No. 849,382. PATENTED APR. 9, 1907.

W. H. EMERICK & H. A. BUNDY.

BOX CAR ROOF FRAME.

APPLICATION FILED FEB. 9, 1907.

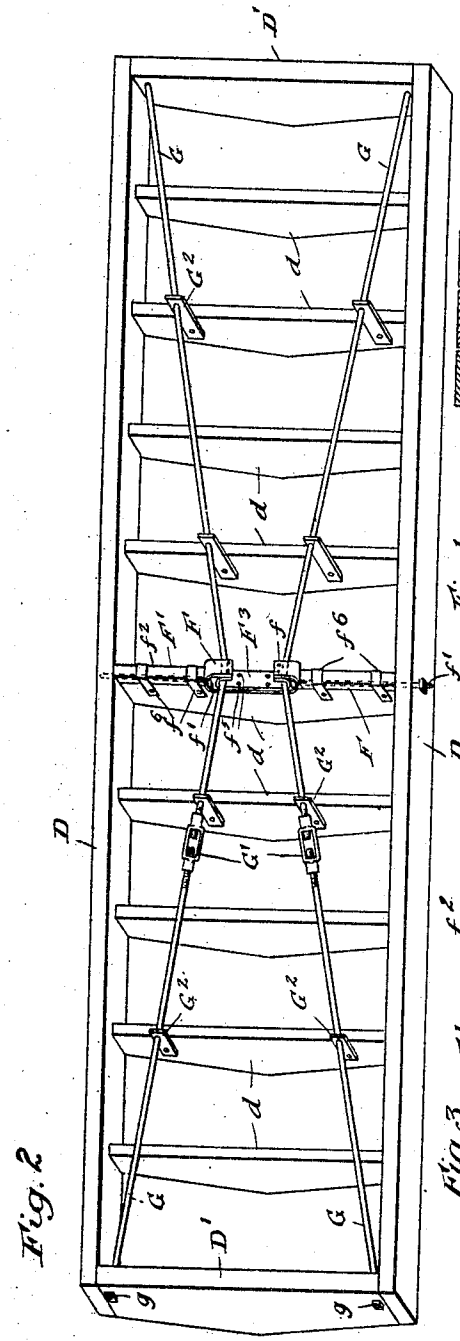


Fig. 2

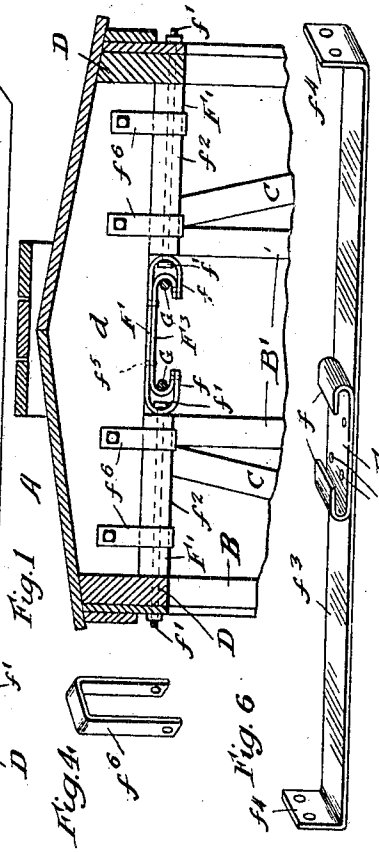


Fig. 1

Fig. 4

Fig. 6

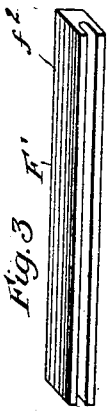


Fig. 3

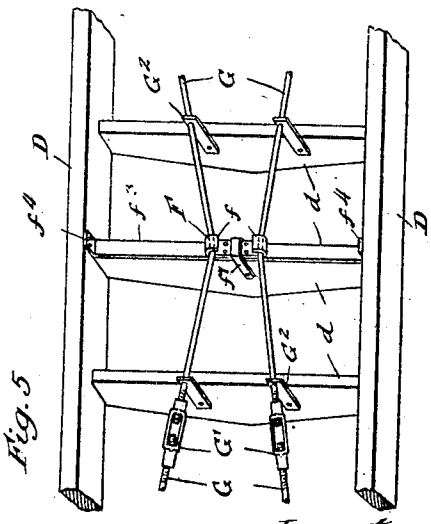


Fig. 5

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BOX-CAR-ROOF FRAME.

No. 849,382. Specification of Letters Patent. Patented April 9, 1907.

Application filed February 9, 1907. Serial No. 356,549.

To all whom it may concern:

Be it known that we, WILLIAM H. EMERICK and HENRY A. BUNDY, citizens of the United States, residing in Osawatomie, in the county of Miami and State of Kansas, have invented a new and useful Improvement in Box-Car-Roof Frames, of which the following is a specification.

Our invention relates to improvements in box-cars, and more particularly to the roof-frame construction.

Heretofore difficulty has been experienced in box-cars from the tendency of the middle portion of the roof-frame to cant to one side and get out of shape, especially in large long cars of extra height, and as the difficulty is one which when once started increases or becomes aggravated rapidly it frequently injures the car or train in passing through tunnels or bridges or when trains pass each other on closely adjacent tracks.

The object of our invention is to provide a box-car-roof frame of a simple, efficient, strong, and durable construction, by means of which this difficulty or objection may be overcome and the canting of the car-body to one side effectually prevented or easily corrected.

Our invention consists in the means we employ to practically accomplish this object or result, as herein shown and described, and more particularly specified in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a vertical cross-section of a car-body embodying our invention. Fig. 2 is a perspective view of the car-roof frame looking from the under side. Fig. 3 is a detail view of the rod-hanger block or strut. Fig. 4 is a detail perspective view of the hanger for said block or strut. Fig. 5 is a detail perspective view illustrating a modification, and Fig. 6 is a detail perspective view of the tie-plate and single truss-loop shown in Fig. 5.

In the drawings, A represents a portion of a box-car body having upright side posts B and end posts B′, furnished with the usual diagonal braces C to prevent the end posts from canting out of plumb and having also the customary side or top plates D, end plates D′, and carlines *d*, constituting the roof-frame.

F is a central truss-rod loop furnished with oppositely-turned hooks *f f* and mounted on the lower face of the middle carline *d* and held in place by a suitable strut member F′. The strut member F′ may consist, as illustrated in Figs. 1 to 3, of tie-rods *f′* and tie-rod-hanger blocks f^2, interposed between and connecting the top or side plates of the car-roof frame with the truss-rod loop F, or, as illustrated in Figs. 5 and 6, of a tie-plate f^3, having right-angle flanges f^4, abutting against and secured to the side plates D D and to which the truss-rod loop F is secured by rivets f^5.

G G are truss-rods extending through the end plates D′ of the car-roof frame at the four corners thereof and furnished with nuts *g* at the ends thereof to tighten and adjust the same and also with turnbuckles G′. These truss-rods fit at their middle portions in the hooks *f f* of the truss-rod loop F. The truss-rods G are preferably supported by truss-rod hangers G^2, having holes through which the truss-rods extend and which are secured to the carlines.

The strut members F′ when the same are composed of tie-rods *f′* and tie-rod-hanger blocks f^2 are preferably mounted on the under side of the middle carline by means of hangers f^6. A similar hanger f^7 may extend around the middle portion of the truss-rod loop F. The truss-rod loop F may, if desired, have a supplemental or reinforcing loop F^3, thus giving the truss-rod loop a double form, as illustrated in Figs. 1 and 2.

We claim—

1. In a box-car, the combination with diagonally-braced upright end posts and the side plates, end plates and carlines, of a truss-rod loop having oppositely-turned hooks supported under the middle carline, a tie and strut member connecting said loop with the side plates of the car-roof frame and truss-rods fitting at their middle portions in the oppositely-turned hooks of said truss-rod loop and extending to the end plates at the corners of the car-roof frame, substantially as specified.

2. In a box-car, the combination with side plates, end plates and carlines of the car-roof frame, of a central truss-rod loop having oppositely-turned hooks, strut members connecting the same with the side plates at the middle portion thereof, and longitudinally-extending truss-rods engaging at their middle the oppositely-turned hooks of said truss-rod loop and connected at their ends with the end plates of the car-roof frame at the four corners of the car, substantially as specified.

3. In a box-car, the combination with side

plates, end plates and carlines of the car-roof frame, of a central truss-rod loop having oppositely-turned hooks, strut members connecting the same with the side plates at the middle portion thereof, and longitudinally-extending truss-rods engaging at their middle the oppositely-turned hooks of said truss-rod loop and connected at their ends with the end plates of the car-roof frame at the four corners of the car, hangers for the truss-rods and a hanger for the truss-rod loop, substantially as specified.

4. In a box-car, the combination with the side plates, end plates and carlines of a central truss-rod loop, a strut member connecting the same with the side plates of the car-roof frame and diagonally-extending truss-rods fitting at their middle portions in the oppositely-turned hooks of the truss-rod loop and extending to the four corners of the car-roof frame, substantially as specified.

5. In a box-car, the combination with the side plates, end plates and carlines of a central truss-rod loop, a strut member connecting the same with the side plates of the car-roof frame and diagonally-extending truss-rods fitting at their middle portions in the oppositely-turned hooks of the truss-rod loop and extending to the four corners of the car-roof frame, said truss-rod loop being of a double construction, substantially as specified.

6. In a box-car, the combination with the side plates, end plates and carlines, of a central truss-rod loop, tie-rods and blocks connecting the same with the side plates of the car-roof frame, and diagonally-extending truss-rods fitting at their middle portions in the hooks of said truss-rod loop and extending to the four corners of the car-roof frame, said truss-rods being provided with turnbuckles, substantially as specified.

7. In a box-car, the combination with diagonally-braced upright end posts and the side plates, end plates and carlines, of a truss-rod loop having oppositely-turned hooks supported under the middle carline, a tie and strut member connecting said loop with the side plates of the car-roof frame, and truss-rods fitting at their middle portions in the oppositely-turned hooks of said truss-rod loop and extending to the end plates at the corners of the car-roof frame, said truss-rods being provided with turnbuckles, substantially as specified.

8. In a box-car, the combination with side plates, end plates and carlines of the car-roof frame, of a central truss-rod loop having oppositely-turned hooks, strut members connecting the same with the side plates at the middle portion thereof, and longitudinally-extending truss-rods engaging at their middle the oppositely-turned hooks of said truss-rod loop and, at their ends, with the end plates of the car-roof frame at the four corners of the car, said truss-rods being provided with turnbuckles, substantially as specified.

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