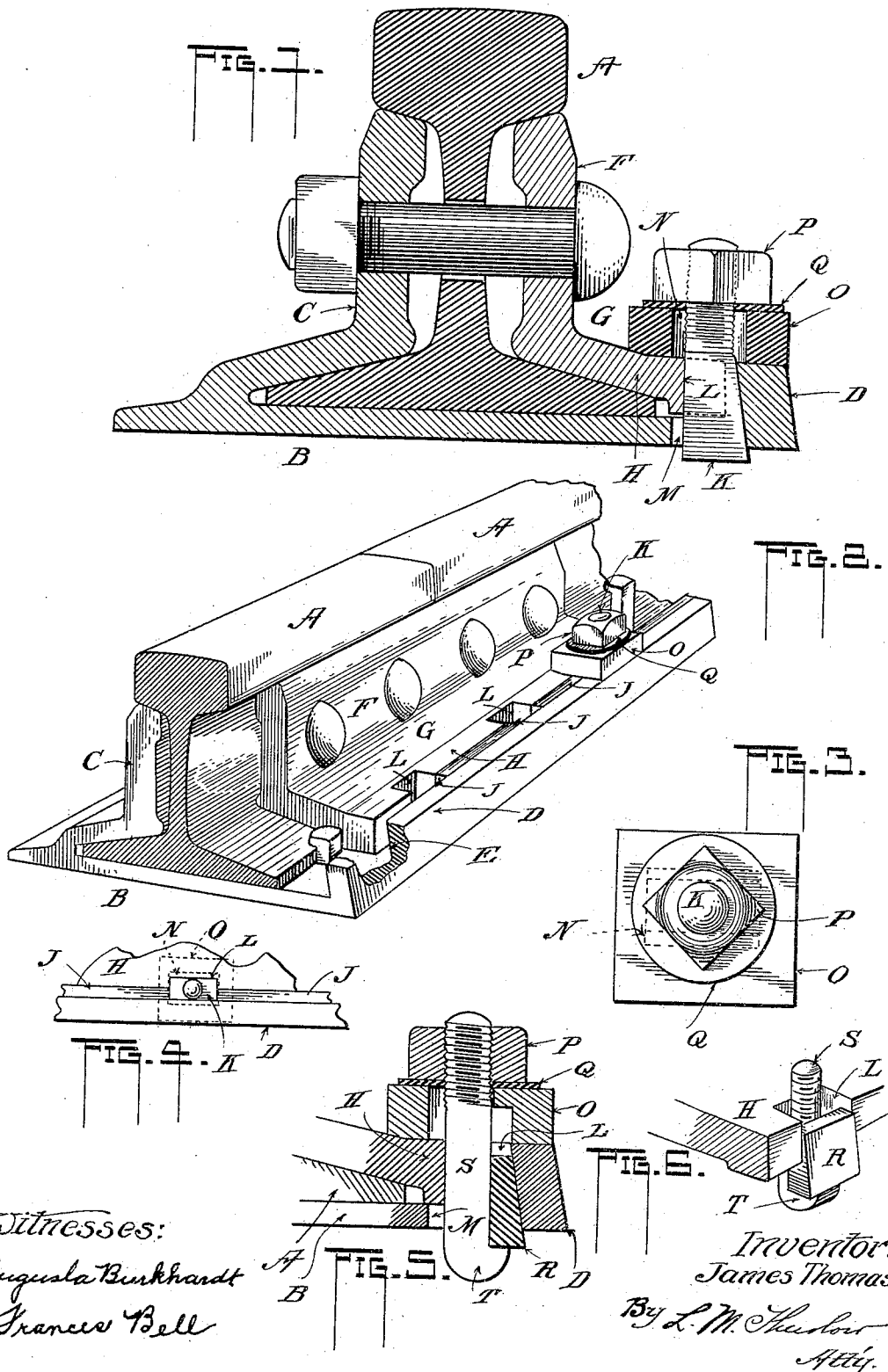


940,218.

J. THOMAS.
RAIL SPLICE.
APPLICATION FILED NOV. 18, 1908.

Patented Nov. 16, 1909.



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UNITED STATES PATENT OFFICE.

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RAIL-SPLICE.

940,218.

Specification of Letters Patent.

Patented Nov. 16, 1909.

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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 pertains to an improvement in rail splices and has especial reference to a device of simple form whose parts can be easily adjusted to provide for taking up any looseness due to wear.

The object is to combine with a rail splice simple means by which a nice adjustment of its parts can be had when loosened by wear.

To the end that the invention may be fully understood I have provided the accompanying drawing in which:

Figure 1 is a transverse section of a rail and the parts for holding it. Fig. 2 is a perspective view of two abutting rail sections showing the splice in connection therewith. Fig. 3 is a plan showing part of the means for adjusting the splice. Fig. 4 is a plan of a part of the splice. Fig. 5 is a vertical section of a modified form of certain parts. Fig. 6 is a perspective view of the parts shown in Fig. 5.

As a means of making my present invention readily understood I have combined it with part of the device shown in my Letters Patent No. 855,265 issued to me on May 29, 1907.

A indicates the rail and B a base plate beneath and forming a support for two rail-sections at their junctures. Said plate has at one side a vertically disposed portion C to inclose one side of the rail, and has at its opposite side an upturned edge or flange D.

F is a splice-bar composed of a vertical portion similar in form to the portion C and has a base G to rest upon the foot of the rail a portion H thereof extending beyond the latter substantially as shown.

Thus far the splice is similar to the construction shown in the above mentioned patent and in that construction, in addition to what is herein shown, I employ a key or "shim" and this member when first inserted fitted snugly in place. But in time the various parts become loosened by con-

tinual wear, due to the passage of trains, making it necessary to substitute a thicker key to again make the parts tight and it was therefore necessary to provide keys of various gages so that one of a proper thickness was always at hand. In order to obviate this my invention seeks to provide a very different means for taking up all the looseness referred to without making a change of the parts employed. To this end I use a bolt K with a wedge-shaped head substantially of the form shown in Fig. 1. While one of these could be used with fairly good results I prefer to place them at intervals along the splice as shown in Fig. 2. In this figure I show notches L in the outer edge of the extension H at intervals, and in the base B are holes M to receive the bolts which correspond in position to the positions of the said notches but which, however, extend farther back in the direction of the rail. The surface of each bolt-head adjacent to the flange D is beveled about as shown and preferably bears against a similarly beveled surface of said flange, while the opposite surface facing the rail is preferably vertical and bears against the rear wall of the notch L. The upper ends of the bolts are provided with screw-threads and project considerably above the extension H through openings N in members O resting upon the flange D and the said extension H. Nuts P are provided for the bolts and washers Q are, by preference, placed beneath them upon said members O.

The flaring heads of the bolts as will be understood from the foregoing occupy a position between the extension H and the flange D as shown in Figs. 1 and 4. When the nuts P are tightened the bolts are drawn upward and since their vertical surfaces bear upon the extension H and the beveled surface upon the base B and its flange D the said base and the said extension are moved in opposite directions thereby drawing the extensions C and F toward one another against the rail to clamp it. The member O is of sufficient thickness to permit the bolt to be drawn upward a considerable distance and the hole N therein is of such a size as to allow the flared head to pass up into it thereby allowing said bolt considerable latitude of movement, and the latter as it is tightened moves in the direction of the rail.

Figs. 5 and 6 show a slightly different

form of device. In place of employing the bolt with the flared head a wedge R is employed together with a bolt S having a hook T at its lower end to engage and raise said wedge; the device otherwise having substantially the same structure as the first form described.

From time to time the looseness occasioned by the passing of trains can be taken up by simply drawing up the bolts, each operation requiring but an instant.

I have shown in Figs. 2 and 4 members J to fill in the space between the keys but their use is optional.

The bolts answer another purpose besides shifting the parts to clamp the rail in that they prevent said parts from moving relatively in a longitudinal direction so that there will be no tendency of the clamping bolts in the vertical web of the rail to become loosened by a racking movement of said parts.

The last named bolts can be smaller than those ordinarily used so that the holes in the web and the splice can be smaller when using my structure and thereby these parts will be stronger. Furthermore the parts of the splice may be made of a lighter weight and the same strength as older forms of heavier gage will result since by keeping all the parts tightly clamped by the bolts K the strain put upon all parts is naturally reduced.

It will be understood by those familiar with this class of devices that the member F G H has a width somewhat less than the distance between the rail and the flange D so that it can be readily dropped into position the members J being inserted afterward if desired.

Other arrangements or positions of means the equivalent to the bolts K may be provided of course as will answer in obtaining the shifting movement of the base and the said member F G H.

It is notable that the bolts K or their equivalents shown in the drawings are not designed to secure the bar F to the base-plate B and in fact they cannot be utilized for this purpose since the members O upon which the pressure of the nut P is placed, rest upon the flange D at one side and at the other upon the splice-bar which in turn bears upon the base of the rails and the edge of said bar where it overhangs the base does not touch or at least engage the base with friction sufficient to prevent it moving relative to the said base. It is to be observed also that the flange D lies directly opposite the edge of the splice-bar and that the wedge whether it be the bolt K or the member R, when raised between them acts directly on both and said splice-bar is moved freely in a lateral direction relative to the base. The flange D and that part of the bar

G in lying opposite serve to maintain the bolt K in an upright position there being no tendency of the latter to tilt when tightened.

Having thus described my invention, I claim:—

1. The combination with a rail, of a supporting base therefor having at one side a portion to engage the rail, said base extending beneath and beyond the other side of the rail a member to engage the side of the rail last mentioned and extending to and partially overlying the extended portion of the base and a clamping device extending vertically through the base and adapted to bear at opposite sides against said base and the member and adapted to shift them relatively in a lateral direction to cause them to engage and hold the rail between them, part of said device bearing directly and partially upon both the base and the member.

2. The combination with a rail, of a supporting base therefor having at one side a portion to engage one side of the rail, said base extending beneath and beyond the other side of the rail, a member to engage the side of the rail last mentioned and overlying its base and overhanging the extended portion of the supporting base, means extending through and engaging the latter and the member and adapted to shift them laterally with respect to one another, those portions of the said base and member with which the means engages lying directly opposite one another and a device to engage the means and force it between the described parts, the same overhanging the extension of the supporting base and bearing only upon the same at that side and also overhanging the member and the rail-base at its other side and exerting downward pressure thereon.

3. In a rail splice the combination with a rail, of a supporting-base therefor having an upwardly extending portion at one side to inclose one side of the rail and having a vertical extension at its opposite side beyond the side of the rail, a member to inclose the rail at said other side of the rail, the same lying between the rail and the said vertical extension, a member extending vertically through the base between the member and the extension and adapted to separate them, and means in positive engagement with the said means to impart movement thereto, said means bearing partially upon the vertical extension and partially upon the said member.

4. The combination with a rail, of a supporting-base therefor having at one side a portion to engage one side of the rail, said base extending beneath and beyond the rail and having an upturned portion at its other side, a member interposed between the upturned portion and the rail to engage the latter, a wedging device interposed between the said upturned portion and said member

and adapted to be drawn between them, means operatively engaging said device to impart movement thereto and adapted to exert downward pressure partially upon both the upturned portion and said member.

5 5. The combination with a rail, of a supporting-base therefor having a portion to engage the rail, said base extending beneath and beyond the other side of the rail, a member to engage the side of the rail last mentioned and extending to and partially overlying the extending portion of the said supporting base, and having a recess in its edge, there being an opening in the supporting-base beneath said recess, a wedge to enter the opening of the base and engage said base and lie within the recess of the member, the portions of the base and member with which the wedge engages lying directly opposite one another, and means to draw the wedge into the opening and adapted to exert downward pressure partially upon both the base and the member.

20 6. The combination with a rail, of a sup-

porting-base therefor having a portion to en- 25
gage the rail, said base extending beneath and beyond the other side of the rail, a member to engage the side of the rail last mentioned and extending to and partially overlying the extending portion of the said sup- 30
porting base, and having a recess in its edge, there being an opening in the supporting-base beneath said recess, a wedge to enter the opening of the base and engage said base and lie within the recess of the member, the por- 35
tions of the base and member with which the wedge engages lying directly opposite one another, a member lying partially upon the base and partially upon the first described member and means bearing upon the second 40
described member and adapted to impart movement to the wedge.

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

JAMES THOMAS.

Witnesses:

L. M. THURLOW,
ARTHUR KEITHLEY.