I. WELLS.
Railway-Chair.

No. 203,570. Patented May 14, 1878.

Fig. 1.

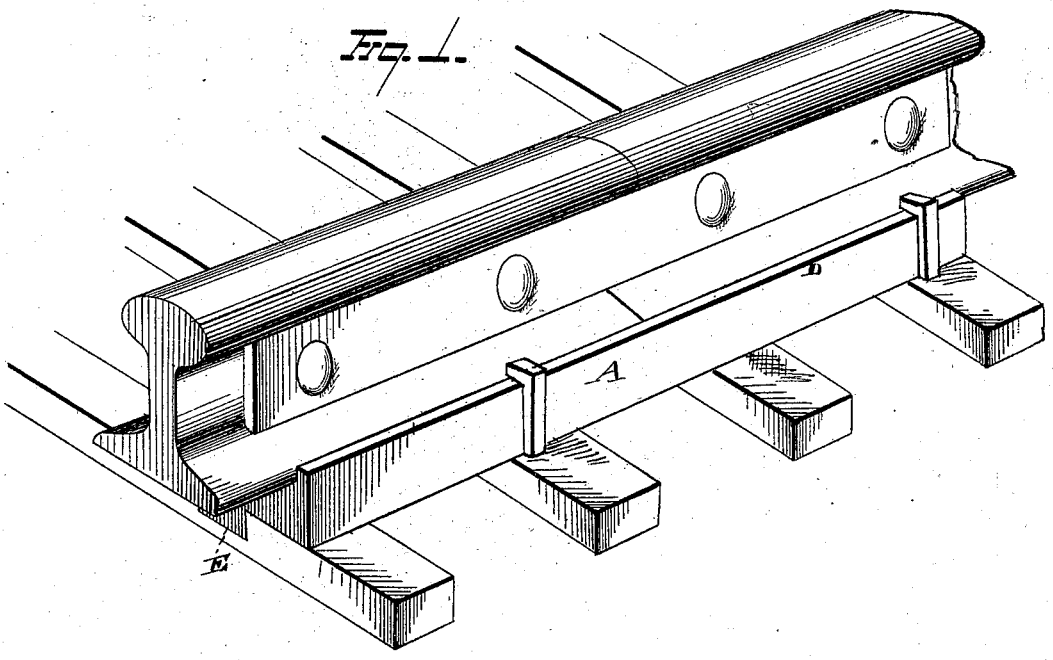


Fig. 2.

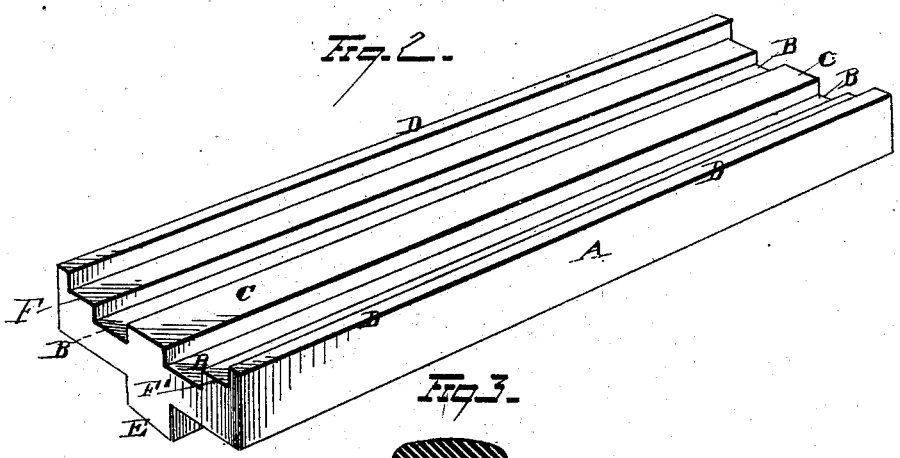
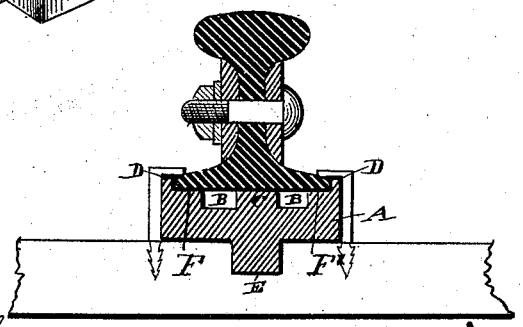


Fig. 3.



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UNITED STATES PATENT OFFICE.

ISAAC WELLS, OF EAST HAMPTON, CONNECTICUT, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES F. POST, OF WILMINGTON, NORTH CAROLINA, AND DAVID D. BARBER, OF SUMTER COUNTY, SOUTH CAROLINA.

IMPROVEMENT IN RAILWAY-CHAIRS.

Specification forming part of Letters Patent No. **203,570**, dated May 14, 1878; application filed February 1, 1878.

To all whom it may concern:

Be it known that I, ISAAC WELLS, of East Hampton, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Railway-Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in railway-chairs; and it consists in a wrought-metal chair adapted to support the joints of railroad-rails, and bridge or span two or more sleepers at such points, the said chair having three independent bearings on its upper surface and a central depending flange on its lower surface, the bearings on the upper surface serving for the edges and center of the base of the rail, while the depending flange on the lower surface of the chair serves to impart increased strength and stiffness to the central portion of the chair, and to prevent the lateral displacement of the same when in use.

In the accompanying drawings, Figure 1 is a view, in perspective, of my improved chair supporting ordinary rails at their joint. Fig. 2 is a view, in perspective, of the chair detached from the rails; and Fig. 3 is a transverse section taken through the chair and rails.

A represents a wrought-metal railway-chair, which is adapted to support railway-rails at their joints, and to be rolled into the desired form. The upper surface of the chair is provided with three independent bearings, F, C, and F′, all located in the same horizontal plane. The central bearing, C, is located directly beneath the web of the rail, and serves to sustain the greater portion of the weight of the passing trains. The side bearings F F′ serve to support the edges of the rail-flange, and thus afford a broad and extended bearing for the rail, and prevent the same from rocking. Bearings F F′ extend under the flanges of the rail only so far as is necessary to resist lateral or leverage strains on the rail, the weight of the train being taken chiefly by bearing C and depending rib E, hereinafter described. Said bearings F F′ are thus separated from the central bearing C by grooves B B, which also serve as receptacles for sand or grit that may enter between the chair and rail, and thus insure a firm bearing of the rail on the chair-bearings at all times.

The grooves B B also enable the chair to be made much lighter than the ordinary chair, and yet possess an equal amount of strength, owing to the fact that the rail is fully supported at all points where the chair is subjected to strain—namely, at its center and sides.

The outer edges of the chair are provided with raised flanges D D, which extend up flush with the upper surface of the flange of the rail, and thus prevent any lateral displacement of the latter; and as the sides of the chair are vertical, they allow the heads of the rail-spikes (made sufficiently broad for the purpose) to be driven firmly against the upper surfaces of the rail-flange and upper edges of the chair-flanges D D. The lower central rib E is located directly beneath the central bearing C, and serves to prevent the lateral displacement, and to add to the longitudinal rigidity of the chair.

I am aware that it is not new with me to provide a railway-chair with a lower depending rib to prevent the lateral displacement of the chair, and add to its longitudinal rigidity; but to secure the latter result, if the vertical depth of said rib is all below the bed of the chair, the sleeper has to be cut into too deep in order to place the chair. I extend its vertical measure partly above said bed, and add flange-bearings F F′, as above described.

I am also aware that railway-chairs have been provided with side flanges to prevent the lateral displacement of the rail, and with a lower depending flange to prevent any lateral movement of the chair, the same being shown and described in the patent to J. L. Hudson, dated August 19, 1873, and hence I make no claim to such construction.

My improved chair differs from the above-referred-to in the following particulars: It has three independent bearings for the edges

and center of the flange of the rail, and, also, it is so constructed that the spikes which hold it in place also hold the rail in the chair.

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

A railway-chair constructed with vertical sides, which extend above and constitute side flanges, and provided on its upper surface with central bearing C, side bearings F F′, and grooves B B, and having a lower depending flange, E, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of January, 1878.

ISAAC WELLS.

Witnesses:
A. W. BRIGHT,
THOS. B. HALL.