(No Model.) 7 Sheets—Sheet 1.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 1.

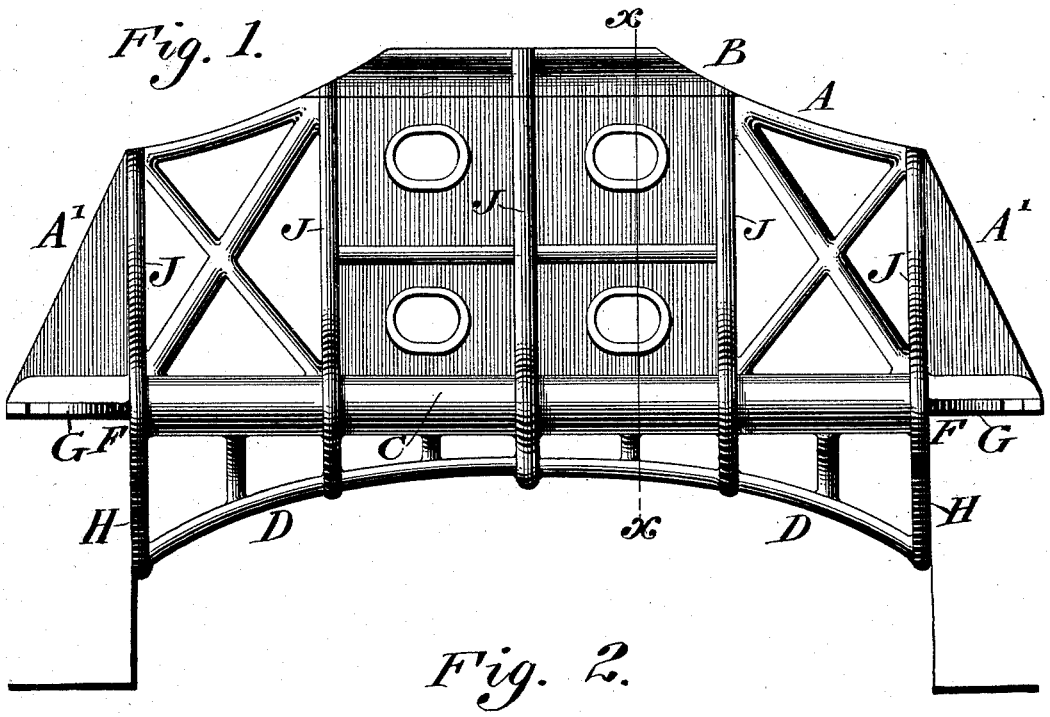
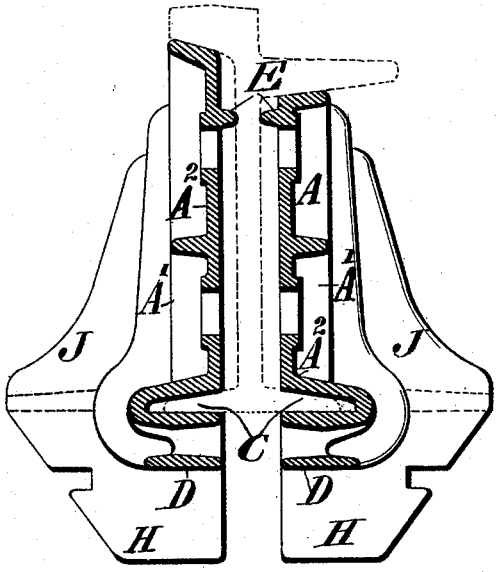


Fig. 2.



WITNESSES:

C. H. Hagles.

L. Douville.

INVENTOR

James M. Price

BY Edward Quebersheim

ATTORNEY.

(No Model.) 7 Sheets—Sheet 2.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 3.

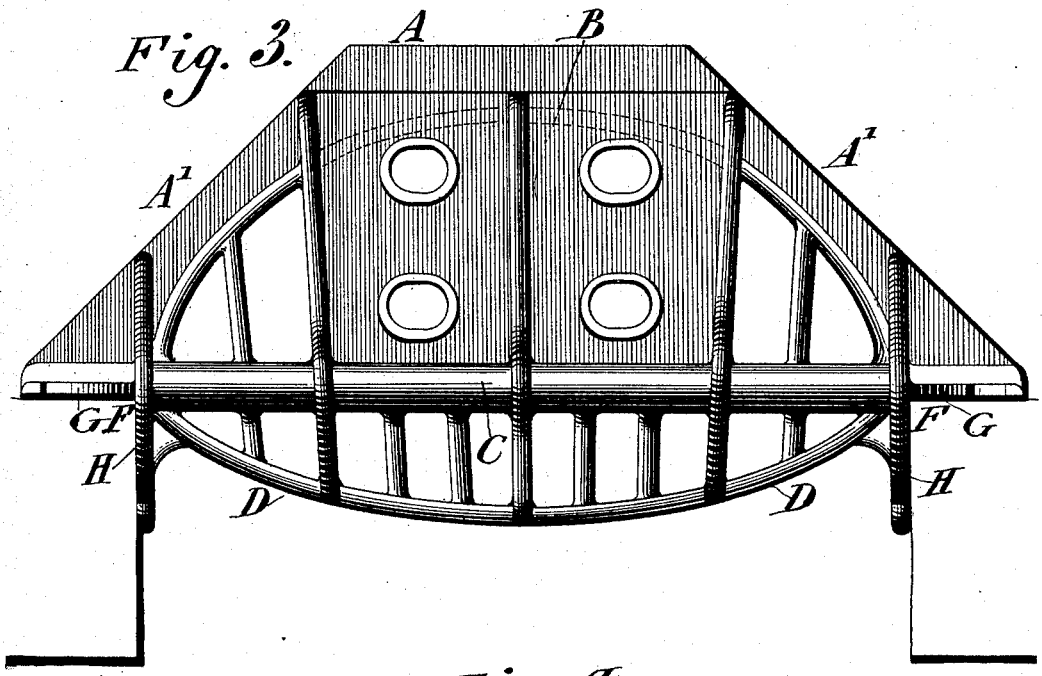
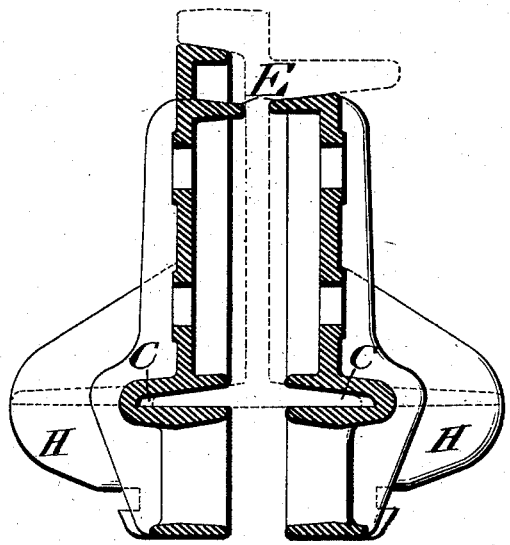


Fig. 4.



WITNESSES:

O. H. Eagle.

L. Douville.

INVENTOR

James M. Price.

BY John A. Rodenheuser

ATTORNEY.

(No Model.) 7 Sheets—Sheet 3.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 5.

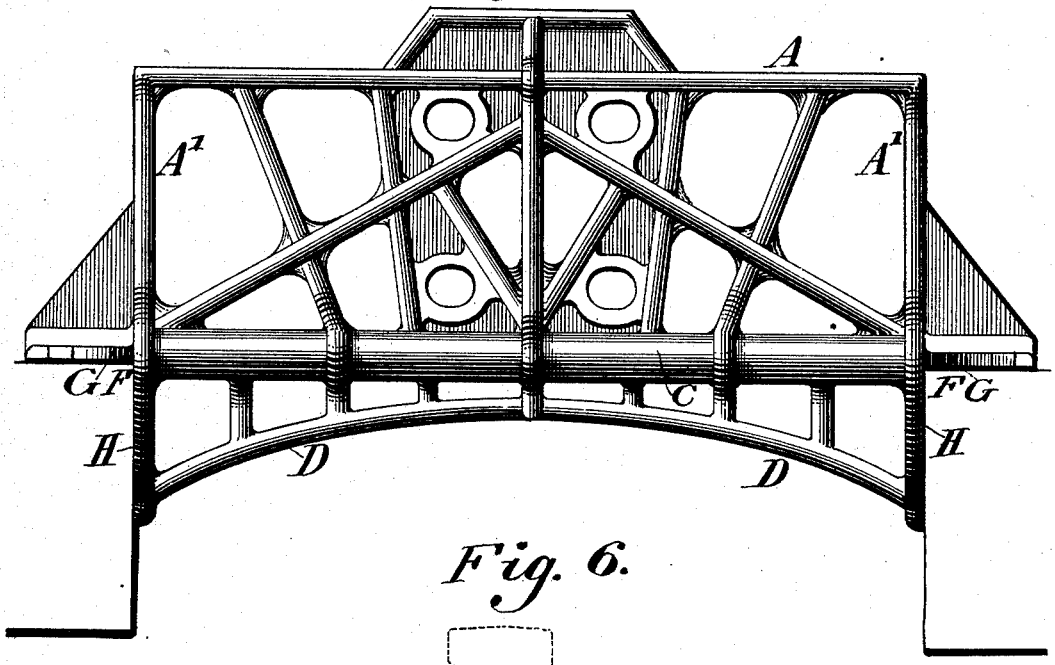
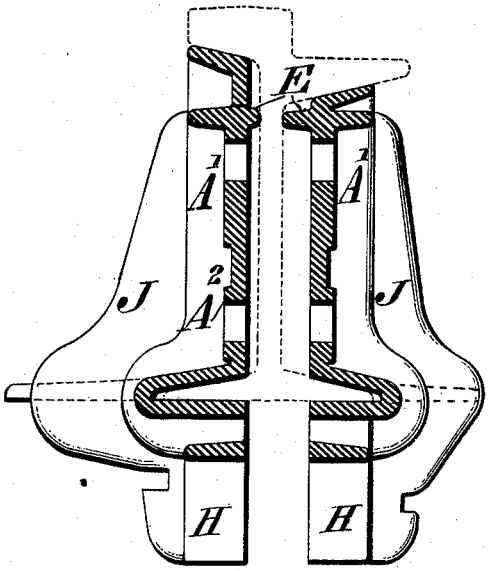


Fig. 6.



WITNESSES:

C. H. Hagle

L. Douville.

INVENTOR

James M. Price

BY John A. Wiedersheim

ATTORNEY.

(No Model.) 7 Sheets—Sheet 4.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 7.

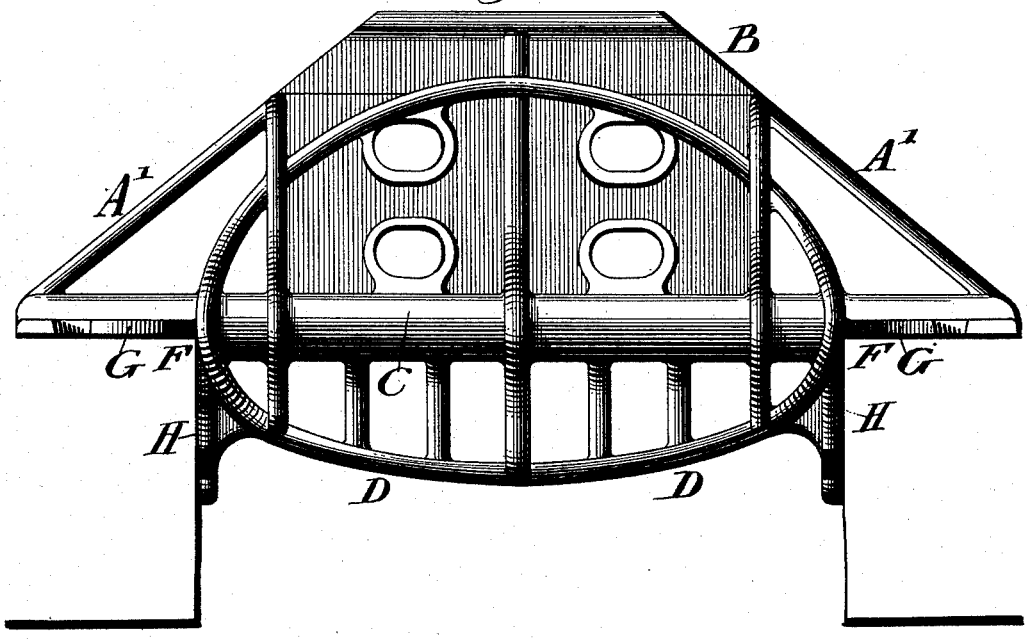
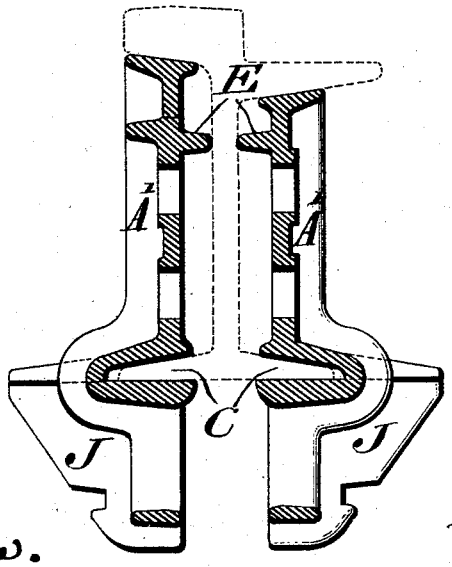


Fig. 8.



WITNESSES:

O. F. Hagle.

L. Douville.

INVENTOR

James M. Price

BY John A. Wiedersheim

ATTORNEY.

(No Model.) 7 Sheets—Sheet 5.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 9.

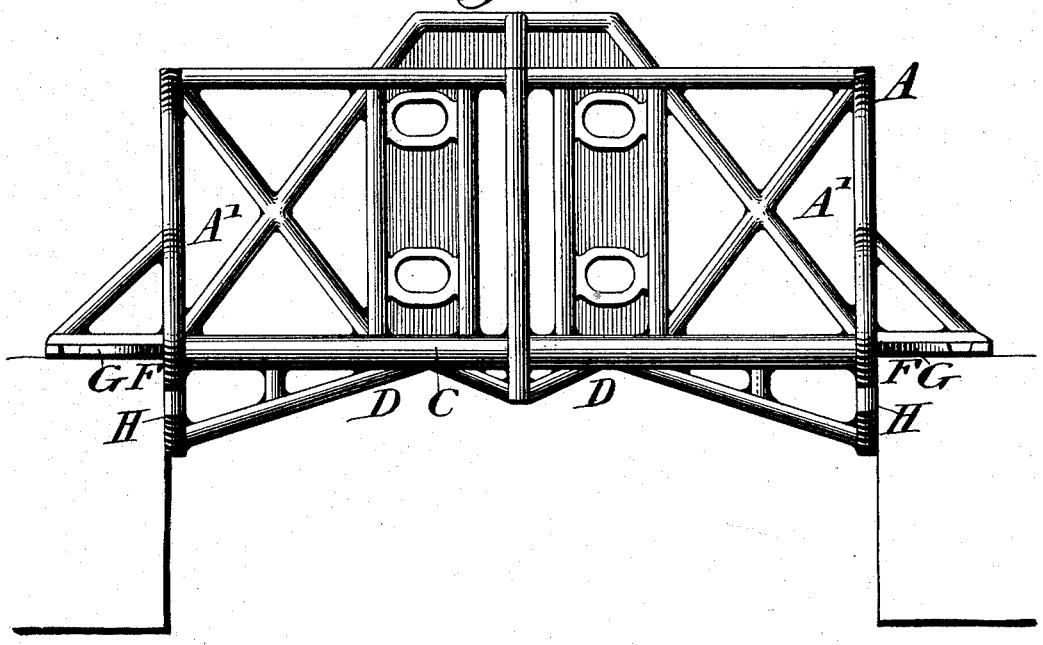
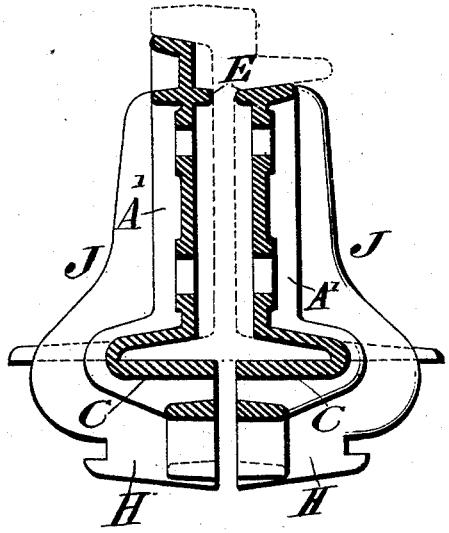


Fig. 10.



WITNESSES:

O. H. Eagles.

L. Douville.

INVENTOR,

James M. Price

BY Johnathan Wedderburn

ATTORNEY.

(No Model.) 7 Sheets—Sheet 6.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 11.

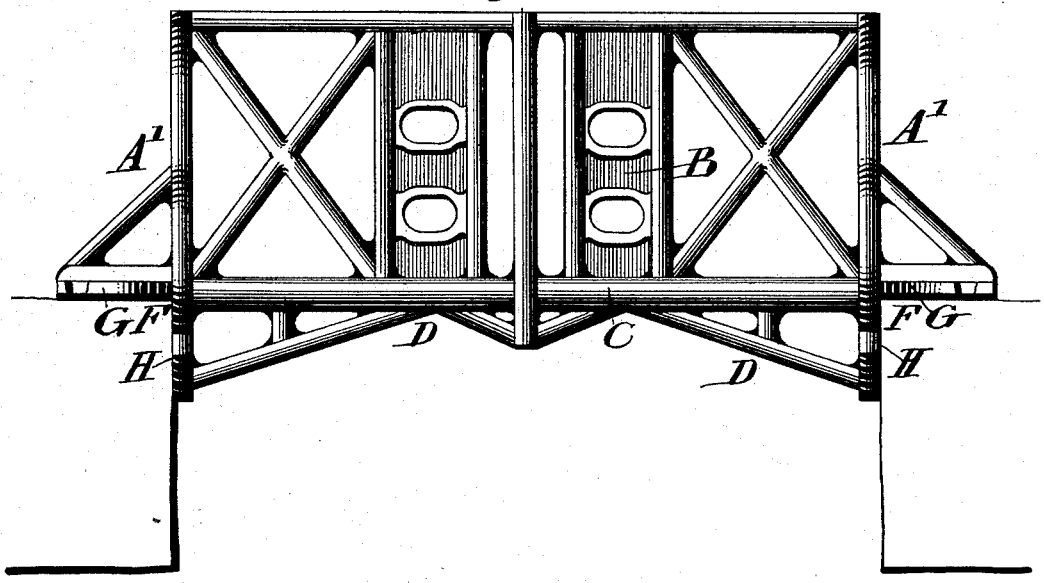
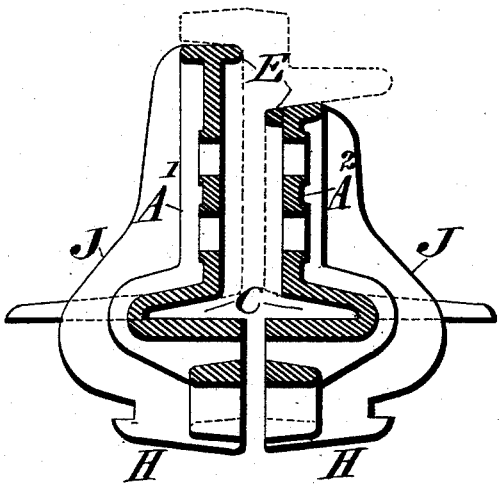


Fig. 12.



WITNESSES:

P. F. Eagles.

L. Dowville.

INVENTOR,

James M. Price,

BY John A. Wiedersheim

ATTORNEY.

(No Model.) 7 Sheets—Sheet 7.

J. M. PRICE.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD RAILS.

No. 522,852. Patented July 10, 1894.

Fig. 13.

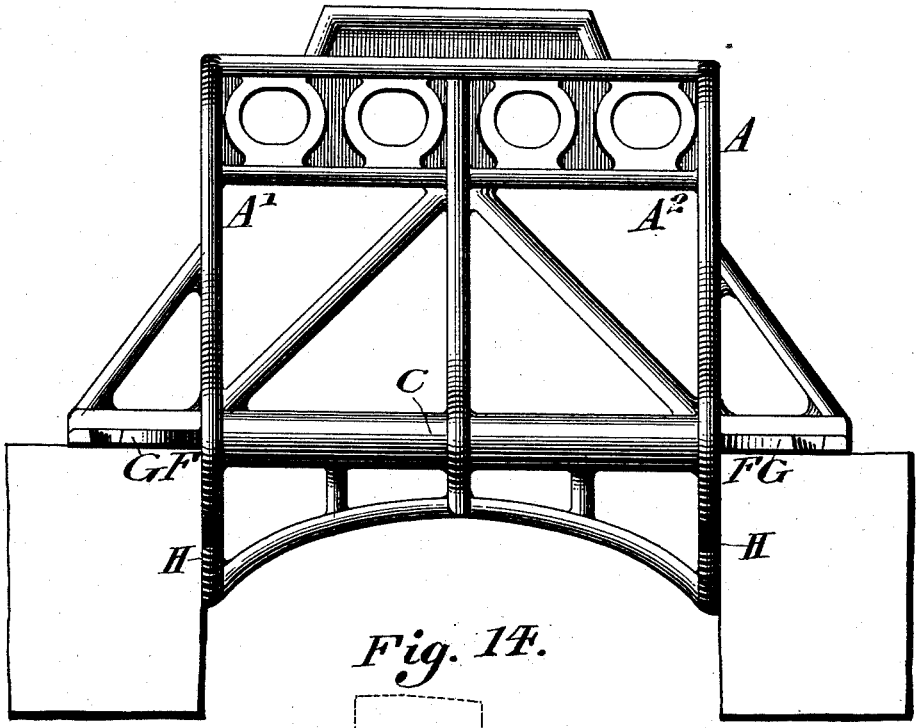
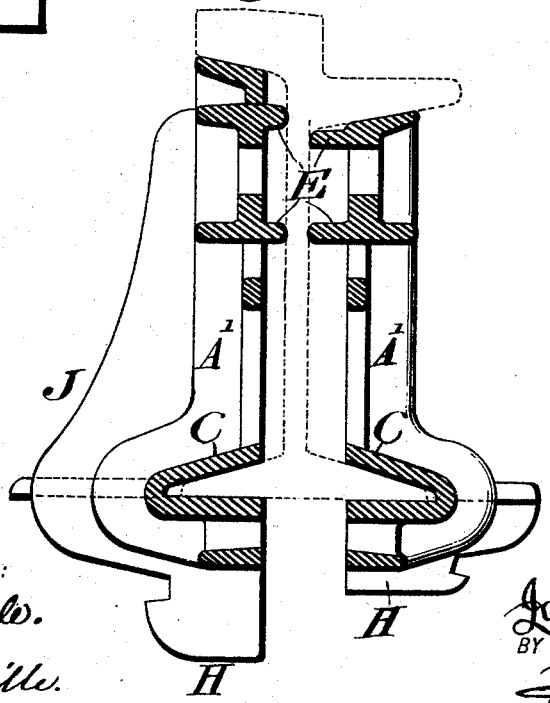


Fig. 14.



WITNESSES:

O. H. Eagle.

L. Douville.

INVENTOR

James M. Price.

BY John A. Wiedersheim.

ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES M. PRICE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE PRICE RAILWAY APPLIANCE COMPANY, OF PENNSYLVANIA.

SUBSTRUCTURE FOR BRACING AND SUPPORTING RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 522,852, dated July 10, 1894.

Application filed July 12, 1893. Serial No. 480,217. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. PRICE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Substructures for Bracing and Supporting Railroad-Rails, which improvement is fully set forth in the following specification and accompanying drawings.

My invention has for its object a complete substructure for bracing and supporting rails, especially of a high web or central stem on and between the wooden cross ties on which the rails are seated at the joints and elsewhere, bracing them strongly against the lateral strain which is disposed to throw the rails at the joints out of line, and to cant the rails between said joints.

My invention consists of brace chairs and plates of peculiar shape to receive, support and maintain in a proper alignment, the two meeting rails at every joint.

Figure 1 represents a side elevation of a joint plate embodying my invention. Fig. 2 represents a vertical section thereof, on line *x*, *x*, Fig. 1. Figs. 3, 5, 7, 9, 11, and 13, represent side elevations of modifications thereof. Figs. 4, 6, 8, 10, 12, and 14 represent vertical sections, respectively, of the forms shown in said Figs. 3, 5, 7, 9, 11, and 13.

Referring to the drawings: A designates a joint plate, which is formed of two similar chairs A′, with the back A^2 nearly vertical connected by a bridge B largely of open work, and pierced for clamping or fastening bolts, and of various designs of which I give numerous examples, without confining myself thereto, each having or embracing a deeply-grooved bed piece C, adapted to receive the flange of the railroad rail supported usually from below by an arch D, which rests against and upon the lower ends of the vertical parts of said chairs, to which it is attached at its ends, and of elliptical or circular shape, or composed of diagonal brace pieces which may be straight.

At or near the top of the chairs there is a horizontal ledge E, which projects inward toward the inclosed rail and presses against the web thereof. This ledge usually extends from chair to chair and is attached to every vertical or diagonal brace of the bridge at its intersection therewith.

The horizontal end-portions G of the feet F of the chairs rest upon the ties, and are notched to receive the spikes driven into the same. The vertical portions H which join said portions G not only descend alongside of the ties where they are notched for spiking to said ties, but also rise considerably above the tie as braces J, it being seen that each side or section is made of one piece of metal with feet resting upon each tie and braces rising from each foot to assure by the pressure of the horizontal ledge against the web of the two rails, when in place as a joint plate, a positive and perfect alignment, this applying to a "suspended" joint.

It will be observed that (as in all of the recent applications for Letters Patent for rail-joints made by me), this construction applies a firm grip of the encircling ribs and braces to the maintenance of the grooved bed plate intact under the heavy strains to which it will be subjected. The lateral spiking of the dependent part of the chairs to the ties adds greatly to the steadiness of the rails resting upon the same. The extraordinary pressure of stone trucks, heavy drays, &c., against the sides of the heads of the rails in turning out of the track is perfectly met by the pressure of the horizontal ledges E, and the top of the brace chairs against the web, and alignment is thus maintained, as it is believed it cannot be by any splice bars.

In the modification shown in Figs. 3 and 4, the arch D is convex in form, and the bridge is farther from the web of the rail than in the construction shown in Figs. 1 and 2, owing to the flange thereon, which supports the head of the rail, projecting inwardly instead of outwardly. In Figs. 5 and 6, the ledge E is of less extent than in Fig. 2, and the outer projecting ledge opposite to ledge E is provided, giving additional strength to the bridge.

The other modifications show different forms of construction, all however being similar in principle to those described.

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

1. A rail support consisting of two chairs

with a connecting bridge having openings for fastening bolts, and a grooved bed piece, and provided with a horizontal inwardly-projecting ledge, substantially as described.

2. A rail support consisting of two chairs with a connecting bridge having openings for fastening bolts and a grooved bed piece for the flange of the rail, said chairs having horizontal feet with depending portions, said parts being combined substantially as described.

3. A rail support, consisting of a piece of metal of which one part is horizontal when in position, and the other vertical and attached to one edge of the horizontal piece, each part being adapted by a notch in its edge to be spiked into or against a wooden cross-tie, the vertical part prolonged into a brace rising under the head of a railway rail, to apply pressure against it, while the horizontal part is so extended and raised at its inner edge as to rest upon the flange of the said rail, when in place, as a part of railway substructure, substantially as described.

4. A rail support having chairs with a connecting bridge and provided with the horizontal ledge E, substantially as described.

5. A rail support having two chairs with a connecting bridge having openings therein for fastening bolts, and horizontal feet with depending portions, said parts being combined substantially as described.

6. The combination of a horizontal plate of metal with a vertical plate, reaching above and below it and to be spiked, below, to the side of a wooden tie to the top of which the horizontal plate is also to be spiked, while a prolongation upward of the vertical plate is shaped into a brace for a railway rail, as part of a substructure for railway uses, substantially as described.

7. A rail support consisting of chairs with a connecting bridge, and provided with horizontal feet and depending portions with upward projections, substantially as described.

8. A rail support consisting of chairs with a connecting bridge having an inwardly-projecting horizontal ledge at or near the top of the same, substantially as and for the purpose set forth.

9. A rail support consisting of chairs having a connecting bridge with openings for fastening bolts, a grooved bed piece and a brace arch, and horizontal feet with depending portions, said parts being combined substantially as described.

10. A rail support consisting of chairs with a connecting bridge, an inwardly-projecting horizontal flange, horizontal feet with depending portions having upward prolongations, said parts being combined substantially as described.

JAMES M. PRICE.

Witnesses:
JOHN A. WIEDERSHEIM,
WM. C. WIEDERSHEIM.