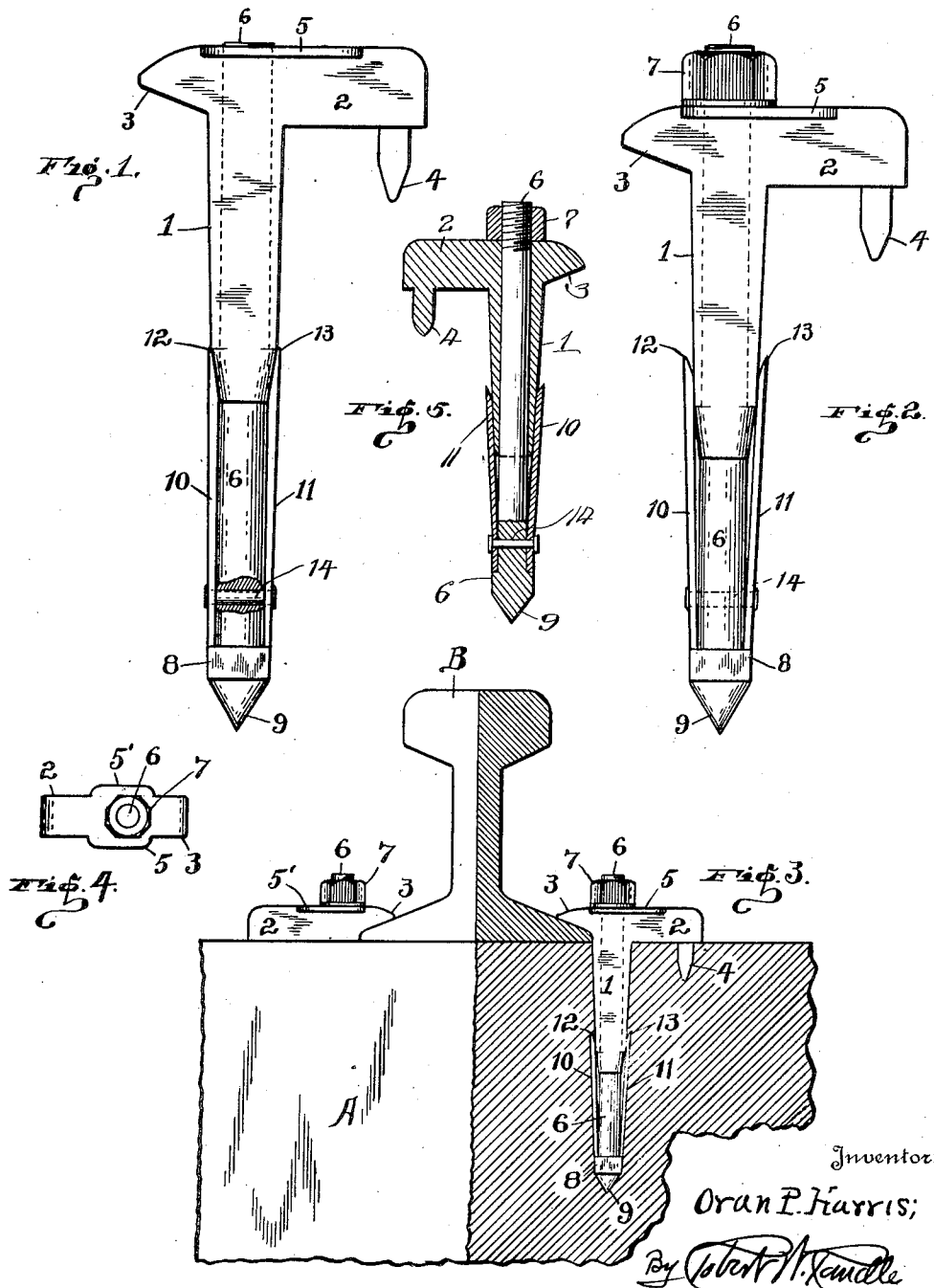


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RAILWAY RAIL FASTENING.
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RAILWAY-RAIL FASTENING.

Application filed January 7, 1922. Serial No. 527,738.

To all whom it may concern:

Be it known that I, ORAN P. HARRIS, a citizen of the United States, residing in the city of Richmond, in the county of Wayne, State of Indiana, have invented certain new, useful, and novel Improvements in Railway-Rail Fastenings, of which the following is a full, clear, and comprehensive specification and exposition, the same being such as will enable others to make and use the same with exactitude.

This invention pertains to means for securing railway rails to the ties, and the object of the invention, broadly speaking, is to provide locking or securing means which are strong and durable in construction, positive in action, simple in character, mechanically efficient in operation, easily placed in securing condition, and which can be manufactured, sold, and installed at a low price.

It is well known that the ordinary railway spikes which are driven into wooden ties soon become loose in the wood and therefore lose their grip upon the rails which they are expected to hold in place. The loosening of the spikes usually necessitates a new tie in which the spikes will hold, thereby causing a great loss both as to the tie itself and in the work of replacement.

Therefore one of the main objects of this invention is to overcome the above enumerated objections, thereby prolonging the usefulness of the ties, and more especially making transportation thereover more safe both for persons and freight.

Other minor objects and particular advantages will suggest themselves in the course of the following description, and that which is new and useful will be correlated in the appended claims.

One manner of carrying out the principles of my invention in a practical and efficient manner is fully shown in the accompanying drawings, in which—Figure 1 is a side elevation of my construction, showing the relative positions of the several parts ready to be inserted in operative position. Figure 2 is the same but with the several parts in operative or final position. Figure 3 is a view, one half of which is in cross section and the other half in elevation, showing two of my devices in operative position in connection with a railway rail. Figure 4 is a top plan view of one of the devices alone. And Figure 5 is a longitudinal central sec-

tional view of the entire device, the same being taken on a smaller scale than Figs. 1 and 2.

Similar indices denote like parts throughout the several views.

In order that the construction, the advantages, and the operation of my invention may be more fully understood and appreciated I will now take up a detailed description thereof, in which I will set forth the invention as fully and as clearly as I may.

Referring now to the drawings in detail: Letter A denotes an ordinary wooden railway-tie; and B a metal railway-rail thereon.

The invention proper comprises the body 1, which is substantially square in cross section. Extending outward at right-angles from the upper portion of the body 1 is the head 2. Extending from the upper end of the body 1, on the opposite side from the head 2, is the angular securing lug 3. Extending downward, parallel with the body 1, from the outer portion of the head 2, is the tooth 4. Projecting out from each side of the upper edge of the head 2, and extending across to the lug 3, are the fins 5 and 5' as shown. All of the above mentioned parts are preferably formed into one integral unit or member, substantially as indicated.

Numeral 6 denotes a bolt shank, round in cross section, its upper portion being threaded to receive the nut 7 to be run thereon.

An aperture is formed through the body 1, centrally and longitudinally thereof, whose size is such as to permit the shank 6 to slide therein.

The lower portion of the body 1 is formed tapering, rounding, extending from its periphery downward and inward to the opening for the shank 6 where it forms an edge around said aperture.

Formed on the lower end of the shank 6 is the head 8, from which extends the downwardly directed pointed cone 9. The head 8 is formed square.

Numerals 10 and 11 denote the two spring arms, whose lower ends rest on the upper edge of the head 8, and the two arms are located opposite to each other. The upper ends of the arms are sharpened or tapered upward and outward, forming the upwardly and outwardly directed points 12 and 13, respectively. The lower end portions of the arms 10 and 11 are rigidly secured to

the shank 6 by means of one or more rivets 14, or they may be otherwise secured.

It will be seen that when the body member 1 is moved upwardly, as in Fig. 1, then the arms 10 and 11 will lie flat against the shank 6, but when the body member 1 moves downward on the shank 6 then the upper ends of said arms will be forced apart, as in Fig. 2.

In practice we will suppose that the rail B has been secured to the tie A by ordinary spikes, which are substantially the same size in cross-section as is the body 1 and the head 8.

If, now, the ordinary spike has become loose or slightly pulled up by usage, then it should be entirely removed and one of my devices substituted, which is done by first arranging the parts as in Fig. 1 pushing the parts down into the aperture left by the spike, in fact it may be driven by striking at one time the upper end of the bolt shank 6 and the upper surface of the body 1 or the head 2, until the point of the tooth 4 touches the surface of the tie A, after which the shank 6 should not be driven further but blows should be directed on the surface of the head 2, directly above the tooth 4, and continued until the tooth 4 is driven into the tie as in Fig. 3, thereby bringing the lug 3 into contact with the base of the rail B which, manifestly, will have driven the lower end of the body 1 in between the upper portions of the arms 10 and 11, thereby forcing the points 12 and 13 out into the wood, thereby locking the device in the wood and preventing inadvertent removal of the shank 6. The nut 7 may now be run on the upper end of the shank 6 and when tightened down it will retain the lug 3 tightly in contact with the base of the rail, as shown. When two of my devices are employed opposite to each other in connection with a rail, as in Fig. 3, it is evident that the rail will be securely fastened in place upon the tie.

Should it be desired to remove the rail

then it is only necessary to remove the nuts 7, then by means of a crow-bar or the like engaged under the fins 5 and 5' it is evident that the body 1 may be withdrawn and the rail removed without disturbing the shank 6 and the arms 10 and 11. A rail replacement may now be made, after which the body member 1 is again inserted as before and secured by the nut 7, by which it is seen that the grip of the arms upon or in the wood will not be disturbed.

However if it should be desired to remove the shank, and the parts carried thereby, then one has only to first remove the body portion 1, then replace the nut 7, and then drive the shank 6 down slightly farther than it has been before, which will cause the arms 10 and 11 to come in against the shank 6, after which the shank, together with the attached parts, may be easily pulled out by means of a crow-bar engaged under the nut 7.

I desire that it be understood that various changes may be made in the several details of construction and the various arrangements of the parts without departing from the spirit of the invention and without sacrificing any of the advantages thereof.

Having now fully shown and described my invention, what I claim and desire to secure by Letters Patent of the United States, is—

A railway rail fastening comprising a round shank having a head on its lower end with its upper portion threaded, spring arms secured at their lower ends to the lower portion of said shank and projecting upward parallel therewith, a body member slidably mounted on said shank with its lower end adapted to spread said arms apart, a head integral with and extending at right angles from the upper end of the body and having a rail engaging lug, and a tooth extending down parallel with the body and a nut threaded on the upper portion of the shank to retain said body in place.

ORAN P. HARRIS.