

(No Model.)

W. W. GREEN.
FREIGHT CAR COVERING.

No. 438,580.

Patented Oct. 14, 1890.

Fig. 1.

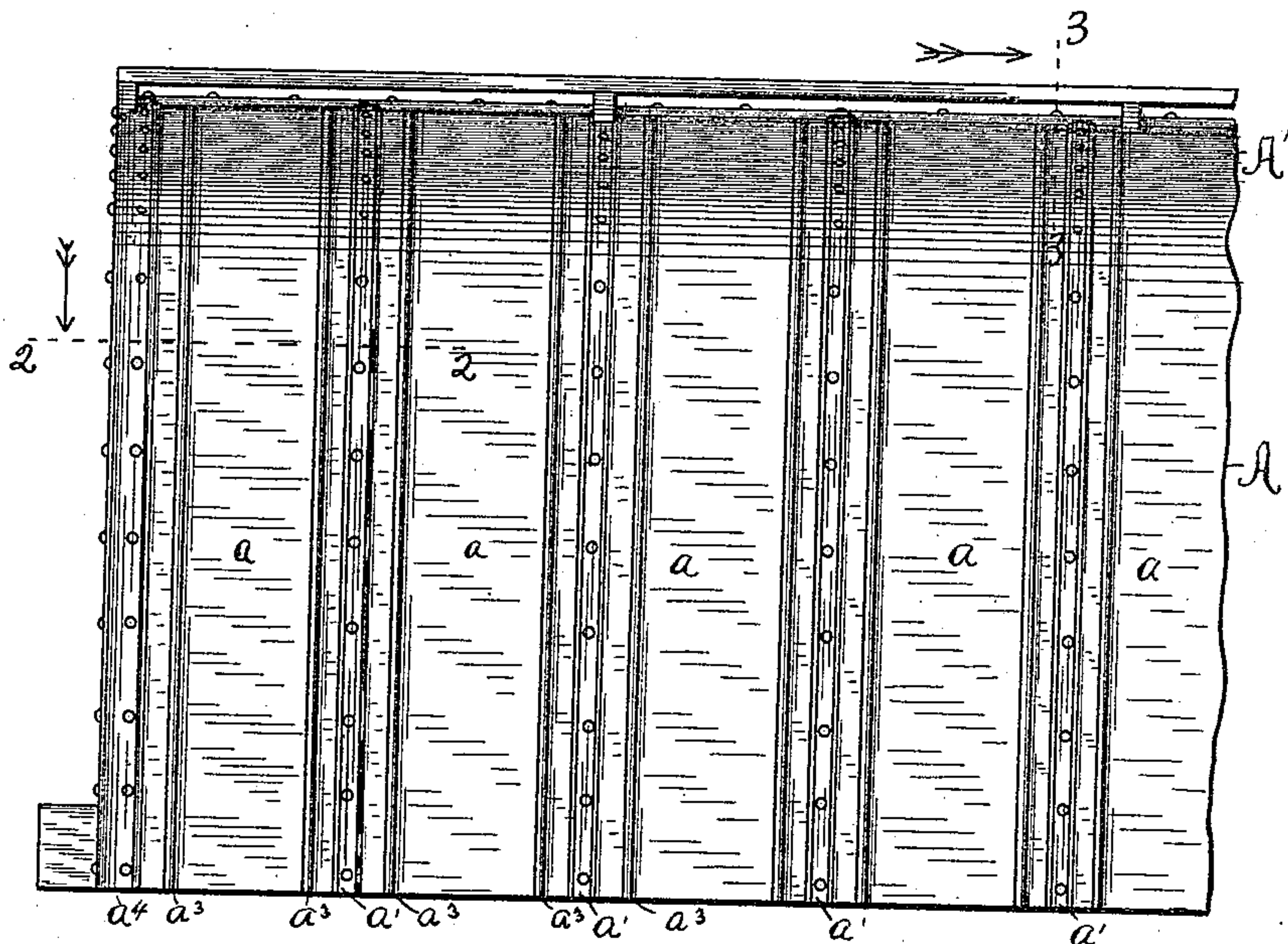


Fig. 2.

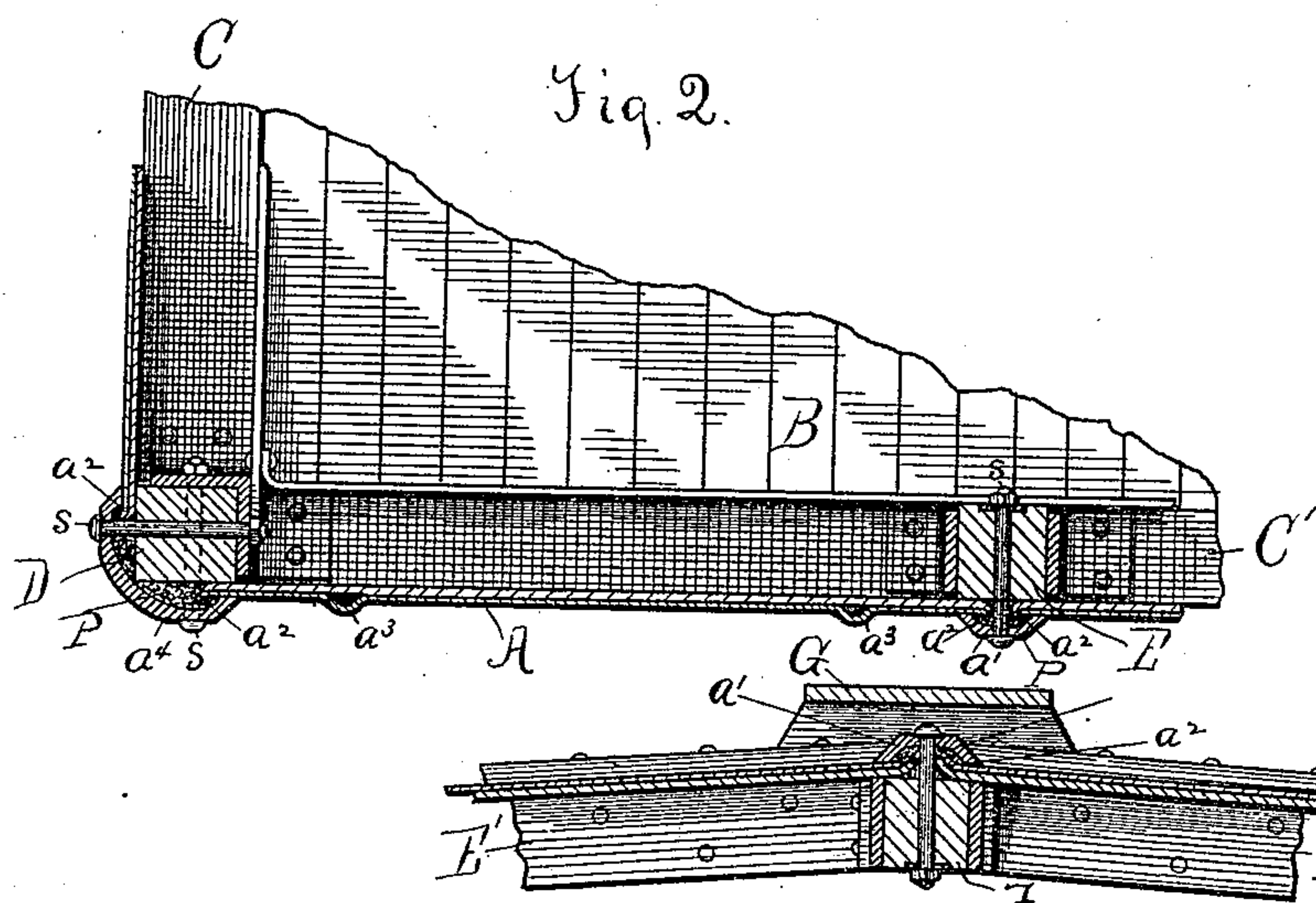


Fig. 4.

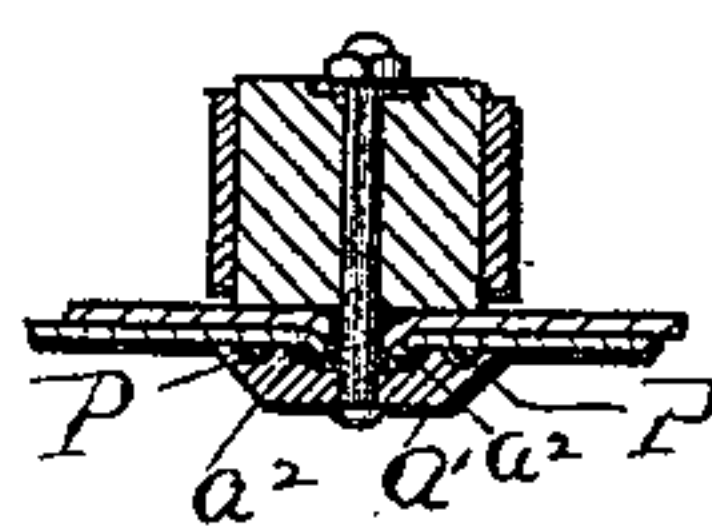
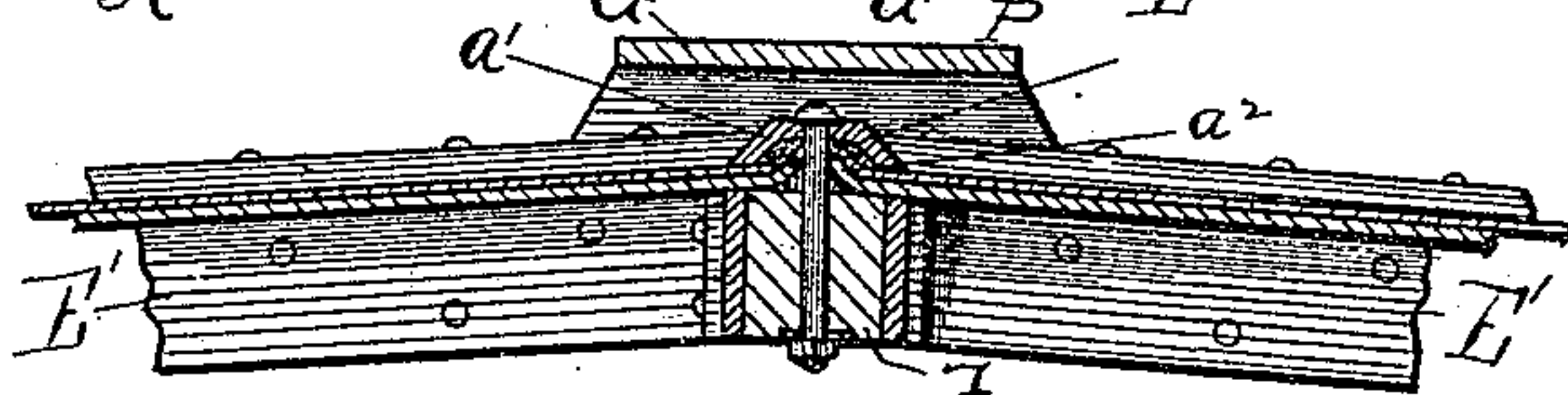


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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FREIGHT-CAR COVERING.

SPECIFICATION forming part of Letters Patent No. 438,580, dated October 14, 1890.

Application filed August 1, 1890. Serial No. 360,608. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. GREEN, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Freight-Car Coverings, of which the following is a specification, reference being had to the accompanying drawings, wherein—

Figure 1 is a side view of one end of a car bearing my improved covering; Fig. 2, an enlarged broken section taken in line 2 2 of Fig. 1; Fig. 3, a similar section in line 3 3 of Fig. 1, and Fig. 4 a section showing a modification.

My invention consists in certain improvements in the external covering or sheeting of railway-cars, and while especially valuable on freight-cars is also adapted to passenger-cars and other like structures. These different improvements are clearly pointed out in the claims appended hereto. They are capable of either conjoint or separate use, and when combined make up an exceedingly satisfactory structure. The particular class of cars to which they are applied is that in which the external covering is formed of a number of metal plates. The greatest difficulty with these cars has been met in providing for the expansion and contraction of the metal without danger of buckling the plates or loosening the joints so that they will leak. My invention is directed to this general purpose and in connection therewith to prevent the rattling of the metal plates and remove other minor objections that have been incidental to metal-covered cars.

The drawings show a car which embodies all of my improvements in their preferred form.

Referring to the parts thereof by means of the letters applied thereto, A is the side of the car; A', the top; B, the floor; C C', the end and side sills, respectively; D, the corner-posts; E, the side posts; E', the ribs; F, the ridge-piece, and G the run-board.

The outer covering, which is the subject of this invention, is made up of a number of metal plates *a*, which are here continuous from the bottom of the car to the ridge and from post to post. While this is preferable it is of course not essential. In fact the method

of joining the plates described below offers such perfect security against leakage that the shape or arrangement of the metal plates is almost immaterial. The joints are, however, more easily made along the posts and ridge than elsewhere. The metal plates are not allowed to touch each other, a slight space being left between them to allow them to expand. This opening is covered by a strip or batten *a'*, tightly clamped upon the plates by means of bolts *s*, reaching through the posts and ridge-piece and secured by nut and washer at the inner end. The under side of the batten *a'* bears a concave or groove for two purposes—first, to allow the covered edge of the plate to be turned up therein, as seen at *a''*, and, second, to accommodate a packing *P* to be inserted between the batten and the edges of the plates. The upturned edges compel any water that may be driven under the batten to flow down within the groove and out at the bottom, and also, in case of accident or undue strain from any cause, resist the pulling apart of the plates. The packing tightens the joint, and, being tightly compressed, will expand and prevent leakage or rattling even when the batten becomes slightly separated from the side plates. When the packing and the upturned edges are combined, the effectiveness of each is greatly increased by the presence of the other, the compact filling giving the hooked edges of the plates a firmer hold upon the inside of the batten and the flanged edge in turn aiding the packing to arrest the passage of water under the batten to the inside of the car. The upturned edge is of value for another purpose also. When the edges are cut off straight, they work up against the bolts *s* and wear them rapidly away, and when the plates are heavy and great strain imposed even cut them in two, whereas the upturned edge is merely bent back by the bolt, and indeed when the packing is employed seldom touches the latter.

Fig. 4 shows a modified form of batten. Here the packing is held in separate side grooves on the under side of the strip and the edges of the plates upturned in a central groove. While this form has some of the advantages above enumerated, it lacks others,

and is hence inferior to the preferred construction which has been described.

To gain still greater facility of expansion and contraction, I combine with the features
5 above presented for this purpose corrugations a^3 , preferably extending longitudinally of the metal plates, which also serve to stiffen the latter and improve the appearance of the car.

The end coverings are like the sides, except
10 that the plates terminate under the quarter-round corner-battens a^4 .

I claim as new and desire to secure by Letters Patent—

1. A covering composed of corrugated-metal
15 plates covered at the joints, with battens having grooves in their under surfaces filled with a packing, substantially as described.

2. A covering composed of metal plates having upturned edges, battens grooved to receive
20 said edges, and packing interposed between the battens and the plates, substantially as described.

3. A covering composed of metal plates having upturned edges, battens grooved to receive said edges, and packing in the grooves
25 and about the upturned edges, substantially as described.

4. A covering composed of corrugated-metal plates having upturned edges, battens grooved to receive said edges, and packing in the
30 grooves and about the upturned edges, substantially as described.

5. A car-covering composed of corrugated-metal plates extending between the side posts and from the bottom of the car to the ridge,
35 having upturned edges along the sides and the ridge end, battens having grooves to receive the edges, and packing closely filling said grooves, substantially as described.

WILLIAM W. GREEN.

Witnesses:

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H. BITNER.