

(No Model.)

M. SELLERS.
RAILWAY SPLICE BAR.

No. 285,688.

Patented Sept. 25, 1883.

Fig. 1.

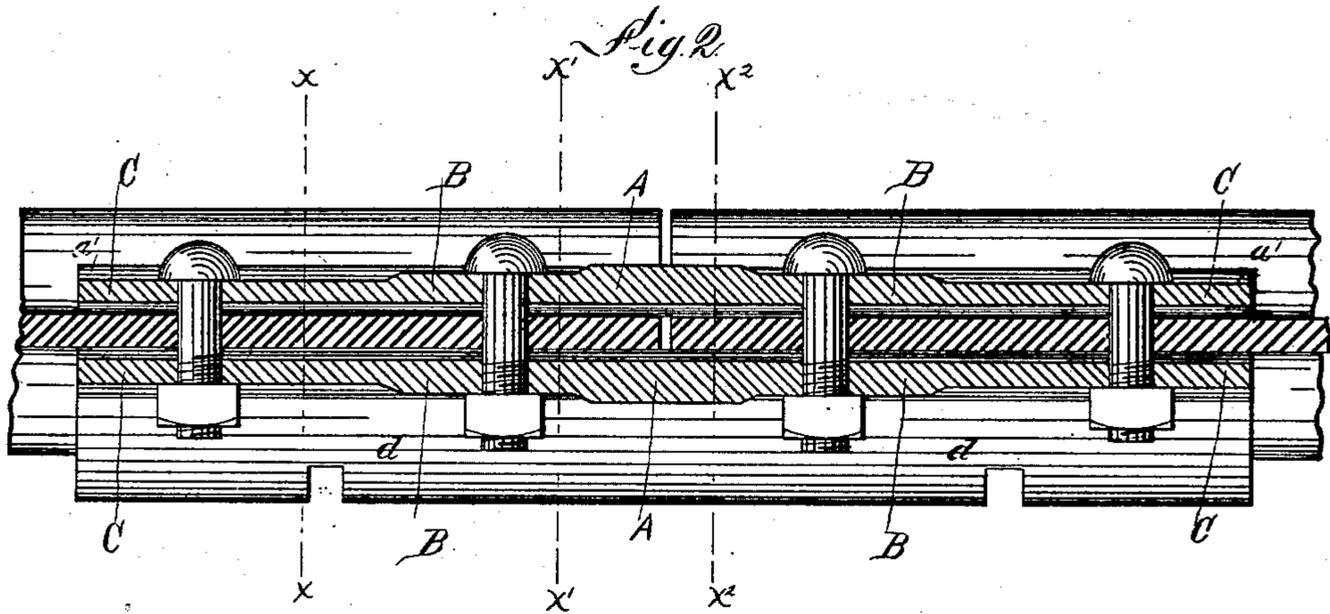
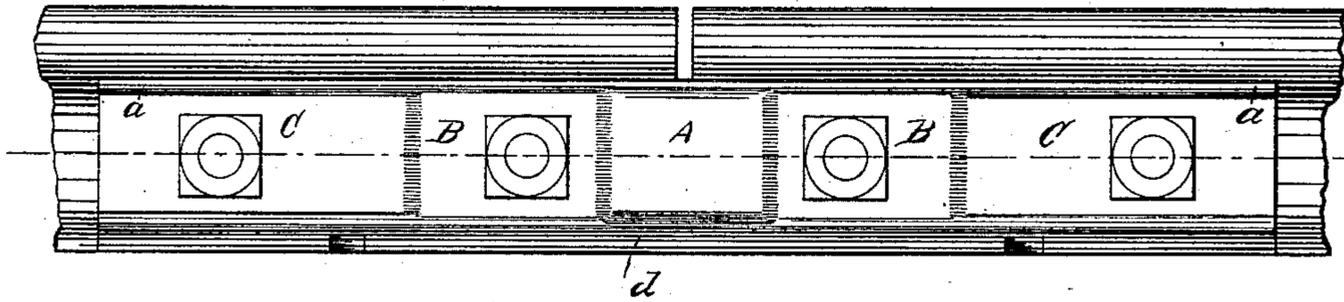


Fig. 3.

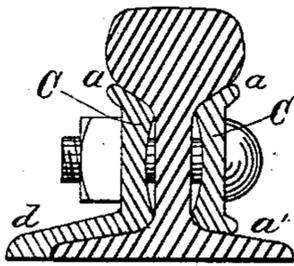


Fig. 4.

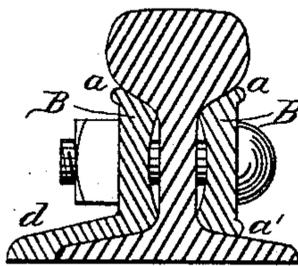
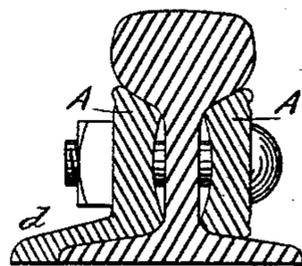


Fig. 5.



Witnessed
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UNITED STATES PATENT OFFICE.

MORRIS SELLERS, OF CHICAGO, ILLINOIS.

RAILWAY SPLICE-BAR.

SPECIFICATION forming part of Letters Patent No. 285,688, dated September 25, 1883.

Application filed June 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, MORRIS SELLERS, of Chicago, county of Cook, State of Illinois, have invented or discovered a new and useful Improvement in Railway Splice-Bars; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a view in elevation of a rail-track joint illustrative of my present invention. Fig. 2 is a horizontal sectional view thereof in the plane of the bolts; and Figs. 3, 4, and 5 are vertical transverse sectional views in the planes of the lines $x x$, $x' x'$, and $x^2 x^2$, respectively.

My invention relates to an improvement in railway splice-bars such as are intended for use in uniting or splicing together the adjacent or abutting ends of rails of railway-tracks, and more particularly relates to one prominent style of splice-bars described in Letters Patent of the United States No. 170,384, dated November 23, 1875, granted to Richard Long. The splice-bar described in this patent possesses, as I have found by practical use, many of the most desirable and important features essential to a device of this kind; but in order to adapt it more perfectly to the work in view I have added to said bar the further feature of a comparatively broad-edged bearing extending along the upper and lower edges of each splice, and so beveled or shaped that the upper edge thereof, when in position, shall bear on the under side of the head of the rail, and the lower edge shall bear on the upper face of the flange of the rail. The breadth of this beveled edge along the bar described may be varied at pleasure; but I prefer to make it as broad, or approximately of the same breadth, throughout the entire length of the bar as ordinarily may be given to the middle or re-enforced part; or, in other words, while I reduce the thickness of the body of the splice-bar at successive points from the middle toward each end, as represented in the drawings and substantially represented in Long's patent, above referred to, I make the upper and lower edges of the bar of a thickness corresponding exactly or approximately to the thickness of the middle part of the bar.

The construction is represented in the drawings, where A represents the middle thickened or re-enforced portion of the bar. B represents the portion next adjacent, which is made somewhat less in thickness; and c represents the end of the bar, which is its thinnest part. All these parts are to be proportioned with reference to the vertical strain to which the bar is subject in ordinary use, such strain being, of course, greatest in the middle and less toward the ends; but instead of making each of the parts A B C of a uniform or of a nearly uniform thickness throughout, so that the edge bearing of each bar on the under side of the rail-head shall be equal or approximately equal transversely to the thickness of that part of the bar, as in the Long patent, and similarly along the lower bearing of the inside bar, I make the outer bar with a bead or fillet, a , along its upper outer edge, and the inside bar with a like bead or fillet, a , along its upper outer edge, and also with a like bead or fillet, a' , along its lower outer edge. The upper or bearing sides of the fillets $a a$ are made to the same or approximately the same bevel as upper edges of the bars proper, so that they will give a broad and firm bearing beneath and against the rail-heads, and the fillets are made of such size that such bearing will be of the same or approximately the same width throughout the bar from end to end; or, in other words, by adding the fillets I get the same or nearly the same width of edge bearing in the reduced parts C B of the bar as in the middle and most heavily re-enforced part A; and I follow the same rule of construction as regards the fillet a' . If, in making the outside bar, it be made with the flange d , as is sometimes done, such flange takes the place of a lower fillet on such bar; but in the making of outside bars, where such flange is not desired, I make the outside bar with fillet a' the same as the inside bar. In this way I secure a more perfect embodiment of the objects in view in the construction of a joint of this kind with but a slight increase in the amount of metal employed.

In further statement of the objects I have in view it may be added that one main element of utility secured in reducing the thickness of the ends of the bar as compared with the middle results from the fact that while securing the desired strength immediately at the joint,

I interfere as little as possible with the natural and necessary flexibility of the rail under the weight of the passing train at points back of or away from the extreme rail ends, so that the waves of deflection caused by the passage of a heavy train shall be practically uniform from rail end to rail end without a material break thereof at the joint. If the entire bar be reduced in thickness, as in the Long patent, the wear or loss by friction on the beveled upper and lower edges is the greatest, of course, at the thinnest part, and, of course, as the firmness of bearing at or toward the ends of the bars is thereby lessened, the regularity or uniformity of the waves of deflection is to that extent lessened or destroyed. Hence, by adding the fillets, as above described, I keep such wear uniform from end to end of each bar, and I preserve the broad bearing by thickening the edges, as above described, without materially interfering with the desired flexibility or elasticity of the ends of the bar.

These bars are so shaped and proportioned that their inner faces will not ordinarily hug closely or come in contact with the web of the rails, but so that the lines of contact shall be along the upper and lower edges of the bars. Then, as the beveled edges wear away, as they

must in use to a greater or less degree, the strength and flexibility referred to may still be secured and preserved by simply tightening up the nuts on the track-bolts, so as to bring the edges of the bar again into close engagement with the under side of the head and the upper face of the flange of the rail.

I claim herein as my invention—

1. As an improvement in a splice-bar made of different thicknesses at different points of its length, and with a flange, *d*, along its base or lower edges, a bead or fillet, *a*, along its upper edge, adapted to give, when in use, the same, or approximately the same, width of edge bearing along the thinner portions of the bar as along its thicker or re-enforced portion, substantially as set forth.

2. A railway splice-bar made of different thicknesses at different points of its length, and having beads or fillets *a a* along the edges of its thinner portions, substantially as set forth.

In testimony whereof I have hereunto set my hand.

MORRIS SELLERS.

Witnesses:

JACOB GREMLI, Jr.,
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