the plate d is slightly recessed or hollowed out in the center, as at h, so as to form the bearing-faces $h'\,h'$ at either end of the bearing-plate. The buffer-bar f extends back through the transverse beam B and is supported underneath the car-platform by means of the spring k and the resistance-plate m, rigidly secured between the longitudinal beams B′ of the car. The buffer-bar has a T-shaped head, f', which fits between the flanges d' of the buffer-plate, and has an oblong pivot-hole, n, extending through it for the pivot g, the hole being made oblong to allow the buffer-platform to swing or turn on the buffer-bar, as when the cars are running on curves, without bringing any great strain on the pivot, and also to allow the buffer-platform to bear squarely against the face of the buffer-bar

when running in a straight line, the pivot *g* then traveling back in the oblong slot, and thus being subjected to no heavy strain. The face *l* of the head *f'* is flat, or nearly so, so that when the platform is pressed back by direct pressure the face *l* may rest directly against the back of the bearing-plate, and when the buffer-platform swings the pressure comes against one corner of the T-head and the pivot travels forward in its slot, so that, though pivoted in the center of the platform, it actually swings on the corners of the T-head and can thus swing in either direction without any motion across the face of the opposite buffer-platform. The oblong pivot-hole *n* is made sufficiently long to allow of the swinging or reciprocating motion of the buffer-platform while the cars are running on curves without causing any strain on the pivot-pin. The transverse beam B is mortised at the front for the reception of the flanges *d'* and T-head *f'*, and has a plate, *p*, secured around this mortise, the sides of which support the buffer-platform against side-pressure and twisting strain. The bar *f* has a shoulder, f^2, which presses against a washer, *k'*, against which the ends of the spiral spring *k* rest, the bar extending through the spring and the resistance-plate *m* and being secured in place by a pin or nut, *m'*.

The horizontal plate *e* of the buffer-platform may either extend over the car-platform or the platform may be slightly recessed for its reception, and a cover, *r*, be secured above it, so that the plate *e* may slide under it, and all interference of the plate with the feet of persons on the platform be prevented. This cover *r* may extend the full width of the buffer-platform between and be held in place by the rails of the car-platform.

The operation of my combined buffer and yielding platform is as follows: When the car is not coupled the buffer-platform is held out by the spring *k*, and it is free to swing on the buffer-bar. When a coupling is made and the two buffer-heads come in contact, the springs yield to the pressure, and thus prevent the sudden jarring of the cars, and then hold the buffer-platforms of each car in contact, forming the continuous platform between them. If the cars are running in a straight or approximately straight line, the buffer-platforms are pressed back until they press directly against the flat face *l* of the buffer-bars; and if the cars are on a curve the buffer-platforms are pressed back against the corner of the T-head of the buffer-bar, so that the jar is carried directly to the springs, and a strong buffer thus obtained. The bearing-plates *d* of the buffer-platforms come in contact and press against each other only at the bearing-faces *h'* at the ends on account of the depressions in the center, so that all frictional contact is at the ends of the buffer-platform, instead of being at the center of the platforms or entirely across them, and a stronger frictional contact is for this reason obtained. On account of this depression *h* on the bearing-face there is no liability, as in platforms where the faces are in contact entirely across, of the bearing-face being worn off more at the ends than in the center, and thus rendering the platform incapable of holding against lateral or rocking strain. As this strong frictional contact is obtained at the bearing-faces at the ends of the buffer-platform, it acts in the same manner as the ordinary buffer arranged on bars at either of the couplings, holding against the lateral or side motion of the cars, the rocking or vertical motion, and the twisting motion thereof, and thus prevents much of the jarring and shaking of the cars—a result not heretofore obtained in the yielding platforms. When the cars are running on a curve the buffer-platforms swing around on the buffer-bars, being held in contact by the springs and forming complete connection between the cars, and as they are pivoted close to the bearing-faces they turn in any direction without causing any frictional motion of the faces of the platforms across each other, overcoming the objection to the platforms where they are pivoted at a distance from their bearing-faces, and they therefore hold to each other and prevent much of the lateral swinging of the cars when running on curves. The tendency to this frictional motion of the bearing-faces across each other is further prevented by the flat face and oblong pivot-holes of the buffer-bar. A substantially equal pressure of the bearing-faces when running on curves is also obtained, because the buffer-platforms are free to swing and conform to each other, and the pressure of the springs is exerted at one point at or near the center of the buffer-platforms. The buffer-platforms are held from side-pressure or twisting strain by the flanges *d' d'* fitting within the plate *p* on the face of the transverse beam. The cover *r* prevents the horizontal plate of the buffer-platform from coming in contact with the feet of persons on the car-platform as it travels back or forward or swings on the buffer-bar.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A combined car buffer and platform having bearing-faces at or near the ends thereof and depressed in the center between them, substantially as and for the purposes set forth.

2. The combination of the buffer-platform and yielding pressure-bar, the pressure-bar being pivoted to the platform close to the bearing-face thereof, substantially as and for the purposes set forth.

3. In yielding car-platforms, the combination of the buffer-platform, central buffer-bar pivoted thereto, and spring mechanism around said bar for projecting the buffer-platform, substantially as and for the purposes set forth.

4. In yielding car-platforms, the combination of the buffer-bar *f*, having the oblong pivot-hole *g* and buffer-platform pivoted to said bar through said pivot-hole, substantially as and for the purposes set forth.

5. In yielding car-platforms, the combination of the buffer-bar *f*, provided with the ob-

long pivot-hole *g* and T-head *f'*, having the flat face *g*, with the buffer-platform pivoted to said bar through said hole, substantially as and for the purposes set forth.

6. In yielding car-platforms, the combination of the buffer-platform *c*, having the pivotal flanges *d'*, the buffer-bar *f*, pivoted thereto, and the transverse beam B, mortised for the reception of said flanges and having the plate *p*, substantially as and for the purposes set forth.

7. In yielding car-platforms, the combination of the buffer-platform *c*, buffer-bar *f*, pivoted thereto, spring mechanism for projecting the buffer-platform, and the cover *r* on the car-platform, substantially as and for the purposes set forth.

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Witnesses:
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