

(No Model.)

I. NUTT.

SPLICE BAR FOR RAILWAY RAILS.

No. 272,749.

Patented Feb. 20, 1883.

Fig. 1.

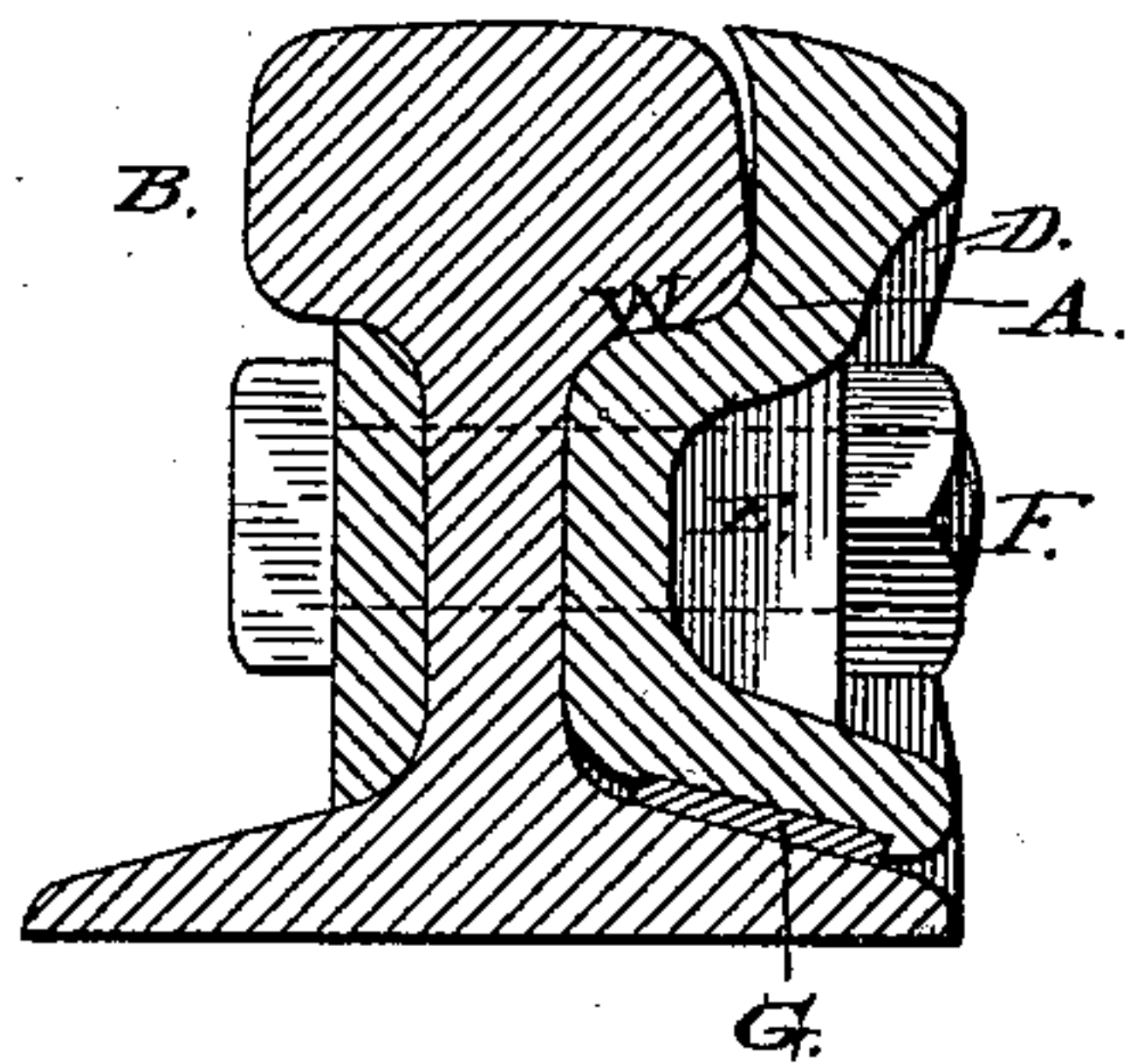


Fig. 2.

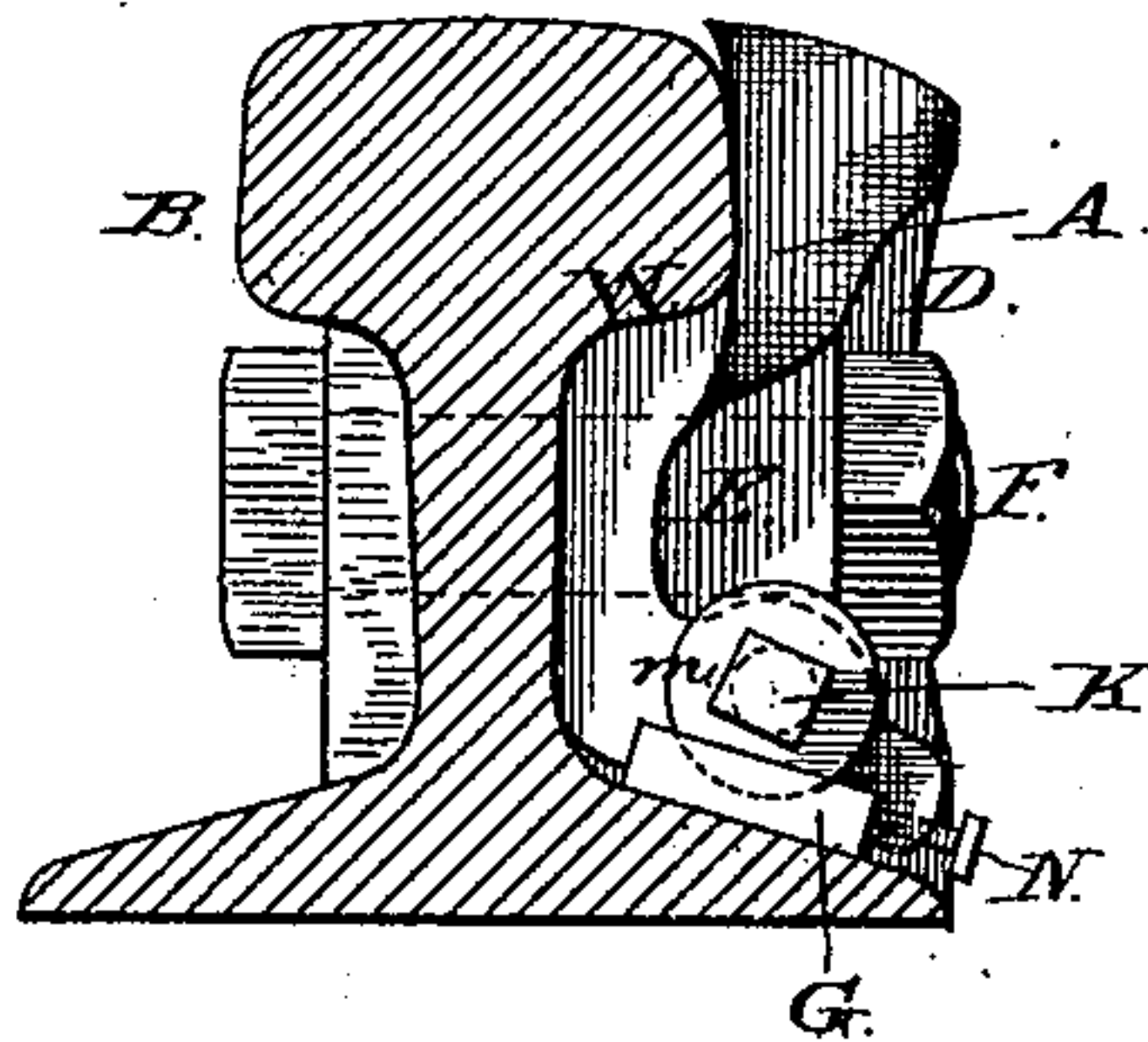


Fig. 3.

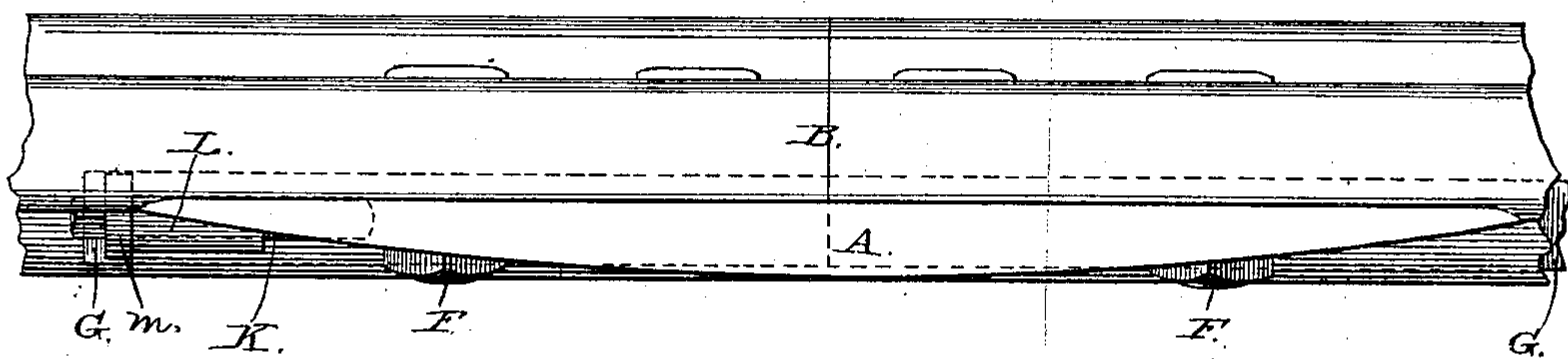


Fig. 4.

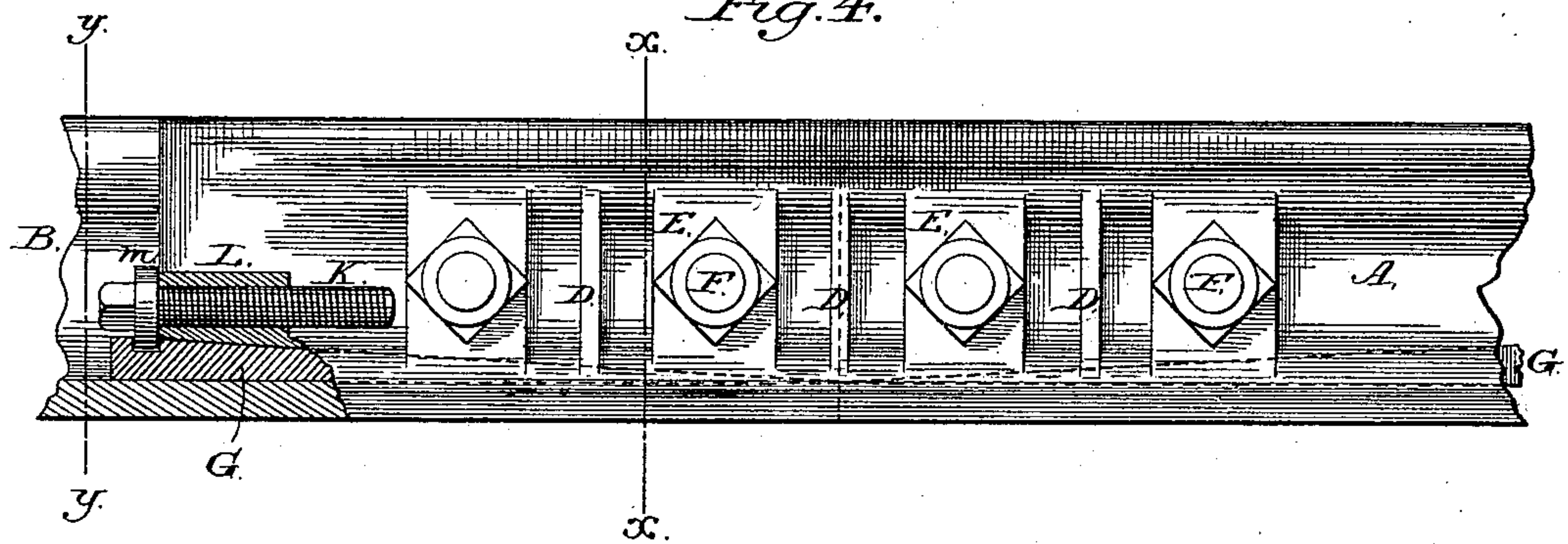
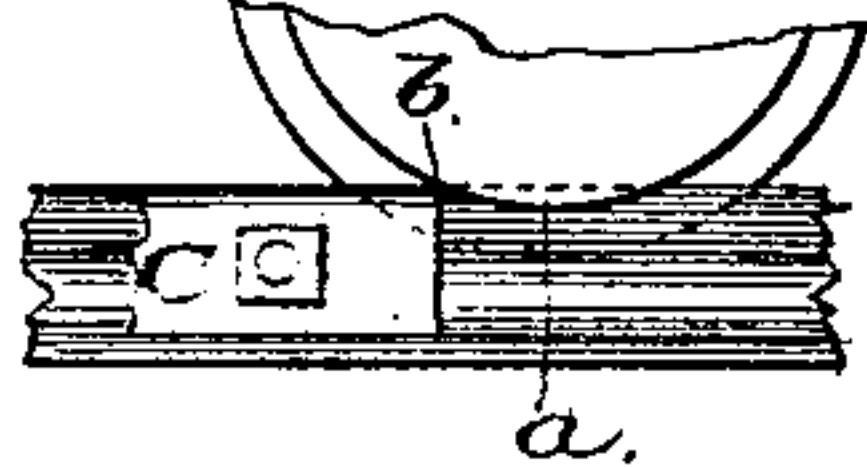


Fig. 5.



Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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SPLICE-BAR FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 272,749, dated February 20, 1883.

Application filed July 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, ISAIAH NUTT, of the city, county, and State of New York, have invented a new and useful Improvement in Splice-Bars for Railway-Rails; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to improvements in splice-bars for the joints of railway-rails, and has for its object not only to unite and bind the rails together by means of a strong and reliable fastening, but at the same time protect the ends thereof, so that they shall not become battered down by the wheels of passing trains, and carry also even such wheels as have become worn upon the rails smoothly and comparatively noiselessly over the joints in the track.

It consists in constructing a splice-bar or fish-plate, adapted to rest upon the web of the rails, with a head whose upper surface is made wide enough at the center of its length to afford a bearing for the entire width of the tread of the wheel, and which not only tapers thence to a point at either end, but is rounded or beveled off on its outer edge to adapt it to the rim of wheels worn upon the rails, this laterally-projecting, tapering, and rounded head being stayed by vertical flanges on the outside of the bar.

It consists also, in combining with the splice-bar longitudinal wedges, inserted between the base thereof and the basal flange of the rail upon which it rests, these wedges being controlled and actuated to adjust the height and level of the top of the bar to that of the rails, so that in case the splice-bar be used with rails of unequal height—as where a new rail is laid next to a worn rail—the splice-bar may be adjusted to meet the inequalities and make an even and unbroken surface at the joint to carry the wheels smoothly by the same.

In the accompanying drawings, Figure 1 is a transverse section of a rail with my improved splice-bar secured thereto, taken in line *xx* of Fig. 4, at a point near the center of the bar. Fig. 2 is an end view of the splice-bar secured to the rail, the rail itself being in cross-section in line *yy* of Fig. 4. Fig. 3 is a top or plan

view of my device in position; and Fig. 4 is a side elevation thereof, with the end partly in section to illustrate the adjusting-screw, in combination with the head of the adjusting-wedge. Figs. 5 and 6 are illustrative views.

The splice-bar A is adapted in cross-section to conform closely to the form of the side of a rail, B, its base being made to rest upon the basal flange of the rail, and its head to lap under and around the head of the rail and terminate on a level with its top edge, as shown in Fig. 1. The base of the splice-bar A is of uniform width, corresponding with that of the flange of the rail upon which it rests. Its head is made, centrally, of a width equal to about one-half the width of the rail, or to the difference between the width of the tread of the widest car-wheels and the width of the head of the rail, (see Figs. 1, 2, and 3,) and it tapers thence gradually to a thin edge at either end, as shown in Fig. 3, and is also beveled off toward its outer edge to conform to the tread of the wheels when worn upon the rail, as shown in Figs. 1 and 2. This construction of the head of the splice-bar serves to prevent entirely the shock or jar which occurs with fish-bars whose heads are brought flush with the surface of the rails, but are left wide at their ends, when a wheel which has become worn in its tread in running over the rails strikes these ends, as is shown in Figs. 5 and 6. Fig. 5 is a sectional view, which illustrates the manner in which the wheel becomes worn, leaving an outer projecting surface, *a*, upon its circumference, and Fig. 6 the manner in which this projecting surface *a* strikes the end *b* of an ordinary fish-plate or splice-bar, C, when it is carried up to the top of the rail.

D D are flanges formed at right angles to the length of the bar, which serve to re-enforce it laterally, and it is further strengthened by the bosses E E, which are required to furnish proper bearing-surface for the bolt-heads or nuts F F, so that its body may be made comparatively very light without impairing its full efficiency.

G G are wedges inserted, one at each end of the bar, between its base and its seat on the basal flange H of the rail. These wedges are moved longitudinally to raise or depress the splice-bar, and are each confined, when adjusted, by means of an adjusting-screw, K, which

works through a stationary nut, L, on the bar, and is formed with a circular flange, m, on its head or outer end, which is adapted to fit in a transverse slot or seat cut in the outer end of the wedge, as shown in Fig. 4. The head of the screw is made square, so that it may be engaged by a wrench. I contemplate using the wedge, in combination with the splice-bar, independently of an adjusting-screw, K, in which case the wedge may be locked and secured by a lateral set-screw, N, Fig. 2, or its equivalent. The wedge serves the double purpose, in adjusting the height of the splice-bar, not only of presenting a level surface to the tread of the wheel at the joint, but also of supporting the head of the rail on the outer side by affording it support, as is shown at W, Figs. 1 and 2.

I am aware that a splice-bar formed to extend up flush with the top of the rails, and which tapers on its upper surface from its center to its ends, has heretofore been used; but my invention relates to the prevention of the

shock occasioned by the striking of a worn wheel against the end of the bar by imparting an outwardly beveled or rounded form to the top of the bar.

I claim as my invention—

The combination, with a splice-bar adapted to conform to the outside of a railway-rail and rest upon its basal flange, of a head formed to extend longitudinally flush with the top of the rail, made wide at its center and tapering thence to a point at each end, and beveled or rounded on its outer edge to conform to the rim of wheels worn upon the rails, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ISAIAH NUTT.

Witnesses:

DAVID A. BURR,
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