

G. B. TODD.
REFRIGERATOR CAR CONSTRUCTION.
APPLICATION FILED JUNE 13, 1917.

1,380,361.

Patented Feb. 10, 1920.

Fig. 1.

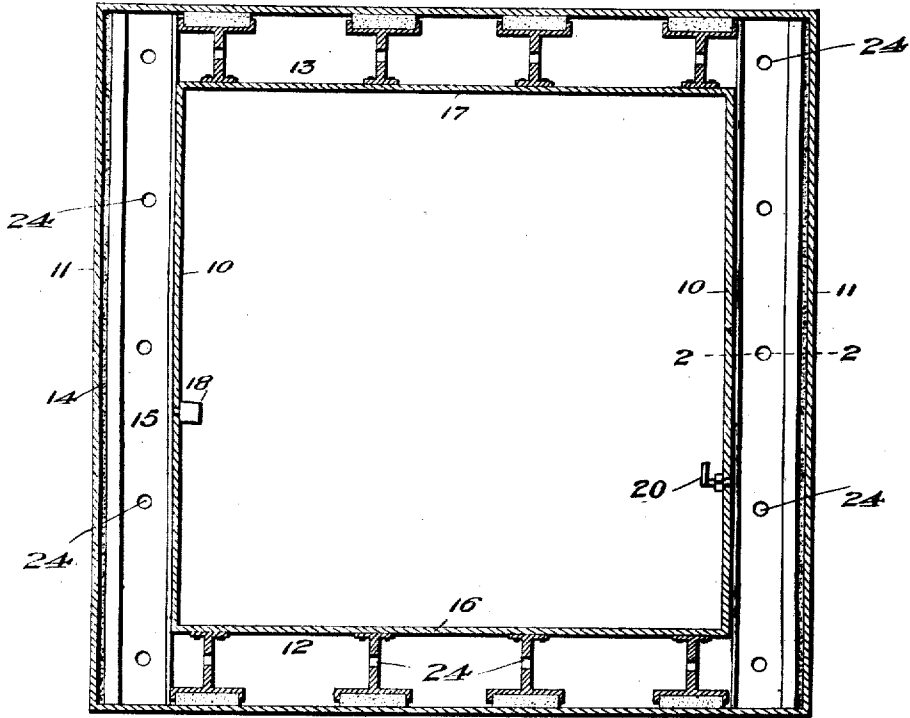


Fig. 2.

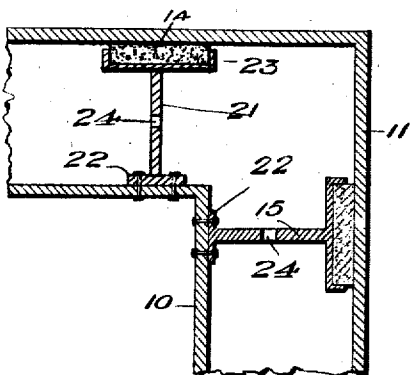
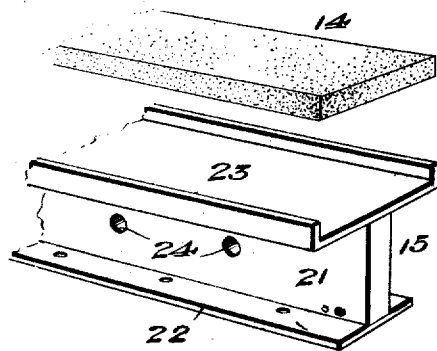


Fig. 3.



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GEORGE B. TODD, OF BROWN HILL, SOUTH CAROLINA.

REFRIGERATOR-CAR CONSTRUCTION.

1,330,361.

Specification of Letters Patent. Patented Feb. 10, 1920.

Original application filed January 23, 1917. Serial No. 144,124. Divided and this application filed June 13, 1917. Serial No. 174,484.

To all whom it may concern:

Be it known that I, GEORGE B. TODD, a citizen of the United States, residing at Brown Hill, in the county of Aiken and State of South Carolina, have invented certain new and useful Improvements in Refrigerator-Car Construction, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in refrigerator car construction, the present application being a division of my application filed January 23, 1917, Serial No. 144,124, one object of the invention being the provision of a novel manner of insulating the walls, top and bottom of the refrigerating chamber so the cold will be maintained within the car and at the same time not be affected by the outside temperature whether it be high or low, a freezing outside temperature having no bad effect upon the articles stored as with the present used system.

In the accompanying drawings:

Figure 1 is a cross section through a car constructed according to and embodying the present invention.

Fig. 2 is an enlarged detail cross section taken on line 2—2 of Fig. 1.

Fig. 3 is a perspective view of a portion of one of the metal supporting braces or pedestals and one slab of insulating material.

Referring to the drawings, the numerals 10 and 11 designate respectively the inside and outside walls of the car, 12 the floor and 13 the roof, all of which is of any desired air tight construction.

Mounted on the respective walls, top and bottom and spaced therefrom by means of the slabs 14 of heat insulating material, preferably cork, and the metal braces or pedestals 15, are the bottom 16, top 17 and the side walls 10 of the interior or refrigerating chamber of the car, the same being preferably made of metal with the seams of the sheets overlapping, riveted and electrically welded.

Attached to certain ones of the walls is a valve connection 18 by means of which a vacuum producing pump may be connected, while also attached in connection with the sides of the walls of the car is a gage 20 which indicates the condition of the vacuum. This space may or may not be filled with

heat insulating composition such as mineral wool, asbestos, or the like.

With this construction of walls, the braces 15 properly brace the walls of the car to make a solid unitary construction, each of the braces 15 consisting of a connecting web 21 with the attaching flanges 22 for direct riveting or bolting to the inner walls while a channel member 23 is provided to embrace the slab 14 of heat insulating material. The web 21 of each of the brace members has a plurality of holes 24 drilled therein, for the purpose of providing communication between each of the chambers formed between the brace members. The holes 24 incidentally serve to lighten the brace members somewhat.

By this construction the outside temperature is prevented from being transmitted through the members 15 to the inner walls of the refrigerating chamber, and vice versa. Special attention is directed to the construction of the channel member 23 of each of the braces 15. It will be observed in Fig. 2, that the flanges of the channel member 23 are less in height than the insulating slab 14 is thick. The outer wall 11 of the car therefore has no metallic contact with any of the brace members, and consequently heat cannot be transmitted from the outside through the metal of the brace members to the inside wall 10 of the car. The channel member 23 is made broad enough to provide an ample bearing surface for the insulating slab 14. The brace members 15, therefore, form an important part of the car construction, in that by reason of the arrangement of the flanges with respect to the insulating slabs 14, the transmission of heat is prevented, and in that they support the outer and inner walls of the car from collapse, because of atmospheric pressure against the walls when the air in the space between the walls is exhausted. The insulating slabs 14 besides preventing the transmission of heat through the walls of the car, also act as compression blocks, for it may be easily understood that the atmospheric pressure on the outer wall is partly exerted on the slabs 14 which support said outer wall.

The braces 21 may be arranged continuously around the inner car compartment instead of arranging them as shown in Fig. 1. By such arrangement, a series of com-

partments are formed throughout the length of the car, which communicate through the holes 24.

Where doors are used in connection with the present car, they are constructed similarly to the wall construction, being braced and vacuumized in a similar manner.

What I claim as new is:

1. A refrigerator car, comprising inside and outside walls separated to provide a vacuum space between the walls around the car, channeled bracing means coextensively situated with respect to the walls around the car in said space, and insulating means located in said channeled bracing means, continuous therewith and coextensive with respect to said walls.

2. A refrigerator car of rectangular cross section, comprising inside and outside walls separated to provide a continuous space therebetween, bracing means for the walls consisting of separate brace members secured on each inside wall transversely of the car and arranged to extend over the space adjoining the ends of the individual brace members, said brace members being out of

contact with the adjacent outside walls; and slabs interposed between said brace members and the outside walls, said slabs being continuous with the brace members to act as supports, and made of insulating material to prevent the conduction of heat.

3. A refrigerator car construction, inside and outside walls spaced apart to provide a continuous space between the walls, and bracing means for all of the walls, situated in said space, said means including elongated brace members coextensive with the width of each wall, thus obtaining the substantial continuity of the bracing means around the car, each brace member having a continuous channel opposing and spaced from the outside wall, and insulating slabs coextensive with the brace members and located in the channels, in substantially continuous contact with the inside surface of the outside wall.

In testimony whereof I affix my signature.

GEORGE B. TODD.

Witness:

C. M. FORREST.