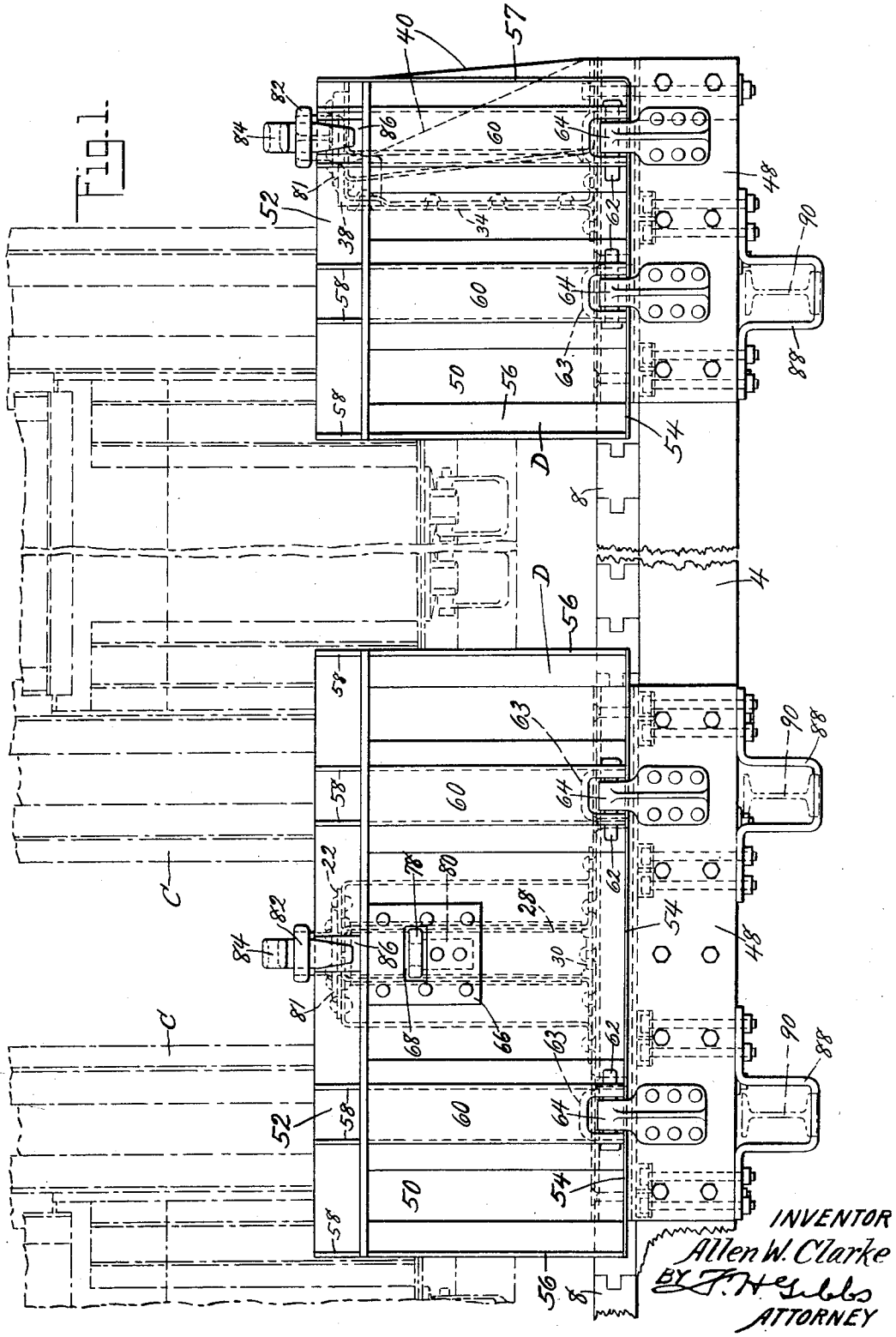
Dec. 5, 1933. A. W. CLARKE 1,937,550

CONTAINER CAR

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Fig. 1.



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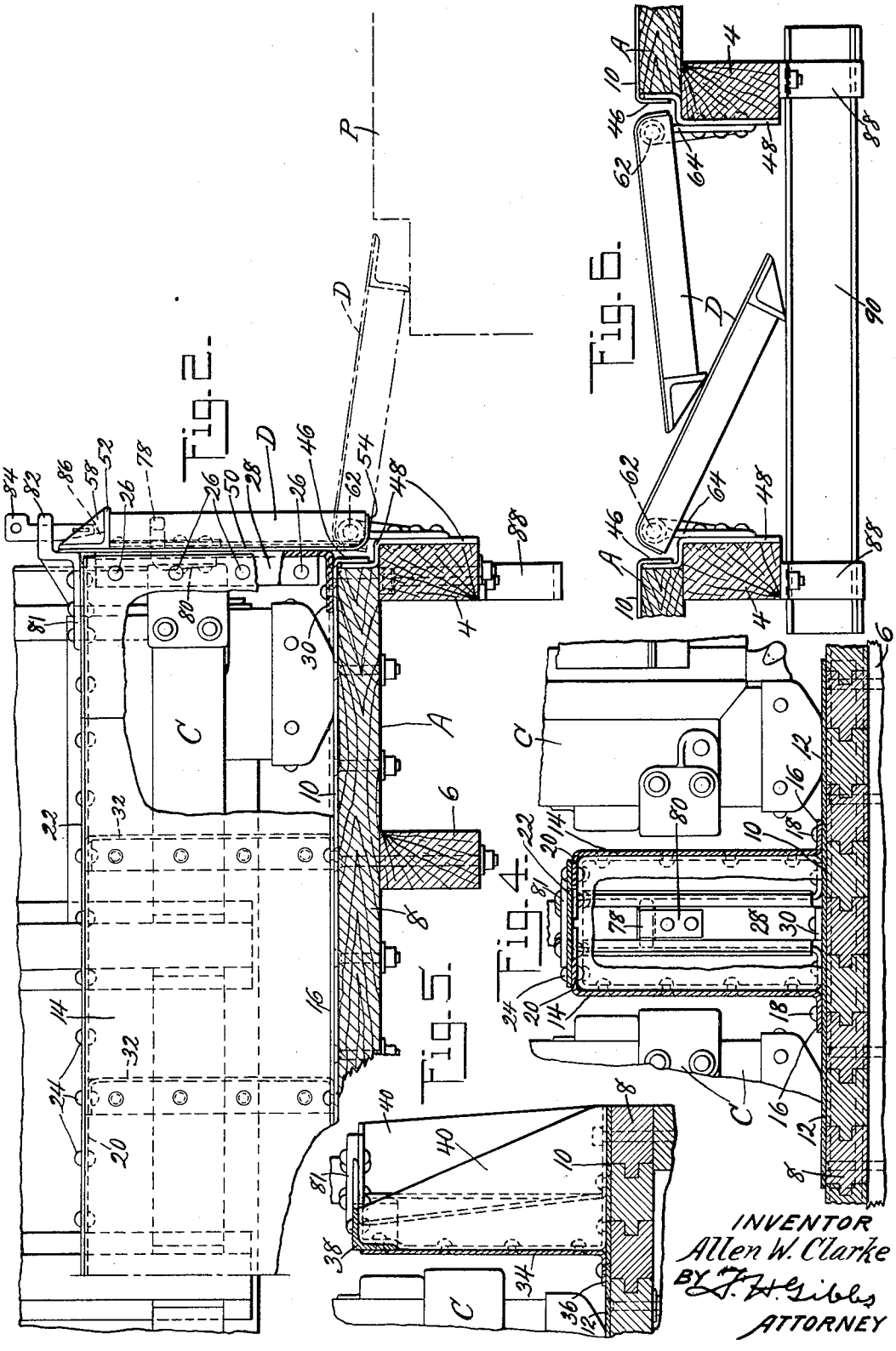


Fig. 2.

Fig. 6.

Fig. 4.

Fig. 5.

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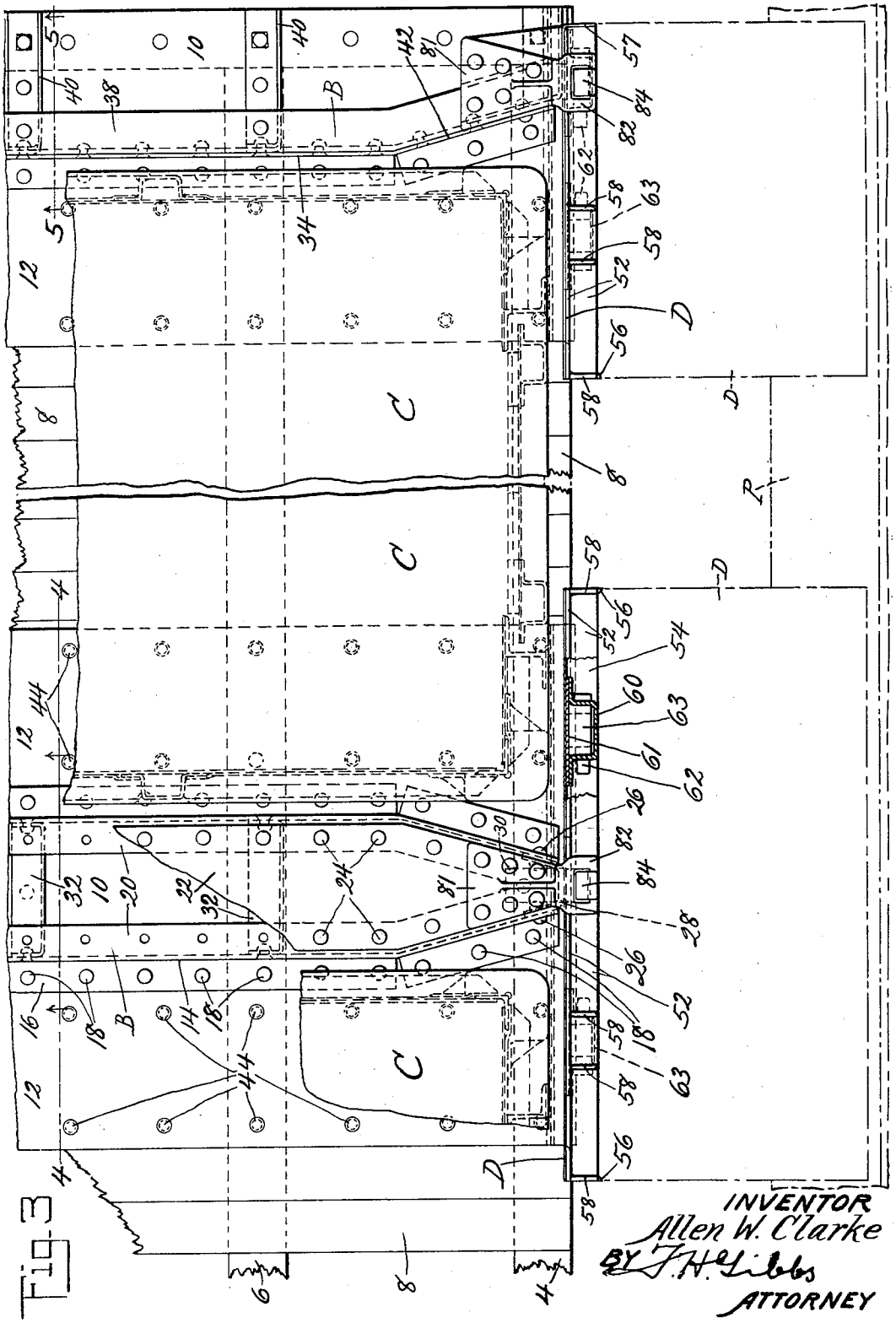


Fig. 3

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CONTAINER CAR

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8 Claims. (Cl. 105—366)

This invention relates generally to railway cars and has particular reference to container cars for handling interchangeable containers which transport fractional car lots of merchandise.

One object of this invention is the provision of a car of the above mentioned character in which the necessity of using a crane to load or unload the containers is eliminated.

Another object of this invention is the provision of a container car having drop sides adapted to serve as runways for the containers when said sides are in their lowered position and adapted to serve as side walls when in their elevated position.

Still another object of this invention is the provision of a container car, the side walls of which are formed of a plurality of independently movable sections or doors each adapted to lap the end portions of adjacently arranged containers and each section when lowered being adapted to serve as a runway for a container as it is loaded onto or removed from the car.

A further object of this invention is the provision of a container car having a plurality of transversely arranged bulkheads forming compartments each adapted to receive a container.

This invention further contemplates the provision of a bulkhead unit which may be fabricated as a unit and then attached in its unitary form to a flat car; a plurality of these bulkhead units being attached to the flat car to form a plurality of compartments each adapted to receive a container for holding and transporting fractional car lots of merchandise.

The container car of the present invention also provides a means whereby it may be alined with an adjacent car in parallel relation whereby to easily transfer a container from one car to the other.

Other objects and advantages of this invention will be apparent from the following description taken in conjunction with the accompanying drawings in which:

Figure 1 is a broken side elevation of one end portion of the car of the present invention, certain parts being shown in section; the view also showing, in broken lines, containers arranged in the car.

Fig. 2 is a vertical transverse section through a doorway of the car showing the bulkhead and door in elevation; the view having certain parts broken away to disclose the container in position and having other parts shown in section, while still other parts are shown in broken lines to indicate the door in lowered position.

Fig. 3 is a partial top plan view of a portion of the car of Fig. 1 showing, in broken lines, the doors in open position to serve as runways.

Fig. 4 is a sectional view on the line 4—4, Fig. 3.

Fig. 5 is a sectional view on the line 5—5, Fig. 3, and

Fig. 6 is a detail view, partly in section, showing the arrangement of the doors of adjacent cars to permit containers to be moved from one car to the other.

Referring to the drawings more in detail, the present invention contemplates the addition to any standard flat car of certain elements to form the container car of the present invention, and A indicates a flat car of any desired construction, the same having side sills 4 of which only one is shown and intermediate longitudinally extending sills 6 and a floor 8.

The car is divided into a plurality of compartments each adapted to receive a container, the compartments being provided by means of transverse bulkheads indicated generally at B, the bulkheads at the ends of the car serving as end walls as will be apparent and differing slightly in construction from the intermediate bulkheads as will be apparent from the following description.

In forming the container car of the present invention the bulkheads are preferably, though not necessarily, formed as units adapted to be placed upon the floor 8 of the car and secured thereto as presently to be described. The intermediate bulkhead units each include a base 10 comprising a metal plate of sufficient length to extend across the floor 8 of the car and of sufficient width to provide supporting portions 12 on each side of the bulkhead for adjacently arranged containers C (see Fig. 4). The bulkheads B each comprise spaced metal plates 14 extending transversely across the base 10 and pressed to substantially Z shape with outwardly extending flanges 16 at their lower edges which are riveted as at 18 to the base 10. The upper edge portions of the plates 14 are provided with inwardly extending flanges 20 which support a top plate 22 riveted thereto as at 24. As clearly shown in Fig. 3, the plates 14 converge near their ends toward the sides of the car and the end edges of the plates are riveted as at 26 to an end closure member 28 which comprises a substantially U-shaped element, the lower end of which is inwardly flanged as at 30 and is secured in any suitable manner to the plate or base 10 (see Fig. 2).

The bulkhead is braced and stiffened by internally arranged diaphragms 32 secured to the

plates 14 by suitable fasteners as clearly shown in Figs. 2 and 3.

From the above description it is believed apparent to those skilled in the art that the bulkheads B serve to divide the car A into a plurality of compartments. At the ends of the car the end walls or end bulkheads are illustrated in Figs. 3 and 5 and each comprises a plate 34 having a supporting flange 36 at its lower edge secured to the base 10 of the bulkhead unit, and an angle 38 riveted to its upper portion. This end wall is suitably braced by gussets 40 secured to the plate 34, angle 38 and base 10 by suitable fasteners. As shown clearly in Fig. 3, the end portions of the end bulkheads B are bent as at 42 and it is apparent that this bending of the bulkheads as hereinbefore described provides an enlarged entrance opening for each of the compartments to facilitate loading of the containers onto the car.

The bulkhead units may each be assembled as an entity and then placed on the floor of the car in the desired and proper positions and be secured thereto by suitable fasteners such as the bolts 44.

In practice it is desirable to have the base 10 of each bulkhead unit of a length such that the opposite end portions thereof may be downwardly bent as at 46 to overlie the upper portion of a plate 48 secured to the side sill adjacent the bulkhead units (see Fig. 2).

The side walls of the car are formed of a plurality of drop sections or doors D, as shown clearly in the drawings. In the instance shown, the doors are arranged in spaced relation, but this is merely by way of example as obviously within the spirit of the invention the doors may be of such length that their adjacent side edge portions will be arranged relatively close together to provide side walls which are substantially continuous from end to end of the car.

The end doors extend partly over the end compartments (see Fig. 1) while the intermediate doors are each adapted to extend partly over adjacent compartments. The doors are hingedly mounted as will be hereinafter more specifically described and, when in elevated position, serve as end barriers for the compartments and when in lowered position are adapted to serve as runways for the containers to facilitate removal of the containers from the car or placement of the containers into the compartments.

The doors D each include a metal door plate 50 with its lower edge portion outwardly flanged as at 54 to provide a stiffening means for the lower portion of the door. The intermediate doors and the end doors each includes a top angle 52 while the intermediate doors are each provided with vertically arranged angles 56 along the side edges thereof to stiffen the side edges of the door. The end doors are provided with an angle 56 along one side edge portion of the door while the opposite edge portion of the end door is stiffened by an integral flange 57 which extends substantially from top to bottom of the door plate 50. The top angles 52 of the doors may be braced by vertical ribs 58 and intermediate the side edges of the doors the plates 50 are preferably stiffened by vertical braces 60 which may be flanged U-sections and which serve to support hinge pins 62 at their lower ends, these pins 62 extending through hinge lugs 64 secured to the before-mentioned plates 48. The construction thus described provides for swinging movement of the doors to the position shown in broken lines in Figs. 2 and 3 and in full lines in Fig. 6. It has been found desirable to stiffen the lower ends of the braces 60 in order to provide a rugged hinge connection and to this end internal bracing elements 63 are arranged at the lower ends of the braces 60; these elements 63 being substantially U-shape, as clearly shown in Fig. 1. The hinge pins 62 extend through these elements 63 as well as through the braces 60 and may be secured against displacement in any suitable manner.

Secured to the door plate adjacent the top angle 52 is a plate 66 provided with a slot 68 through which a slotted casting 78 extends when the door is in closed position. The casting 78 is provided with an attaching portion 80 secured to the enclosure plate 28 and said casting is provided to permit a workman to insert a crowbar or other suitable tool into the slot therein to engage the plate 66 to force the door to fully closed position should occasion demand, and is also adapted to receive a lock of any suitable character to retain the door in closed position.

To retain the doors in closed position castings 81 are provided (see Figs. 2 and 3) which are attached to the top plates 22 adjacent the ends thereof and which are upwardly offset as at 82 to extend over the top angles 52 of the doors D (see Fig. 2). Offset portions 82 of castings 81 are slotted to provide keyholes for wedge-shaped keys 84 which are adapted to contact with wedges 86 secured to the top angles 52 of the doors, also as clearly shown in Fig. 2.

From the above description it can be seen that when the keys 84 are removed from the members 82 the doors may be swung on their hinge pins 62 to the position shown in Fig. 2 and the door plates 50 of adjacent doors will furnish runways to permit the containers C to be easily removed from the car A to a loading platform P. It will also be obvious that when the doors D are in the position illustrated in Fig. 1, the containers are retained against removal from the car.

Sometimes it is desirable to transfer a container from one car directly to another car, in which event the cars A are on adjacent tracks and it is necessary to aline the compartments of each car. To effect this, stirrups 88 are provided which are secured to and depend from the side sills of the cars and the cars are brought into horizontal alinement and a beam 90 is supported by the alined stirrups of the respective cars as clearly shown in Fig. 6; this serving to properly aline the compartments in the respective cars as will be obvious. It may be desirable to provide a plurality of beams such as shown in Fig. 1 whereby all of the containers or any number thereof may be removed from one car and placed directly onto another, and these beams 90 serve as supporting means for the doors of one of the cars as shown in Fig. 6; the doors of adjacent cars being supported on the doors of the first-named car. With the parts just described assembled as shown in Fig. 6 it will be apparent that the containers may be removed directly from one car and placed on to an adjacent car after which the doors may be secured in their container retaining position (see Fig. 2) and the beams 90 removed from the stirrups and placed in the car and retained therein until they are again required for service.

The drawings herein illustrate one embodiment of the invention but it is to be understood that they are for illustrative purposes only and various changes in the form and proportions disclosed in the drawings may be made within the

scope of the appended claims without departing from the spirit of the invention.

What is claimed is:

1. In a car, a plurality of bulkheads extending from side to side to divide the car into a plurality of container receiving compartments, a plurality of side sections intermediate the ends of the car hingedly connected to the car at the ends of said compartments, said sections each being so arranged as to extend over two adjacent compartments whereby adjacent end portions of adjacent sections serve as barriers and runways for a single container.

2. In a car, a plurality of bulkheads extending from side to side thereof to divide the car into a plurality of container receiving compartments, doors hingedly connected to the sides of the car adjacent the end portions of the latter and adapted to serve as barriers, a plurality of hingedly connected doors intermediate the beforementioned doors and so arranged relative to the bulkheads that when in elevated position each thereof extends partly over two adjacent compartments whereby adjacent end portions of adjacent doors serve as barriers and runways for a single container.

3. In a car, a plurality of transversely arranged bulkheads dividing the car into a plurality of container receiving compartments, said bulkheads comprising units having bases adapted to support containers, end doors hingedly connected to the car and adapted when in elevated position to serve as end barriers, doors intermediate said end doors and hingedly connected to the car, said intermediate doors being so arranged as to extend partly over adjacent compartments when in elevated position whereby to serve as barriers, fixed members secured to the bulkheads and provided with portions overlying the upper portions of the end and intermediate doors, and removable keys supported by the overlying portions for cooperation with the doors to retain the latter in elevated position.

4. A bulkhead unit for attachment to a railway car comprising a base plate, vertically arranged spaced plates secured to the base plate intermediate its side edges and provided with inturned flanges along their upper edge portions, the end portions of said plates converging, end closure plates connecting the converging end portions of said plates and secured to the base plate, internally arranged diaphragms secured to the base plate and spaced plates, a top plate supported by and secured to the inturned flanges of the said spaced plates, and latch castings secured to the end portion of the top plate and having offset end portions projecting beyond the end closure plate.

5. In a container car, an end bulkhead comprising a base plate for attachment to the car, a vertically arranged plate secured to the base plate and extending transversely of the car, a reinforcing element secured to the vertical plate adjacent its upper edge, and diaphragms secured to said base plate, vertical plate and reinforcing element for stiffening said bulkhead.

6. A car having side sills and a floor, transverse bulkheads secured to the floor for providing a plurality of container receiving compartments, attaching plates secured to the sills, a plurality of doors hingedly connected to the attaching plates intermediate the ends of the car, said doors being so arranged as to extend partly over adjacent compartments when in elevated position and to serve as runways for adjacent compartments when in lowered position, end doors hingedly connected to the car adjacent the ends thereof, and means for locking the doors in elevated position.

7. In a container car, a plurality of compartments, doors hinged to the car and constituting barriers when elevated and container runways when lowered, and means for alining said car with an adjacent car to permit transfer of containers from one car to the other comprising a rigid element adapted to extend between adjacent cars, and means on said cars for supporting said element whereby it serves to support the adjacent doors of said cars, said supporting means for said rigid element being so arranged on the cars that when the rigid element is supported thereby the compartments in the respective cars are alined.

8. In a car, a plurality of bulkheads dividing the car into a plurality of container receiving compartments, a plurality of doors hingedly connected to the car and arranged in spaced relation, certain of said doors being arranged adjacent the ends of the car and being adapted when elevated to serve as end barriers and the doors intermediate said doors being so arranged relative to the bulkheads that each thereof overlies a portion of adjacent compartments whereby when elevated said intermediate doors each serve as end barriers for adjacent containers and when lowered each thereof serves as a part of a runway for adjacent containers.

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