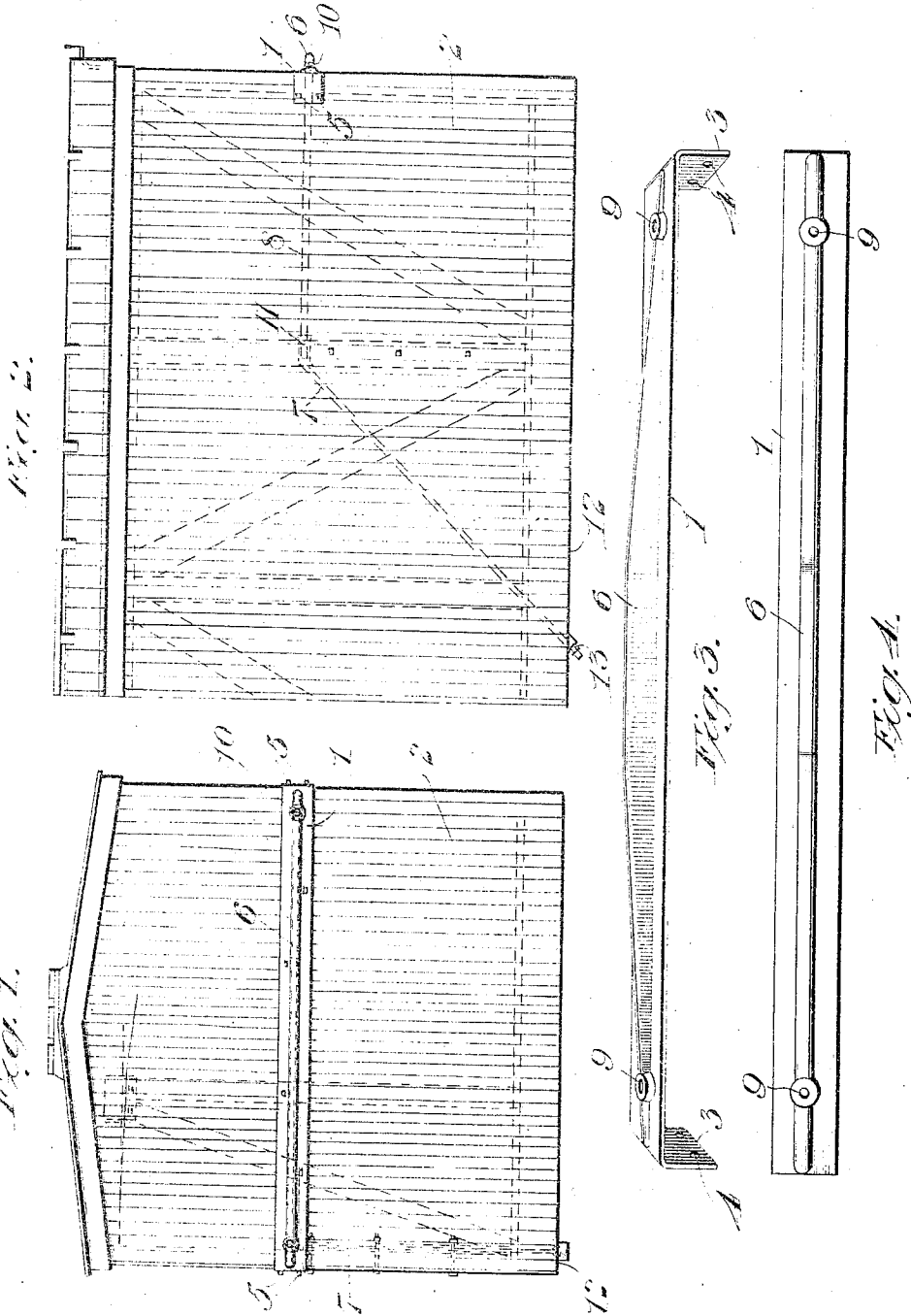


G. L. WEISS.
STRENGTHENING DEVICE FOR THE ENDS OF RAILWAY BOX CARS.
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Witnesses
A. L. Knochner
May M. Pyle

Inventor
George L. Weiss
by Jas. L. Skidmore
his Attorney.

UNITED STATES PATENT OFFICE.

GEORGE L. WEISS, OF CLEVELAND, OHIO, ASSIGNOR TO CLEVELAND CAR SPECIALTY COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

STRENGTHENING DEVICE FOR THE ENDS OF RAILWAY BOX-CARS.

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To all whom it may concern:

Be it known that I, GEORGE L. WEISS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Strengthening Devices for the Ends of Railway Box-Cars, of which the following is a specification.

This invention has for its object to provide means for strengthening the ends of railway box cars and to prevent them from being broken by the shifting of the goods loaded in the cars.

It has been found that the ends of railway wooden box cars are from time to time knocked out or broken by the shifting of the loads in a car.

This invention is intended to guard against and obviate the danger of the ends of wooden box cars being knocked out or broken by the shifting of the loads in the car.

In carrying out the invention means are provided for bracing the ends and corners of a wooden box car.

Referring to the accompanying drawing in which similar figures of reference refer to like parts. Figure 1 is an end view of a box car showing the invention applied thereto. Fig. 2 is a side view of a portion of a box car showing the invention. Fig. 3 is a view in perspective of a steel tie band used in strengthening the end of a box car. Fig. 4 is a plan view of the tie band shown in Fig. 3.

1 indicates a flat metal bar, preferably of steel, and of a length corresponding to the width of the end of a box car 2, with ends 3 bent at a right angle and adapted to fit over either side of the car. The ends 3 are provided with bolt holes 4 by means of which they may be secured to the sides of the car by bolts 5. The bar 1 is preferably formed with a longitudinal rib 6 to strengthen the same, the rib 6 tapering toward its ends. By means of a bar of this kind just described, secured to each end of a box car, the ends of the car will be strengthened against the thrust of shifting loads in the car. The bar so constructed serves to brace both the end and corners of the car.

In order to aid in supporting the bar 1, and also in strengthening and bracing the end of the car, truss rods arranged in any suitable manner on each side of the car are

employed in conjunction with the bar 1. For example, truss rods 7 are arranged at each side of the car on the inside thereof and have one end of a horizontal portion 8 extending through a hole 9 adjacent to one end of the bar 1, and secured by a nut 10, and the other end of the horizontal portions 8 of the rod 7 extending through a clamp 11 on the side of the car, the rod 7 extending downward diagonally from the clamp 11, and extending at its lower end through the side sill 12 of the car and secured thereto by a nut 13. The truss rods may be secured to the bottom of the car instead of the side sills, if so desired. While the bar 1 may be used without the truss rods it is preferably employed in connection therewith to brace and strengthen the end of the car against thrusts of the shifting loads in the car.

The invention is not confined to the particular construction and arrangement of the tie or brace bar 1, or to the particular way in which it is secured to the car, nor to the particular construction and arrangement of truss rods in connection with the tie bars.

In use the device described may be mounted at each end of a box car. The construction herein set forth may be readily applied to any box car, and while simple in construction and economical serves to supply a strong brace to protect the end wall of the car and prevent it from being broken by the end thrusts of the loads contained in the car.

Having described the invention I claim—

1. A device for bracing the end of a box car consisting of a metallic bar extending across the end of the car, with ends overlapping the sides of the car, said bar having a solid strengthening rib at its central portion, and means passing through the end of the car and through the rib portion of the bar for securing said bar in place.

2. A device for bracing the end of a box car, consisting of a metallic bar extending across the end of the car, and having ends overlapping the sides of the car, and secured thereto, and truss rods secured to the car, and said bar.

3. A device for bracing the end of a box car, consisting of a metallic bar extending across the end of the car and having bent ends secured to the sides of the car, and truss rods each of which is secured at one end to said bar and at the other end to the bottom of the car.

4. A device for bracing the end of a box car, consisting of a metallic bar extending across the end of the car, and having bent ends overlapping the corners of the car and
5 detachably secured to the sides of the car, and truss rods detachably secured at one end to said bar, and detachably secured at the other end to the bottom of the car.

5. A brace for the end of a box car comprising a metallic member of a length to
10 extend across the end of the car, and having

bent ends adapted to overlap the corners and sides of the car and adapted to be secured to the car, said member having a solid longitudinal rib formed at its central portion and
15 extending across the end of the car and perforated through its rib portion.

GEORGE L. WEISS.

In presence of—
WM. B. WAGGONER,
J. A. COSTELLO.