

(No Model.)

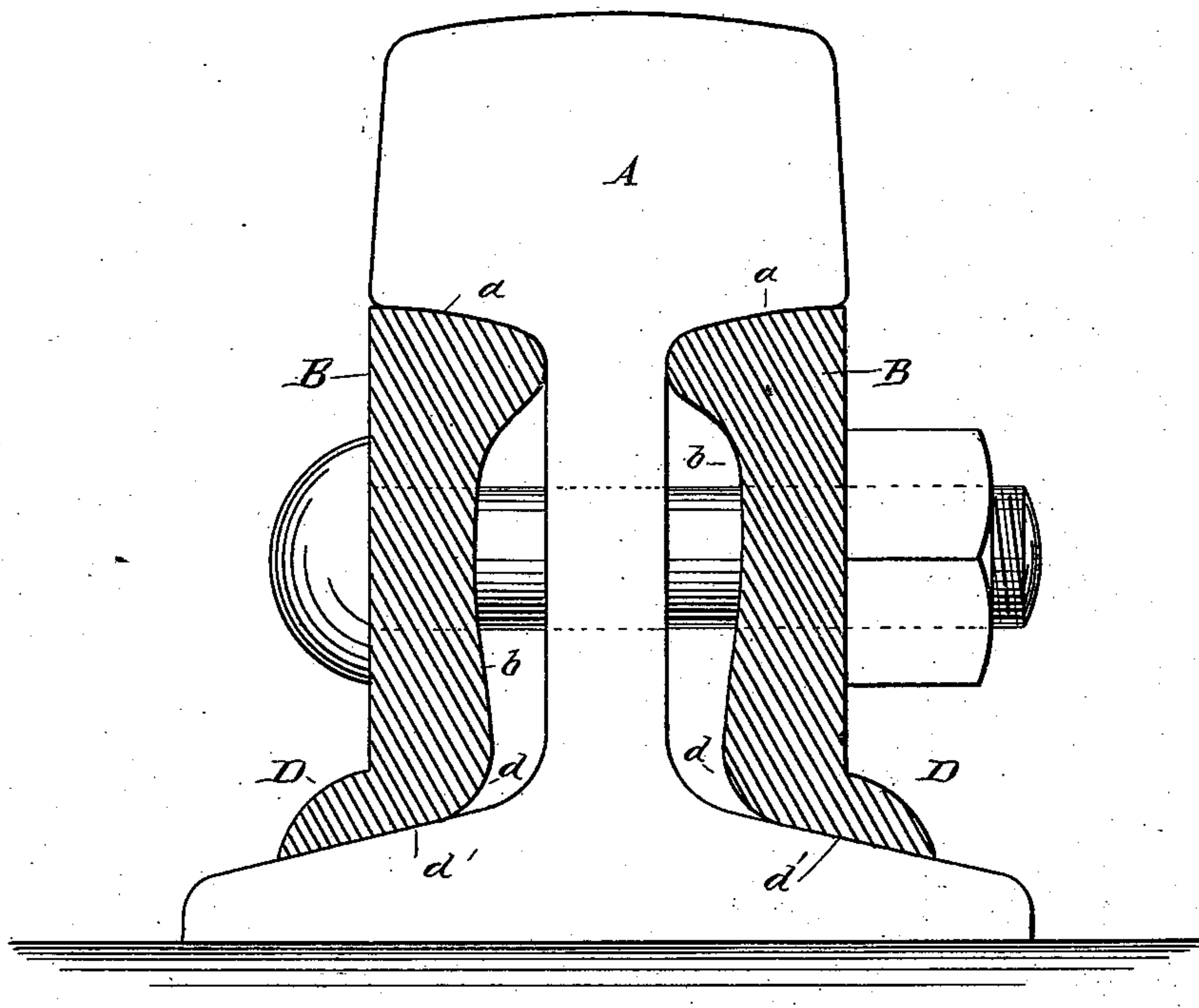
T. A. DAVIES.

FISH PLATE.

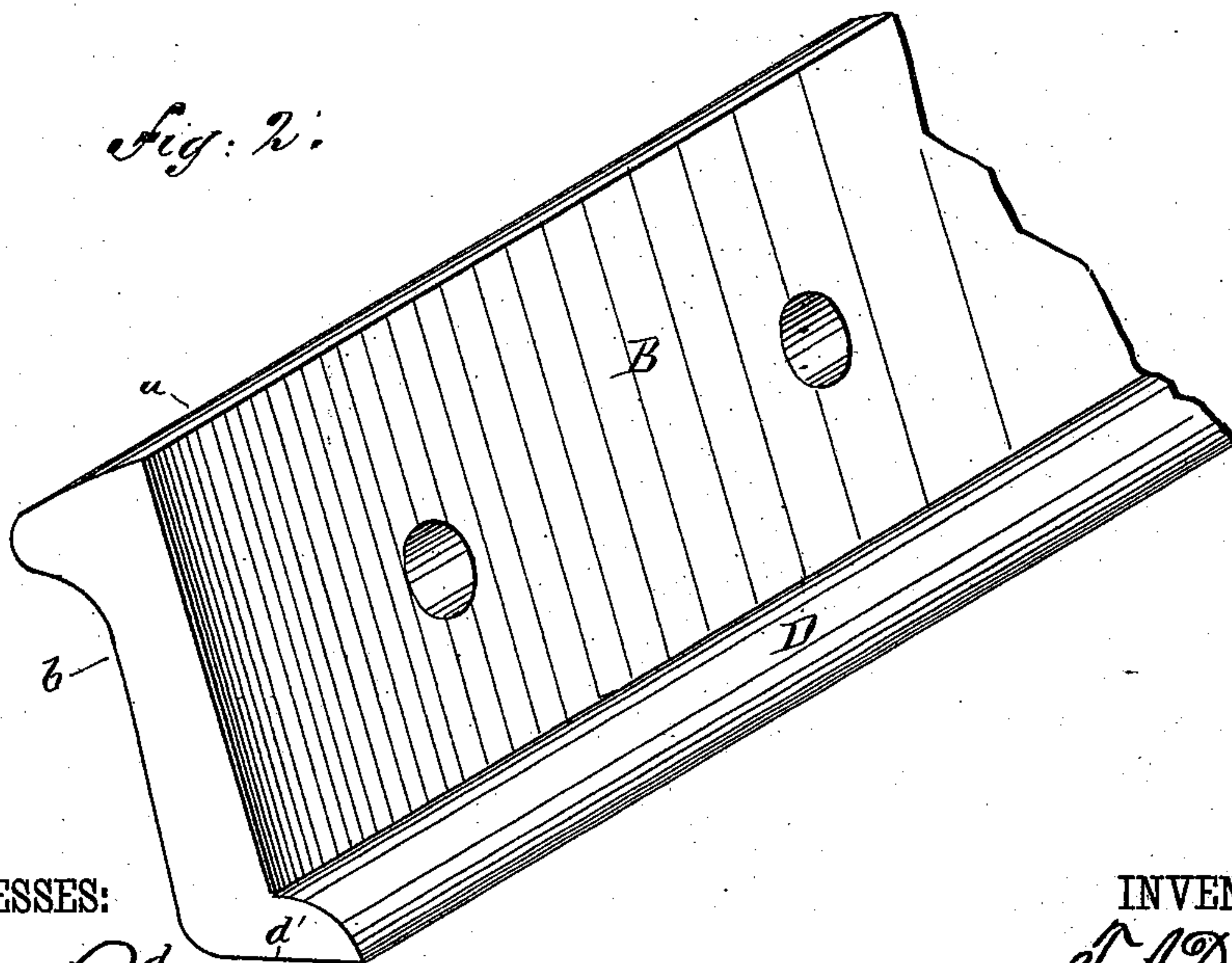
No. 377,885.

Patented Feb. 14, 1888.

*Fig: 1.*



*Fig: 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

THOMAS A. DAVIES, OF NEW YORK, N. Y.

## FISH-PLATE.

SPECIFICATION forming part of Letters Patent No. 377,885, dated February 14, 1888.

Application filed November 14, 1887. Serial No. 255,091. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. DAVIES, of the city, county, and State of New York, have invented new and useful Improvements in Fish-Plates, of which the following is a full, clear, and exact description.

My invention relates to an improvement in fish-plates, and has for its object to provide a strap-plate having an equal amount of bearing-surface upon the base and head of the rails, and wherein the plates will be unaffected by the motion of the rail consequent upon the passage of the rolling-stock, and wherein, also, the rail will be strengthened at the ends and the plates subjected to a minimum amount of wear.

The invention consists in the peculiar construction of the fish-plate, as hereinafter fully described, and set forth in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a transverse vertical section through the plates attached to a rail, and Fig. 2 is a perspective view of a portion of a plate.

In carrying out the invention, A represents a railroad-rail, and B B its fish-plates. The fish-plates B are so formed as to have a bearing upon the face of the flange of the rail, upon the under side of the head of the rail, and against the web thereof.

The upper portion of the head of the fish-plates is provided with a cylindrical surface, *a*, which surface is made to conform with the curved under face of the rail-head, and the said cylindrical surface is of sufficient width to form a contact with the web at its intersection with the head and extend outward flush with the outer side face of the said rail-head, as illustrated in Fig. 1. A longitudinal concavity, *b*, is produced in the inner face of the plates B, extending from a point near the top bearing-surface substantially to the base, whereby the body of the plates is made much narrower than the top. The inner lower base portion of the plates is rounded off or made convex, as shown at *d*, in order that the edge may not come in contact with the flange of the

rail, the under or bearing surface, *d'*, of the base being beveled to conform to the inclination of the flange. The outer side faces of the fish-plates are perpendicular or straight from the top to a point near the base, where the sides are projected outward to form the longitudinal lip D, the under surface of said lip constituting a continuation of the base, being beveled in accordance therewith. The combined bearing-surface of the lip and body upon the flange of the rail is thus made equal to the upper surface of the fish-plates, and when the plates are bolted upon the rails it is obvious that they not only support and strengthen them at the ends, but also that they become substantially integral portions of the rails, moving with and against them. By this arrangement of the plates, as comparatively little friction is obtained, they will, when once secured in position, stand for a great length of time, obviating the expensive and laborious work of constantly replacing and refitting fish-plates along the line.

The peculiar formation of the head of the plates may be dispensed with without departing from the spirit of the invention, which consists, primarily, in providing a railway strap-plate with a base having a bearing-surface upon the flange of the rail within the outer longitudinal edge of said flange equal, or nearly so, to the bearing-surface of plate against the head of the rail. This substantial equality of bearing at top and bottom of the plate is preferably attained by the addition of a rib, as illustrated, to the outer face of the plate at the base.

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

A fish-plate provided with a head having a substantially cylindrical surface of a sufficient width to extend to the web of the rail, and with an outwardly-projecting longitudinal lip at the base, the inner surface of the plate being curved and the outer surface straight, substantially as herein shown and described.

THOS. A. DAVIES.

Witnesses:

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C. SEDGWICK.