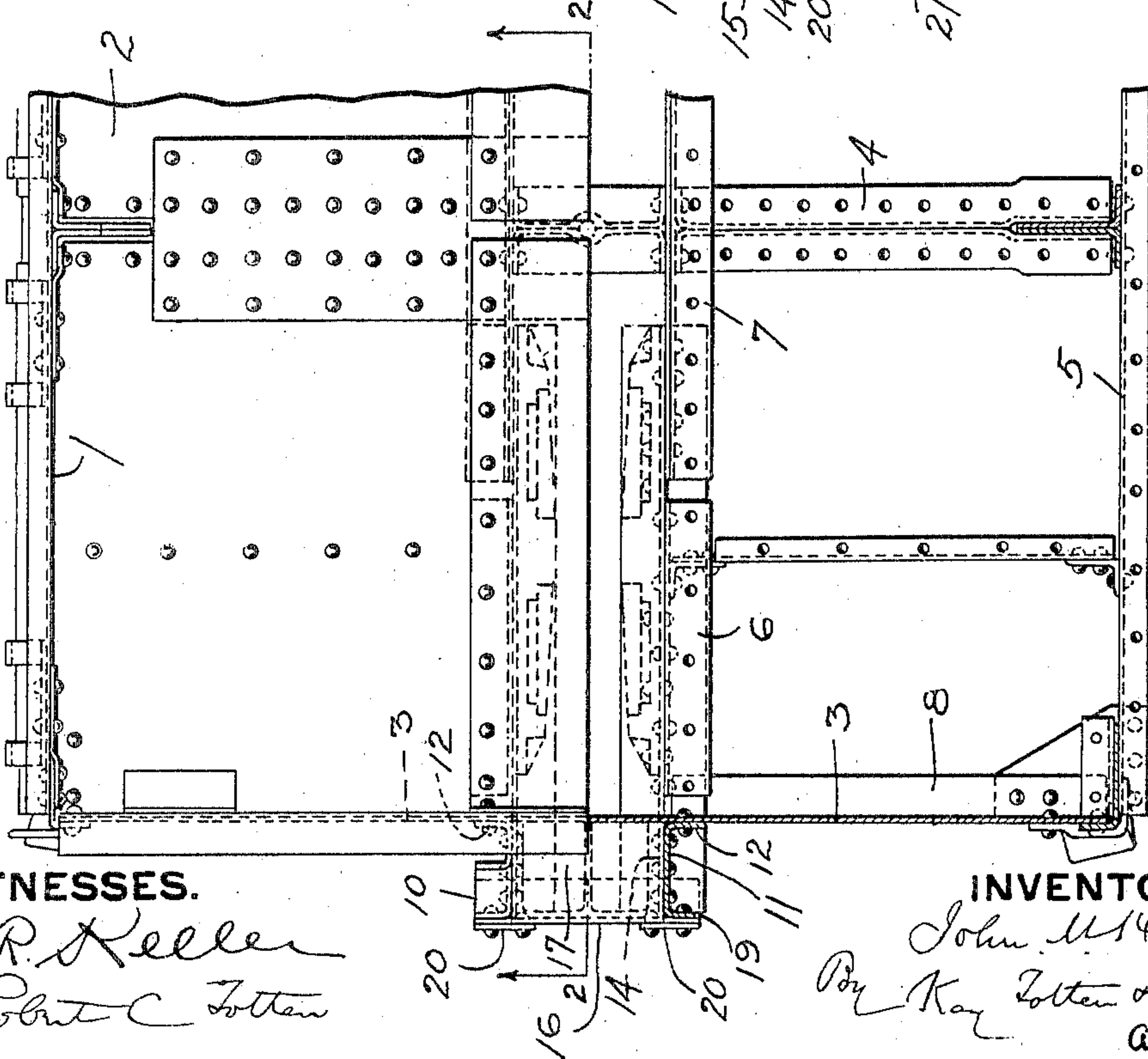


J. M. HANSEN.
END CONSTRUCTION OF CARS.

APPLICATION FILED MAY 23, 1905.

2 SHEETS—SHEET 1.

FIG. 1



WITNESSES.

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END CONSTRUCTION OF CARS.

No. 797,575.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed May 23, 1905. Serial No. 261,876.

To all whom it may concern:

Be it known that I, JOHN M. HANSEN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in End Construction of Cars; and I do hereby declare the following to be a full, clear, and exact description thereof.

This invention relates to metallic railway-cars, and more especially to the end construction thereof.

The object is to provide an end stake and manner of connecting the same which will effectively prevent the end plates from bulging outwardly at their upper ends.

A further object is to provide a simple buffer in connection with the end stakes.

In all open-top railway-cars, such as gondola and flat-bottomed hopper cars, one difficulty is that the lading has a tendency to bulge the end plates outwardly. In all cars of this type stakes are used at the end for stiffening the same. These stakes ordinarily extend down to the top edges of the end sills and are there secured in place. With all prior constructions, however, this connection has not been sufficiently strong and rigid to prevent the lading from pushing the upper ends of the stakes outwardly.

One feature of my invention consists in a stake and manner of connecting the same which will prevent this defect. This is accomplished by extending the center sills or draft-beams outwardly beyond the end plates and having a stake provided with a web lying at right angles to the end plates and extending downwardly and riveted directly to the vertical webs of the center sills or draft-beams.

With most car construction it is also the practice to provide a buffer at the end, this usually consisting of a cast block, although it has been given other forms. In my construction a separate buffer practically is dispensed with, the lower ends of the stakes extending out sufficiently far to form a buffer in connection with a plate which is secured to the outer edges of the stakes at their lower ends, this plate also serving as a means for supporting the draw-bar carrier.

In the accompanying drawings, Figure 1 is in part a horizontal section and in part a plan view of the end portion of a car constructed according to my invention. Fig. 2 is a central horizontal section thereof. Fig. 3 is an

end view thereof; and Fig. 4 is a perspective view, partly in section, of a portion of the end of the car.

The body of the car may be constructed in various ways, that shown in the drawings being wholly metallic; but it will be understood that the invention is equally as well adapted for a wooden body. The car-body shown has the side plates 1, floor-plates 2, and end plates 3, all of these parts being secured together in the usual or any preferred manner. The car shown is provided with an underframe having body-bolsters 4, side sills 5, and draft means 6, the latter being riveted to the ends of center sills 7 outside of the body-bolster. Separate side sills, however, are not necessary, as with many types of cars the side walls may be formed as plate-girders, thus serving not only to confine the lading, but also to carry a portion of the load. The specific form of the members forming the underframe is unessential to my invention, it being sufficient that the longitudinal intermediate sills or beams be provided with vertical webs. The only intermediate sills or beams shown in the present illustration are the draft-beams 6, and these are of Z shape in cross-section, with their upper flanges projecting inwardly and their lower flanges projecting outwardly. A channel form of draft-beam would answer the purpose equally as well.

The car shown has no end sill as such, the end plate being provided at its lower edge with an inwardly-turned flange 8 to stiffen the same, thus dispensing with a separate end sill. The draft-beams project outwardly beyond this end plate, the latter being notched on its lower edge to allow the draft-beams to project beyond the same.

The end stakes 10 are preferably tapered toward their tops, as shown, and also preferably will be of general channel shape, as shown, with web portion 11 extending at right angles to the end plates and having the inner flange 12 suitably secured to the end plate. These stakes extend downwardly sufficiently far to have their lower ends riveted to the ends of the intermediate sills—that is, the draft-beams. The straight web portion 11 of the stakes and the vertical web 14 of the draft-beams present means for a simple and strong connection. As a result of this connection the end stakes are very rigidly secured in place, so that the upper ends thereof cannot be pushed outwardly by the lading. In fact,

these stakes will withstand any load or stress insufficient to bend the stakes themselves. Between the outer ends of these draft-beams is placed a horn-brace 15 of any suitable construction. A buffer-plate 16 is placed in front of the ends of the draft-beams and is bent inwardly over the tops thereof, as at 17, and provided with a flange 18 for riveting to the end plate. This buffer-plate is braced by the horn-brace 15 and is secured to the outer flanges 19 of the stakes by means of rivets. Additional plates 20 are secured to the plate 16 and extend downwardly below the draft-beams and serve as a support for the draw-bar carrier 21. This buffer-plate is notched at its lower edge to provide a passage for the draw-bar shank and is provided with inwardly-turned flanges around the notch, so as to stiffen the same. This construction gives a rigid buffer and without the necessity of using a separate casting or pressed hood, as has heretofore been the custom.

What I claim is—

1. A car end stake deeper at its base than at its top and being of channel shape with one flange thereof adapted to be secured to the car-body and having its web projecting outwardly from the car end and at its lower end adapted to be secured to the side face of a longitudinal sill.

2. In a metallic car, the combination of an end wall, a longitudinal sill provided with a vertical web, and an end stake having a web secured to the vertical web of the sill and projecting upwardly along the end wall and having a flange at right angles to the web, which flange is secured to the end wall.

3. In a metallic car, the combination of a longitudinal sill having a vertical web, and an end stake of channel form having its web riv-

eted to the end of the sill and having one flange secured to the car end.

4. In a metallic railway-car, the combination of an end wall, a longitudinal sill projecting beyond the end wall and having a vertical web, and an end stake having a flange secured to the end wall and having a web extending outwardly from the end wall with its lower end riveted to the web of the projecting end of the sill.

5. In a metallic car, the combination of the end wall, a longitudinal sill projecting beyond the end wall and having a vertical web, and a channel-shaped stake having its web riveted to the web of the projecting end of the longitudinal sill and its flange secured to the end wall.

6. In a metallic car, the combination of an end wall, draft-beams projecting beyond the same and provided with vertical webs, end stakes having webs riveted to the projecting ends of the draft-beams and flanges at right angles to the web, and a buffer-plate secured to the lower ends of said stakes on their outer sides.

7. In a metallic railway-car, the combination of an end wall, draft-beams projecting beyond the same and provided with vertical webs, channel-shaped stakes having their webs riveted to the projecting ends of said draft-beams and their inner flanges secured to the end walls, and a buffer-plate lying in front of the ends of the draft-beams and secured to the outer flanges of said stakes.

In testimony whereof I, the said JOHN M. HANSEN, have hereunto set my hand.

JOHN M. HANSEN.

Witnesses:

ROBERT C. TOTTEN,
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