No. 678,258. Patented July 9, 1901.

G. I. KING.

END BRACING FOR BOX CARS.

(Application filed Apr. 18, 1901.)

(No Model.)

FIG. 2.

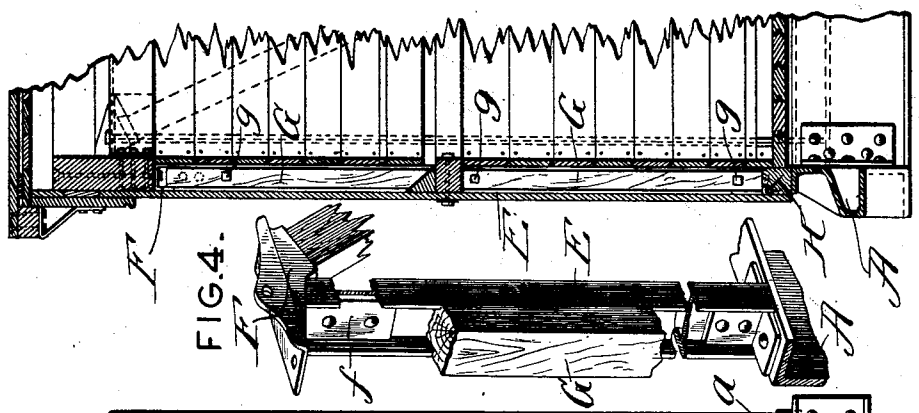


FIG. 4.

FIG. 1.

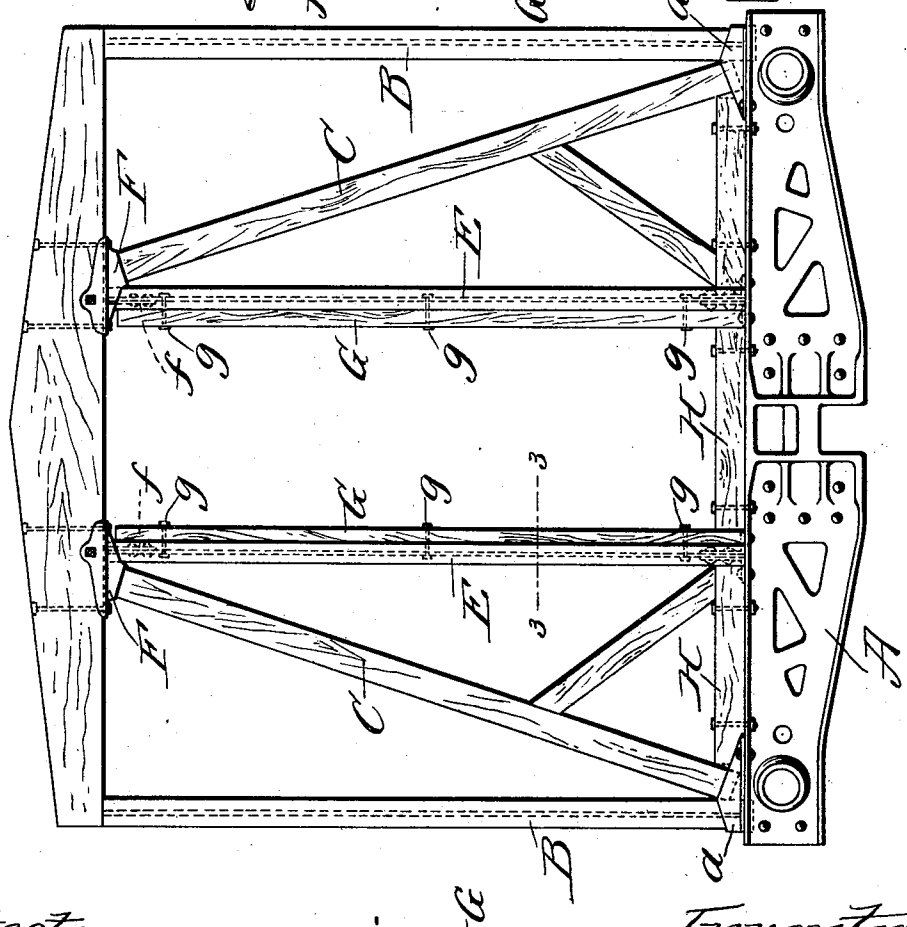


FIG. 3.



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UNITED STATES PATENT OFFICE.

GEORGE I. KING, OF DETROIT, MICHIGAN, ASSIGNOR TO AMERICAN CAR & FOUNDRY COMPANY, OF ST. LOUIS, MISSOURI.

END BRACING FOR BOX-CARS.

SPECIFICATION forming part of Letters Patent No. 678,258, dated July 9, 1901.

Application filed April 18, 1901. Serial No. 56,426. (No model.)

To all whom it may concern:

Be it known that I, GEORGE I. KING, a citizen of the United States, residing at the city of Detroit, in the county of Wayne, State of Michigan, have invented a certain new and useful Improvement in End Bracings for Box-Cars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevational view of the framing of a box-car, showing my improved end bracing. Fig. 2 is a vertical sectional view showing my improved bracing with the end walls and the roof in position. Fig. 3 is a sectional view on line 3 3, Fig. 1; and Fig. 4 is a detail view of one of the castings used in connection with the vertical post.

This invention relates to a new and useful improvement in car construction, being designed particularly for strengthening the end framing of box-cars.

The object of my present invention is to make the end framing of box-cars sufficiently strong to prevent bulging in the transportation of loose loads, such as wheat, &c. Box-cars as commonly constructed with wooden sills and end posts are liable when the car is being switched and subjected to shocks and jars to bulge the end walls, the connections between the wooden posts and end sills not being strong enough to withstand the severe strains to which they are subjected under the impaction of loose loads. Sometimes the end walls of box-cars are forced out under the above conditions, so that the load contained in the car finds an exit through which it may escape. Especially is this true when the car is loaded with wheat or other granular material.

The purpose of my present invention is to make the end framing of the car sufficiently strong to withstand such pressures which are usually suddenly applied, and to accomplish this in a simple and economical way I preferably employ metallic end sills and use metallic end posts, which are riveted to the end sill, the upper ends of the end posts having castings riveted thereto, which castings are strongly bolted or otherwise secured to the end plate. These end posts may be in the form of channels I-shaped in cross-section or other suitable cross-sections, and in order to provide nailing-strips for the end walls of the car I preferably use furring-strips which are seated within the channels or bolted to the end posts.

In the drawings, A indicates the end sill, which is shown in the drawings as being made of a casting; but it is obvious that a structural metallic end sill may be used, or, for that matter, a wooden end sill can be employed. This end sill carries pockets *a* at its ends, in which are seated the corner-posts B and the end diagonals C. These corner-posts and diagonals are preferably of wood, the end walls of the car being nailed thereto.

E indicates the metallic end posts, shown in the drawings as being I-shaped in section. These end posts are riveted to the metallic end sill by the use of connection-plates, as shown.

F indicates a casting which is formed to provide a pocket in which the upper end of the diagonal C is seated. This casting has an upwardly-extending flange, which is bolted to the end plate by the use of horizontally-disposed bolts. Vertical bolts secure the casting to the under face of the end plate and hold it in position thereon. The casting has a depending web or flange *f*, to which is riveted the upper end of the metallic end post.

G indicates a wooden furring-strip, which is seated in one of the channels of the end post, being held therein by the employment of suitable bolts *g*. The bottom nailing-strips H for the floor may be bolted directly to the upper face of the end sill.

I am aware that box-cars have been constructed wholly of metal and wholly of wood. In some instances metallic members have been employed in the side framing, the remaining members of said framing being made up of wood. I am not aware, however, of the use of metallic end posts arranged and combined with the metallic end sill and wooden end plate in the manner shown in the drawings and hereinabove described.

I am aware that minor changes in the arrangement, construction, and combination of

the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a metallic end sill, of metallic end posts riveted thereto, castings riveted to the upper ends of said end posts, and a wooden end plate to which said castings are secured; substantially as described.

2. The combination with metallic end posts, of castings riveted to the upper end thereof, said castings affording seats for the wooden diagonals in the end framing; substantially as described.

3. The combination with a metallic end post, of a casting having a depending web which is riveted to said end post, said casting having a vertical flange, and a horizontal flange for receiving the end plate, and bolts passing through said flanges for securing the casting to the end plate; substantially as described.

4. The combination with a metallic end sill, of metallic end posts riveted thereto, castings riveted to the upper ends of said end posts for affording seats for the diagonals in the end framing, an end plate to which said castings are secured, and wooden furring-strips secured in the channels of the metallic end posts; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 13th day of April, 1901.

GEORGE I. KING.

Witnesses:
GEORGE BAKEWELL,
RALPH KALISH.