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CONVERTIBLE RAILWAY CAR.

APPLICATION FILED JAN. 19, 1910.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.

967,318.

Fig. 1

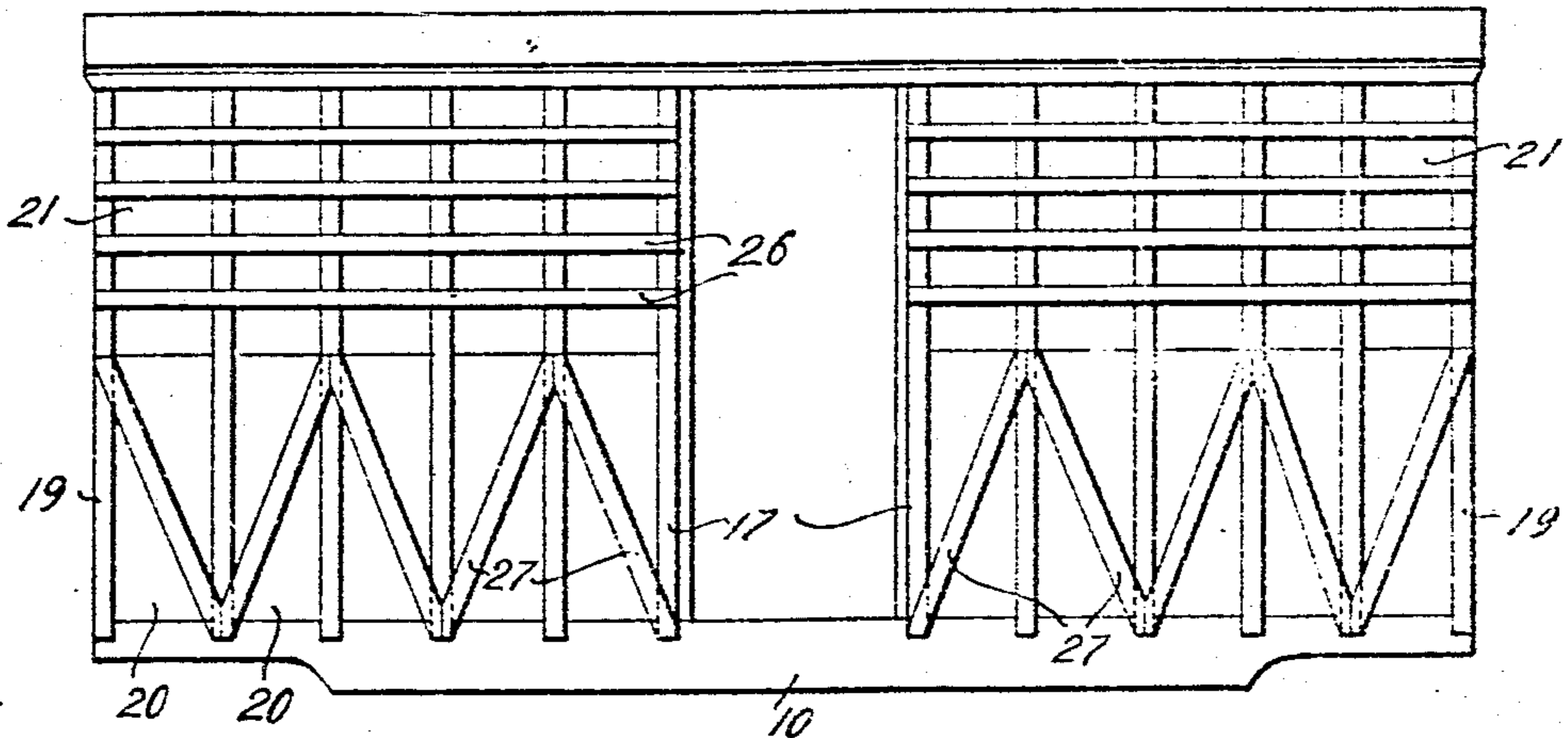
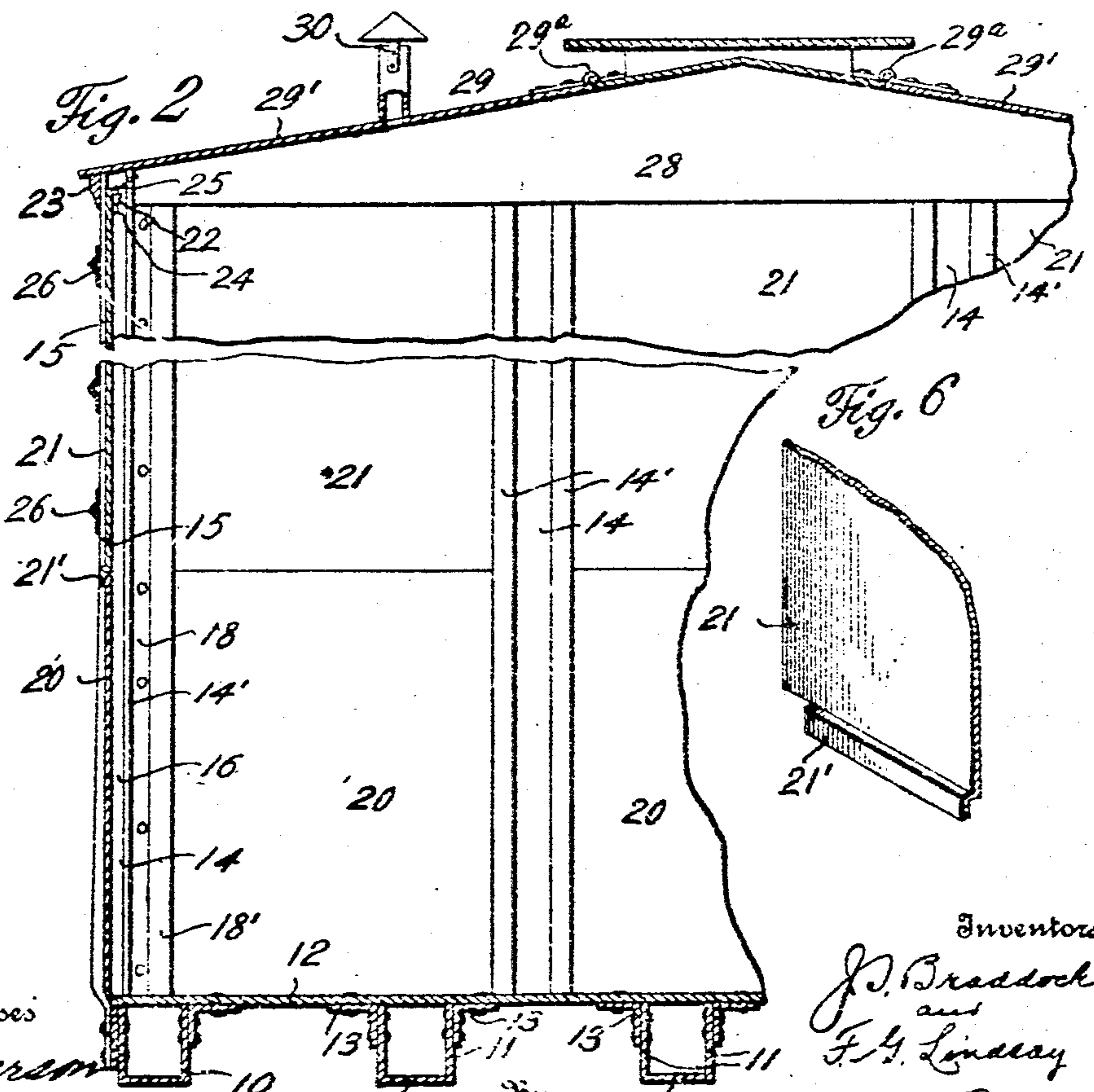


Fig. 2



Witnesses

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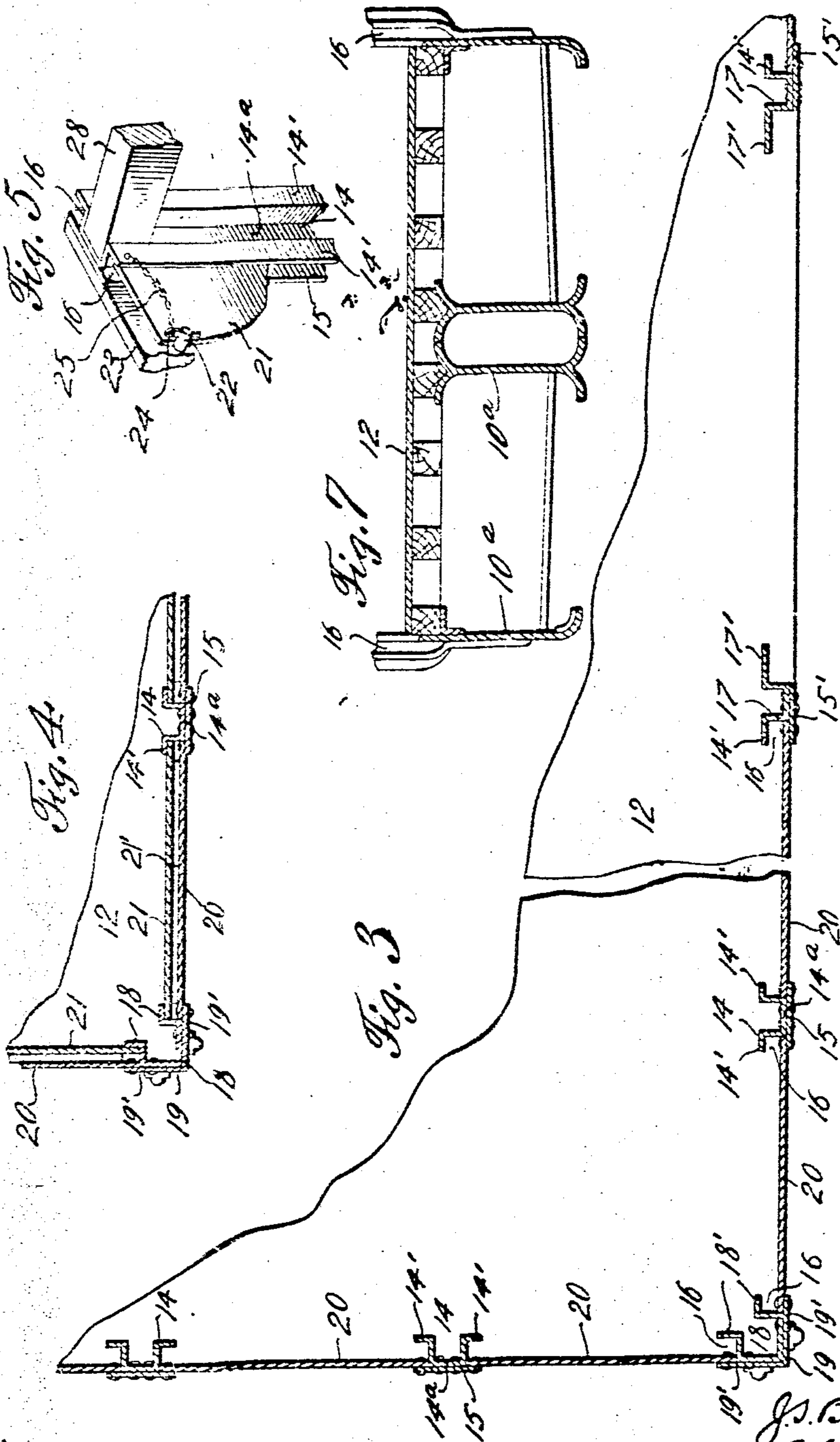
CONVERTIBLE RAILWAY CAR.

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UNITED STATES PATENT OFFICE.

JAMES S. BRADDOCK, OF MOUNT PLEASANT, AND FRANKLIN G. LINDSAY, OF SCOTTDALE, PENNSYLVANIA: SAID LINDSAY ASSIGNOR TO THE LINDSAY COMPANY, "REGISTERED," OF MOUNT PLEASANT, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CONVERTIBLE RAILWAY-CAR.

967,318.

Specification of Letters Patent.

Patented Aug. 16, 1910.

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To all whom it may concern:

Be it known that we, JAMES S. BRADDOCK and FRANKLIN G. LINDSAY, citizens of the United States, residing, respectively, at Mount Pleasant and Scottdale, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Convertible Railway-Cars, of which the following is a specification.

This invention relates to railway cars adapted for conveying coal, coke, grain, live stock and the like, and has particular reference to certain novel features of construction whereby a car of this character is more readily converted from one type or form to another in order to adapt it for various purposes, all of which will more fully hereinafter appear in the following detail description and the accompanying drawings, in which—

Figure 1 is a side elevation of a car as made in accordance with this invention; Fig. 2 is a vertical transverse section of the car, partly broken away; Fig. 3 is a transverse longitudinal section through the lower portion of the car, the parts being in the position occupied thereby when the car is employed as a closed car; Fig. 4 is a section corresponding to that of Fig. 3, the parts being in the position assumed by them when employed as a partly open car; Fig. 5 is a detail perspective of a fragment of the car along its upper edge; Fig. 6 is a detail perspective of one lower corner of a movable panel, and Fig. 7 is a detail of the bottom of the car.

Throughout the following description and on the several figures of the drawings similar parts are referred to by like reference characters.

A car made in accordance with this invention is preferably entirely or largely of metal preferably rolled steel. The bottom of the car or floor comprises any suitable number of channel beams 10 having upwardly extending flanges 11. The floor proper consists preferably of any suitable number or form of horizontal plates 12 which lie above the channel beams 10. The floor plates 12 are connected to the channel beams 10 by means of angle-irons 13, which are secured in any suitable manner to the floor plates and one or both of the vertical flanges 11.

The sides and ends of the car include a

series of substantially vertical channel beams 14, of peculiar form, the concavity of the channels being inward toward the center of the car and to each of the side members of each channel is connected a lateral flange 14', the said flanges 14' being in the same plane and parallel to the portion of the channel beam 14 which constitutes its bottom, indicated at 14^a. To each of the channel beams 14 is secured by any suitable means as by rivets a vertical plate 15, the fastening means passing through the said plate 15 and the portion 14^a of the channel beams 14 and the edges of the said plate 15 being spaced from the aforesaid channel beam flanges 14', whereby guide-ways 16 are provided.

The channel beams 17 which bound the door-ways are substantially similar to the channel beams 14 just described, but one of the flanges, 17', is adapted to have a door of any suitable construction, not shown, secured thereto and does not provide a guide-way 16 as above described. The flange 14', however, of the channel beam 17 is similar to the corresponding elements of the other channel beams and it together with the laterally projecting edge of a plate 15' provides a guide-way 16 on one side of the channel beam 17. At each corner of the car is a vertical channel beam or post 18, the main portion of which is rectangular in cross section at the immediate corner of the car, two sides of the rectangle defining the corner of the car, and the other two sides of the rectangle being bent outwardly from each other forming a pair of flanges 18' which are at right angles to each other and which lie in the same planes as the flanges 14' of the channel beams 14 on the sides and ends of the car. An angle beam 19 embraces the post 18 on the outside, the lateral edges 19' of which extend beyond the main portion of the post 18 and offset parallel to the aforesaid flanges 18' forming guide-ways 16. The angle member 19 will preferably be secured to the post 18 in any suitable permanent manner, as by rivets or bolts. The foregoing vertical members of the sides of the car are preferably secured at their lower ends to one of the flanges 11 of the channel beams 10. A series of plates are secured in any suitable manner within the guide-ways 16, either permanently or removably, and constitute the lower portion

of the side and end walls of the car. The plates 20 may extend upwardly from the floor to any desired extent.

The upper portion of the side and end walls of the car is made up of any suitable number of movable panels or sections 21 which are adapted to slide vertically within the guide-ways 16 and between each adjacent pair of flanges 14' or 18', the guide-ways being wide enough to permit a free movement of said panels 21 in addition to the plates 20. Each panel or section 21 is provided with an outwardly and downwardly projecting lip 21' which is adapted to engage over the upper edge of any section or panel immediately below the panel to which said lip is connected. The lip is preferably as much shorter than the panel 21 as is represented by the width of the flanges 14', so that the lip may pass outwardly between the extreme edges of the members forming said guide-ways, while the panel itself operates within the guide-ways. The thickness of the entire lip structure, however, is not so great but that the panel with the lip attached thereto may slide freely between the panel or section therebeneath and the inner flanges of the guide-ways. The movable panels 21, when it is desired to form a closed box car, are intended to substantially inclose the entire sides and ends thereof. Each upper section or panel 21 is locked in place by means of a pin 22 which extends inwardly through a hole in the panel, said pin being rigidly and permanently connected to a longitudinal beam or molding-piece 23 extending along the upper edge of the car and connected to the vertical members of the side and end structure. Each pin 22 passes through a hole in the panel 21 and the panel is locked thereon by means of a tapered dowel-pin 24, which may be permanently connected to the adjacent flange 14' by means of a chain 25 so as to prevent loss thereof. Any other suitable locking means for securing the movable panels in place may be employed, and the movable panels may be locked against either the flanges 14' or the plates 15.

A series of longitudinal ribs 26 extend on the sides and ends of the car and are connected to the vertical channel beams thereof. Said ribs 26 are preferably parallel to one another and may be of any suitable number, extending throughout the upper portion of the car and downward toward the bottom thereof as far as may be desired. Said ribs constitute strengthening members for the entire structure, and when the car is used for live stock or for other purposes, at which time the movable panels 21 are lowered along side of the plates 20, they serve as members to retain the contents of the car in place. If desired any suitable number of diagonal braces 27 may be used in connection

with the lower portion of the car, either with or without the longitudinal braces 26.

The roof of the car includes a series of carlines 28, the ends of which are received within the channel beams 11 and 17. The roof proper 29 may be of metal or wood and will be supported upon the said carlines 28 and upon the molding-pieces 23. The roof may include any desired number of doors 29', preferably hinged at one side as at 29'', so that when the car is to be used in connection with dumping apparatus at ships' wharves or docks, the contents of the car may be dumped directly through the roof thereof. Any suitable number or character of ventilators 30 may be employed.

We do not desire to be limited to any particular materials for the construction of this car nor to the exact details of construction herein shown and described, reserving the right to vary to a considerable extent, as may be permitted by the state of the art.

The construction of the running gear of the car is not included in our present invention and may be of any suitable or preferred construction.

In the form of the car bottom illustrated in Fig. 7 we have shown beams 10^a which may be employed instead of the above mentioned beams 10. It is our desire not to be limited to any particular form of supporting members for the bottom of the car.

We claim:—

1. The hereindescribed car body comprising a plurality of channel beams, floor plates supported thereupon, a series of vertical channel beams connected at their lower ends to said floor channel beams, said vertical channel beams forming vertical guide-ways, and a series of panels movable vertically within said guide-ways.
2. The hereindescribed convertible car comprising a series of vertical channel beams along its sides and ends, each of said channel beams including pairs of laterally extending flanges forming guide-ways, and a series of panels movable vertically within said guide-ways and between adjacent channel beams.
3. The hereindescribed convertible car comprising a series of vertical channel beams, each channel beam including a pair of laterally extending flanges, a series of wall sections along the lower portion of the car and supported by said flanges, and a series of movable panels along the upper portion of the car and adapted to be supported upon the upper edges of the aforesaid sections or movable along said guide ways along side of the aforesaid sections.
4. The hereindescribed car structure comprising a bottom including longitudinal channel beams having vertical flanges, a series of vertical channel beams connected at their lower ends to certain of said vertical flanges, each vertical channel beam having

a pair of oppositely extending flanges lying in the same plane and a plate connected to the channel beam having its edges extending parallel to the aforesaid flanges forming
 5 vertical guide-ways, a series of wall sections mounted within said guide-ways and between adjacent vertical channel beams, and a series of movable panels mounted within
 10 said guide-ways between adjacent vertical channel beams, each of said panels having an outwardly and downwardly extending lip adapted to engage over the upper edge of the corresponding aforesaid wall section.

5. The hereindescribed car structure comprising a series of side and end vertical channel beams, a series of carlines having their ends seated within the upper ends of the side channel beams, molding-pieces extending along the sides of the car at the
 20 upper edges thereof, a series of panels movable between said vertical channel beams, means to lock said panels to the aforesaid

molding-pieces, and a roof supported by said carlines and extending over said molding-pieces.

6. The hereindescribed car structure comprising a series of vertical channel beams along the sides thereof, the adjacent channel beams forming guide-ways, molding-pieces extending along the sides of the same at the
 30 upper edges thereof and secured to the said vertical channel beams, a series of panels movable vertically in said guide-ways between adjacent channel beams, and means secured to and extending inwardly from
 35 said molding-pieces to lock the movable panels thereto.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES S. BRADDOCK.

FRANKLIN G. LINDSAY.

Witnesses:

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FRANK A. PUKEY.