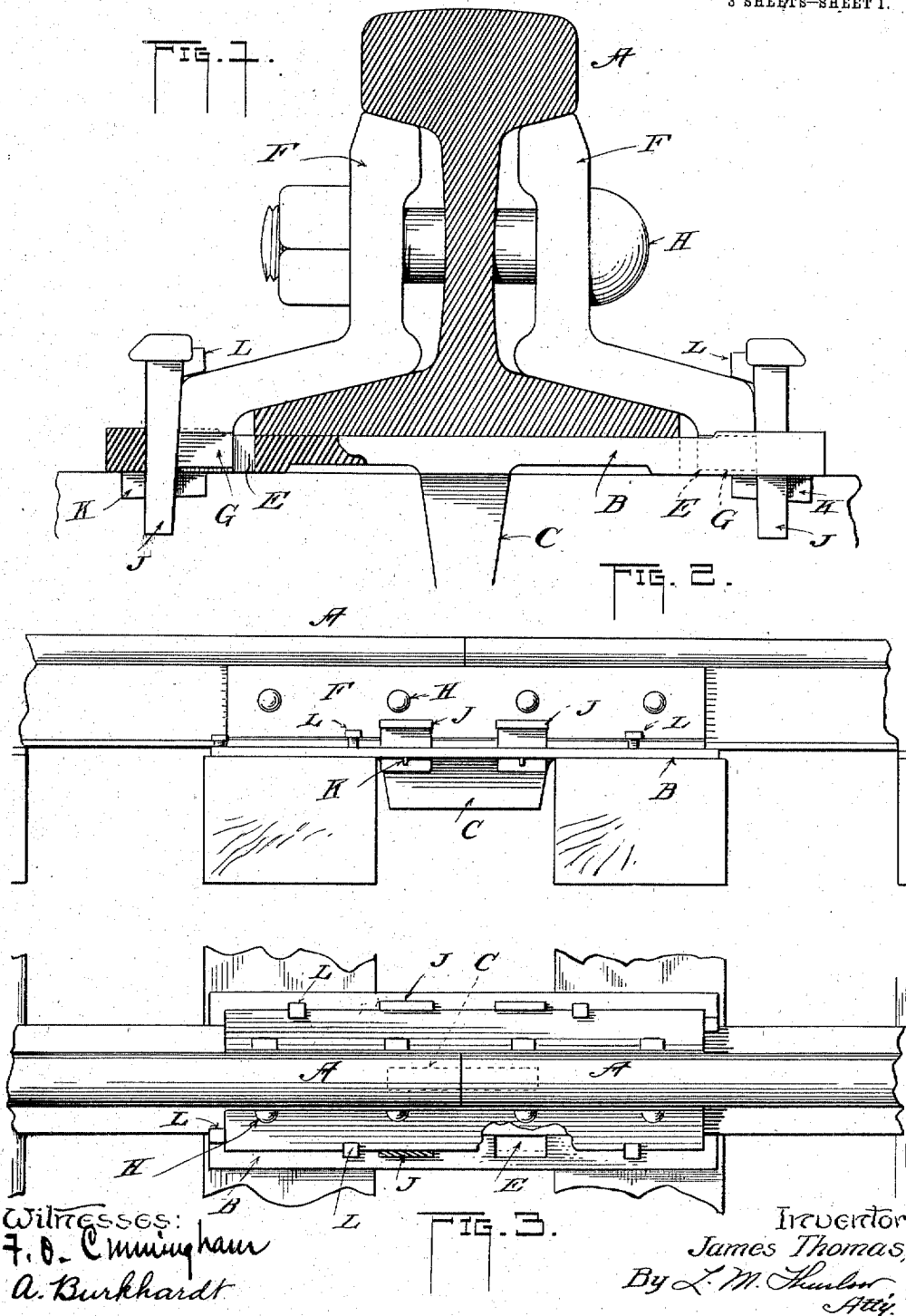


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RAIL SPLICE.
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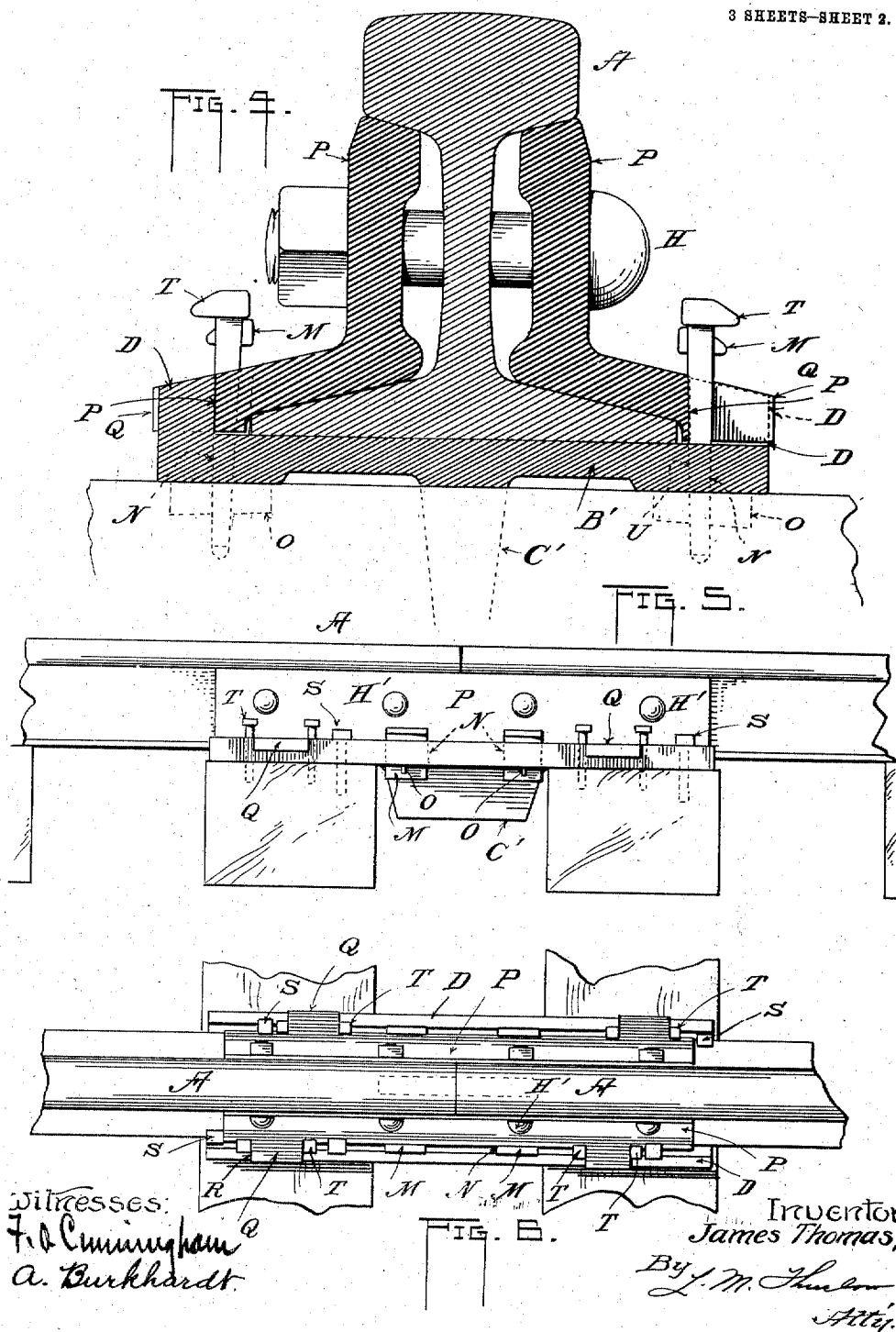
3 SHEETS—SHEET 1.



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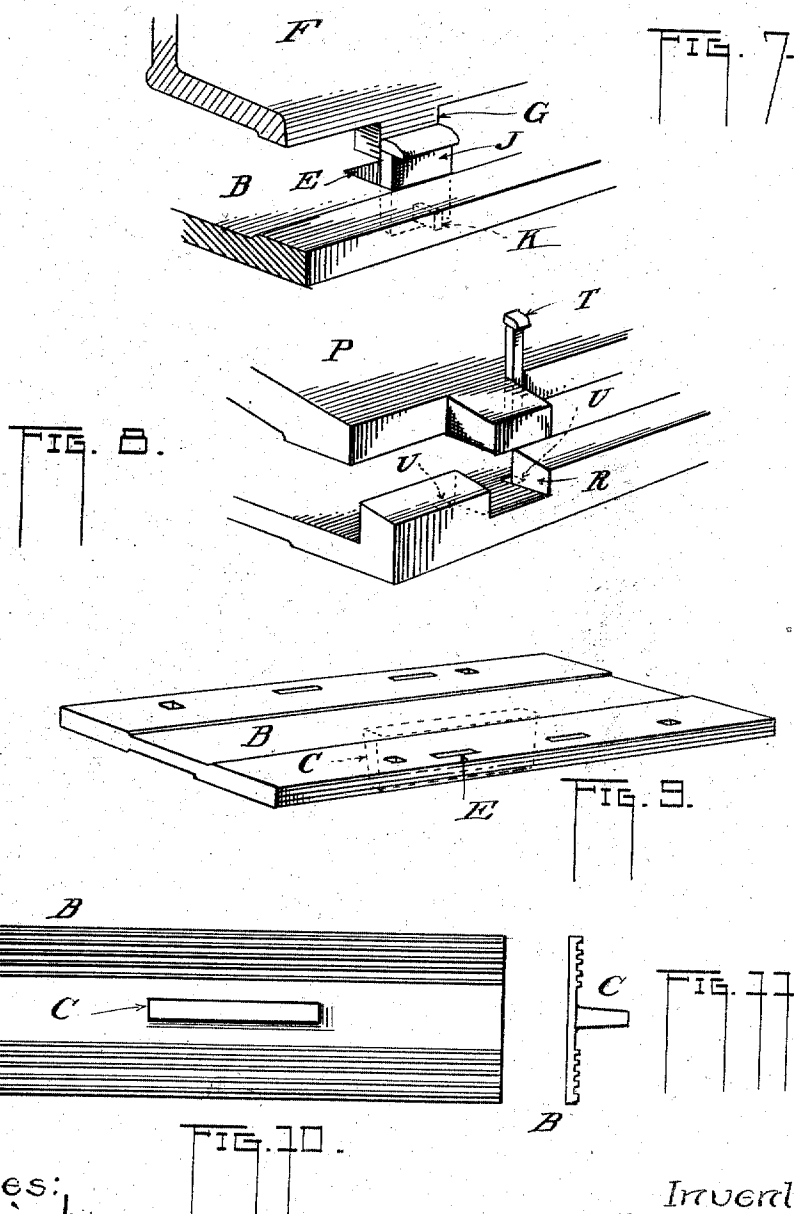
Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES THOMAS, OF JOLIET, ILLINOIS.

RAIL-SPLICE.

982,900.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed March 25, 1909. Serial No. 485,767.

To all whom it may concern:

Be it known that I, JAMES THOMAS, citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Rail-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 appertains to make and use the same.

This invention relates to a rail-splice and pertains more particularly to that type known as a "suspended" rail-splice or one in which the abutting ends of the rails instead of lying upon a tie are suspended between two of them.

The invention also relates to a rail-splice having certain new structures in connection therewith for holding its parts in fixed relation under all conditions of use.

It has for one of its objects the provision of a rail-splice whose base plate and splice-bars are arranged to interengage whereby to provide against longitudinal movement of the parts relatively. Its further object is to provide peculiar means for holding the splice-bars tightly in engagement with the rail, all of which will be clearly pointed out in the following specification aided by the accompanying drawings in which:—

Figure 1 is a vertical transverse section of a rail and parts of a supporting base-plate therefor and splice-bars in connection therewith. Fig. 2 is a side elevation of my improved splice. Fig. 3 is a plan of the same. Fig. 4 is a vertical transverse section of a slightly different form of splice. Fig. 5 is a side elevation thereof. Fig. 6 is a plan of the same. Fig. 7 is a detail in perspective of parts of the splice shown in Fig. 1. Fig. 8 is also a detail in perspective of parts of the splice shown in Fig. 4. Fig. 9 is a perspective view of a base-plate. Fig. 10 is a plan of the under side of the base. Fig. 11 is an end elevation of the same.

Although my invention is susceptible of some slight changes it is shown in its preferred embodiment and in bringing out my said invention I have had due regard to the existing art and the novelty in my splice will be pointed out.

The rail is indicated at A and is supported upon a base plate B after the manner of rail-splices of this and kindred types.

This said plate B which is provided with the

depending strengthening rib or fin C which is preferably placed midway of its length and extends longitudinally thereof, lying immediately beneath the juncture of two rail sections as shown in Figs. 1, 3, 5 and 6 it being understood that when the plate is not used as a "suspension" device the fin may be eliminated so that said plate can rest upon two or more ties with one of them under it to form the support for the rail ends. Since a suspended rail-splice is often desired I have provided the form shown and described which, as may be seen in figures, rests upon two of the ties so that the rib or fin can lie between said ties. Said fin extending longitudinally of the plate and being of considerable depth vertically makes the plate very strong and will thus support great weight. The surfaces of the plate may be made substantially plain both above and below, as shown in Fig. 9, or it may be provided on its under surface with teeth or projections as shown in Figs. 10 and 11 which will sink into the ties and thus serve to prevent sidewise movement of the splice upon said ties. I also show the plate in two forms as to its upper or top surfaces. For instance, in Figs. 1 and 7 the top surface is substantially flat while in Figs. 4 and 8 it is provided with a flange at its two longitudinal edges. I shall first describe the form shown in Figs. 1 and 7 in which the said plate is provided with a series of holes one of which is shown at E in Figs. 1, 3 and 7 the purpose of which will be presently shown.

At each side of the rail, Fig. 1, is a splice-bar F which is of a form to fit between the head and base of the rail as in common practice and each splice-bar has an extension lying at each side of the base of the rail and each said extension is provided with depending lugs or extensions G adapted to enter the said holes E in the plate B, although but one of said extensions may be thus equipped. The usual bolts H are provided to clamp the splice-bars and the rail together. The said lugs or extensions G, of which there are preferably two, snugly fit the hole E in the base and prevent the splice-bars moving in a longitudinal direction relative to the base plate and herein lies part of my invention, it being my object to provide a simple arrangement for the interlocking of the splice bars and said base plate

so that no movement of the base and bars relatively can take place in the direction named. The width of each hole E besides admitting a lug is also wide enough to receive a wedge J outside of the lug which when gradually tightened from time to time by driving it down will take up any looseness between the splice bars and the rail due to wear. Although I may not use it in practice, I provide a wedge or key K to extend through the lower end of the wedge J beneath the base plate which may be used to draw said wedge J downward and also that when the latter is properly tightened the said wedge or key will prevent it becoming loosened.

At several places I provide the usual spikes L for securing the base plate to the ties and which may also assist in holding the splice bars upon the rail base and it will be observed that in Fig. 3 the spikes L driven through the base are let into the edges of the splice-bars and further assist in preventing longitudinal movement of the latter upon said base. This construction provides a very efficient form of splice in which all looseness can be taken up at any time in a very simple manner and there is absolutely no end movement of the splice-bars such as would tend to loosen the bolts H.

In the second form of base plate to which I have referred I employ a vertically disposed flange D at each longitudinal edge and likewise provide wedges M which correspond to the wedges J in Fig. 1, these being inserted in holes N in the base plate adjacent to the said flanges D these being likewise provided, if desired, with wedges O. In this instance the outer edges of the splice-bars, indicated by P, are provided with horizontally disposed lugs Q adapted to engage notches R in the flanges as shown in Fig. 8 said lugs seating snugly in said notches so as to prevent endwise movement of the splice-bars and answering therefore in the same capacity as the lugs G of the form hereinbefore described.

I have provided as before a series of spikes S which extend through the base plate between the flanges D and the edges of the splice-bars as shown in Fig. 6 and in addition to this I have shown a series of wedges T that may be driven through holes U in the base-plate into the tie at each side of the lugs Q, and these may also be used in the first form described or they may be eliminated entirely.

Evidently the form of splice just described will accomplish the same purpose as the first form and is to be preferred perhaps to the other form by reason of the ease of manufacture. The provision of a supporting base-plate and splice-bar after the manner described or any equivalent thereof wherein the splice-bars and the said base-plate inter-

engage constitutes a very simple and efficient form of this type of rail joint but I may use other forms of members to answer in the capacity of the wedges J and M herein without sacrificing the spirit of the invention which is that of providing the simplest form of connection between the splice-bars and the base for preventing longitudinal movement and taking up looseness incident to wear. It is to be observed that the wedges in either form illustrated not only serve to move the splice-bars toward the rail but overhang said bars and prevent them from lifting from the base at their outer edges—that is to say my splice is of a form that can be made between rolls, and as there is no special means for holding the bars down in position the wedges in being beveled at their inner faces act in this capacity and prevent the bars from tilting and also act to force them against the rail and no matter what the position of the wedges may be, whether high or low, the results are always the same. It is of the highest importance that a rail-splice in order to be of practical value should be strong and durable and of a form that can be made between rolls. To be able to resist breakage it should be made of steel and in order to be low in cost it should be of a form that can be readily rolled and it has been my aim in producing my splice to construct it to be a form that will meet the above requirements.

As distinguished from the art my splice-bar of rolled material is provided with lugs depending from its lower surface as shown in Figs. 1 and 7 and adapted to seat in holes to receive them in the base or supporting-plate thereby absolutely preventing movement of the two relatively in a longitudinal direction. In addition to this important structure, which makes it possible to readily roll the parts as already brought out, there is that of combining therewith the wedges to overhang the bars for wedging said bars against the rail between its head and base.

Having thus described my invention, I claim:—

1. A rail-splice comprising a supporting base-plate for a rail having its entire top surface substantially flat and provided with a series of holes at each side of the rail, a splice-bar to engage each side of said rail and each provided with depending extensions to engage said holes and means to enter the holes behind one of the splice-bars to move said bar toward and hold it against the rail.

2. A rail-splice comprising a supporting base-plate for a rail having its entire top surface substantially flat and provided with a series of holes at each side of the rail, a splice-bar to engage each side of said rail and each provided with depending extensions to engage said holes and means to

enter the holes behind the extensions of one of the splice-bars to move said bar toward and against the rail.

3. A rail-splice comprising a supporting
5 base-plate for a rail having its entire top surface substantially flat and provided with a series of holes at each side of the rail, a splice-bar to engage each side of said rail and each provided with depending exten-
10 sions to engage said holes and means to enter the holes behind the extensions of one of the splice-bars to move it toward and against the rail and to carry the rail against the op-
posite splice-bar.

15 4. A rail-splice comprising a supporting base-plate for a rail having its entire top surface substantially flat and provided with a series of holes at each side of the rail, a splice-bar at each side of and to engage the
20 rail and each provided with depending extensions to lie in said holes, and wedges to enter the holes against one of the splice-bars to move said bars toward the rail.

25 5. A rail splice comprising a supporting base-plate to carry a rail having its entire top surface substantially flat, a splice-bar, means to secure the latter upon the plate at one side of the rail, a splice-bar at the other
30 side of the rail, and having extensions thereon, there being holes in the base-plate to receive said extensions, and means to enter said holes adapted to engage the bar and hold it against the rail.

35 6. A rail-splice comprising a supporting base-plate to carry a rail having its entire top surface substantially flat, a splice-bar, means to secure the latter upon the plate at

one side of the rail, a splice-bar at the other side of the rail and having extensions thereon, there being holes in the base-plate to re-
40 ceive said extensions, means to enter said holes adapted to engage the bar and hold it against the rail, and devices to draw the means into place against said bar.

7. A rail-splice comprising a supporting
45 base-plate to carry a rail having its entire top surface substantially flat, a splice-bar, means to secure the latter upon the plate at one side of the rail, a splice-bar at the other side of the rail and having extensions
50 thereon, there being holes in the base-plate to receive said extensions, wedges to enter the holes behind the extensions and adapted to force the bar against the rail, and de-
vices to draw the wedges into said holes. 55

8. A rail-splice comprising a supporting
base-plate to carry a rail having its entire top surface substantially flat, a splice-bar, means to secure the latter upon the plate at
60 one side of the rail, a splice-bar at the other side of the rail and having extensions thereon, there being holes in the base-plate to receive said extensions the latter having in-
clined surfaces, wedges to enter the holes behind the extensions and adapted to force
65 the bar against the rail, and devices to draw the wedges into said holes.

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

JAMES THOMAS.

Witnesses:

W. P. SIMPSON,
F. A. JACKSON.