No. 883,187. PATENTED MAR. 31, 1908.

R. D. GALLAGHER, Jr.

FRAME FOR RAILWAY CARS.

APPLICATION FILED MAY 29, 1907.

2 SHEETS—SHEET 1.

Fig. 4.

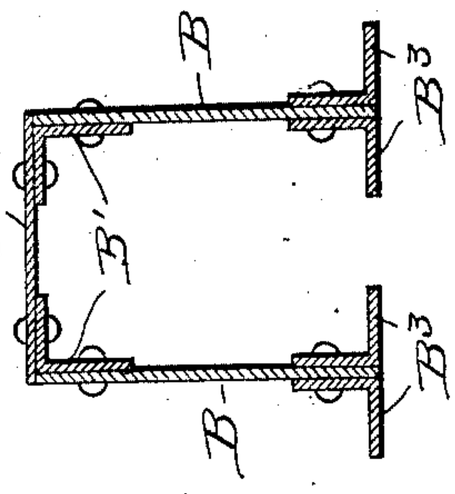

Fig. 5.

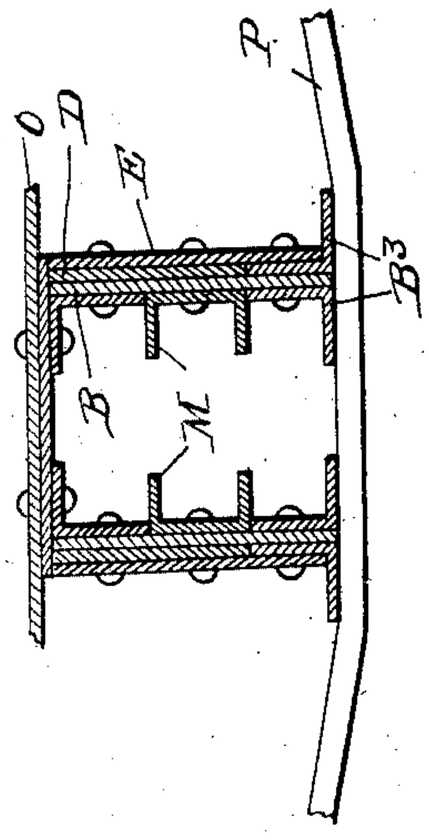

Fig. 1.

Witnesses
Elizabeth Saffert
M. D. Church

Inventor
Richard D. Gallagher Jr.

By Church & Church
his Attorneys

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2 SHEETS—SHEET 2.

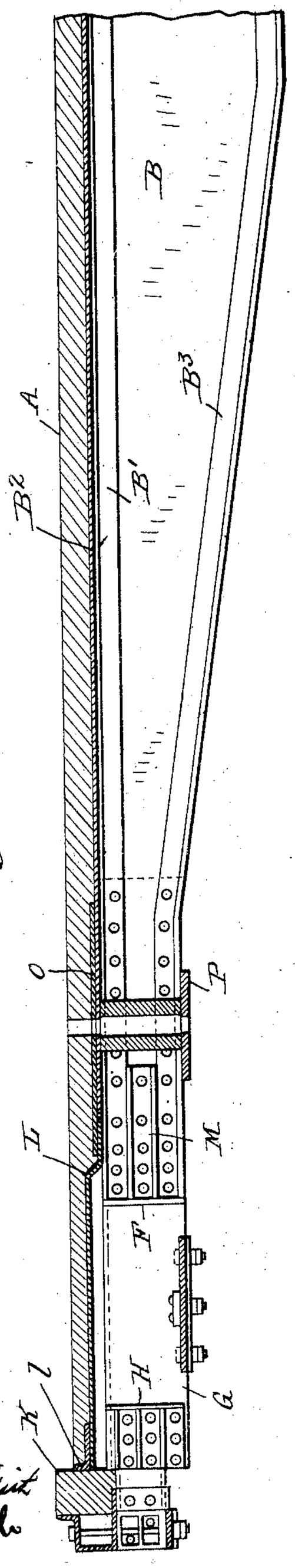

Fig. 2.

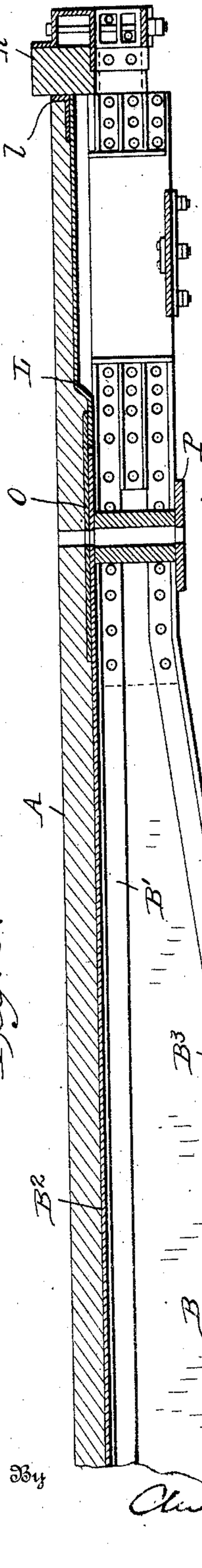

Fig. 3.

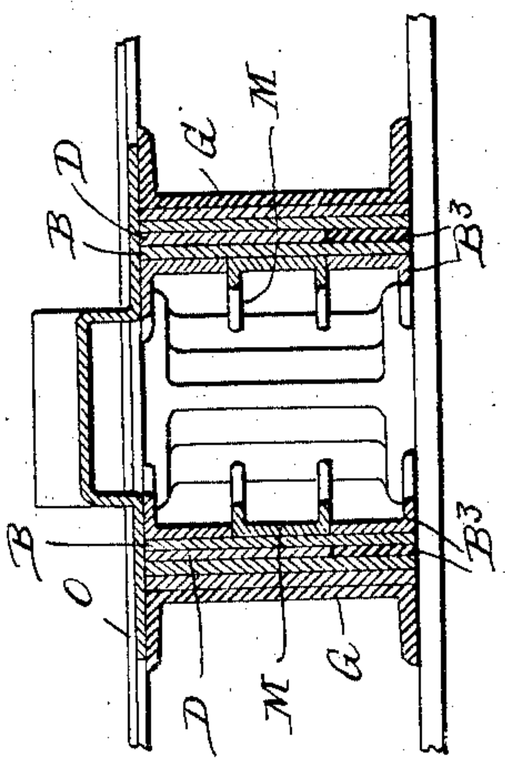

Fig. 6.

Witnesses

Elizabeth Appiet

M. N. Church

Inventor

Richard D. Gallagher Jr.

By Church & Church

his Attorneys

UNITED STATES PATENT OFFICE.

RICHARD D. GALLAGHER, JR., OF NEW YORK, N. Y.

FRAME FOR RAILWAY-CARS.

No. 883,187. Specification of Letters Patent. Patented March 31, 1908.

Application filed May 29, 1907. Serial No. 376,338.

To all whom it may concern:

Be it known that I, RICHARD D. GALLAGHER, Jr., of New York, in the county and State of New York, have invented a certain new and useful Improvement in Frames for Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to improvements in under frame construction of railway cars, the objects of the invention being to provide a metal frame of simple and inexpensive construction having a maximum capacity for resisting draft and buffing strains without being distorted and without imposing undue strain on the upper frame or car body.

Further objects of the invention are to provide a frame of a continuous truss form which will take all buffing strains as a direct end thrust or, in other words, which will extend from end to end directly in line with the line of buffing strains both vertically and horizontally.

In the accompanying drawings—Figure 1 is a section in a horizontal plane through one end of a frame embodying the present invention. Figs. 2 and 3 are sections taken in a central vertical plane through opposite ends of the frame. Fig. 4 is a transverse section on the line 4—4, Fig. 1. Fig. 5 is a section on the line 5—5, Fig. 1. Fig. 6 is a section on the line 6—6, Fig. 1.

Like letters of reference in the several figures indicate the same parts.

The letter A in Figs. 2 and 3 of the accompanying drawings indicate a part of the ordinary floor or floor framing of a car and it will be understood that the frame forming the subject matter of the present application is primarily adapted to occupy a position beneath the ordinary floor whereby it will be in the same horizontal plane with the draft and buffing rigging and transmit the draft and buffing strains from the rigging at one end of the car to that at the opposite end without imposing strains of an injurious character to the car body.

The main longitudinal members of the frame are preferably in the form of built up truss girders composed of vertical web plates B, relatively wide or deep at the center and narrowing toward each end where they project some distance through and are preferably incorporated in the bolsters as will presently appear. Along the upper edge of each web plate and preferably on the inner sides only, are angle iron compression members B^1 suitably secured to the edges of the plates by rivets and forming the support for a top plate B^2 to which they are similarly secured, said plate together with the vertical web plates forming a box truss girder, preferably open at the lower side as shown in Fig. 4.

Tension members in the form of angle irons B^3 are secured along the lower edges of the web plates, preferably on both faces as shown in said Fig. 4, and all of the angle irons are preferably coextensive in length with the web plates, that is to say, they extend through the bolsters and at their ends and form with said plates the stops for the buffer follower plates.

In order that the truss girder may take the thrust directly without lateral or eccentric strains, the sides or web plates are placed quite close together the space between them being less than the width of the rear end of the draft and buffing rigging as will be understood from an inspection of Fig. 1 where the draft and buffing rigging together with a draw bar and coupler are shown in dotted lines. Filling plates or pieces D are applied to the ends of the web plates above the angle irons and outside of the filling pieces and vertical flanges of the angle irons strengthening plates E are also applied, while over the ends of all the plates and angle irons, caps F are applied in position for their end faces to form the wear faces of the rear stops for the buffing rigging.

With the construction described, not only is great strength secured, but the sides of the truss girder are brought relatively close together and at the same time a structure of sufficient width to have the draft irons G, of outwardly flanged channel iron form, applied directly to its outer faces is provided. The draft irons extend forwardly a sufficient distance to receive the forward stops H on their inner faces and support narrower supplemental irons I carrying the bumper irons and buffer beam K. Sections of the cover or top plate for the truss girders preferably extend clear to the buffer beam (see Figs. 2 and 3) and to provide working space for the strap and upper parts of the draft and buffing gear it is off-set or given an upwardly projecting box shape at L. An angle iron *l* may be secured to its extreme end for bracing the

buffer beam. Between the ends of the angle irons forming the tension and compression members of the truss girders, additional small channel irons M are secured to give additional strength to the ends of the girder, but where necessary to provide working space for the strap of the draft and buffing rigging, the flanges of the angle and inner channel irons are cut away as indicated at N in Fig. 1.

The bolster which is incorporated as a part of the frame may be of any form desired, but preferably embodies a wide top tension plate O tapering toward the ends and a narrower but heavier bottom plate P, both of said plates extending from end to end of the bolster and at the center passing above and below the girders, being secured to the latter by rivets passing through the flanges of the angle irons. The flanges of the outer angle irons B^3 may be cut away at the ends as at B^5, in Fig. 1, to afford a flat face from top to bottom of the girder for the attachment of the cap plate and draft irons as shown in Fig. 6.

Obviously if so desired the channel irons forming the draft irons may be extended back to or through the bolster as shown by the dotted lines Q, but this will not ordinarily be required as ample strength may be secured without this provision.

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

1. In an under frame for railway cars, the combination with draft sills forming housings for the draft and buffing gears at opposite ends of the car, of a truss girder extending from one housing to the other and embodying a plurality of substantially vertical webs having edge strengthening flanges and located centrally from the line of the draft sills a distance greater than the thickness of the webs, said webs being a distance apart less than the width of the rear end of the draft and buffing gear and having their ends positioned to form the rear stops, whereby buffing thrusts are in alinement with and directly against the ends of the truss girder.

2. In an under frame for railway cars the combination with draft sills forming housings for the draft and buffing gear at opposite ends of the car, of a girder extending from one housing to the other and embodying webs projecting between the draft sills, filling pieces between said webs and sills of greater thickness than the thickness of the webs whereby the webs will be separated from each other a distance less than the width of the rear end of the buffing gear said webs themselves forming the stops for the buffing gear.

3. In a frame for railway cars, truss girder web plates extending beyond the bolster at each end of the car, longitudinal angle irons secured to the inner faces of said web plates, strengthening plates secured to the outer faces of said web plates, said web plates, angle irons and strengthening plates forming at their ends the inner stops for the draft and buffing rigging and draft irons overlapping and secured to the outer faces of the plates and web plates.

RICHARD D. GALLAGHER, JR.

Witnesses:
ELIZABETH M. URQUHART,
HUBERT A. CONNOLLY.