Feb. 23, 1960 S. J. FRAENKEL 2,925,792

CONTAINER CAR

Original Filed Feb. 14, 1956

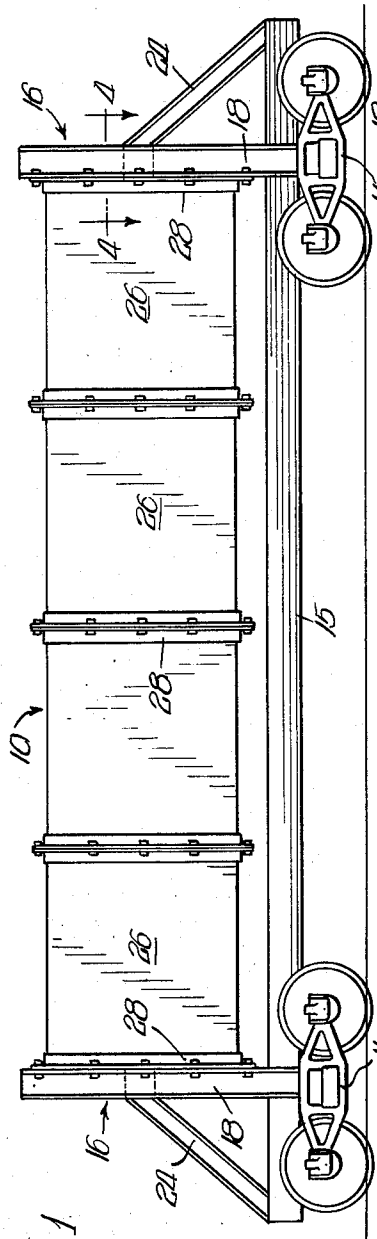


Fig. 1

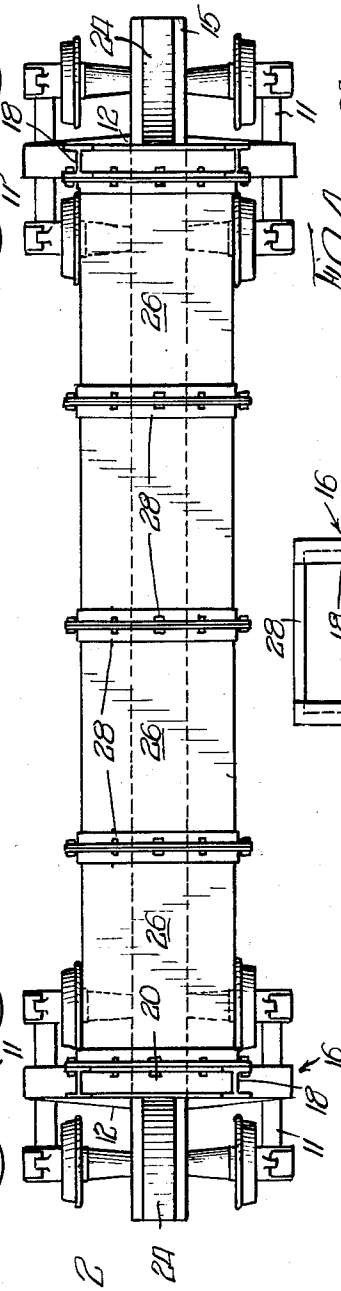


Fig. 2

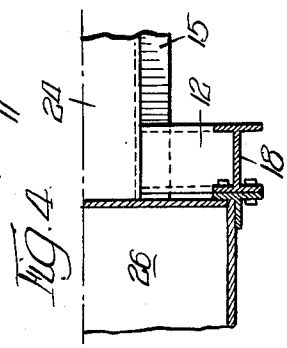


Fig. 4

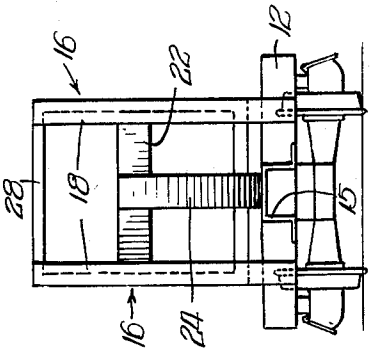


Fig. 3

INVENTOR.
Stephen J. Fraenkel,
BY Sabin C. Bronson.
Atty

United States Patent Office 2,925,792 Patented Feb. 23, 1960

2,925,792

CONTAINER CAR

Stephen J. Fraenkel, Wilmette, Ill., assignor to Standard Railway Equipment Manufacturing Company, Chicago, Ill., a corporation of Delaware

Original application February 14, 1956, Serial No. 565,364, now Patent No. 2,837,036, dated June 3, 1958. Divided and this application February 24, 1958, Serial No. 716,992

5 Claims. (Cl. 105—366)

This invention relates to a railway car, and more particularly to a railway car in which the car carries a plurality of containers. This application is a division of my copending application, Serial No. 565,364, filed February 14, 1956, now Patent No. 2,837,036, dated June 3, 1958.

In the recent past, the "piggy back" type of transportation has become increasingly popular. A plurality of containers, which may be loaded at the consignor, are hauled by truck to the railway car and placed thereon for shipment to the destination, and then unloaded from the car to a truck, if necessary, for delivery to the consignee. Various types of railroad rolling stock have been proposed for hauling these containers. In every known instance the containers have rested upon decking, or other structure, supported by the underframe.

It is a general object of the invention to provide a carrier for a container, or containers.

It is another object of the invention to provide a carrier for a container, or containers, which eliminates the side sills, cross-bearers, stringers and decking.

It is a further object of the invention to provide a carrier for a container, or containers, which utilizes the principle of a rigid-frame.

It is a further object of the invention to provide a carrier for a container, or containers, which utilizes the principle of a rigid-frame and wherein the container, or containers themselves form the upper chord of the rigid-frame, and wherein the center sill of the carrier forms the lower chord of the rigid frame.

Further objects and advantages of this invention will become evident as the description proceeds, and from an examination of the accompanying drawings, which illustrate one embodiment of the invention, and in which similar numerals refer to similar parts throughout the several views.

In the drawings:

Figure 1 is a side view in elevation of a railway carrier with container thereon, embodying the invention.

Figure 2 is a top plan view of hte device shown in Figure 1.

Figure 3 is an end view of the device shown in Figure 1.

Figure 4 is a section on the line 4—4, Figure 1.

In the drawings, the numeral 10 indicates a carrier for shipping containers. The carrier has the usual car trucks 11 provided with truck bolsters 12. A center sill 15 extends longitudinally between the car trucks and is supported by the bolsters thereon. At each end of the center sill is rigidly mounted a frame 16. Each of the frames comprises a rectangular truss, including vertical I-beam members 18, the lower ends of which are rigidly fixed to the bolsters 12, the outer ends of which bolsters rest on the trucks 11, and the inner ends are rigidly fixed to the center sill. At approximately two-thirds of the height of the members 18, a horizontal member 22 extends between and is rigidly fixed at its ends to the upright members 18. From the center of this horizontal

member 22 to the top of the end of the center sill 15 extends a diagonally disposed brace support 24.

I have shown a number of containers 26 fastened together at their ends to form a continuous beam. Angular flanges 28 are secured to the ends of the containers, and abutting flanges 28 are secured together to rigidly tie the containers together into a rigid beam. The beam is supported on the frames 16 by the end angular flanges 28 being rigidly secured to the frames. In this way the containers are rigidly joined together into an integral structure wherein the containers themselves form the upper chord of a rigid-frame. The center sill forms the bottom chord of the rigid-frame, and the end frames 16 form the legs of the frame.

The vertical force components on the carrier, due to the dead weight of the containers and contents thereof, is supported by the end frames and center sill. The assemblage, including the containers between the end frames, is a rigid-frame or webless-truss of the Vierendeel type, the joints being rigid and moment resisting. The joints are rigid; there are no relative angle changes between the members meeting at the particular joint, there is no deformaiton in the joint itself, and the end tangents of all members meeting at a joint rotate through the same angle. The joints being thus rigidly fixed transmit and thereby reduce moment in other parts of the assemblage. This design utilizes the strength of the center sill primarily, in addition to its usual function, as the lower chord of a rigid-frame, and permits a reduction of strength and material, as compared with a carrier beam freely spanning from end to end support, and supporting thereon the lading container means.

From the foregoing, it is apparent that I have devised a novel type of carrier embodying the principle of a rigid-frame and wherein the containers for carrying the material form the upper chord of said frame, and the center sill of the carrier forms the lower chord of said frame. Changes in form and in the proportion of parts, as well as the substitution of equivalents are contemplated as circumstances may suggest without departing from the spirit or scope of the invention. It is obvious that instead of a plurality of containers fixed together as shown, one container between the end frames may be provided without departing from the spirit of the invention.

I claim:

1. A carrier for containers comprising longitudinally spaced wheel means, a longitudinal center sill between and supported by said wheel means, longitudinally spaced end columns rigidly fixed to and projecting above the center sill, rigid lading container means rigidly fixed to and supported by said end columns above the center sill, said center sill, end columns and container means comprising an integrated load carrying rigid-frame.

2. In a railway car for transporting lading, a center sill extending from end to end of said car, spaced bolsters disposed transversely of said center sill, a frame having spaced end columns rigidly fixed to said bolsters and projecting above the center sill, rigid lading container means rigidly fixed to and supported by said end columns, said lading container means and said center sill comprising the upper and lower chords of an integrated load carrying rigid-frame.

3. In a railway car for transporting lading, a center sill extending from end to end of said car, spaced end columns rigidly fixed to and projecting above said center sill, rigid lading container means rigidly fixed to said end columns above the level of the center sill, said container means comprising a plurality of individual containers rigidly fixed together, said container means, end columns, and center sill forming an integrated load carrying rigid frame.

4. In a railway car, longitudinally spaced wheel means,

a rigid-frame carried by said wheel means comprising a longitudinal center sill between and supported by said wheel means, spaced end columns rigidly fixed to and projecting above the center sill, and rigid lading container means rigidly fixed to and supported by said end columns above the center sill.

5. A carrier for containers comprising a longitudinal center sill, vertically disposed longitudinally spaced end columns rigidly fixed at their bases to said center sill, lading containers rigidly fixed to each other in axial alinement, the end lading containers being rigidly fixed to

and supported by said end columns above the center sill, said lading containers being free of contact with said center sill, said center sill, end columns, and lading containers comprising an integrated load carrying rigid-frame.

References Cited in the file of this patent

UNITED STATES PATENTS

2,137,255	Tuttle	Nov. 22, 1938
2,337,131	Schroeder et al.	Dec. 21, 1943
2,841,094	Schumacher	July 1, 1958