Jan. 7, 1941. W. L. THOMAS 2,227,870

RAILWAY CAR AND METHOD OF LOADING THE SAME

Filed May 4, 1938 5 Sheets-Sheet 1

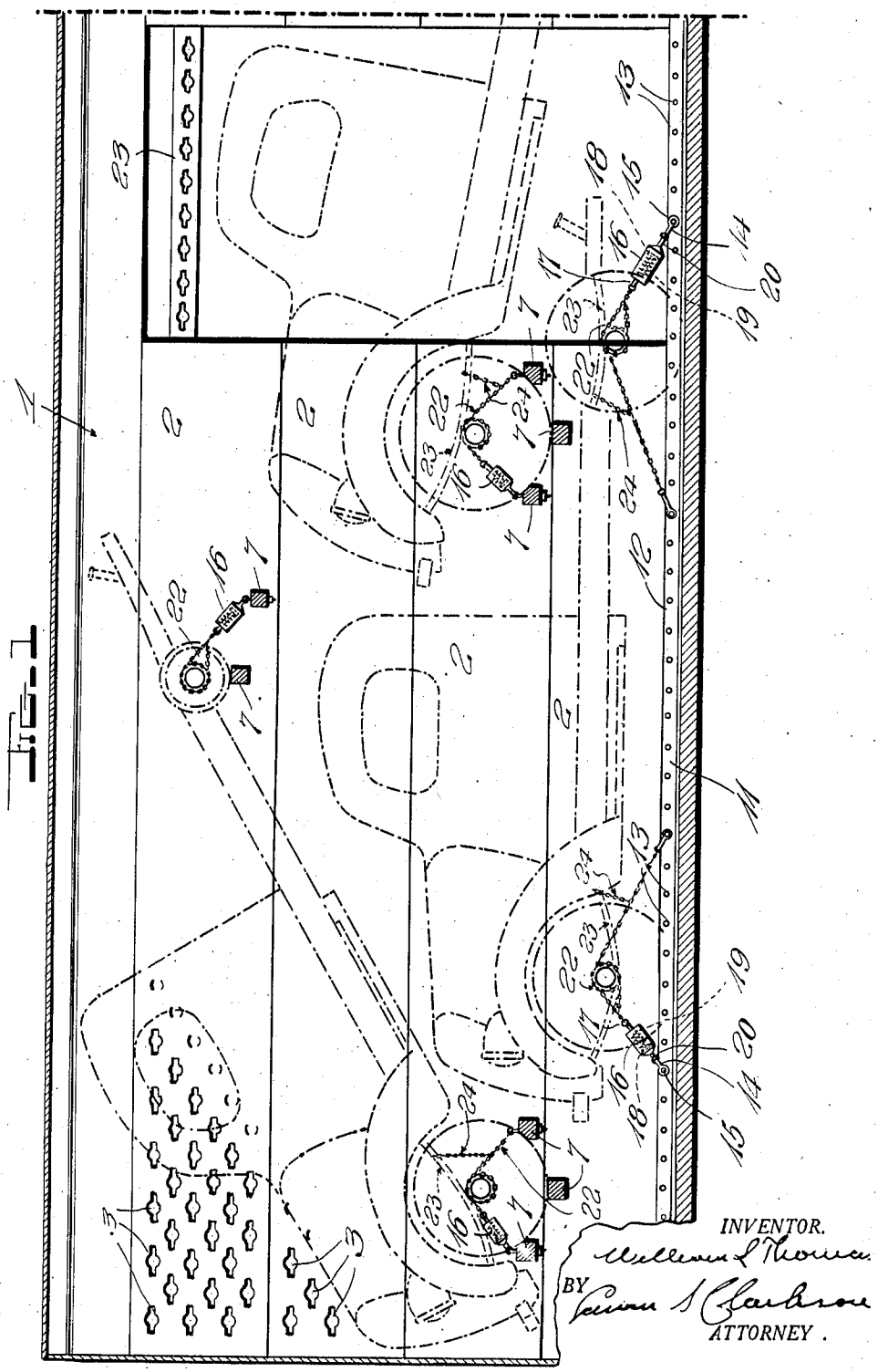


FIG. 1

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RAILWAY CAR AND METHOD OF LOADING THE SAME

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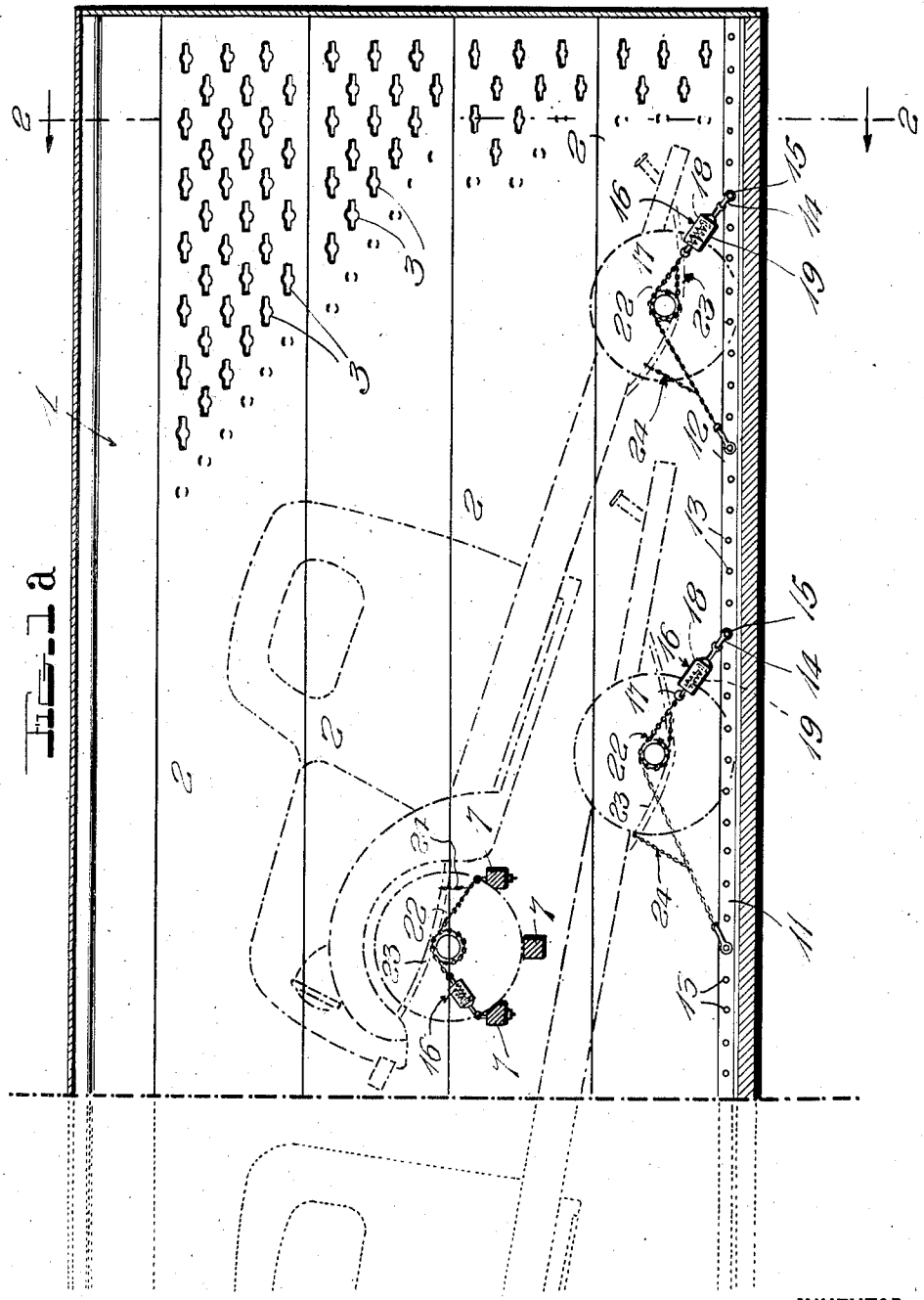


Fig. 1a

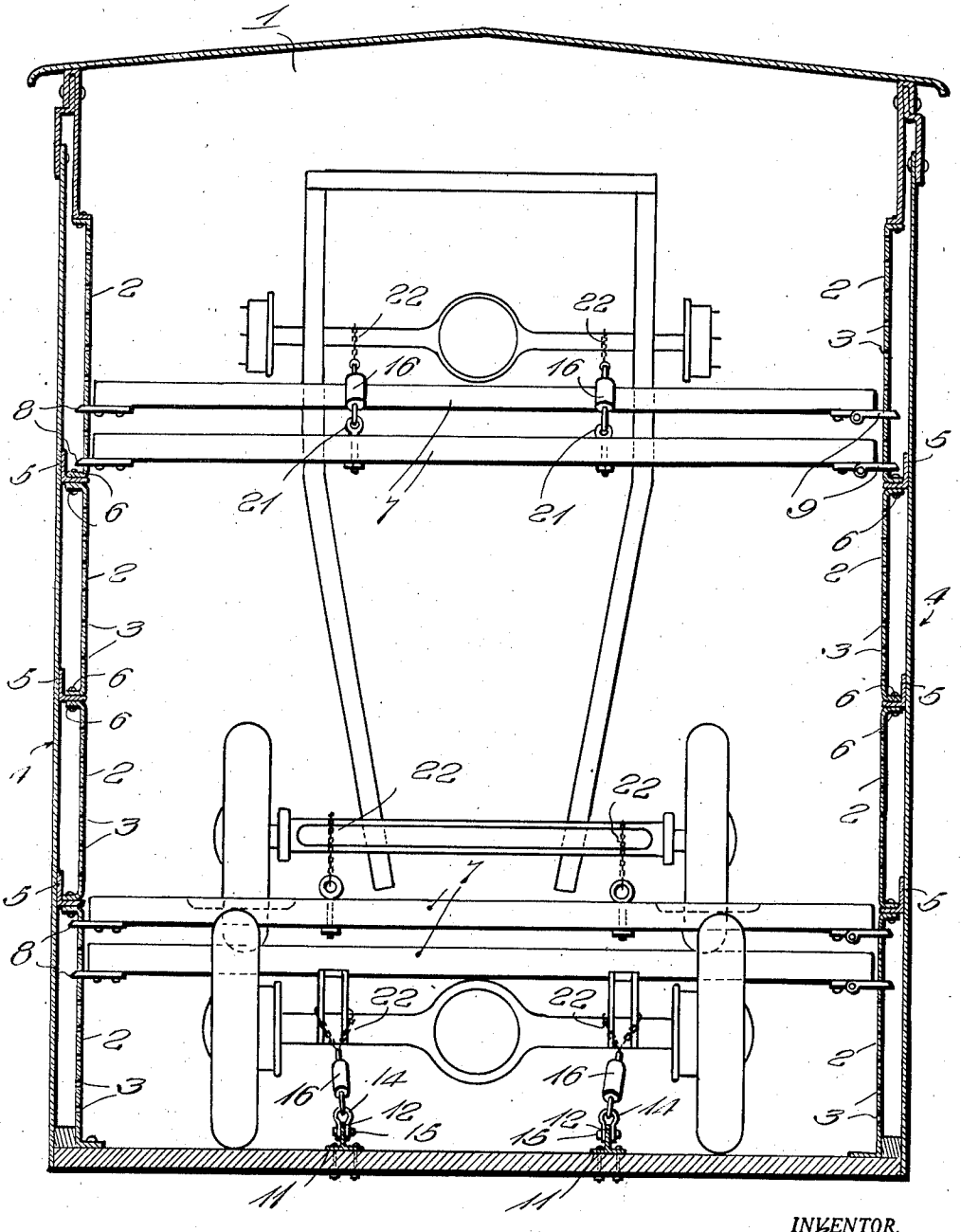
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RAILWAY CAR AND METHOD OF LOADING THE SAME

Filed May 4, 1938 5 Sheets-Sheet 3

FIG. 2



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RAILWAY CAR AND METHOD OF LOADING THE SAME

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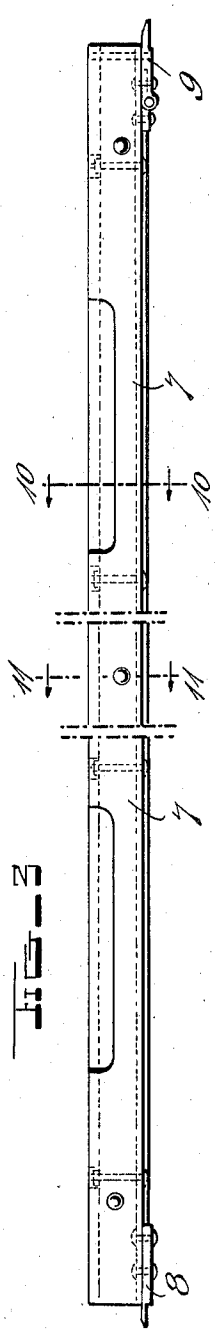


FIG. 2

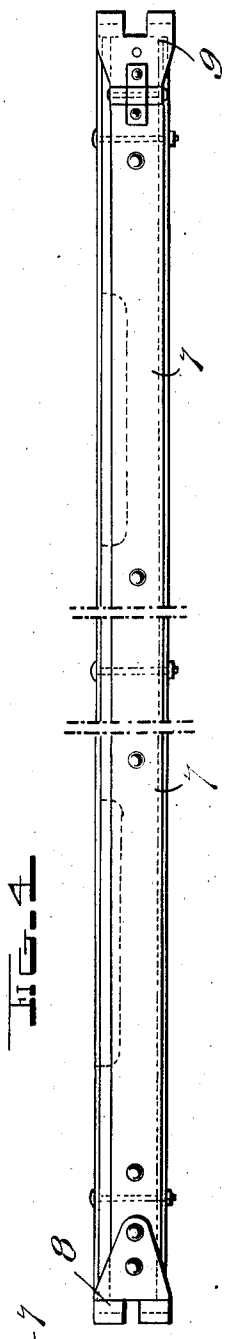


FIG. 4

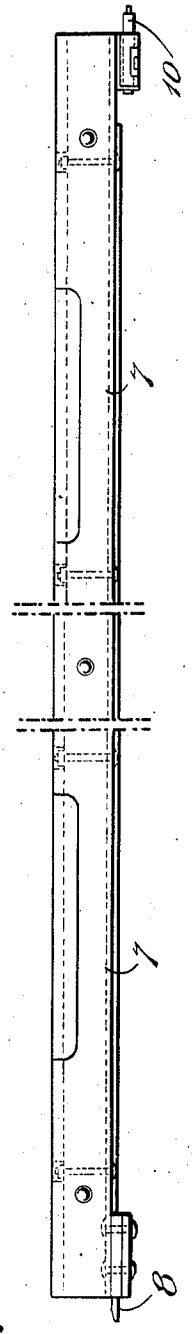


FIG. 5

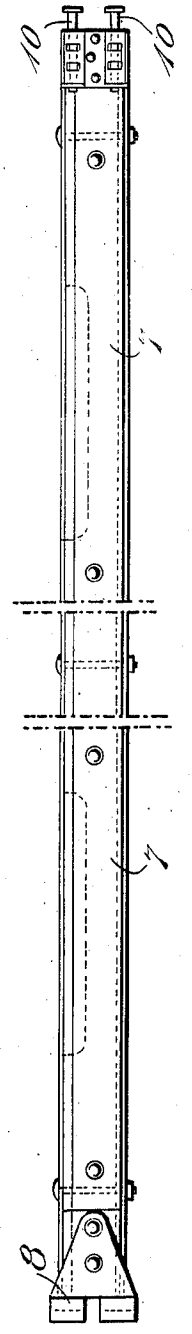


FIG. 6

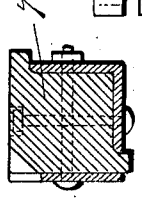


FIG. 10

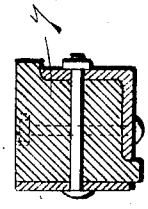


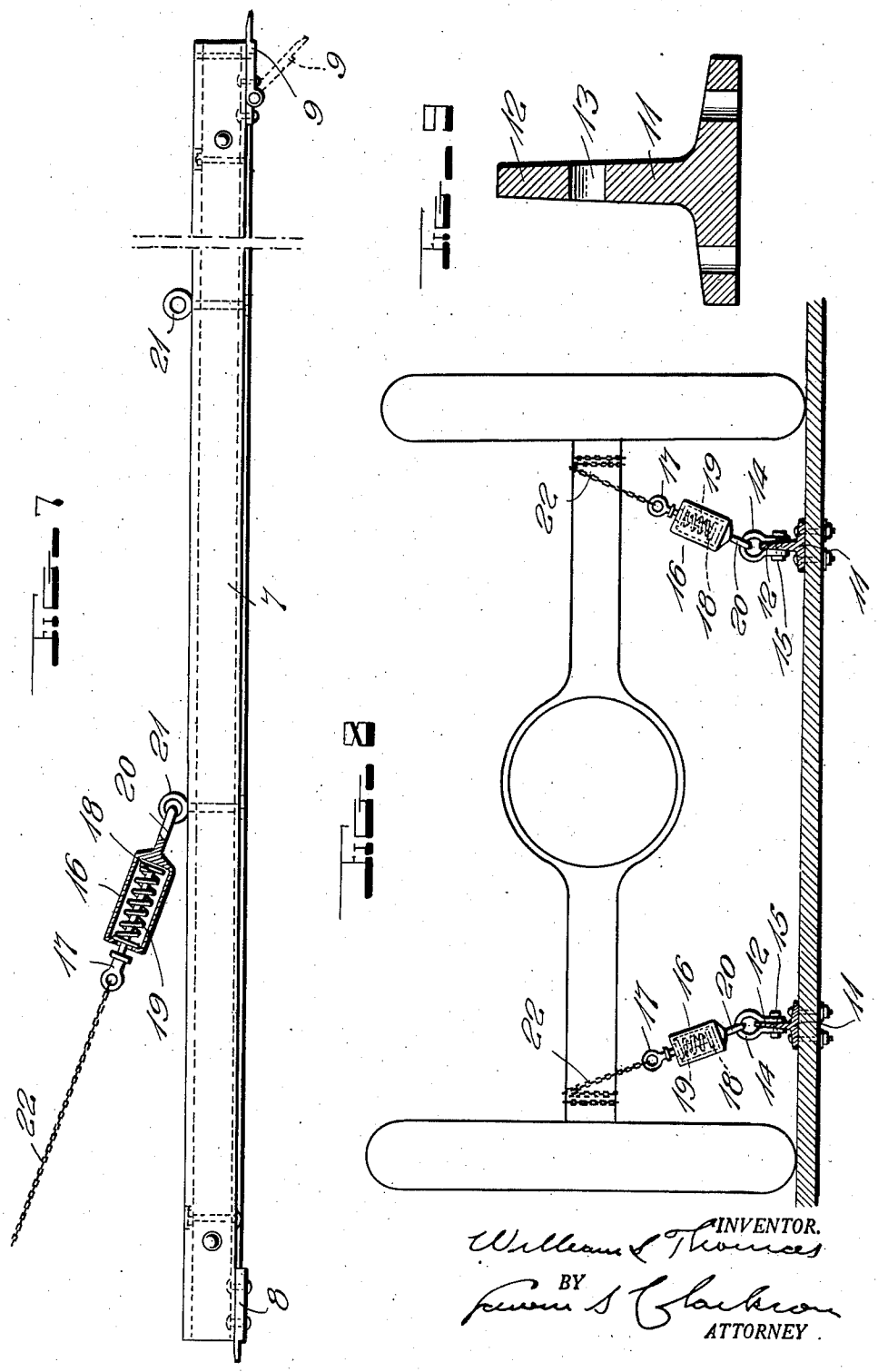
FIG. 11

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RAILWAY CAR AND METHOD OF LOADING THE SAME

Filed May 4, 1938 5 Sheets-Sheet 5



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Patented Jan. 7, 1941

2,227,870

UNITED STATES PATENT OFFICE

2,227,870

RAILWAY CAR AND METHOD OF LOADING THE SAME

William L. Thomas, Haverstraw, N. Y., assignor to The New York Central Railroad Company, a corporation of New York

Application May 4, 1938, Serial No. 206,046

1 Claim. (Cl. 105—368)

While my invention relates to railway cars in general, it relates more specifically to railway cars adapted for shipping automobiles, automobile trucks, et cetera.

The primary object of my invention is to provide a satisfactory car equipment for handling the shipment of trucks by rail in lieu of the present practice under which a major portion of deliveries are made by highway (drive away), and in carrying out the object of my invention I have availed myself of the perforated inner car wall structure and cross members disclosed in the Thomas Patents Nos. 2,030,773 and 2,038,692.

Another object of my invention is to position the trucks in the railway car in nested and overlapped relation to each other to store a maximum number of trucks in a car.

Another object of my invention is to provide means for holding the trucks in position in the car to prevent them from moving or shifting while in transit; and with these, and other objects in view, my invention consists of the parts and combination of parts hereinafter set forth.

In the drawings:

Figures 1 and 1*a* denote a vertical longitudinal section through a freight car embodying my invention.

Figure 2 is a section on line 2—2 of Figure 1*a* showing a plurality of trucks in loaded position in the car.

Figure 3 is a side elevation of one of the cross members.

Figure 4 is a bottom plan view of Figure 3.

Figure 5 is a side elevation of another form of cross member.

Figure 6 is a bottom plan view of Figure 5.

Figure 7 is a side elevation of a cross member and one of the hold down devices.

Figure 8 is an enlarged elevation of the hold down device, anchoring rail with the hold down device connected to the rail and a portion of a truck.

Figure 9 is a detail transverse sectional view of the rail.

Figure 10 is a transverse vertical section on the line 10—10 of Figure 3.

Figure 11 is a transverse vertical section on the line 11—11 of Figure 3.

The reference numeral 1 designates a railway house or box car of any approved construction, the interior side walls of which are provided with perforated strips, or sheets, of metal 2, the perforations 3 preferably being elongated. These perforated strips or plates are spaced from the outer wall of the car by side posts or in any other desired manner. However, in the present instance I affix to the outer wall 4 angles 5, and provide the perforated sheets with inturned flanges 6 which are riveted to said angles 5 as best seen in Figure 2. These perforations, as described in the Thomas Patent No. 2,030,773, dated February 11, 1936, extend in staggered vertical and horizontal rows, and no claim is made herein to such perforated sheets or strips per se.

Cross members 7 of suitable construction, preferably having at one end stationary projections 8, and adjustable projections 9 at the other end, are used as transverse supports in the car, the projections 8 and 9 being adapted to interlock with the perforations 3 of the inner walls of the car. In Figures 3 and 4 the adjustable lock 9 comprises a plate hinged to one end of the supporting member, while in Figures 5 and 6 the adjustable member comprises two bolts 10. The attachment and detachment of these cross members 7 is obvious and is fully disclosed in the said Thomas patents.

The car has a large end door through which the trucks are loaded. On the floor of the car I secure rails 11 having upstanding webs 12 which are provided with perforations 13. A clevis 14 is pivotally secured to the web 12 of the rail 11 by means of a bolt or other suitable device 15, as more clearly shown in Figure 8. The web 12 is provided with a row of these perforations 13 throughout its length, as shown in Figure 1. These rails 11 may be continuous throughout the length of the car, or they may be in detached sections as found most advantageous in practice.

Hold down members comprising a cylinder 16, plunger 17 carrying a head 18 within the cylinder and a coiled spring 19, are employed to hold down trucks loaded in the car, as will be hereinafter described. The cylinder 16 is provided with an extension 20 which is secured to the clevis 14 (see Figure 2). When these hold down members are used in connection with the cross members 7 the extension 20 is secured to the eye bolt 21 secured to the cross member. A tie chain, or other suitable tie down, 22 is secured at one end to the plunger rod 17, the free end thereof being adapted to be secured to the truck.

Referring now to Figure 1 in preparing the car to receive the first truck (at the left of the figure) cross-members 7 are secured in position to the perforated side sheets of the car. The spac-

ing of these crossmembers is determined by the diameter of the wheels on the truck as will be readily understood. In the present instance two (front and rear) bars arranged at the same level are disposed in connection with an intermediate bar to form a cradle to receive the front wheels of the truck. The front end of the truck is now elevated by any suitable means and the front wheels seated in the cradle formed by the crossmembers 7. The said end of the truck is now tied by the chains 22 to crossmember, or crossmembers 7, as shown. The opposite or rear end of the truck is then elevated, by any suitable means, and a crossmember, or crossmembers 7 are placed in position under the wheels, as shown, after which the end of the truck is tied in position to another crossmember, or crossmembers 7 by means of the chain 22. The second truck is rolled along the floor of the car to the position shown in Figure 1 underneath the first truck and is tied at each end by means of the chain tie-down device to the rails 11, as shown. The third truck is raised at one end and through its wheels rests seated in another cradle formed by crossmembers 7 slightly forward of the wheels of the second truck and a comparatively short distance above the second truck. The opposite end of the third truck is tied down to the rails 11 by means of the tie-down device heretofore described. The fourth truck is elevated at one end and its wheels are positioned and seated in a third cradle formed by crossmembers 7 above the chassis of the third truck, while its opposite end is secured to the rails 11 by the herein described tie-down, and so on until the car is fully loaded.

The equipment used for raising and lowering the trucks in decked position consists of portable runways and hoists (not shown) which would ordinarily be supplied by the shipper and consignee. No special provision for attachment of hoists appears, from actual experience, to be required, as in the loading and unloading; thus far it has been found that trucks can be raised and lowered readily by using runways and a portable hoist, each side, attached directly to the perforated wall of the car. However, specific means for the attachment of the hoists may be employed if found desirable.

The numerous rows of perforations, vertical and horizontal make it possible to position the cross members in any position that may be necessary to support an end of a truck irrespective of the length of the wheel base of the truck.

It will be noted that the cross supporting beams may be arranged in groups of two, three or four, or any other number as required.

In the event that it becomes necessary to place the cross beams 7 at a point that coincides with the side door ways I provide door way bars 23 which are provided with perforations like those in the wall sheets and in horizontal alignment with the perforations in the wall sheets. These door way bars may be secured in position after the manner shown in the said Thomas patents, or in any other approved manner.

To restrain the movement of the springs 23 of the truck while in transit in the car I extent the chain 24 attached at one end to the spring and at the other end to the main chain 22.

What I claim is:

In a vehicle transporting car having side wall sheets provided with horizontal and vertical rows of perforations, the perforations of the rows alternating in arrangement with each other, a set of spaced bars extending between the walls and having engaging members at their ends detachably engaged with perforations in the sheets for supporting and anchoring one end of a car, a set of spaced bars extending between the walls and having engaging members at their ends detachably engaged with perforations therein for supporting and anchoring the other end of the automobile, the bars of at least one set being arranged to form a concaved cradle to receive the wheels at one end of the vehicle and the bars of each set being interchangeably engageable with perforations of the rows for disposing said sets of bars and the bars of each set being also arranged at different horizontal and vertical positions relative to the car and to each other to suit different sizes of vehicles and to support vehicles horizontally or at different angles of inclination from the side walls, and anchoring means engaged with at least one bar of each set and with the adjacent end of the vehicle for fastening said end of the vehicle in supported position.

WILLIAM L. THOMAS.