

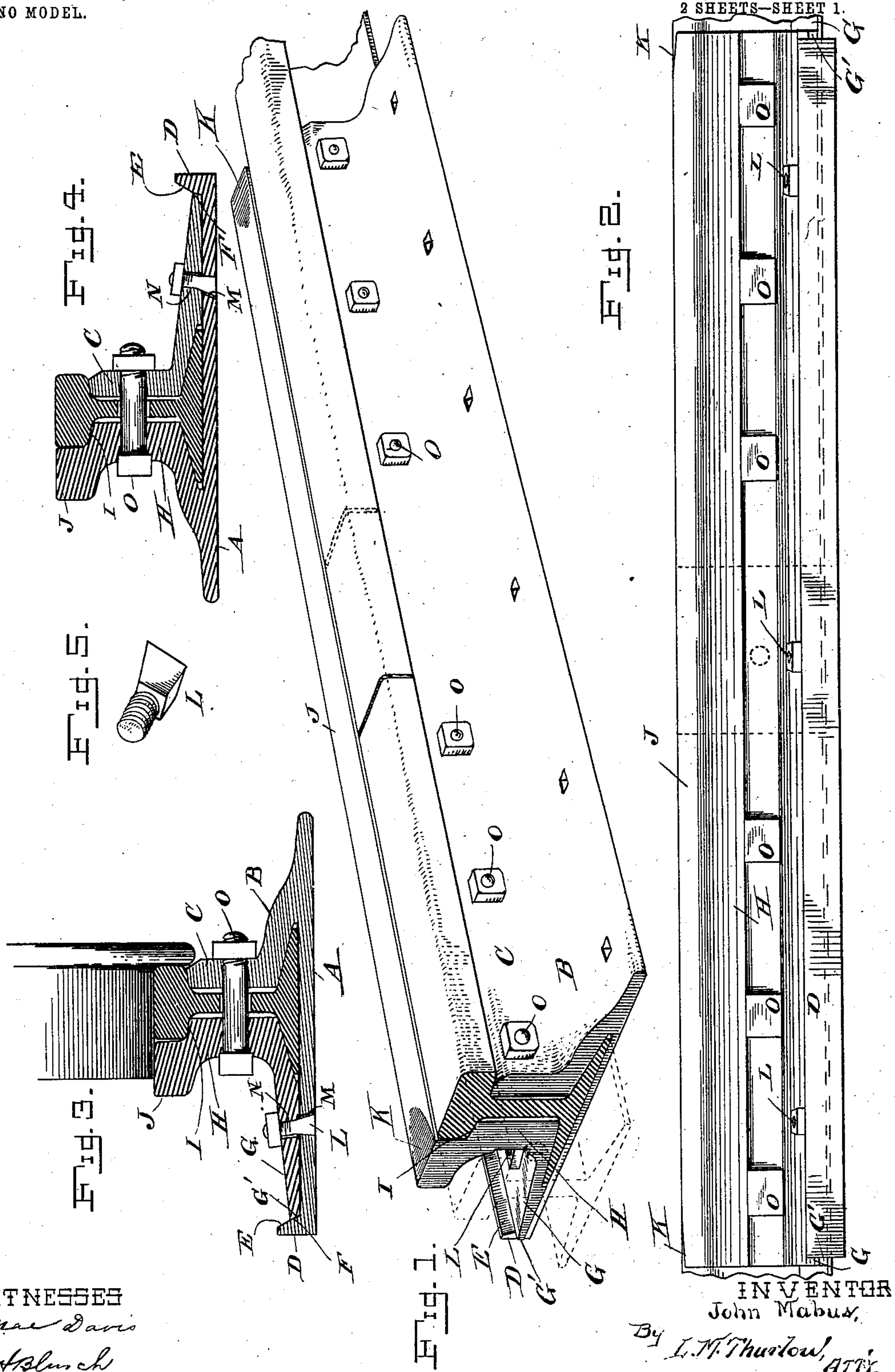
No. 724,903.

PATENTED APR. 7, 1903.

J. MABUS.  
RAILWAY SPLICE.

APPLICATION FILED JULY 25, 1902.

NO MODEL.



WITNESSES  
*Max Davis*  
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2 SHEETS—SHEET 2.

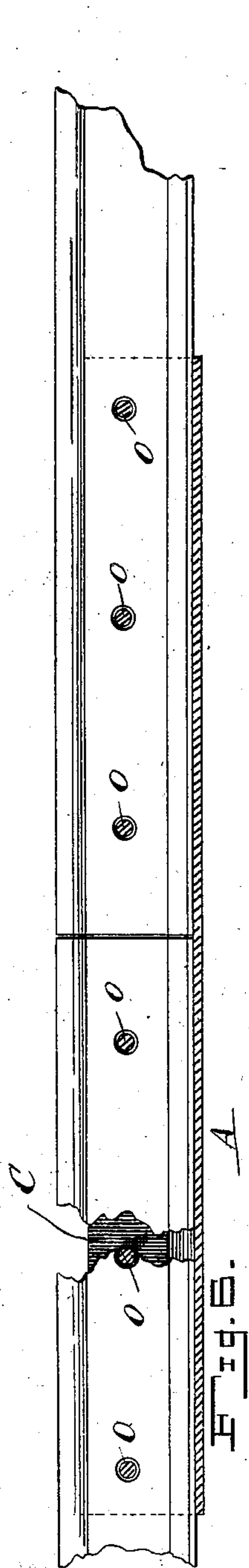


Fig. 7.

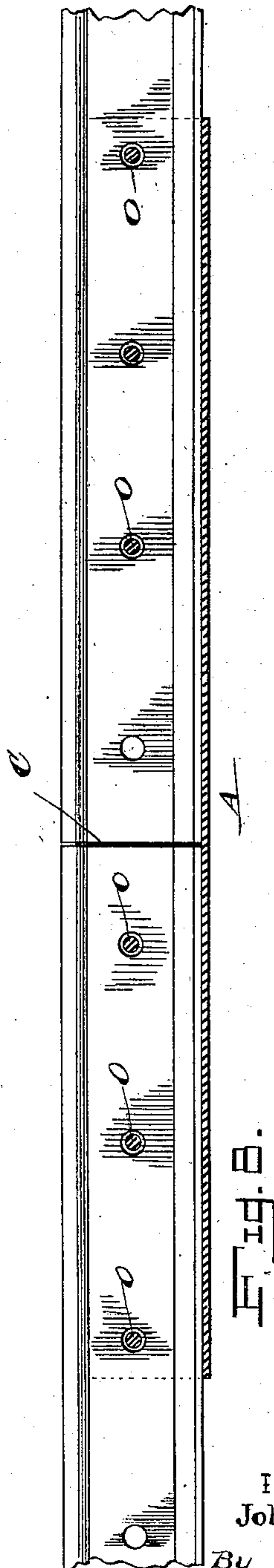
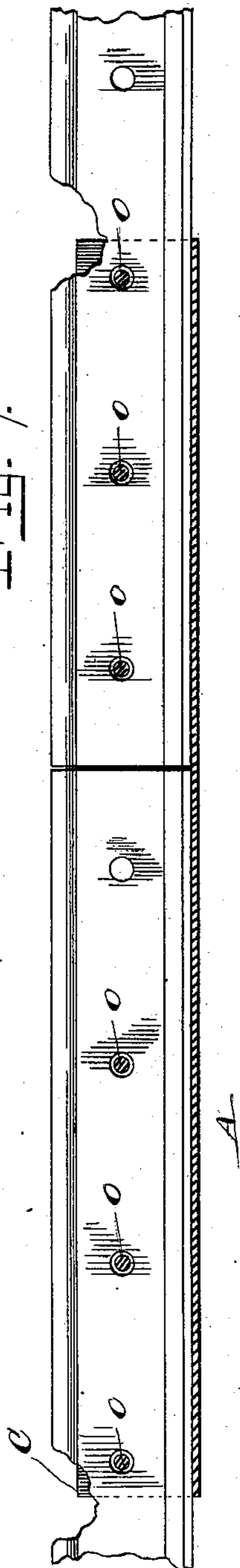


Fig. 8.

WITNESSES  
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INVENTOR  
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*Att'y.*



# UNITED STATES PATENT OFFICE.

JOHN MABUS, OF LILLY, ILLINOIS, ASSIGNOR OF ONE-HALF TO DON C. EMERSON, OF PEORIA, ILLINOIS.

## RAILWAY-SPLICE.

SPECIFICATION forming part of Letters Patent No. 724,903, dated April 7, 1903.

Application filed July 25, 1902. Serial No. 116,960. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MABUS, a citizen of the United States, residing at Lilly, in the county of Tazewell and State of Illinois, have  
5 invented certain new and useful Improvements in Railway-Splices; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-  
10 pertains to make and use the same.

This invention pertains to a locking railway-splice having combined therewith a rail-section for carrying the wheels of the train over the joints between the rails, whereby no  
15 jar is felt in the train.

The object of the invention, as may be understood from the above, is to provide a rail-section at each joint between the rails which will carry the wheels over said joints without  
20 jar or noise.

A further and more important object, and, in fact, the primary object, is to provide a device for preventing the ends of the rails from being battered and rendered useless, as is continually the case. It is well known that rails in contracting always leave a considerable space between them into which the rims of the wheels drop as they pass over. This being  
25 true, a constant hammer and thump is set up as a train passes over, and in a very short time the rails have become useless and must be replaced by new ones. It is the purpose, therefore, of my invention to provide for this cause of annoyance and expense by providing the  
35 extra section to be described herein.

In the appended drawings, which form a part of this application, Figure 1 is a perspective view of my improved device, showing the abutting ends of two rails held therein. Fig.  
40 2 is a side elevation of the same viewed from the opposite side from that shown in Fig. 1. Fig. 3 is a sectional end elevation of the device, showing a portion of a wheel thereon. Fig. 4 is a similar view of a modified form of the invention. Fig. 5 is a perspective view  
45 of a bolt used with the device. Fig. 6 is a side elevation of the invention in section, showing position of the rail ends therein. Fig. 7 is a similar view showing a peculiar position  
50 of the rail ends with reference to the length

of the splice. Fig. 8 is the same view showing altered position of the said rail ends.

In the figures, A represents the body of the splice, which in Figs. 1, 2, 3, 6, 7, and 8 consists of an under horizontal plate having at  
55 one edge a housing or inclosure B for the bottom web of the rail. This said housing is continued into a vertical flange C, which rises beneath the head of the rail at that side and is beveled off, as shown, to avoid the flange  
60 of the wheel. Thus far the device is not materially different from the common forms of rail-splice. At the opposite edge of the horizontal plate of the device is a lip or flange D, whose inner face is provided with two bevels  
65 E and F. These bevels are set at different angles, the latter being much nearer the vertical than the former. The opposite portion of the splice consists of a plate G, adapted to rest upon the plate of the portion A, as shown.  
70 A vertical portion H rises from G and carries a shoulder at I, which is beneath the rail-head and serves as a support therefor. The outer edge of the plate G is beveled at G' to correspond with the bevel F, as shown, the  
75 purpose of which will presently appear.

Now the important feature of my invention consists in forming with the portion H a head J, which corresponds with the head of the rail in height. It is, however, slightly nar-  
80 rower and lies very close thereto. As shown in Figs. 1 and 2, the head J extends for some considerable distance on each side of the joint between the rail-sections, and its ends are slightly beveled at K, so as to render it  
85 impossible for the ends to be in the way of or struck by the wheel. Said bevel may be made as long as desired in order to let the wheel gradually come upon the head with no possible jar. Since the rails are separated as  
90 much as three-eighths of an inch, and often even more than that, it is very easy for the wheel to drop into them and by constantly doing so hammer the ends down, and the longer this continues the greater the gap be-  
95 comes and the more pound and thump multiplies. The rim of the wheel is sufficiently broad to extend beyond the rail at the outside, as shown in Fig. 3, and by providing a support for the said extension the wheel can  
100



be carried over the joint smoothly. Therefore by providing the head J the wheel passes thereon and over the joint between the rails as though the track were composed of continuous steel or as though no joints existed. This therefore is the ideal track, and as a matter of course the splice itself must be of such a construction as to sustain the joints of the rails in a rigid position. It has been found that by the structure herein shown and described such joints are thus rigidly supported. The splice is of a length sufficient to extend over three or four ties, and thereby in addition to forming a base-plate for the bottom of the rail by rising beneath the head supports that also. It will now be noted that the plate G enters between the rail and flange D as a wedge by passing down behind the bevel F. A series of bolts are let through the plate of the body A and the plate G at an angle to the vertical, and the heads thereof are beveled at each side. The holes therefor are slightly larger than the bolts, so that when drawing up the nuts the bevels M thereof meet the surface N of the holes in the plate G and force said plate up toward the rail, the initial movement in this direction being caused by the contact of the bevels F and G' described as the nuts are first tightened. After the parts are thus drawn together to clamp the rail against the flange C bolts O are inserted through holes in the flanges and vertical web of the rail and tightly drawn up by means of the nuts shown. In the portion H is a groove running the entire length of the said portion, as shown in Fig. 2. Into this groove the heads of the said bolts O are seated, and these prevent the bolts working loose after the nuts have been tightened. In Fig. 4 I show a slightly-modified form of the same device. This form shows the extra rail-head J as part of the body A and the part B and C forming the wedge at G in Fig. 3. By this it will be seen that I may use either form of the device, as I see best suited to the case.

In Fig. 6 I show the splice of the ordinary length, while in Figs. 7 and 8 it is shown several inches longer. In the former figure the bolts O are evenly spaced from end to end of the splice, there being six holes there shown in the rail, which correspond with those of the splice through which the bolts are passed. Evidently more holes may be used, if desired. In Figs. 7 and 8 the splice is increased in length to allow three holes for the extremities, as shown, and leave a space at the middle, as in Figs. 1 and 2, without a hole. However, it is not important to have the splice devoid of a hole at the middle, but to make it of such a length that it may be shifted upon the ties, so as to bring the joint between the rails at one side or the other of the middle length of the splice, as shown. Now in Fig. 6 the rail-joint must remain in one position, and if for any reason the rail-head J becomes lowered by wear or other-

wise, so that the joint between the rails is again struck by the wheels, as in the old way, such splice could not be shifted to bring a new surface of the said head J opposite said joint. In Figs. 7 and 8, then, the adjustment of the splice is provided for this purpose. The rail ends are provided with one more hole than ordinary or than used in Fig. 6, and the joint is set to one side of the middle. When the head J becomes worn, the splice may be shifted beneath the rail to the position shown in Fig. 8, thus bringing the joint at the other side of the center of the said splice from that shown in said Fig. 7. In this way the arrangement is made to last double the length of time over the form in Fig. 6. In Fig. 2 the dotted or broken lines represent the positions occupied by the rail-joints in their two positions described above. Figs. 6, 7, and 8 are views from the same side as Fig. 2, but the head J with its parts G and H are removed, as well as the flange D. It will be observed that the holes in the rail are made larger than those for the bolts O, so that the process of expansion and contraction may not be interfered with. I am not aware of a rail-splice of this character, nor am I aware of any device having a rail portion corresponding with the head J for carrying the wheels of a train over the rail-joints, and I desire to claim the same, therefore, as my own.

I do not intend to confine myself to the exact construction shown and described, as other forms may be used, the main object being to furnish the added rail for the purposes described.

I claim—

1. A railway-splice comprising a body portion for supporting the rail beneath it and beneath its head, a locking-plate adapted to lock with the said body portion and also support the rail by its head, and an additional rail-section outside the rail and at the same height as the rail for carrying the wheels of passing trains smoothly over the joints beneath the rails, said additional section adapted to be shifted with relation to the said joint for the purposes set forth and described.

2. In a railway-splice, the body thereof passing beneath the rail for supporting the same and an additional rail-section adapted for bearing the weight of the passing trains to take the striking action from the rail-joints as described, said additional rail adapted for longitudinal shifting movement to present a new surface opposite the rail-joints for the purposes described.

3. In a railway-splice, the body thereof as a support for the rail, a flange at one side of the body for supporting the heads of the rail-sections, a flange at the opposite side of the body, the same having angled faces as shown, a locking-plate adapted to be drawn in between the rail and said latter flange, a rail-head upon such plate extending in both di-



rections beyond the joint in the rails for supporting the train for the purposes described, and a bolt having a tapering head for drawing the plate up against the rail as described.

5 4. In a rail-splice the combination of rail-sections straight throughout their lengths and abutting at their ends to form a track, a combined rail-chair and extra rail placed at the joint of the abutting rail ends, said chair  
10 adapted to extend beneath the rail and form a support therefor at said joint, the said extra rail portion being straight and located at the rail-joint and extending both ways therefrom along the rail at the outside thereof, its  
15 top surface being substantially flush with the rail top for the purposes set forth, the said chair extending inward between the rails of the track substantially as shown, an upright flange formed with the inner edge of  
20 the chair and provided with longitudinal angled faces substantially as described, a locking-plate adapted to enter between the said upright flange and the rail and having a vertical portion adjacent to and lying  
25 against the rail beneath its head, bolts passing through the rail-chair and the said locking-plate, said bolts having wedge-shaped heads and entering holes through the said plate and chair portions, said holes slanting  
30 upward and outward from the rail, the bolts when tightened adapted by reason of the

shape thereof and the slant of the holes to draw the locking-plate down between the rail and the flange on the chair and also to force the plate against the rail to hold the rail  
35 firmly between said plate and the chair.

5. In a railway-track, the track formed by abutting rail-sections, an extra rail-section outside the main rail, for the purposes set forth, the same being located at each joint  
40 formed by the abutting sections and adjustable longitudinally along the rail substantially as described and for the purposes set forth, such extra section extending beneath  
45 the rail-head and filling the space between the head and the base of the rail and extending around and beneath the rail to form a support for the abutting ends thereof, a series of bolts extending through the rail and the extra section, there being a groove in the  
50 section in which to seat the bolt-heads, for holding such heads from turning, there being a greater number of bolt-holes in the section than the number of bolts used, the same being arranged as shown and for the  
55 purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN MABUS.

Witnesses:

L. M. THURLOW,  
E. J. ABERSOL.