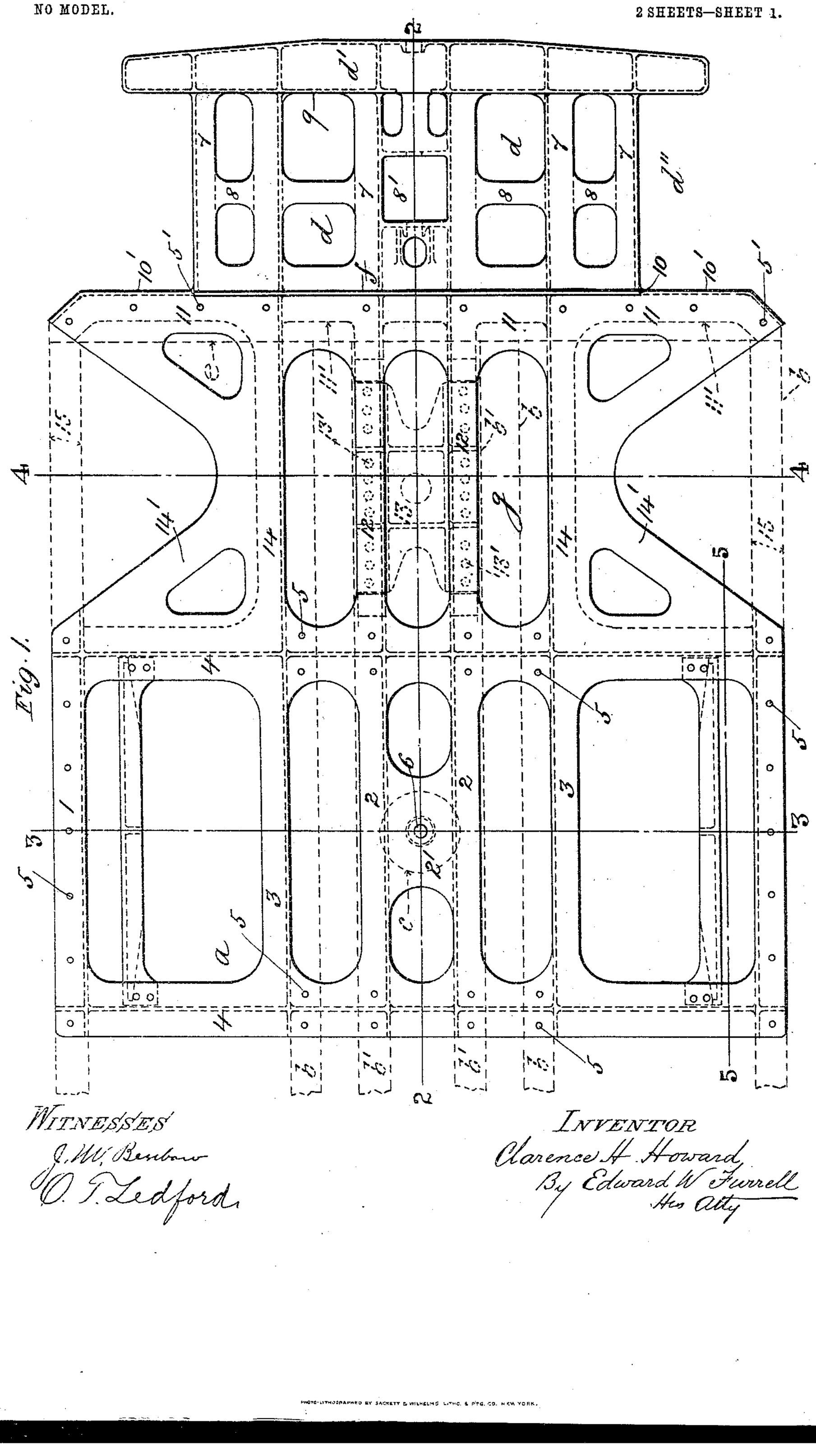
No. 774,474. PATENTED NOV. 8, 1904.

C. H. HOWARD.

RAILROAD CAR.

APPLICATION FILED AUG. 8, 1904.

NO MODEL. 2 SHEETS—SHEET 1.



WITNESSES
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INVENTOR
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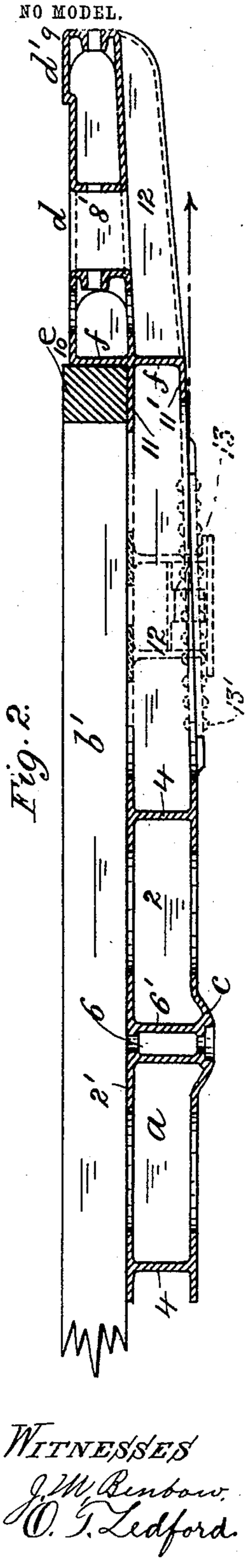

Fig. 2.

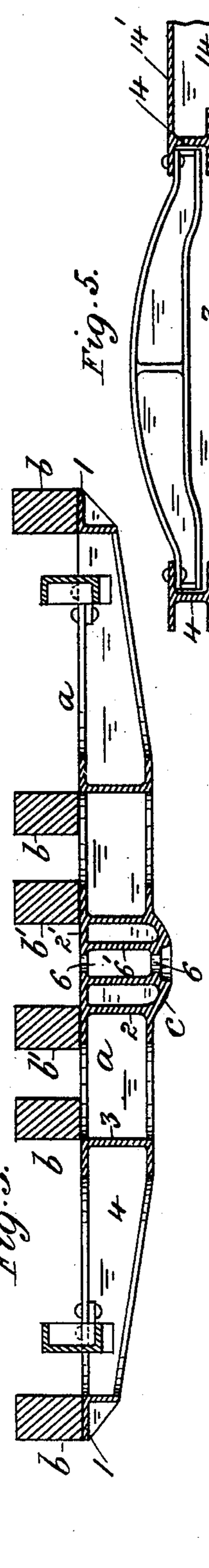

Fig. 3.

Fig. 5.

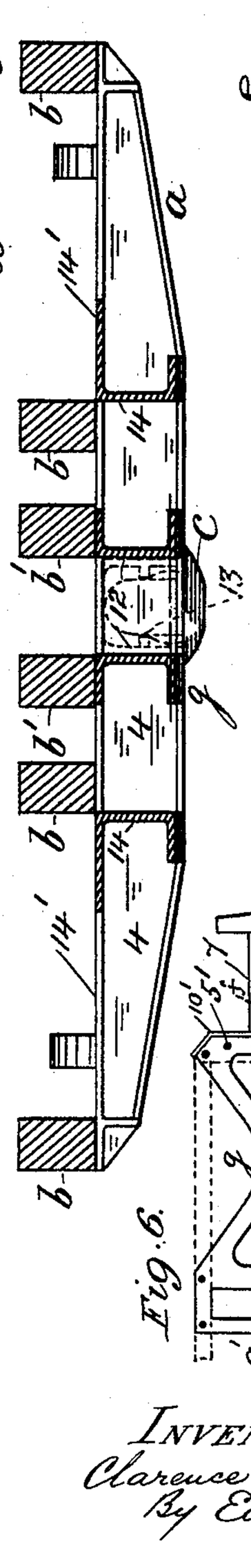

Fig. 4.

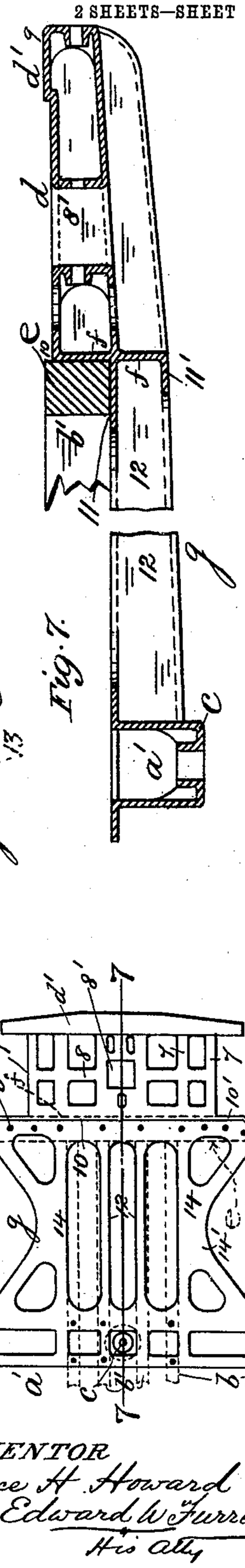

Fig. 7.

Fig. 6.

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No. 774,474. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

CLARENCE H. HOWARD, OF ST. LOUIS, MISSOURI, ASSIGNOR TO AMERICAN STEEL-BODY DOUBLE-BOLSTER CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

RAILROAD-CAR.

SPECIFICATION forming part of Letters Patent No. 774,474, dated November 8, 1904.

Application filed August 8, 1904. Serial No. 219,957. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE H. HOWARD, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Railroad-Cars, of which the following is a specification.

My invention relates particularly to the passenger-platforms and draft-timbers of a railroad-car having integral (preferably cast-steel) double or single body-bolsters.

In the ordinary construction of a railroad-car each platform and its adjacent draft-timbers are separate parts and attached, respectively, to the end sills and to the middle longitudinal sills of the car floor-frame, whereby in the case of the platform a joint is formed between it and the floor-frame which in the event of collision breaks and causes the destruction of the platform and consequent telescoping of the cars.

My invention has for its object to obviate this evil and at the same time provide a rigid and durable platform having the draft members combined therewith, so that the strains of the platform and draft-gear are transmitted longitudinally through the platform to the adjacent body-bolster and thence uniformly through the entire series of the longitudinal car-sills.

The invention consists in making the passenger-platform integral with the body-bolster, combined with other features of novelty, as hereinafter particularly described and claimed, reference being had to the accompanying drawings, forming part of this specification, whereon—

Figure 1 is a top plan of a combined car-platform and body-bolster embodying my improvement; Fig. 2, a vertical longitudinal section through the same on line 2 2 in Fig. 1; Figs. 3 and 4, cross-sections thereof on lines 3 3 and 4 4, respectively, in Fig. 1; Fig. 5, a vertical longitudinal section through the bolster and adjacent portion of the device, broken away on line 5 5 in Fig. 1, showing one of the side bearings in side elevation; Fig. 6, a top plan, to reduced scale, of my improvement applied to a single body-bolster; and Fig. 7, a vertical longitudinal section, to enlarged scale, through the same, broken away on line 7 7 in Fig. 6.

Like letters and numerals of reference denote like parts in all the figures.

a represents a double body-bolster, which in the present case consists of a rectangular-shaped frame, composed, preferably, of cast-steel, integral throughout and having two opposite end pieces or members 1, which correspond to the side sills *b* of the car (indicated by broken lines in Fig. 1) and are preferably L-shaped in cross-section, two middle pieces 2, corresponding to the middle longitudinal car-sills *b'* and preferably channel-shaped in cross-section, and two intermediate channel-shaped pieces 3, parallel to the middle pieces 2, the pieces 1, 2, and 3 being united at their ends to two opposite side pieces 4, arranged transversely to the car-sills *b b'* and preferably I-shaped in cross-section.

Through the top flanges of the pieces 1 and 4, which bear against the under side of the car-sills *b b'*, are formed holes 5 for the bolts, (not shown,) by which the bolster *a* is secured to the car-body in the usual well-known manner.

The pieces 2 at the middle portion of the bolster *a* are united to each other at the top, preferably by a web 2' integral therewith, and at the bottom by the body center plate *c*, which projects from and is integral with the bottom of the bolster *a* thereat, the web 2' and center plate *c* having central vertical holes 6 therethrough for the king-bolt (not shown) and united to each other around the holes 6 by a tubular portion 6' which surrounds the king-bolt.

I do not limit myself to the particular form and construction of the bolster *a* above described, and shown on the drawings, as my improvement is applicable to any other suitable pattern of bolster which is made integral, of cast-steel or otherwise.

Each passenger-platform *d*, which projects beyond the end sill *e* of the car floor-frame at the usual level relatively thereto, is composed of cast-steel, integral throughout, and may be

of any desired cross-section and configuration in top plan, such as shown, consisting of a series of parallel longitudinal pieces 7, preferably channel-shaped in cross-section, which are arranged at suitable distances apart and united at the top and bottom by cross-pieces 8, the platform *d* having a central opening 8′ therethrough and otherwise suitably constructed thereabout for the buffer-rigging. (Not shown.)

The platform *d* is formed at its outer end 9 with a buffer-beam or end sill *d′*, which is similarly shaped in top plan to an ordinary platform end sill and preferably box-shaped (or otherwise) in cross-section and is integral with the body of the platform *d*, the end portions of the sill *d′* projecting beyond the sides of the platform *d* for forming the step-openings *d″*. The other end, 10, of the platform *d* is preferably channel-shaped in cross-section, having its vertical web *f* formed beyond each side of the platform *d* with an extended portion 10′, the web *f* and its extended portions 10′ bearing against the outer face of the end sill *e* of the car, and thereby insuring a solid bearing of the platform *d* endwise against the car-body. From the web *f* and its extended portions 10′ projects beneath the floor-frame of the car a horizontal flange 11, which bears against the under side of the end sill *e*.

Extending between the platform *d* and the adjacent body-bolster *a* and integral therewith, respectively and collectively, is an intermediate connecting-frame *g*, of cast-steel, having its upper surface preferably flush with the top of the bolster *a* and bearing thereat against the under sides of the longitudinal car-sills *b b′*, one end of the frame *g* (or of its component longitudinal members, as hereinafter more particularly specified) uniting with the platform *d* and its other end with the corresponding transverse piece or member 4 of the bolster *a*, preferably for the entire width of the car-body.

The frame *g* may be of any suitable design, but preferably as shown, and formed particularly with two middle parallel longitudinal members 12, which are channel-shaped (or otherwise) in cross-section and located immediately under and against the middle longitudinal car-sills *b′*, (in alinement with the middle pieces 2 of the bolster *a*)—that is to say, the longitudinal members 12 of the frame *g* correspond to and are substituted for the ordinary draft-timbers, the draft-rigging 13 being attached to the members 12 by rivets 13′, (or otherwise,) as indicated by broken lines in Figs. 1, 2, and 4.

The longitudinal members 12 are united at one end to the web *f* and flange 11 of the platform *d*, beneath which they extend to its front end 9, and at their other ends united to the outer transverse piece or member 4 of the bolster *a*. The other longitudinal members, 14, of the frame *g*, which are also united to the web *f* and flange 11 of the platform *d* and extend beneath the latter to its front end 9, are preferably alined to the intermediate channel-shaped pieces 3 of the body-bolster *a* and are preferably channel-shaped in cross-section, having their top flanges 14′ widened and flared outward at their junction with the flange 11 of the platform *d* and with the outer transverse piece or member 4 of the bolster *a*.

The vertical web *f* (and extended portions 10′) of the inner end 10 of the platform *d* is preferably extended downward below the flange 11 and unites with the longitudinal members 12 and 14 of the frame *g* thereat, the web *f* being formed at the bottom with a horizontal flange 11′, located beneath the flange 11. Through the flange 11 (and preferably also through the bottom flange 11′) are formed holes 5′ for the passage of the bolts (not shown) by which the combined frame *g* and platform *d* is secured to the end sill *e* of the car.

In the case of that class of cars in which the platforms are omitted the web *f*, with its extended portions 10′ and flange 11, constituting the inner end 10 of the platform *d*, as above described, forms the outer end of the frame *g*, to which the draft-rigging 13 is attached, or the outer end of the frame *g* in such case may be otherwise suitably constructed conformably to the end of the car-body.

Figs. 6 and 7 show the platform *d* and connecting-frame *g*, constructed as above described, combined in like manner with an integral single body-bolster *a′*, which may be of any suitable pattern and needs no further description.

By my invention of making the platform integral with the body-bolster and bearing therewith, preferably, against the under side of the car floor-frame instead of being attached to the floor-frame at the end in the ordinary manner any abnormal strain coming endwise on the platform is transmitted therethrough to the bolster and to the entire series of car-sills, the combined bolster and frame, in connection with the platform, insuring to the latter rigidity and durability under all conditions.

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

1. In a railroad-car, the combination with the body-bolsters respectively, of a platform integral with the bolster, and means for securing the said parts to the car-body, substantially as described.

2. In a railroad-car, the combination with the body-bolsters respectively, of a platform, and a frame extending between the bolster and the platform, all the said parts being integral throughout and adapted to bear against

the under side of the car-sills, and means for securing the said parts to the car-body, substantially as described.

3. In a railroad-car, the combination with the body-bolsters respectively, of a platform, and a frame extending between the bolster and the platform, all the said parts being integral throughout, and means for securing the said parts to the car-body, the said frame having the draft-rigging attached thereto, substantially as described.

4. In a railroad-car, the combination with the body-bolsters respectively, of a frame integral therewith and extending therefrom to the corresponding end of the car or thereabout, the said frame having the draft-rigging attached thereto, and means for securing the said bolster and frame to the car-body, substantially as described.

5. In a railroad-car, the combination with the body-bolsters respectively, of a frame integral therewith and extending therefrom to the corresponding end of the car, or thereabout, the said bolster and frame having longitudinal members adapted to bear against the under side of the middle longitudinal sills of the car, the said members having the draft-rigging attached thereto, and means for securing the bolster and frame to the car-body, substantially as described.

6. In a railroad-car, the combination with the body-bolsters respectively, of a frame integral therewith and extending therefrom to the corresponding end of the car, or thereabout, the said frame having an upwardly-projecting web adapted to bear against the outer face of the end sill of the car, and means for securing the said bolster and frame to the car-body, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLARENCE H. HOWARD

Witnesses:

O. T. LEDFORD,

EDWARD W. FURRELL.