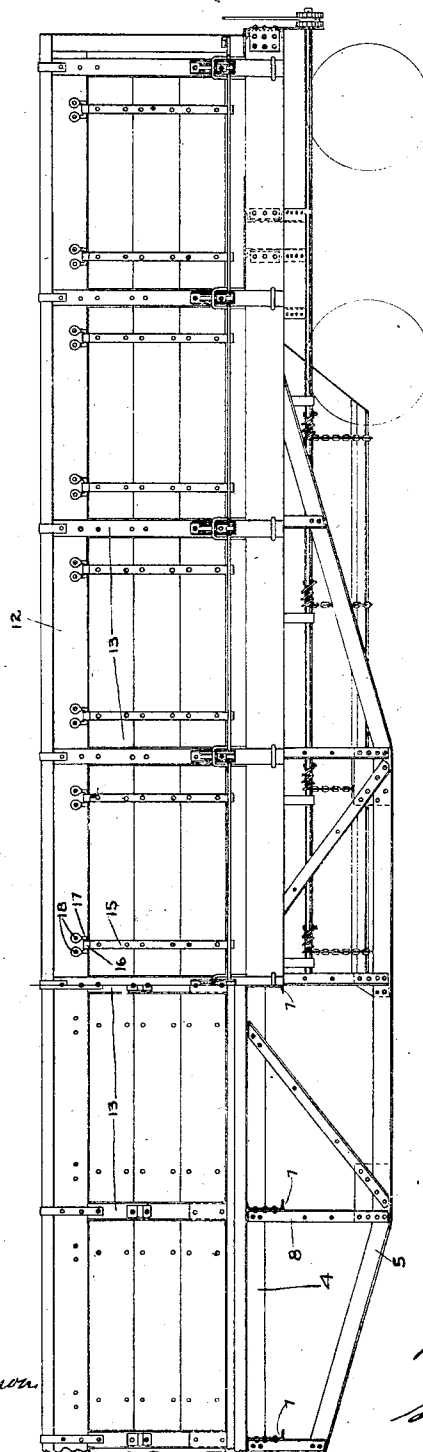


H. S. HART.
RAILWAY CAR.
APPLICATION FILED DEC. 14, 1907.

941,249.

Patented Nov. 23, 1909.
3 SHEETS—SHEET 1.

Fig 1



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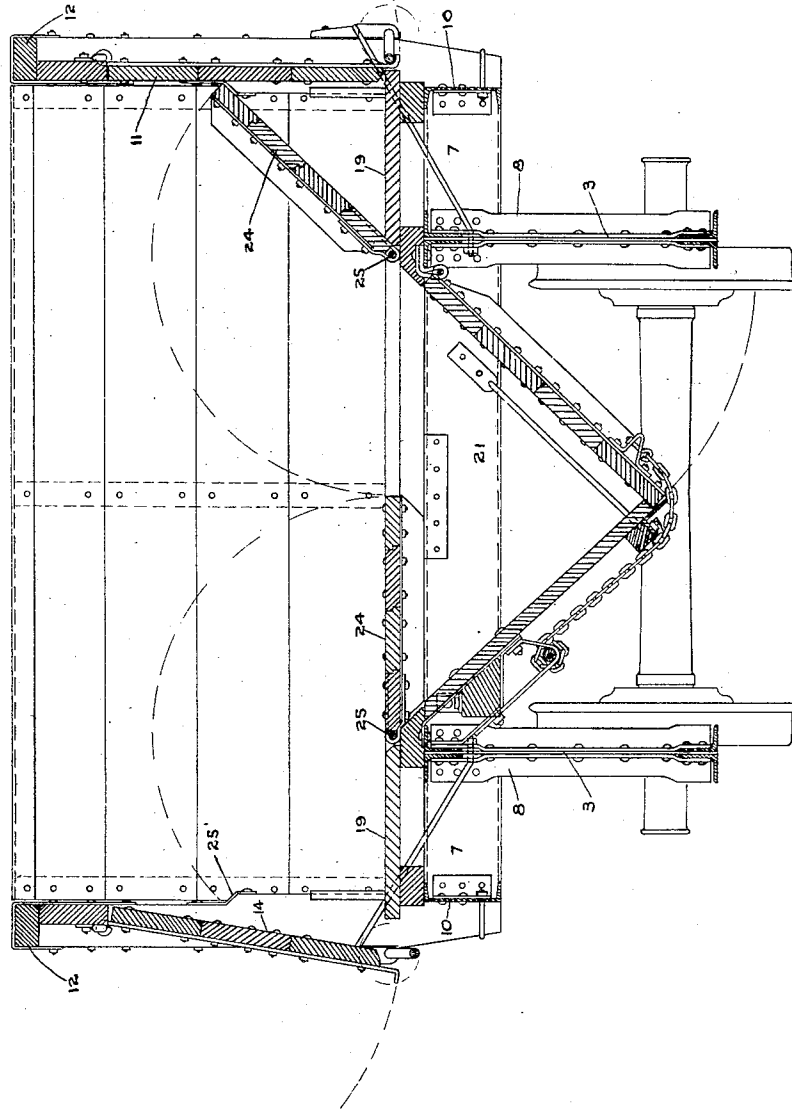
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3 SHEETS—SHEET 2.

Fig 2



Witnesses

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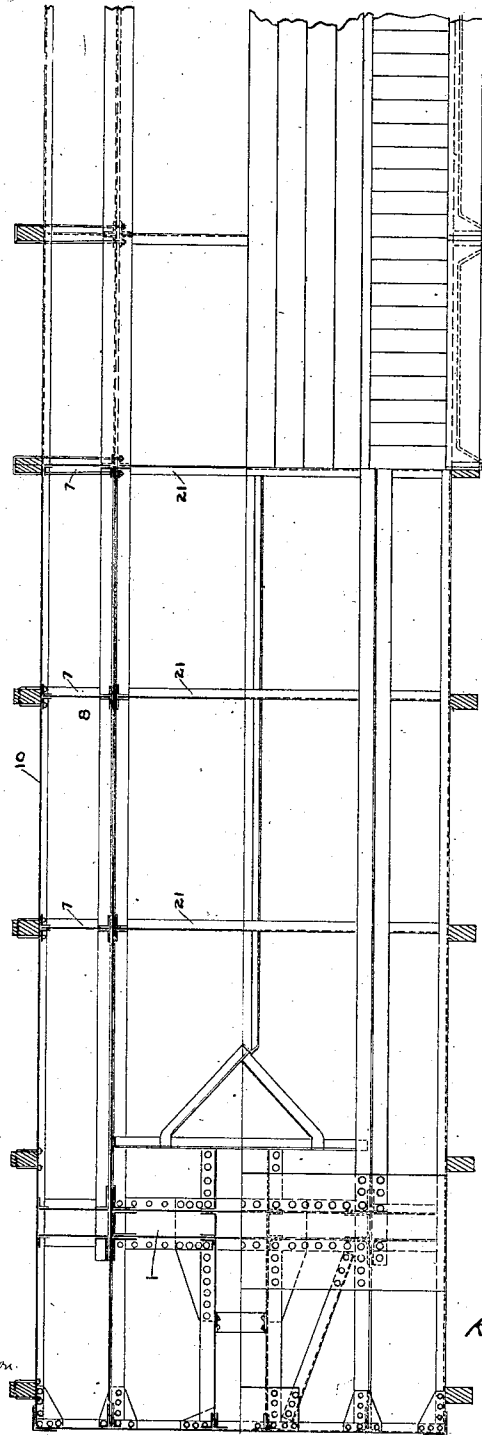
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3 SHEETS—SHEET 3.

Fig 3



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UNITED STATES PATENT OFFICE.

HARRY S. HART, OF CHICAGO, ILLINOIS, ASSIGNOR TO RODGER BALLAST CAR COMPANY, A CORPORATION OF MAINE.

RAILWAY-CAR.

941,249.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed December 14, 1907. Serial No. 406,416.

To all whom it may concern:

Be it known that I, HARRY S. HART, 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.

The object of my invention is to improve the construction of the car now in general use and known as the Hart convertible car. The structure of this car in substantially the form now manufactured is illustrated and described in Letters Patent No. 827,632 granted to H. S. Hart, O. W. Meissner and J. O. Neikirk on July 31, 1906.

The car illustrated in this patent and now manufactured and known as the Hart convertible car is supported upon four longitudinal plate girders. These girders are of considerable depth and are arranged in pairs, one pair at each side of the car, leaving space at the center for a longitudinal hopper bottom.

As is well-known, the object of the form of construction embodied in the Hart convertible car is to provide a car which may be converted from an ordinary gondola car to a hopper bottom car, and also to provide side dumping doors which may be utilized when the car is adjusted for use as a gondola car. In order to provide the necessary parts and supporting structure to bring about the conversion from a gondola car to a hopper bottom car, it has been necessary to introduce considerable additional weight over and above the weight of a standard gondola car. This additional weight consists in the structure of the hopper bottom and the means for supporting the same. When the car is utilized as a gondola car this additional weight serves no purpose and merely constitutes a certain amount of dead load, which must be hauled without any advantage being derived therefrom.

By my improved structure I have succeeded in reducing the weight of cars of the Hart convertible type between two and three thousand pounds. The structure whereby this result is accomplished is illustrated in the accompanying drawing.

In the drawings—Figure 1 is a side elevation of a portion of a Hart convertible car constructed according to my invention. Fig.

2 is a transverse section of the car illustrated in Fig. 1. Fig. 3 is a plan view of a part of the car.

In the underframe of my improved car the entire load is transmitted to the body bolsters 1 by means of two longitudinal trussed sills 3. As will be apparent upon an inspection of the drawings, these sills are made of great depth and consist of an open truss comprising a compression member 4, tension member 5 and the usual struts and diagonal bracing. By adopting deep trusses of the form described, extending from bolster to bolster on either side of the hopper, I am enabled to dispense with the auxiliary longitudinal sills at the extreme edge of the car, as illustrated in Patent No. 827,632 above referred to, thus economizing greatly in weight without making any sacrifice of strength.

The sides of the car beyond the longitudinal trusses 3 are supported upon cantalivers projecting horizontally outward from the upper part of the trusses 3. In the present instance I have shown these cantalivers 7 riveted to the vertical struts 8 of the side trusses 3. These vertical struts 8 consist of angle irons, as illustrated. Supported upon the outer ends of the cantalivers I provide a channel beam 10 directly beneath and supporting the side of the car. The remainder of the underframing of the car does not depart materially from that described and illustrated in Letters Patent No. 827,632, above referred to.

As usual in cars of the Hart convertible type, the car illustrated in this application is provided with sides designated generally by the numeral 11, and consist of upper horizontal members 12 and vertical members, or side stakes, 13 between which are the side door openings. The side doors 14 are hinged at their upper edges. The member of the hinge secured to the door consists of a strap 15 extending the entire depth of the door and secured thereto by bolts, and bent in the form of an eye 16 at the upper end. Extending through the eye 16 is a U-shaped pintle 17, the ends of which are bolted to the stationary part of the car side, as shown at 18. The form of this hinge differs from that illustrated in the patent above referred to and has been found more serviceable in use.

The bottom of the car consists of stationary parts 19 along the sides and extending outward from the trusses 3 to the extreme sides of the car. Extending transversely across the center of the car between the trusses 3 are channels 21. The hopper bottom inclines downwardly on either side from the upper edges of the trusses 3 and is supported in the manner illustrated, and more fully described in the patent hereinbefore referred to.

The central part of the floor of the car consists of members 24 hinged at 25 above the trusses 3 and at the outer edges of the hopper bottom. When lowered to the position shown at the left-hand of Fig. 2, these members form the central part of the flat floor of the car when adjusted for use as a gondola car. When raised to the position shown at the right of Fig. 2 of the drawing, the members 24 form a continuation of the sides of the hopper bottom, and in this position their free edges rest against the sides of the car, being supported in notches 25' in the side stakes.

These features of construction are similar to those described in the patent above re-

ferred to and further detailed description is therefore unnecessary.

What I claim is:

1. In a car, an underframe comprising body bolsters, a pair of longitudinal trussed sills extending between said bolsters at points intermediate the center of the car and the sides thereof, said pair of longitudinal sills constituting the sole means of transmitting the weight from the central part of the car to the bolsters, a hopper between said longitudinal sills, and cantalivers secured to and extending outwardly from said longitudinal sills to support the side portions of the car.
2. In a car, body bolsters, longitudinal sills connecting said bolsters at points intermediate the center and sides of the car, cantalivers secured to and extending outward from said longitudinal sills, side stakes mounted upon said cantalivers, and tie rods extending from said side stakes to said longitudinal sills.

HARRY S. HART.

Witnesses:

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