(No Model.)

W. E. COFFIN.

FRAME FOR CARS.

No. 591,186. Patented Oct. 5, 1897.

Fig. 1.

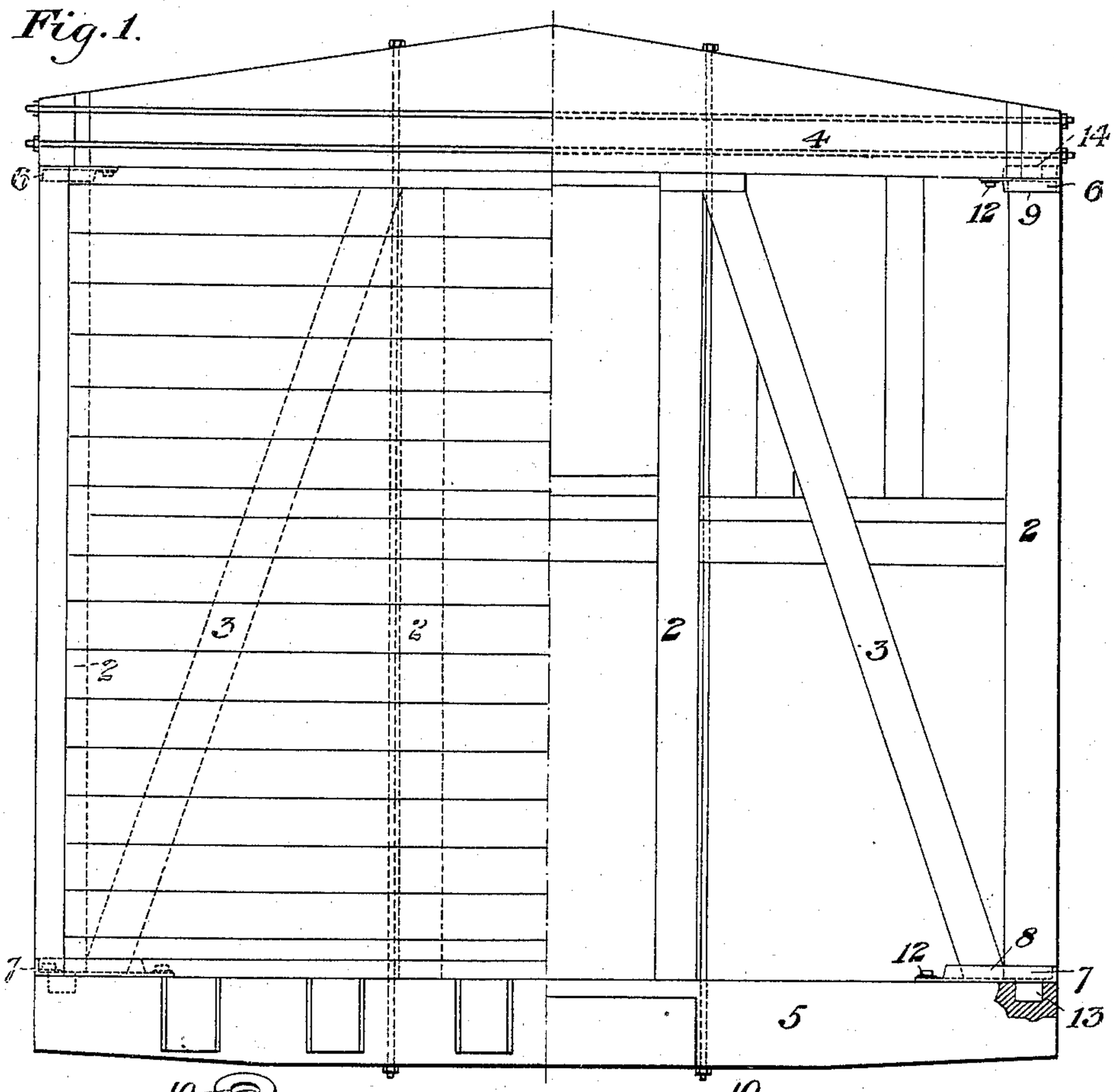


Fig. 5.

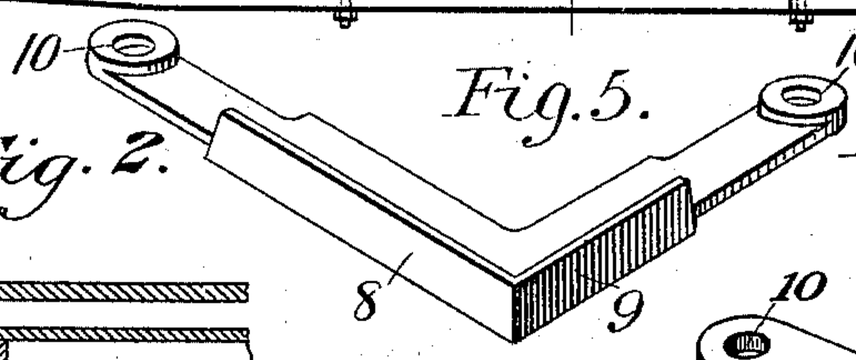
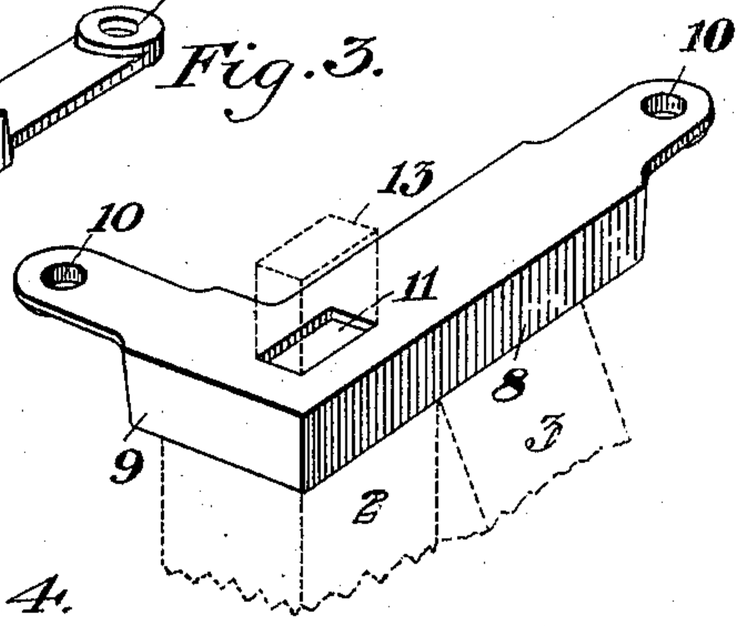


Fig. 2.

Fig. 3.



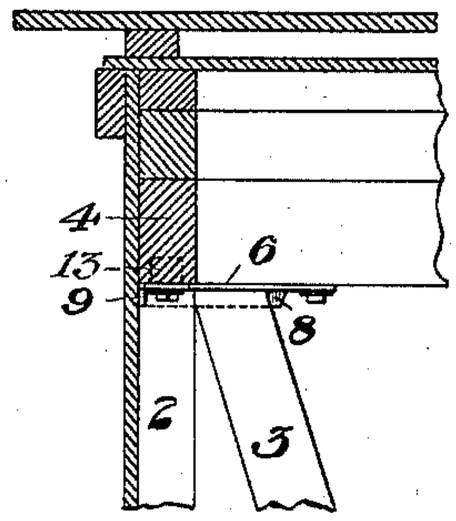
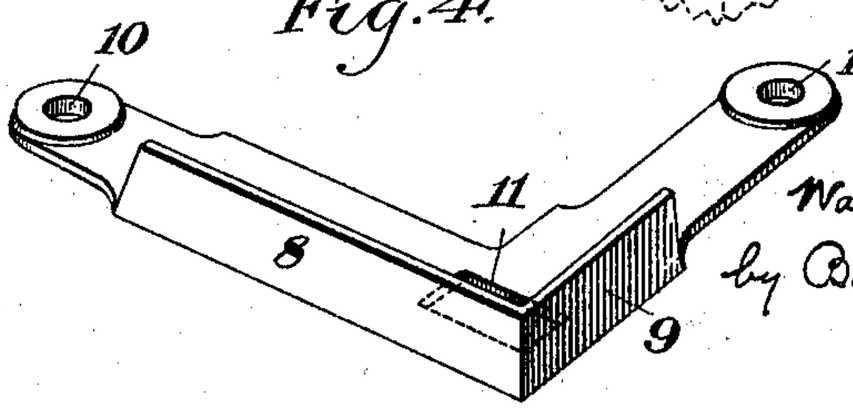


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER E. COFFIN, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF SAME PLACE.

FRAME FOR CARS.

SPECIFICATION forming part of Letters Patent No. 591,186, dated October 5, 1897.

Application filed December 4, 1896. Serial No. 614,396. (No model.)

To all whom it may concern:

Be it known that I, WALTER E. COFFIN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Frames for Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end elevation of a railway-car constructed in accordance with my invention. Fig. 2 is a vertical sectional detail view at the side of one of the upper corners of the car. Fig. 3 is a view in perspective, showing the application of one of the retaining-plates to the upper end of a post and bracing-timber. Fig. 4 is a perspective view of the lower retaining-plate; and Fig. 5 is a perspective view of the lower retaining-plate, omitting the mortise-hole.

Heretofore in securing the upright posts in the framework of railway-cars it has been customary to connect the end of the post to the timber against which it abuts by a mortise and tenon, but these are often insufficient to withstand the pressure of the load exerted upon the frame.

The bracing-timbers have been commonly fitted diagonally between the posts, but they have not been adapted to withstand the load-pressure and are liable to be easily pushed out of place under the various outward strains to which they are subjected when in use, and at all times during the back and forth racking motion of the cars when in service or when switching they have a tendency to wear into the adjoining timbers.

The object of my invention is to obviate the objections above noted and to provide a very strong and durable framework.

In the drawings, 2 2 represent the posts of the car-frame, and 3 3 are the diagonal braces, which extend between opposite ends of adjacent posts.

4 is the end plate of the car-roof frame, and 5 is the end sill.

6 and 7 are retaining-plates of L shape having on the outer edges vertical flanges 8 9. At their ends are holes 10 for lag-screws or bolts, and at their middle parts or angles there may be a mortise-hole 11. These plates are applied to the corners of the car-frame, as shown, and are secured by lag-screws 12 to the end sill and side sill in the case of the lower plate 7 and to the end plate and side plate of the roof-frame in the case of the upper plate 6. The post 2 extends vertically between the plates, its ends fitting in the corners thereof and against the outer flanges 8 9, and the end of the brace 3 also fits on the plate against the post and bears against the lateral flange.

Where the plates are applied to old cars for the purpose of repairs or where for any reason it is desired to retain the mortise-and-tenon connection at the ends of the posts, tenons 13 on the post may be fitted through the holes 11 of the plates, as shown in the drawings, but where such tenons are not on the posts the mortise-holes are not used and a plate such as is shown in Fig. 5 is employed.

If desired, the plates may have flanges 14, as shown by dotted lines on the plate 6 in Fig. 1, extending in the opposite direction from the flanges 8 9, but in the same vertical plane, so as to fit against the car-frame.

The outer surfaces of the plates are made plain, without lugs or projections, and are thus easy to replace when it is desired to repair the timbers of the frames of the car.

It will be noticed also that while the outer edges of the plates are flanged the inner edges are unflanged. The purpose of this is to prevent lodging of particles of grain or dirt under the bases of the timbers, which accumulating there would tend to raise up the timbers and force them permanently out of position. By the construction described, however, a free outlet for such particles is provided and their accumulation is prevented.

The presence of the flanges on the outer edges of the plates prevents the timbers from splitting, as they do frequently where they are secured only by mortise and tenon, and by holding the timbers rigidly in position the siding-boards are not apt to be forced out by strains on the car, and no opportunity is

therefore afforded for the lodgment of grain and other matter between the siding and the sills.

The lag-screws at the ends of the plates hold the plates with great security, and altogether the construction is much more efficient than the modes of framing heretofore employed.

Within the scope of my invention as defined in the claims many changes may be made in the construction and arrangement of the parts, since

What I claim is—

1. A car-frame having upright posts and diagonal braces and a retaining-plate secured to the corner of the frame and having an outer surface against which the ends of the post and brace abut and having, at the outer sides only, lateral flanges which confine said post and brace.

2. A retaining-plate for car posts and braces of L shape, said plate having a flat outer surface and being provided at its outer margin only with flanges which extend laterally in opposite directions.

3. A retaining-plate for car posts and braces, of L shape flanged at the outer margin only, and a mortise-hole at the middle.

In testimony whereof I have hereunto set my hand.

WALTER E. COFFIN.

Witnesses:

A. PERRY BURCH,

FREDERIC B. SHEPARD.