D. C. Pierce,

Railway Chair.

No. 99345. Patented Feb. 1. 1870.

Fig. 1.

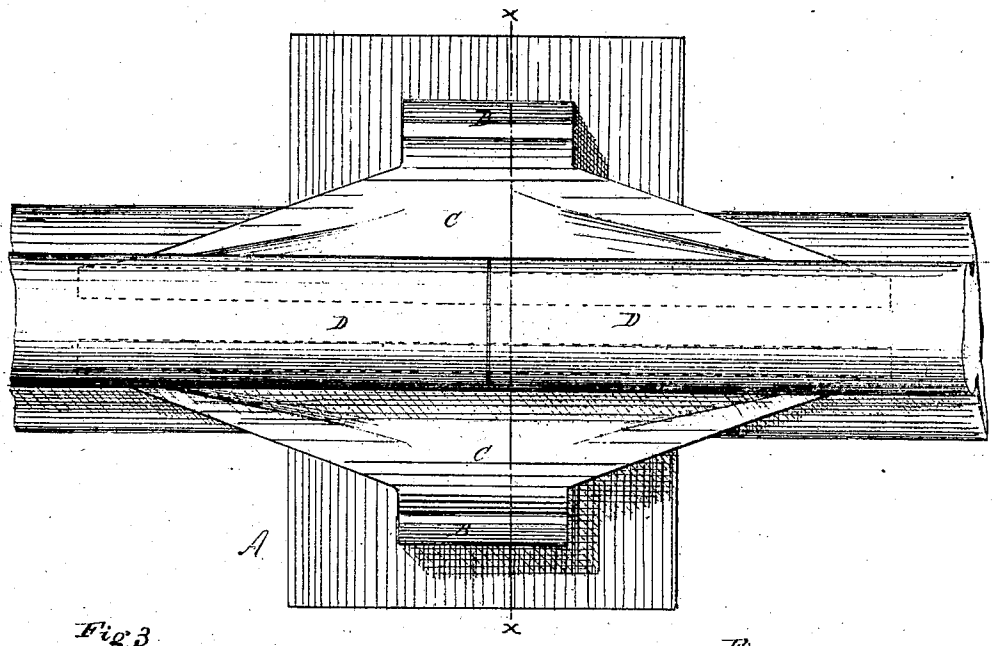


Fig. 3.

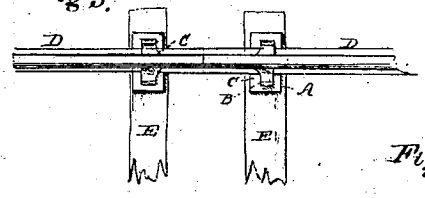


Fig. 4

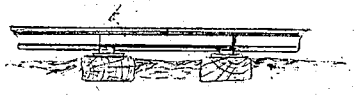
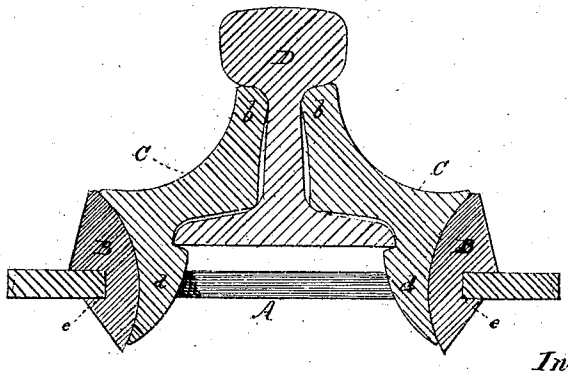


Fig. 2.



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D. C. PIERCE, OF CHICAGO, ILLINOIS.

Letters Patent No. 99,345, *dated February* 1, 1870; *antedated January* 24, 1870.

IMPROVED RAILWAY-CHAIR AND FISH-JOINT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, D. C. PIERCE, of Chicago, in the county of Cook, and State of Illinois, have invented certain new and useful Improvements in Railway-Chairs and Fish-Joints; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My present invention relates to railway-chairs and fish-joints, for securing the rails in position; and

The invention consists in certain novel features in the construction thereof, the same being an improvement upon the chair and joint recently invented by me, and on which I have already applied for a patent, the novelty being hereinafter more fully specified.

Figure 1 is a top plan view, and

Figure 2 is a transverse vertical section, taken on the line *x–x* of fig. 1.

Figure 3 is a top plan view, and

Figure 4 is a side elevation of the invention in a modified form, all the figures representing the invention as applied in practical use.

The improvement in this case consists of two distinct features, the first, and principal one, being the extension of the lips of the chair, up alongside of the rail, so as to brace it on each side, and form a bearing for the head of the rail; and the second, in constructing the body of the chair of wrought-iron, and so arranging the chock or jaw in relation to the body, as to bring the strain thereon lower down, and more nearly in line with the body of the chair, in order to render it stronger, and less liable to break off the lips, or throw the rail out of its bearing.

The general principle or plan of making the rail self-tightening in the chair, is the same as described in my application heretofore referred to, and need not, therefore, be herein specifically described.

In constructing my improved chair and fish-joint, I make the body or base plate, A, of the chair, of a rectangular form, preferably of wrought-iron, with a rectangular hole or opening in its centre, of proper size to receive the chocks B and the clasping-jaws C, as represented in figs. 1 and 2.

I then form two chocks, B, of cast-iron, having their inner surfaces formed on a curve, as in fig. 2, and with a notch, *e*, to engage or lock on the inner edge of the base plate A, as there shown; or if preferred, the plate A and the chocks B may all be forged together, in a single solid piece of wrought-iron.

In making the jaws that clasp and hold the rail, I form them with curved surfaces, to fit against the chocks, and with grooves on their inner faces, to receive and hold the flange of the rail, the same as in my former application; but instead of having the jaws terminate just over or above the flange of the rail, as in that case, I now extend these jaws inward and upward, alongside of the body of the rail, and have their upper edges terminate just under the head of the rail, as shown clearly at *b*, in fig. 2. By this method of constructing the jaws, I lock and brace the rail in a most substantial and effective manner.

It is obvious that the more the rail is crowded down, the tighter the lips *b* of the jaws C are pressed against the sides of the rail, and that the weight, instead of being thrown entirely upon the flanges of the rail, where the latter rest in the grooves in the jaws, is supported in part upon the top edges of the lips *b*, thus preventing the possibility of the rails settling below a certain point, even if the flanges of the rail should give way or become bent.

In constructing a fish-joint on this plan, the jaws C are simply extended to the proper length on each end, as shown by the dotted lines in figs. 1.

In figs. 3 and 4, I have represented the fish-joint as made with the bearings at each end, instead of at the centre, the object being to provide for joining the rails D midway between two ties, instead of on a tie, as is the usual course.

The base plate A can be readily punched out by machinery, and the chocks B being cast of the required form and size, require no finishing or fitting by machinery, and there being no holes to punch or drill, and no bolts to use, the device forms at once an exceedingly strong, cheap, and efficient apparatus for the purpose intended.

Having thus described my invention,

What I claim, is—

1. The jaws C, of a railway-chair, substantially such as is herein described, having the lips *b* extended up alongside of the body of the rail, and forming a bearing for the head of the rail, as set forth.

2. The lips *b*, extended laterally, alongside of the rails, to form a fish-joint, substantially as described.

3. The base plate A, with the chocks B fitted therein, and adapted to the jaws C, substantially as described, to form a bearing for the jaws C, as set forth.

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