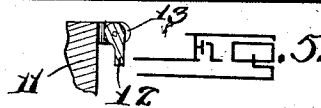
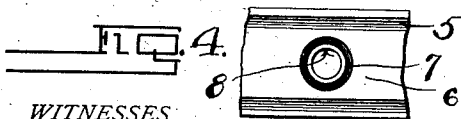
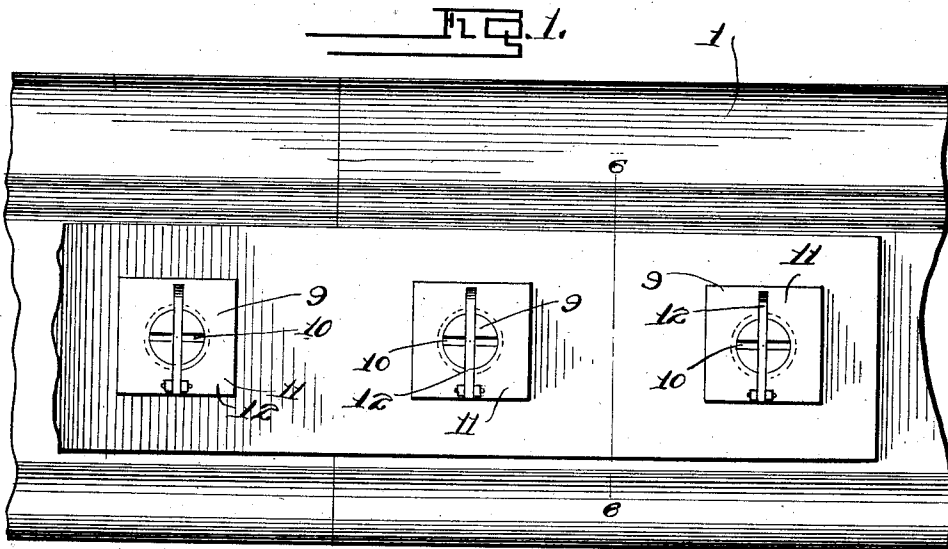
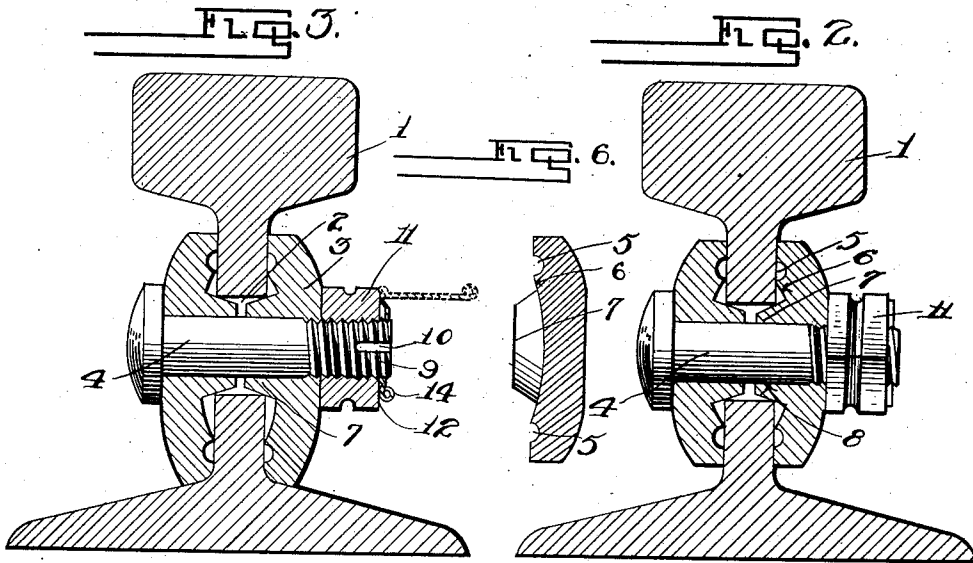


C. S. LANDERS.
 SPLICE BAR.
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1,063,044.

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WITNESSES
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SPLICE-BAR.

1,063,044.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES S. LANDERS, a citizen of the United States, residing at New London, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Splice-Bars, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to splice bars and has special reference to a splice bar which is provided with a bowed body portion which is adapted to hold the bar in a firm and springy engagement with the rail.

Another object of this invention is the production of an efficient splice bar or fish-plate which is provided with means for preventing longitudinal movement of the same relative to the rails upon which the plate is supported.

With these and other objects in view this invention consists of certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a side elevation of the fish-plate showing bolts passing therethrough. Fig. 2 is a transverse section taken through the rail and fish-plates at the point where a bolt passes therethrough. Fig. 3 is a transverse section of an embodiment of the invention, wherein the fish-plate rests upon the upper face of the base of the rail. Fig. 4 is a plan view of a portion of the inner face of the fish-plate. Fig. 5 is an enlarged plan view of the nut showing the manner of hinging the key to the outer face of the nut. Fig. 6 is a transverse section through the fish-plate taken on line 6—6 of Fig. 1.

Referring to the drawings by numerals 1 designates the rail which is provided with the usual apertures 2, and the fish-plates 3 are secured to the sides of the rail and are firmly bound in connection therewith by means of bolts 4. These fish-plates 3 have upon their inner faces, and near the upper and lower edges thereof longitudinally extending grooves 5, and the inner faces of said plates taper inwardly as indicated at 6. These plates 3 are provided upon their inner faces with a plurality of projecting collar portions 7 which are of a conical structure. These collar portions are provided with apertures 8, through which the bolts 4 pass, and since these collar portions

7 are placed in apertures 2, it will be obvious that the fish plates will be held against independent longitudinal movement upon the rails and, furthermore, owing to the fact that these collar portions 7 extend inwardly it will be seen that the fish-plates may be firmly clamped upon the rail. These fish-plates 3 are preferably bowed in cross section so as to allow a spring action when said plates are drawn firmly in engagement with the rails. These collar-portions 7 are of such length as to only extend for a portion of the distance through the aperture 2 so that under normal conditions the adjacent faces of the collars 7 of the opposite fish-plates may be spaced as illustrated in Figs. 2 and 3.

The bolt 4, above referred to which is used in connection with the present fish-plate, is threaded at its outer end as at 9, and is provided with a pair of cross apertures 10. A nut 11 is threaded upon the outer end of the bolt 4, and this nut carries a hinged locking key 12 which when brought down in engagement with the outer face of the nut 11 will fit in one of the cross grooves 10 and hold the nut 11 against rotation upon the bolt. This locking key 12 is pivotally secured between a pair of outwardly extending ears 13 formed upon the outer face of the nut, and this key is provided at its outer end with a rolled portion 14, constituting a handle for the key 12 for facilitating the withdrawing of the key from one of the slots 10.

It will be seen that the spring action of the fish-plates 3 will form a binding engagement with the inner face of the nut 11, and tend to prevent the unthreading of the nut from the bolt, and, furthermore, by means of the locking key 12, a very efficient lock has been produced for firmly securing the bolt in a locked position.

As illustrated in Fig. 3, and in Fig. 6, the fish-plate 3 is bowed outwardly so as to form a spring action when the nut is threaded upon the bolt and the two fish-plates are clamped firmly in engagement with the rail. Furthermore, it should be understood that these inwardly extending collars would form a centering means for the fish-plate and while the same are placed in engagement with the rails these lugs will tend to prevent the longitudinal movement of one rail, relative to the other when the two rails are connected by means of the rail plate. It will,

therefore, be seen that considerable strain will be removed from the bolts 4, and this strain will be taken up by the inwardly extending collars 7. Furthermore, as the nuts 5 11 are threaded upon the bolts, and the tapering collars are bound in the apertures 2, these tapering apertures will so aline the upper edges of the tread of the rail as to prevent one rail from being lower than the 10 other, thereby eliminating the usual hammering which takes place at the rail joint.

If it is so desired, the fish-plates may be so formed, as illustrated in Fig. 3, to rest upon the upper face of the base of the rail.

15 What is claimed is:—

20 In a rail joint of the class described, the combination with a plurality of rails, of fish-plates secured to the sides thereof, said fish-plates being formed of a bowed-structure in cross section, laterally extending lugs secured to the inner face of said fish-plates and being of a conical form, said rails provided with apertures formed in their web-portions, the

inner ends of said conical shaped lugs fitting in said apertures in said web-portions of said 25 rails, the bowed-portions of said fish-plates constituting a spring body for allowing said conical lugs to pass into said apertures when said apertures become worn, and said conical 30 lugs always engaging the corners formed adjacent said apertures, and in this manner always holding said fish-plates firmly upon the web-portion of said rail as the conical lugs will pass into said apertures when the 35 side walls become worn, said conical portions adapted to constitute an alining means for said rails, and means passing through said fish-plates and lugs for firmly clamping said fish-plates in engagement with said rails.

In testimony whereof I hereunto affix my 40 signature in presence of two witnesses.

CHARLES S. LANDERS.

Witnesses:

H. D. BARROWS,

THOMAS R. MURRAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."