No. 854,305. PATENTED MAY 21, 1907.

S. OTIS.

RAILWAY CAR.

APPLICATION FILED SEPT. 7, 1906.

2 SHEETS—SHEET 1.

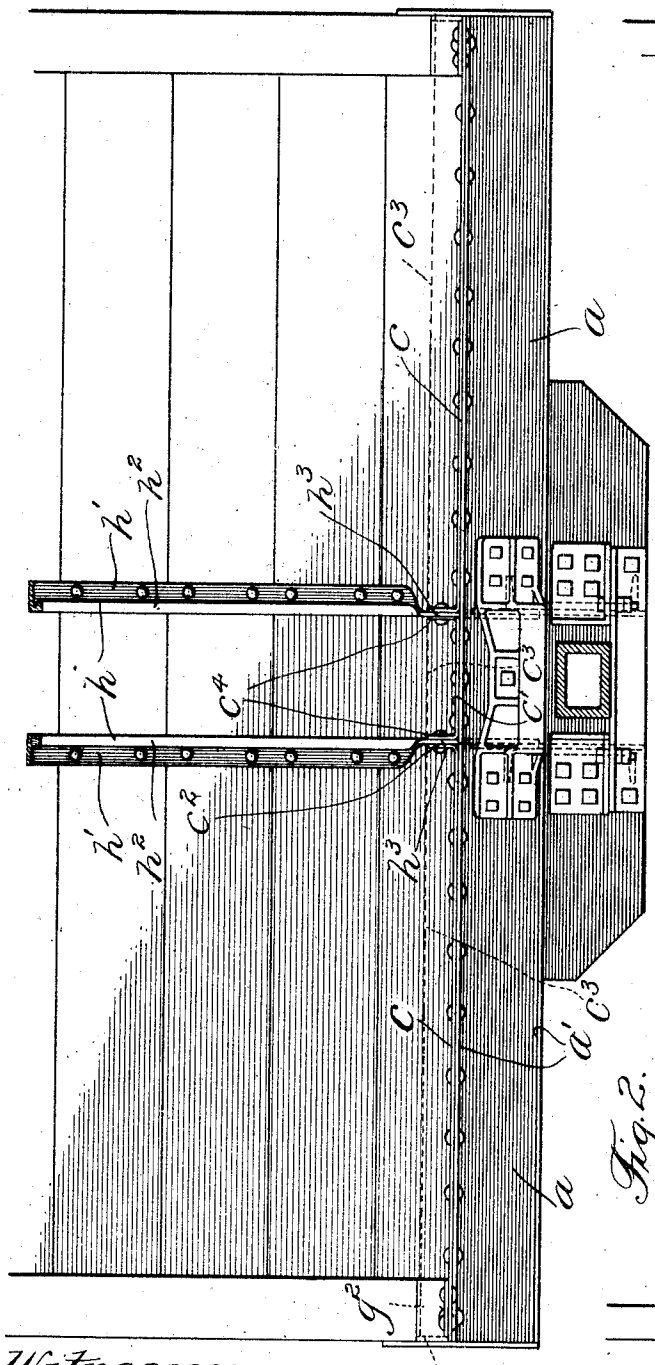

Fig. 1.

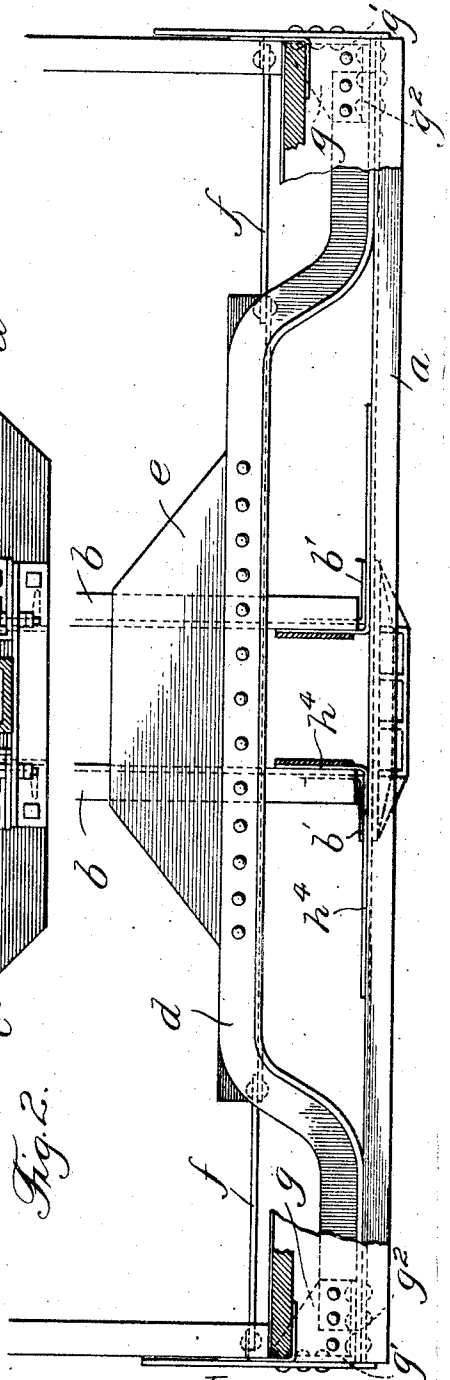

Fig. 2.

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Fig. 3.

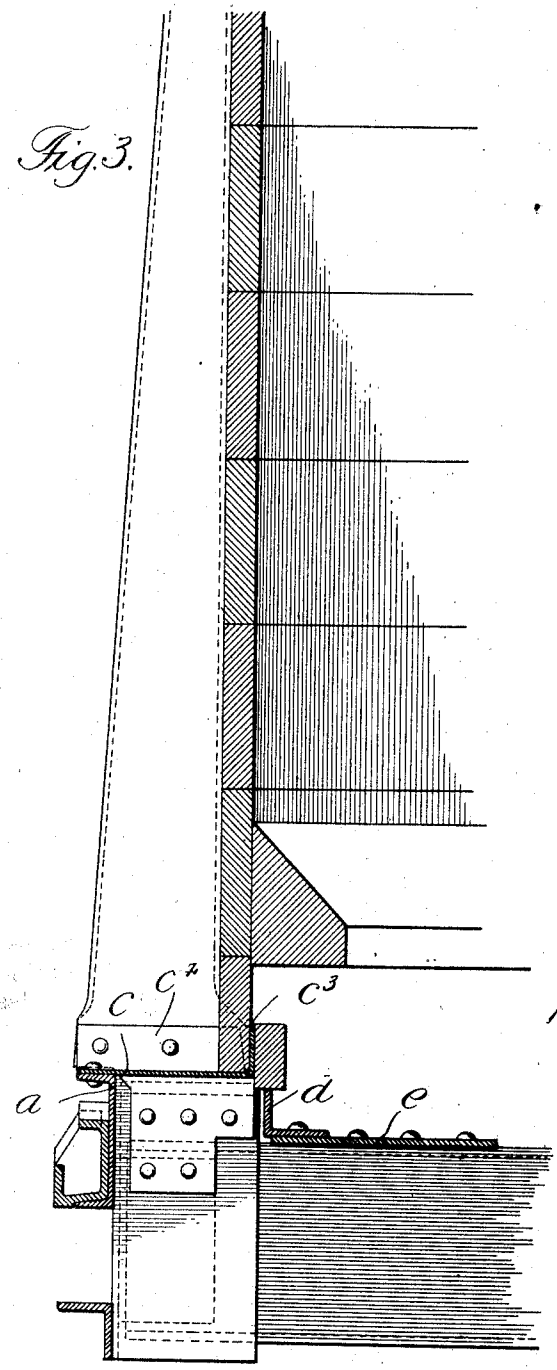
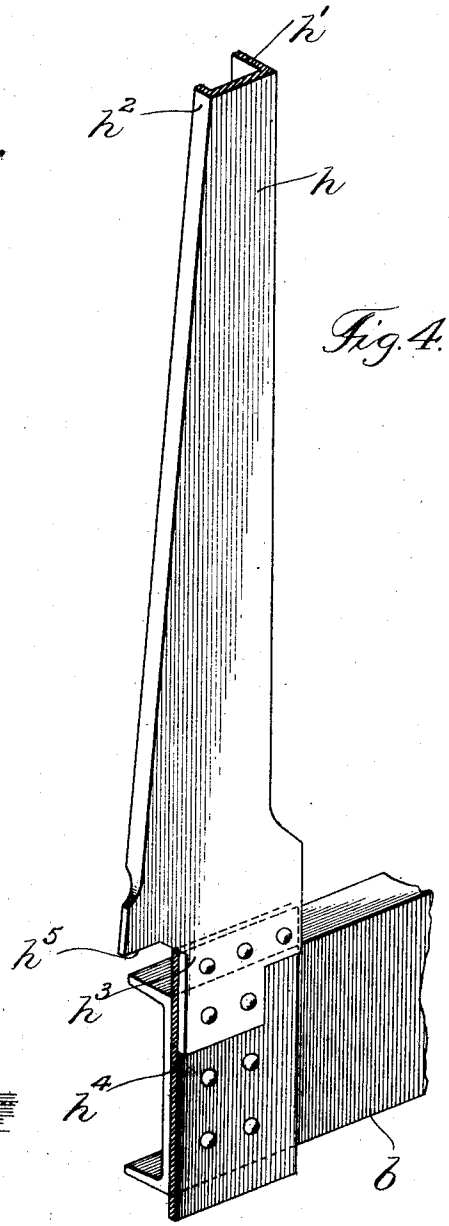


Fig. 4.



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UNITED STATES PATENT OFFICE.

SPENCER OTIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL DUMP CAR COMPANY, A CORPORATION OF MAINE.

RAILWAY-CAR.

No. 854,305. Specification of Letters Patent. Patented May 21, 1907.

Application filed September 7, 1906. Serial No. 333,645.

To all whom it may concern:

Be it known that I, SPENCER OTIS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Cars, of which the following is a specification.

My invention relates to railway cars, and has for its object to improve the construction of the end frame thereof and to provide an improved mechanism whereby this end frame will be greatly strengthened.

With this and other objects in view my invention consists in the combinations and details hereinafter described and claimed.

In the accompanying drawings—Figure 1 is an end elevation of a portion of a railway car showing my improvements; Fig. 2 a plan view—certain parts being removed to illustrate the construction more clearly; Fig. 3 a longitudinal sectional elevation taken on line 3 of Figs. 1 and 2; and Fig. 4 a detail perspective view showing the end stake.

In the drawings I show an end sill a and a longitudinal sill, composed in the present instance of two channel members b—these channel members being connected to the end sill by angular brace plates b'. The end sill a is formed of a channel bar having horizontally extending flanges a'. To the upper flange a' is suitably secured, by rivets, top plate members, comprising side members c extending from the sides of the car to the point adjacent the longitudinal sill and an intermediate member c', the side members c and intermediate members c' being placed apart sufficiently to permit the passage of end stakes hereinafter described. These top plate members have flanged sides and ends, the flanged sides of the side members being engaged at c^3 and the ends at c^2. The flanged side of the intermediate member is indicated at c^2 and the ends at c^4. The side flanges are suitably connected to the ends of the car, while the end flanges are secured together by suitable rivets, these rivets passing also through the lower ends of the end stakes, as hereinafter described.

d represents a bowed brace member formed of angle iron or other suitable material, this brace member being secured at its ends to the end sill and at its intermediate portion to a horizontal plate e, which extends over the longitudinal sill adjacent the ends thereof. A transverse brace member f connects the sides of the car and is also secured to the brace member.

To secure the end sill firmly to the sides of the car I provide gusset plates having a horizontal portion g and vertical flange portions g' and g^2, the flanges g' being secured to the side portions of the car and the flanges g^2 to the end sill. It will be observed that one flange of the bowed brace member is secured between the flange g^2 of the gusset plate and the end sill, while the other flange of this bowed brace member is secured to the horizontal flange g of the gusset plate. This forms a very firm and secure connection between the end sill and the sides of the car, enabling this portion of the car to resist shocks and strains to an unusual degree.

h represents end stakes composed of channel bars having flanges h', h^2, the flanges h'—which are secured to the end boards of the car—being somewhat wider than the flanges h^2. This construction, however, is not necessary, as both flanges may be of the same width, or the flange h^2 may be omitted, forming the end stake of angle iron in this instance.

At the lower end of the stake the flanges are removed, leaving a plain web portion which extends between the spaced top plates and is secured thereto, as before described, by rivets or other suitable fastening means. The lower end of this web portion is secured to the longitudinal sill, by rivets or otherwise. I prefer to form the connection between the end stake and the longitudinal sill through an angle brace member h^4, which has one portion secured to the longitudinal sill and the other portion to the end sill, as clearly indicated in Fig. 2. The end of the end stake is riveted to this member h^4, as shown in Fig. 4. I provide this lower end of the end stake with a recess h^5, which extends over and rests upon the end sill a, as shown in Fig. 3.

By the construction above described I provide a very secure fastening for the end stakes, thus firmly holding them in place.

I claim:—

1. A railway car comprising side and end portions, a longitudinal sill and an end sill, said end sill having spaced top plates secured thereto, and an end stake having its lower end extending between spaced top plates and secured thereto and to the longitudinal sill.

2. A railway car comprising side and end portions, a longitudinal sill and an end sill, said end sill having spaced top plates secured thereto, and an end stake formed of a channel bar having its flanges removed at its lower end, said lower end extending between the spaced top plates and secured thereto and to the longitudinal sill.

3. An end stake for railway cars comprising a channel bar member having a web portion and flange portions, said web portion extending below the flanges at its lower end and provided with a recess, substantially as described.

4. A railway car having a longitudinal sill and an end sill secured thereto, said end sill comprising a channel bar, spaced top plates secured thereto and extending rearward therefrom over the longitudinal sill, and an end stake having a recessed lower end extending between the spaced top plates and secured thereto and to the longitudinal sill, said recessed portion engaging a flange of the channel bar.

5. A railway car having a longitudinal sill and an end sill, a brace plate secured to the longitudinal sill and to the end sill, and an end stake having its lower end portion secured to the brace plate.

6. A railway car having a longitudinal sill and an end sill, a brace plate secured to the longitudinal sill and to the end sill, and an end stake having a recessed lower portion secured to the brace plate and engaging the end sill.

7. A railway car having an end sill and a longitudinal sill secured thereto, a bowed brace member secured at its ends to the end sill, and an end stake having a recessed portion engaging the end sill, said end stake secured at its lower end to the longitudinal sill.

8. A railway car comprising side and end portions, an end sill, a bowed brace member secured at its ends to the end sill, and gusset plates having a horizontal portion secured to the brace member and vertical flanges secured to the end sill and side members respectively.

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Witnesses:
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