No. 710,177. Patented Sept. 30, 1902.

# A. B. BELLOWS.

## STEEL GONDOLA CAR.

(Application filed Dec. 21, 1901.)

(No Model.)

Fig. 1.

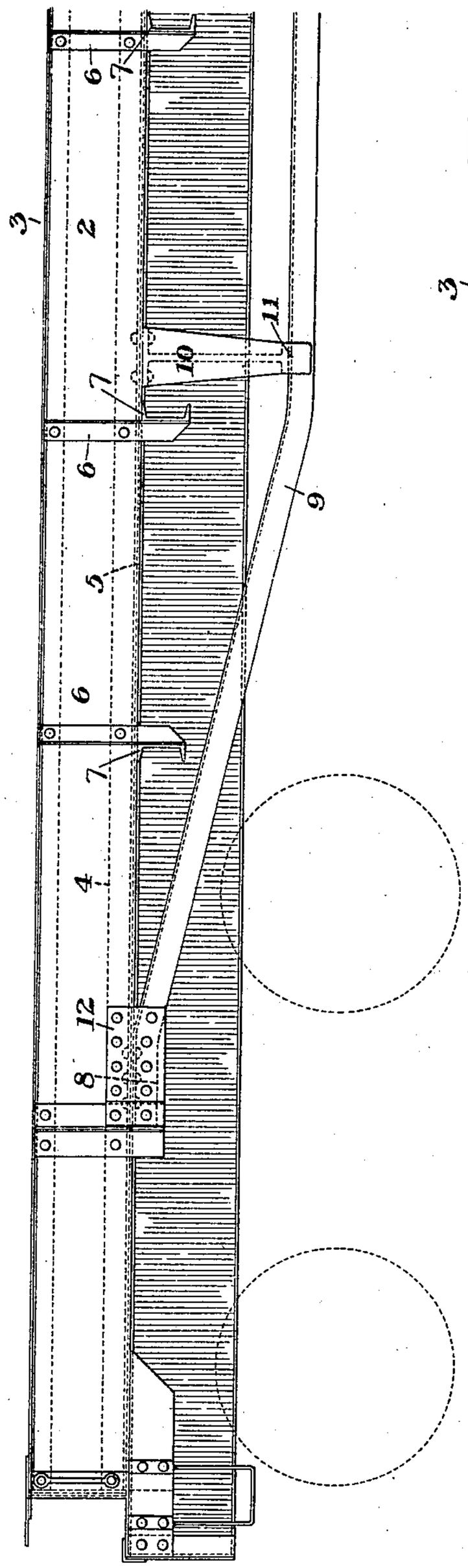



Fig. 4.

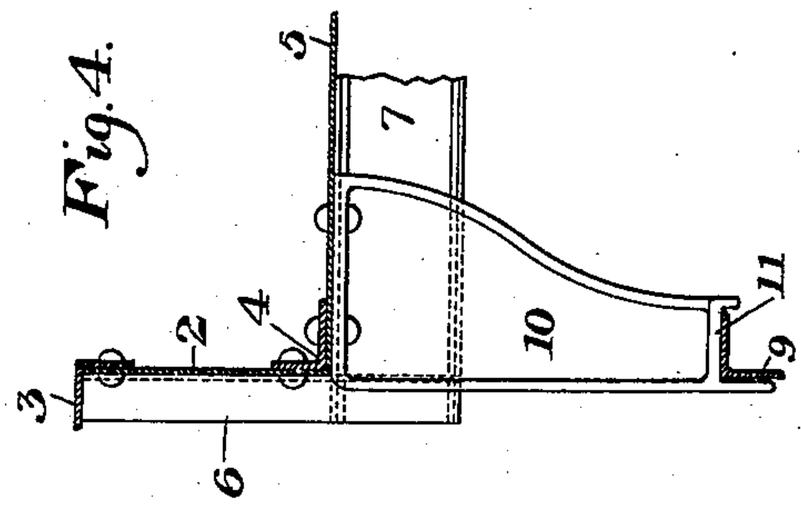



Fig. 3.

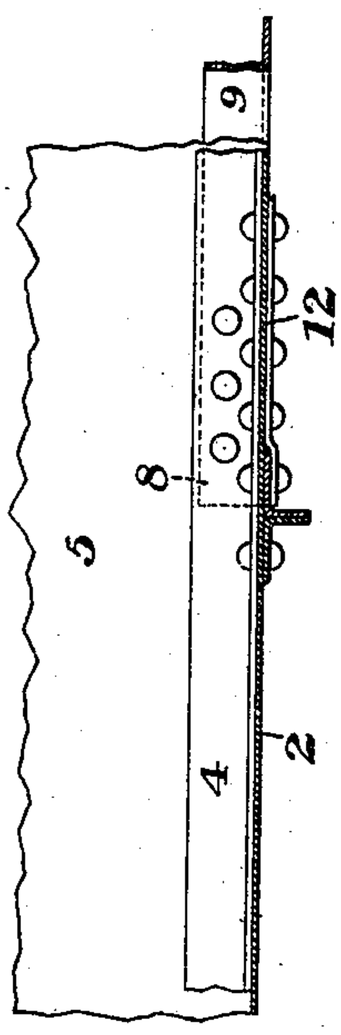
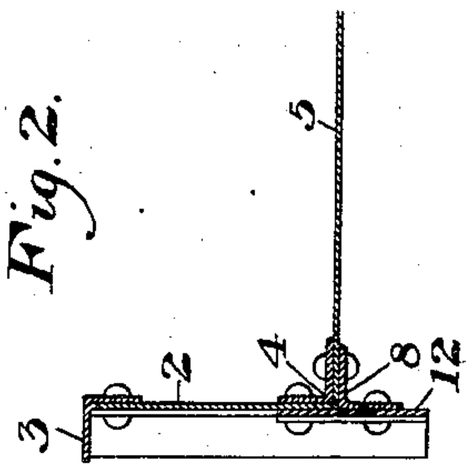



Fig. 2.




WITNESSES

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# UNITED STATES PATENT OFFICE.

ARTHUR B. BELLOWS, OF PITTSBURG, PENNSYLVANIA.

## STEEL GONDOLA CAR.

SPECIFICATION forming part of Letters Patent No. 710,177, dated September 30, 1902.

Application filed December 21, 1901. Serial No. 86,785. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR B. BELLOWS, of Pittsburg, Allegheny county, Pennsylvania, have invented a new and useful Steel Gondola Car, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation showing a portion of a gondola car constructed in accordance with my invention. Figs. 2 and 3 are broken detail views showing the connection of the tension truss member, and Fig. 4 is a partial vertical cross-section showing the spacing-blocks between the truss member and the car-body.

My invention relates to the class of steel cars of the gondola type, and is designed to provide a cheap, light, and strong structure which can be easily made from commercial shapes.

In the drawings, 2 represents the car side, composed of plates having at the top a cover angle 3, with one flange projecting outwardly, and a lower angle 4, riveted along the inner lower portion of the face. The floor-plates 5 are riveted to the bottom angle 4, the bottom of the side being substantially flush with the floor. The sides are strengthened by means of vertical angles 6, riveted to the outer face through the upper and lower angles, these vertical angles extending below the floor-line and being riveted to the cross-sills 7, formed of rolled channels. A pair of the vertical angles are preferably used at the bolster-point, as shown in Fig. 1, and adjacent thereto is secured the horizontal end portion 8 of a truss member 9, which extends downwardly and thence horizontally beneath the middle part of the car, struts or spacing-blocks 10 being employed in this middle portion. The truss members are shown as being in the form of commercial angles, though other shapes may be used, and the cast struts have lower pockets 11, while their upper ends are riveted to the floor-plates and also to the lower horizontal angles 4, as shown in Fig. 4.

The end portions 8 of the truss members are riveted through the vertical flanges to the floor-plates and the angles 4, while the outer vertical flanges are riveted to supplemental plates 12, secured to the car sides and depending below it, the ends of these plates lapping over the adjacent vertical angles at the bolster-point, as shown in Fig. 3.

The advantages of the invention result from the lightness and strength of the structure, no side sills being used, the truss member giving the requisite strength.

Many variations may be made in the form and arrangement of the parts without departing from my invention.

I claim—

1. A gondola car having plate sides terminating at the floor-line and provided with vertical strengthening members, and a truss member extending downwardly from the floor-line below the side and longitudinally of the car; substantially as described.

2. A gondola car having plate sides extending to the floor-line and having vertical strengthening members, and truss members extending from the floor-line near the bolster-points downwardly and longitudinally of the car-body; substantially as described.

3. A gondola car having the side terminating at the floor-line, a depending plate secured to the side, and a truss member having its end portion secured to the depending plate and to the car-floor; substantially as described.

4. A gondola car side having an upper longitudinal angle and a lower longitudinal angle secured thereto and a truss member secured to the lower angle; substantially as described.

5. A gondola-car side having an upper cover-angle riveted along its top, an inner angle riveted along the lower edge portion, floor-plates secured to the lower angle, and a truss member secured to said lower angle at its ends; substantially as described.

6. A gondola car having its sides terminating at the floor-line, truss members secured substantially at the floor-line and extending downwardly and longitudinally of the car-body, said members consisting of rolled angles with horizontally-extending flanges, and struts between said angles and the car-body; substantially as described.

In testimony whereof I have hereunto set my hand.

ARTHUR B. BELLOWS.

Witnesses:
H. M. CORWIN,
G. B. BLEMING.