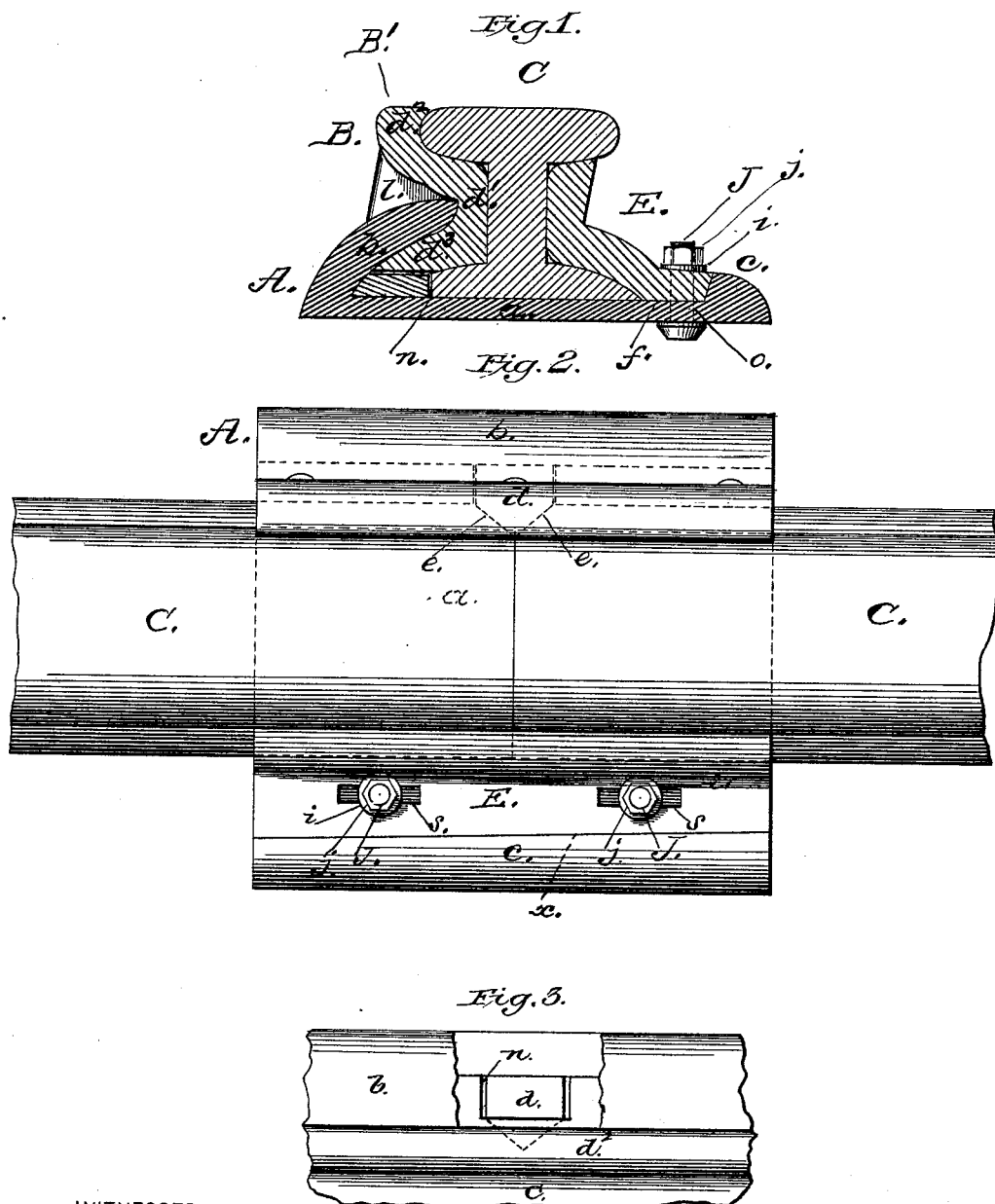


J. D. SHOOTS.
Fish-Plate and Railroad Chair.

No. 220,672.

Patented Oct. 14, 1879.



WITNESSES

John A. Lee,
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UNITED STATES PATENT OFFICE.

JAMES D. SHOOTS, OF HORSEHEADS, NEW YORK.

IMPROVEMENT IN FISH-PLATE AND RAILROAD-CHAIR.

Specification forming part of Letters Patent No. **220,672**, dated October 14, 1879; application filed September 6, 1879.

To all whom it may concern:

Be it known that I, JAMES D. SHOOTS, of Horseheads, in the county of Chemung and State of New York, have invented a new and valuable Improvement in Combined Adjustable Fish-Plate and Railroad-Chair; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a transverse section of my improved railroad-chair and fish-plate. Fig. 2 is a top view thereof, and Fig. 3 is a detail view.

This invention has relation to improvements in railroad-chairs and fish-plates combined.

The object of the invention is, mainly, to prevent the ends of the rail from being beaten down by the continuous pounding of the car-wheels; to provide means whereby a broken rail may be easily spliced without punching holes in its web; and, finally, to dispense with the punching of holes in the web altogether, and yet hold the rails in proper juxtaposition with each other.

The nature of the invention will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates a railroad-chair, consisting, essentially, of a base-plate, *a*, an overhanging flange, *b*, conforming to the shape of the base or foot of the fish-plate B, which it is designed to clasp, and which will be described hereinafter, and of an upright flange, *c*, having a curvilinear outer surface and an inner beveled wall. This flange is wider at one end than at the other, the inner wall aforesaid being at an angle to the length of the rail-chair, as shown.

Projecting outward from the flange *b*, upon the upside of the base *a*, is a gib, *d*, of angular form, the object of which will hereinafter appear.

The fish-plate B' is of the same general form as the outside of the rails C, and fits snugly up against them. It consists of an inclined base, *d*³, a web, *d*¹, and a part, *d*², oppositely inclined to the base, and which may be de-

nominated the "tread." The base *d*³ has in its edge a notch, *n*, and it fits snugly under the overhanging flange *b*, with the said angular gib extending through the notch, as shown in Fig. 1.

The rails C have their corners cut off, as shown at *e*, forming, when they are placed in the shoe, an angular recess, that receives the end of the gib that projects through the notch *n* of the fish-plate. When in place, there is a wedge-shaped interval between the edge of the base or foot and the flange *c*, into which is jammed the wedge E, having a contour corresponding to that of the web and flange or base of the rail on one side and of the interval *f* aforesaid. The horizontal part of this wedge is horizontally slotted, as shown at *s*, and the base of the chair has, in corresponding positions, the square apertures *o*, through which are passed from below upward through slots the bolts J. These bolts are headed, screw-threaded, and provided with a squared portion corresponding to the apertures *o* aforesaid, so that they are incapable of rotating horizontally. They extend above the wedge a sufficient distance to receive a washer, *i*, and a clamp-nut, *j*, which, being set up, effectually prevents the wedge from slipping. This wedge, being driven or forced into position, effectually holds the rails against undue displacement without perforating the web of the rail, which is a clear cause of weakness.

Cast on or secured to the fish-plate are buttresses or supports *l*, the lower ends of which bear upon the overhanging flange *b* of the chair, which latter bears upon the base of the fish-plate, by which means the pressure of the wheels upon the tread of the said plate is prevented from bearing or breaking down the same.

It will be clear that the gib holds the fish-plate against endwise displacement.

What I claim as new, and desire to secure by Letters Patent, is—

In a combined railroad-chair and fish-plate, the combination of the chair A, having the overhanging flange *b*, the projecting gib *d*, and the flange *c*, having its inner wall at an

- angle to the length of the chair, of the rails C, having truncated corners *c*, the fish-plate B, having notch *n*, the slotted wedge E, and the bolts J, extending through the base of the chair and the slots of the wedge, and having washers and nuts applied thereon, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES D. SHOOTS.

Witnesses:

JOHN BENNETT,
SAYER HOLBERT.