

(No Model.)

F. HERON.
METALLIC RAILWAY CAR.

No. 578,990.

Patented Mar. 16, 1897.

Fig. 1.

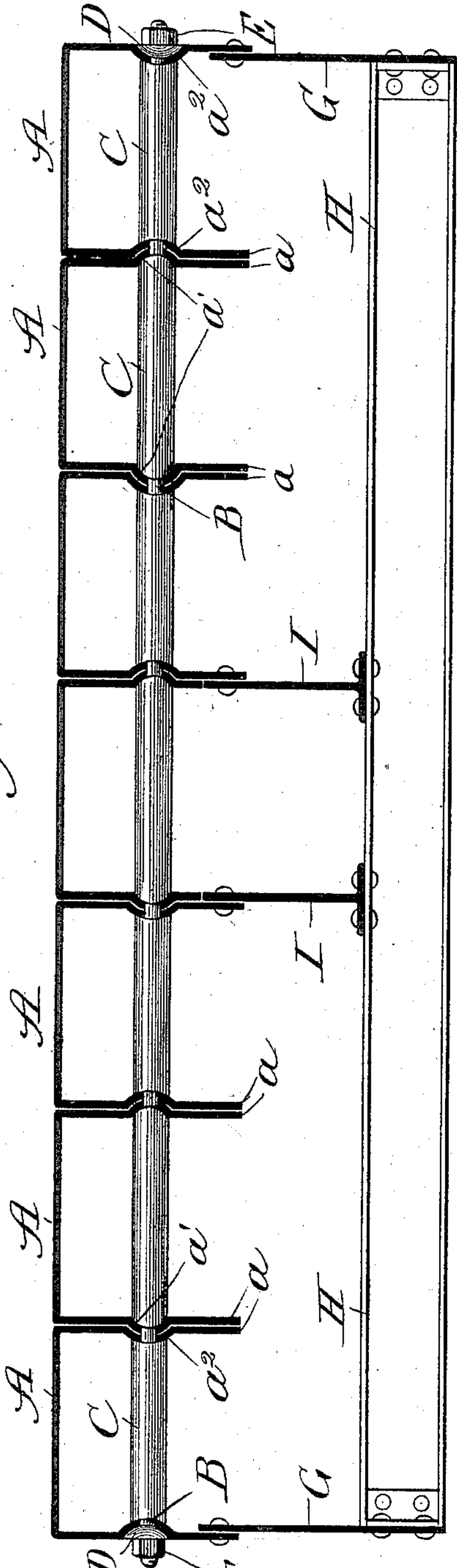


Fig. 3.

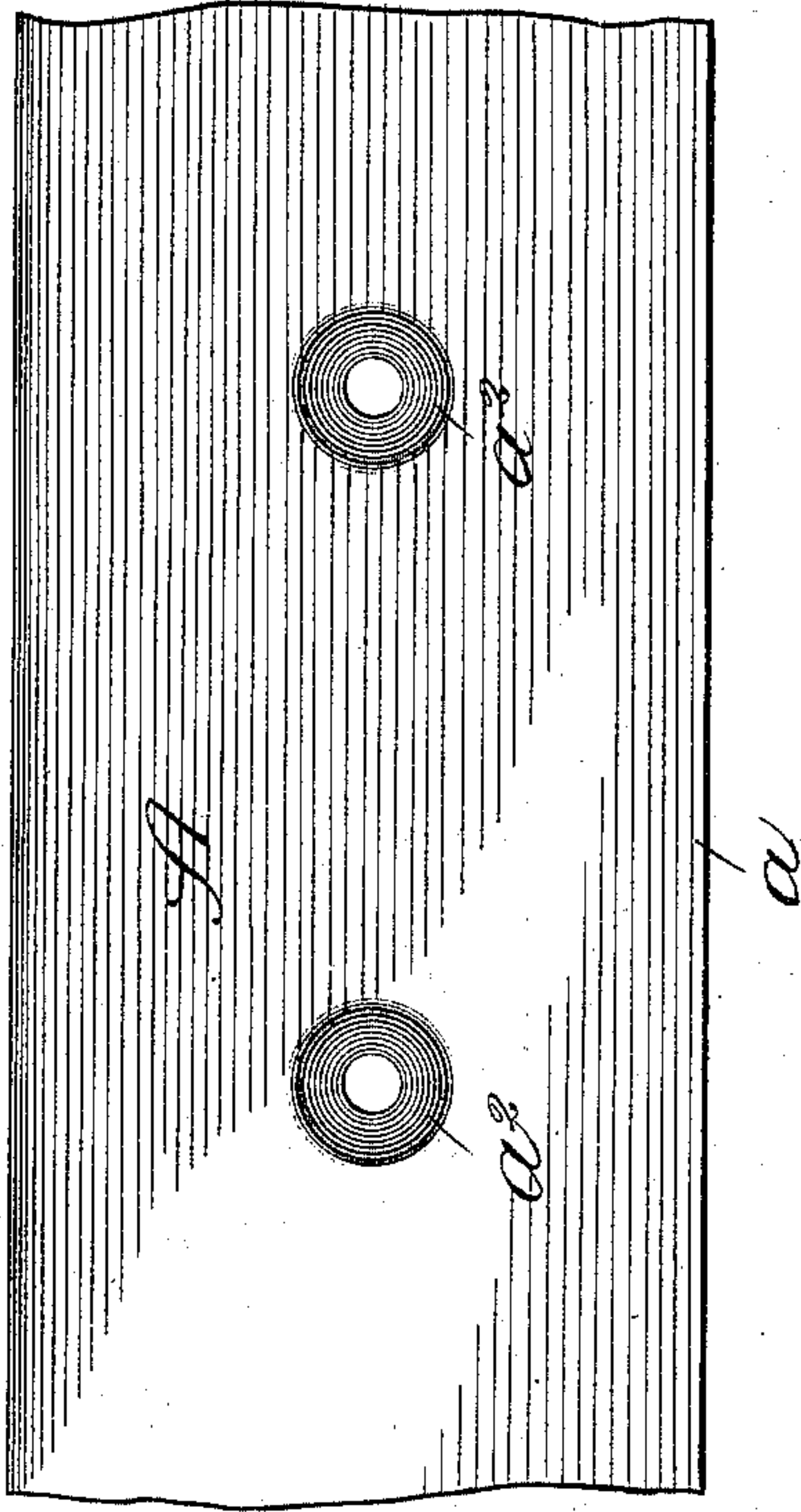
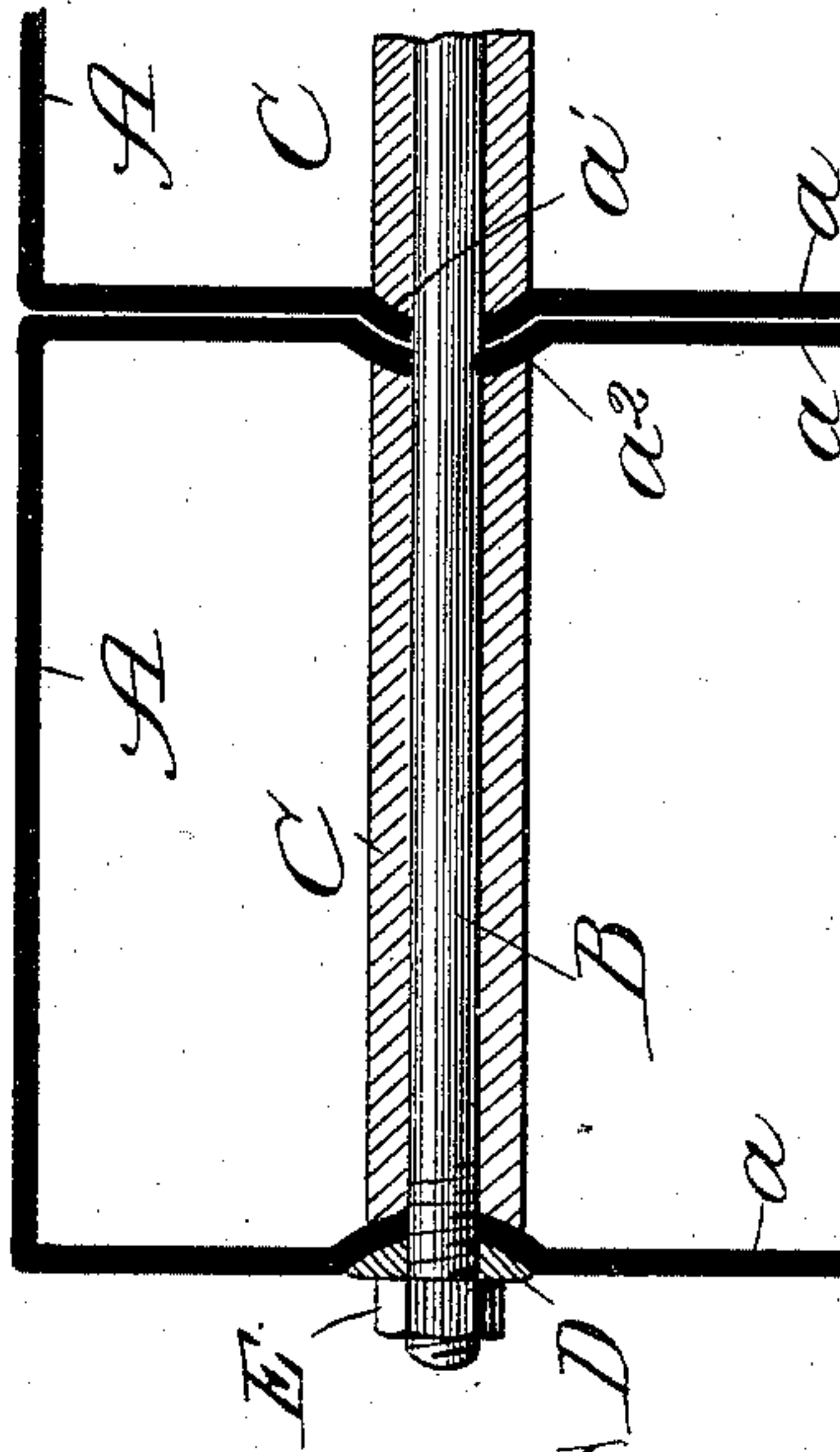


Fig. 2.



Witnesses:
Eas. & Oylord,
Lute & Alter.

Inventor:
Fred Heron
By Dunning & Dunning & Sheridan,
Attys.

UNITED STATES PATENT OFFICE.

FRED HERON, OF CHICAGO, ILLINOIS.

METALLIC RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 578,990, dated March 16, 1897.

Application filed July 20, 1896. Serial No. 599,762. (No model.)

To all whom it may concern:

Be it known that I, FRED HERON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in Metallic Railway-Cars, of which the following is a specification.

My invention relates particularly to metallic railway-cars that are formed of metal
10 structural members or channel-beams, and especially to the means for securing these beams or members together and against longitudinal and ordinary displacement.

The object of my invention is to provide
15 a simple, economical, and efficient metallic railway-car; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a
20 transverse sectional view taken through a railway-car in the vicinity of the needle-beams; Fig. 2, an enlarged transverse sectional detail showing two sections of the structural members and the means for securing them
25 together, and Fig. 3 a side elevation of one of the channel-beams removed from the car.

In the art to which this invention relates it is well known that metal is adapted to enter largely into the construction of both the
30 underpinning and superstructure of railway-cars, so that the means by which these portions may be secured together and held against lateral displacement is one of the most important features. The usual method
35 of securing the members together by rivets, bolts, and nuts is objectionable in that the cars must be, in order to take curves, to a certain degree elastic and permit of a moderate amount of flexure. As a consequence
40 bolts or rivets are apt to be sheared, thereby displacing or allowing the parts to vary from the desired arrangement. To remove this objection and provide simple and economical mechanism by which the different portions
45 of the cars may be secured against ordinary displacement is the principal object of my invention.

In describing and illustrating my improvement I will only describe and illustrate that
50 portion which I consider to be new, taking in connection only so much of the old mechanism and elements as are necessary to dis-

close my invention and enable those skilled in the art to make or practice the same. In describing and illustrating my improvement, 55 therefore, I prefer to and practically have limited the description and illustrations to the means by which the channel-beams that form the platform of an ordinary car are secured together and held in position, believ- 60 ing that this will enable those skilled in the art to use my invention and apply it to other portions of the car.

In constructing my improvements and applying them to a platform-car I use several 65 channel-beams A, of the desired shape and cross-section, and place them longitudinally or lengthwise of the car. These channel-beams are of sufficient width so that any desired number may be used to obtain the de- 70 sired width of the car and are arranged with their flanges or legs a extending downwardly and contacting the legs of the next adjacent channel-beams.

To prevent ordinary displacement of parts 75 due to usage of the car, I provide the legs or flanges of several of the channel-beams with cup-shaped projections a' and the legs or flanges of the adjacent or contiguous channel-beams with cup-shaped recesses a'' , adapted 80 to receive and hold the projections a' on the next adjacent beams in interlocking or meshing condition. Each channel-beam is provided with several of the cup-shaped pro- 85 jections or recesses intermeshing one with the other, so that it will be seen that lateral or longitudinal displacement is impossible until the parts have been removed from their intermeshing or interlocking position. To more 90 securely hold these parts in position, I provide tie-bolts B, that extend transversely through the car from side to side thereof, and surrounding these bolts in each of the channels and between the cup-shaped recesses or projections are thimbles C, that act as spac- 95 ing-pieces, contacting the flanges of the beams at the points where the cup-shaped projections or recesses are located. The outer ends of these tie-bolts are provided with hemi- 100 spherical washers D and nuts E, that allow of a certain movement much like a ball-joint, but still act to hold the parts securely. By this arrangement of construction it will be seen that the displacement of the parts is pre-

vented by the interlocking cup-shaped projections and recesses, but at the same time the peculiar shape of the recesses and projections permits of an elasticity sufficient for the cars to take curves or "flex" the necessary amount when loaded. All that the bolts and nuts have to do is to prevent separation of the parts and are not liable in any way whatever to be sheared, all of which will be readily appreciated by persons skilled in this particular art.

In Fig. 1 I have shown the side bars G, needle-beams H, and center sills I. These are merely shown in their arrangement in the drawings, so as to present a complete cross-section of a platform-car, and I do not desire to be limited to this particular kind of structure, but to embody my improvement in any kind of metallic railway-cars, leaving the arrangement of the different parts to the mechanical skill of the manufacturer, builder, or artisan.

I claim—

1. In a car of the class described, the combination of several metal channel-beams forming part of the structural members of a car,

several of which are provided with cup-shaped projections and the next adjacent beams provided with cup-shaped recesses interlocking with the projections to prevent longitudinal or ordinary displacement, and bolt mechanism for tying the beams together at the points where the projections and recesses are located, substantially as described.

2. In a car of the class described, the combination of several channel-beams arranged lengthwise to form the platform of a car and with their legs extending downwardly, some of such beams having cup-shaped projections on their legs and the rest having cup-shaped recesses on their legs or flanges interlocking one with the other to prevent longitudinal and vertical displacement, bolt mechanism passed through the cup-shaped portions of the legs, and thimbles surrounding the bolts and contacting cup-shaped portions to act as spacers and in connection with the bolts to tie the parts together, substantially as described.

FRED HERON.

Witnesses:

ED HAUPT,

THOMAS B. MCGREGOR.