March 10, 1925. 1,529,114

A. CAMPBELL

RAILWAY CAR CONSTRUCTION

Filed Feb. 15, 1924 2 Sheets-Sheet 1

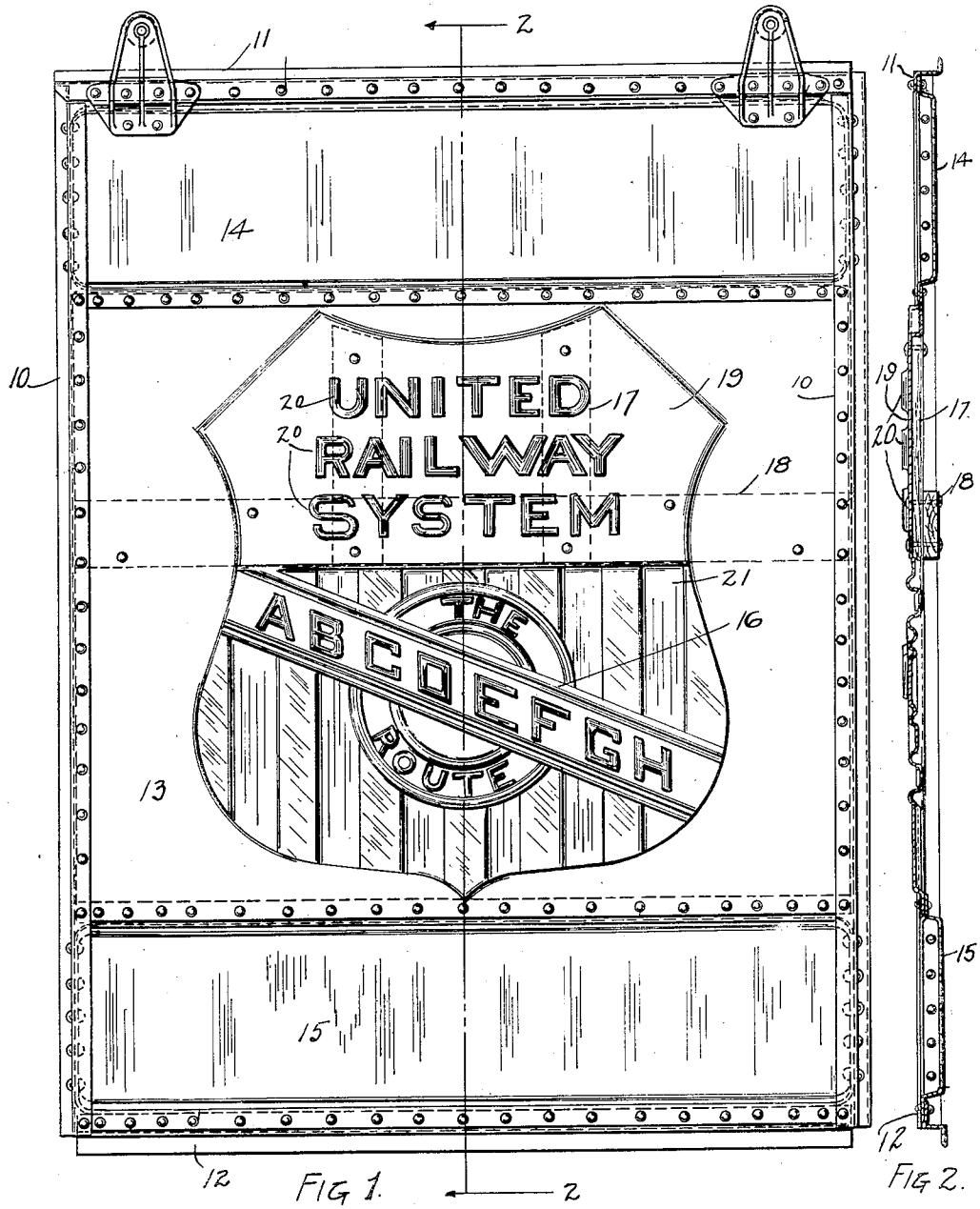


FIG 1.

FIG 2.

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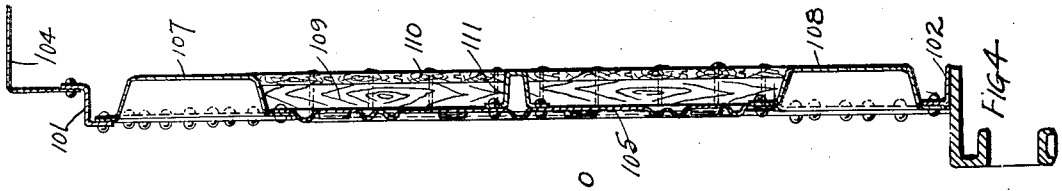


FIG 4

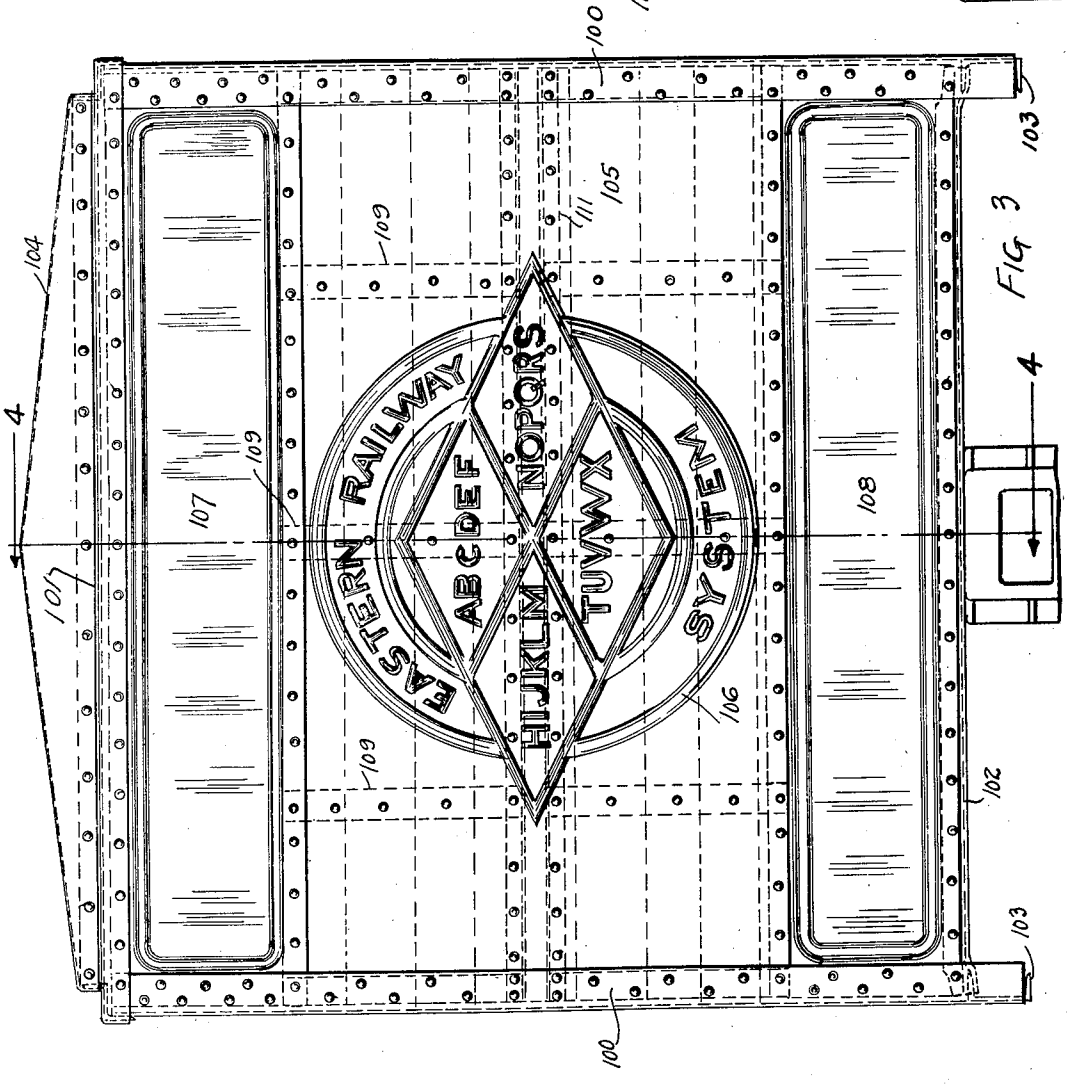


FIG 3

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Patented Mar. 10, 1925. 1,529,114

UNITED STATES PATENT OFFICE.

ARGYLE CAMPBELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO ENTERPRISE RAILWAY EQUIPMENT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAILWAY-CAR CONSTRUCTION.

Application filed February 15, 1924. Serial No. 693,046.

To all whom it may concern:

Be it known that I, ARGYLE CAMPBELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Railway-Car Construction, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in railway car construction and particularly to a novel method of forming the walls of railway cars.

An object of the invention is to construct the walls of railway cars in such a manner that portions having descriptive characters, indicia, symbols or designating marks thereon may be made of a large size and suitably rigidified without detracting from the advertising value of the characters or other designating marks inscribed thereon.

It is also an object of my invention to so construct a car wall that a panel having designating markings thereon will stand outwardly from adjacent panels and thereby, due to its position on the car structure in relation to other portions thereof, attract attention to its markings.

Other objects of the invention will more clearly appear from the description hereinafter following.

In the drawings forming a part of this specification, Figure 1 is a side elevational view of the side door of a railway box car embodying my improved car construction. Figure 2 is a sectional view taken on a line corresponding substantially to line 2—2 of Figure 1. Figure 3 is an end elevational view of a box car having my improved car construction incorporated therein. Figure 4 is a sectional view taken on a line corresponding substantially to line 4—4 of Figure 3.

Referring first to Figures 1 and 2 showing my construction as applied to the side door of a car, 10—10 indicate the vertical margins of the door, 11 the upper horizontal margin, 12 the lower horizontal margin. Intermediate the margins, the body of the door is preferably formed in three panels, 13 designating the central panel, 14 the upper panel and 15 the lower panel. Said central panel 13 occupies a comparatively large area of the door space and carries a descriptive symbol 16, which is preferably formed by embossing a portion of the main body of the plate outwardly thereby providing in itself a suitable rigidifying medium for the door. While the symbol may be constructed to present a continuous embossment and form the sole rigidifying means for the door or other element of a car wall, it is often desirable to attain a greater degree of rigidity than is possible by using the corrugations of the symbol alone and to this end I utilize a system of stiffeners and beams as shown at 17 and 18 respectively. Said stiffening beams may be disposed wherever necessary to effect continuity of reinforcement and, it will be appreciated by those skilled in the art, that the number and disposition of the same will vary with each distinctive symbol. In this particular arrangement shown in Figures 1 and 2 the short stiffeners 17 effectively reinforce the large embossed area 19 of the upper portion of the shield and further unite the three rows of letters 20 thereby effecting continuity of reinforcement between the respective rows. The upper portion of the shield 19 and the lower portion thereof 21 are in slightly different planes and in order to strengthen the door at this line against bulging the beam 18 extends over the stiffeners 17 and between the vertical stiffening members 10—10 thereby greatly reducing the unsupported area of door plate. With such a system of reinforcement disposed on the inner face of the door, it will be seen that an unusually large plate may be used for the central panel and the beams, being on the inner side of the door, will not detract from the full effect of the display on the door. The display on the door is further emphasized by depressing the upper and lower panels away from the central panel. While I have shown only one crosswise beam 18 it is evident that a plurality of such beams may be used and in fact the entire space intermediate the upper and lower panels may be lined with boards which would constitute the inner rigidifying means.

Referring now to the construction shown in Figures 3 and 4, I have shown my improvements as applied to the end wall of a box car. In said drawings 100—100 designate the vertical corner posts of the car, 101 the horizontally extending upper beam ex-

tending crosswise of the car, 102 the lower end stiffening beam, 103—103 the side sills of the car and 104 a portion of the roof of the car. A central panel 105 extending between and secured to the respective vertical corner posts 100—100 is preferably formed of a sheet metal plate having a symbol 106 pressed therein in the form of an embossment and in this manner the plate is considerably rigidified against bulging. The construction described in connection with Figures 1 and 2 is also applicable to the end of the car and both the upper panel 107 and lower panel 108 are dished inwardly. Crosswise of the car the central beam 111 extends on the inner side of the end wall between the corner posts 100—100 and is rigidly united thereto. The sheet metal panel is further rigidified by means of nailing strips 109 which are disposed at intervals against the inner face of the central panel. The end is lined intermediate the upper and lower panels by means of a series of wooden boards 110 which also co-operate with the embossed symbol to stiffen the end panel.

While I have shown and described certain embodiments of my improved railway car construction, the same are merely illustrative, and I contemplate all changes and modifications that come within the scope of the claims appended hereto.

What I claim is:

1. In a railway car wall, the combination with vertical reinforcing marginal members; of a central panel extending between said members, said panel having a distinctive symbol thereon; and additional panels secured to the said central panel at the upper and lower margins thereof, said additional panels being offset inwardly from the plane of the central panel.

2. In a railway car wall, the combination with a central panel having a distinctive intelligence conveying symbol on the outer face thereof; of panels disposed adjacent the upper and lower margins of said central panel and spaced inwardly therefrom; and reinforcing means for the central panel disposed on the inner side of the said panel.

3. In a railway car wall, the combination with vertical reinforcing marginal members; of a central panel having the parts within its margins corrugated and strengthened with an integral intelligence conveying symbol; a stiffener intersecting various parts of the symbol and effecting continuity of reinforcement therein; and a beam extending between the said reinforcing marginal members, said beam being disposed on the inner side of the central panel.

4. In a railway car wall, a sheet metal plate having the parts within its margins corrugated and strengthened with integral intelligence conveying characters arranged out of the main plane of said plate so as to resist the bending of the plate on various cross lines, and additional strengthening means intersecting the said corrugations for the purpose of effecting continuity of reinforcement between various parts of the said characters.

5. In a railway car wall, a sheet metal plate having the parts within its margins corrugated and strengthened with integral intelligence conveying characters arranged out of the main plane of said plate so as to resist the bending of the plate, and stiffening means disposed on the inner side of the plate, said stiffening means effecting continuity of reinforcement between various characters.

6. In a railway car wall, an element entering into the construction thereof; said element comprising a metallic member having incorporated within the margins thereof intelligence conveying symbols on the outer side of the wall and stiffening means on the inner side of the said wall, said intelligence conveying symbols co-operating in strength giving qualities with the stiffening means on the inner side of the wall.

In witness that I claim the foregoing I have hereunto subscribed my name this 13th day of February 1924.

ARGYLE CAMPBELL.

Witnesses:
GEORGE B. DOREY,
IRENE E. DRAKE.