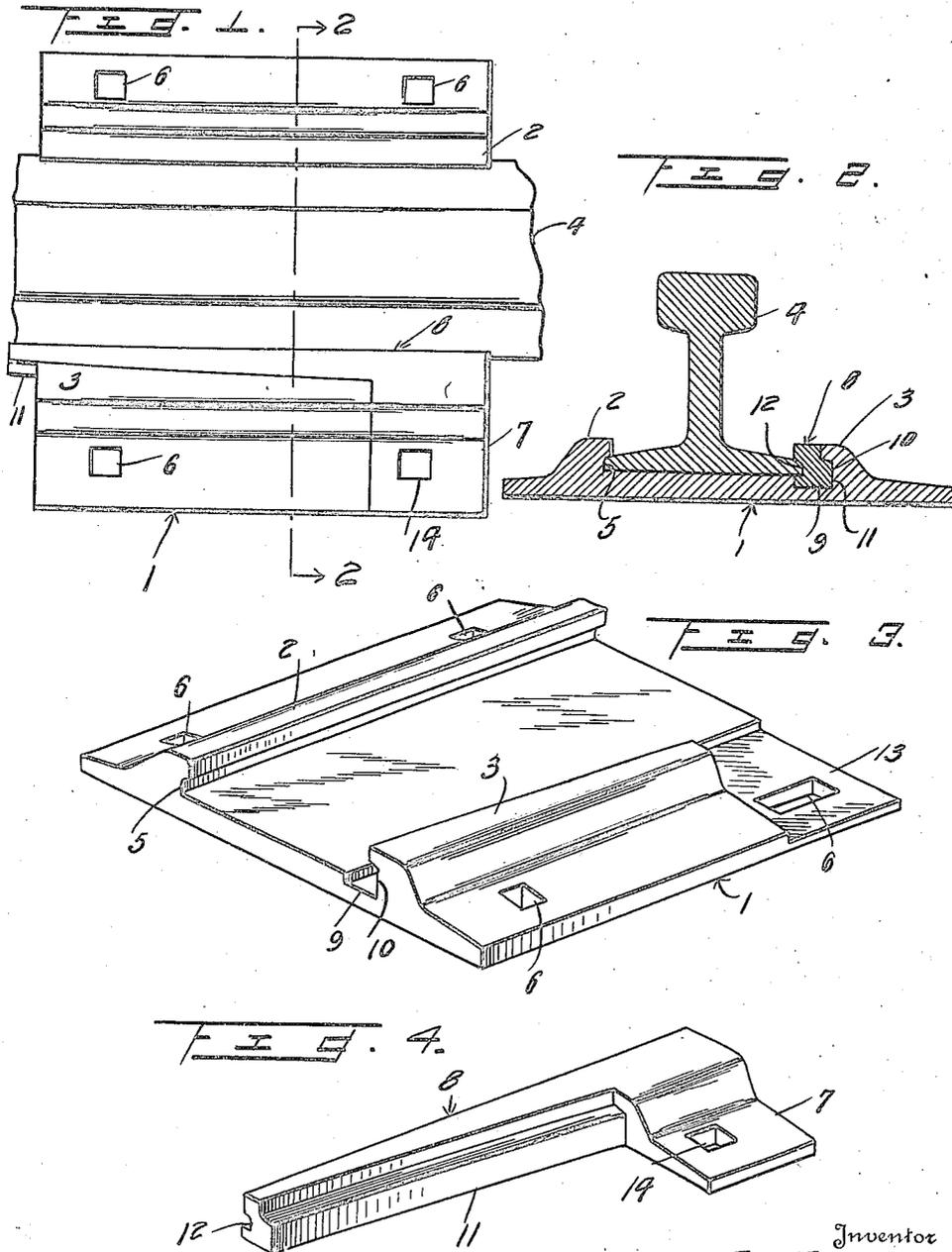


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J. HARRISON.
TIE PLATE.
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364
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UNITED STATES PATENT OFFICE.

JOHN HARRISON, OF NACO, ARIZONA.

TIE PLATE.

Application filed December 22, 1921. Serial No. 524,200.

To all whom it may concern:

Be it known that I, JOHN HARRISON, a citizen of the United States, residing at Naco, in the county of Cochise and State of Arizona, have invented certain new and useful Improvements in Tie Plates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a railway appliance and more particularly to means for securing the rails to the ties to prevent creeping or other movement which is objectionable and detrimental to rolling stock.

The invention provides a tie plate and rail lock whereby the rail is held securely against movement in either direction and all tendency of loosening is prevented by the passing of rolling stock thereover.

The invention furthermore aims to eliminate all noise and rattle caused by any slack between the rail flanges and tie plate shoulder, such parts being constructed to have a close fit and obviate any possible play with the result that all noise and rattle are practically eliminated.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the application,

Figure 1 is a top plan view of a tie plate and rail lock illustrative of the invention,

Figure 2 is a section on the line 2—2 of Figure 1,

Figure 3 is a detail view of the tie plate in perspective, and

Figure 4 is a detail perspective view of the key.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The tie plate 1, as shown, is of rectangular form and is provided adjacent opposite edges with shoulders 2 and 3 forming se-

curing means for retaining the rail 4 in position. The shoulder 2 extends the full length of the plate 1 and its inner wall is undercut, as indicated at 5, to receive the flange of the rail 4. The shoulders 2 and 3 are disposed inwardly from the edges of the plate 1, whereby to leave marginal portions in which are formed openings 6 for receiving the spike or other fastening means whereby the plate is made secure to the tie.

The shoulder 3 terminates a short distance from one end of the plate 1 whereby to provide clearance for receiving an ear 7 projecting laterally from the driving end of a key 8 which cooperates with the shoulder 3 to secure the rail 4 to the plate 1 by means of a wedging action. A longitudinal channel 9 is formed in the upper side of the plate 1 adjacent the shoulder 3 and receives the lower portion of the key 8. The inner wall of the shoulder is provided with a groove 10 which is adapted to receive a rib 11 at the outer side of the key 8. The inner wall of the key 8 is formed with a groove 12 to receive the flange of the rail 4. The shoulder 3 is longitudinally inclined, whereby to cooperate with the key 8 to insure a wedging action in the securing of the rail 4 to the plate. The corner portion of the plate 1, in line with the shoulder 3, is cut away, as indicated at 13, to the plane of the channel 9 to receive the ear 7 which, when in position, forms a continuation of the shoulder 3. An opening 14 is formed in the ear 7 to register with an elongated opening 6^a formed in the part 13 of the plate, whereby the spike or other fastening passing through the registering openings 14 and 6^a serves both to secure the key 8 and the plate 1 to the tie.

The wedge or key 8 is of such width as not normally to be fully in the position shown in Figure 1, whereby provision is had for driving the key to secure the rail by a wedging action.

A tie plate and rail lock constructed substantially as herein set forth firmly secures the rail and prevents any relative play or movement thereof and obviates noise and rattle which are disagreeable and detrimental to rolling stock.

What is claimed is:

A tie plate having opposed cooperating shoulders, one of the shoulders extending the full length of the tie plate and having its inner wall undercut, and the other shoul-

der terminating short of the length of the
tie plate and having its inner wall grooved,
and the tie plate having a channel in its top
side adjacent the short shoulder and a por-
5 tion in the plane of the channel cut away,
and a key adapted to fit the channel of the
plate and having its inner wall grooved and
a rib at its outer side to fit the groove of
the short shoulder, and having a lateral ear
10 at the driving end to fit the cut away por-

tion of the plate, said ear having an open-
ing to register with a corresponding elon-
gated opening in the cut away portion of
the plate.

In testimony whereof I affix my signature 15
in presence of two witnesses.

JOHN HARRISON.

Witnesses:

C. O. HILL,

C. H. NEWTON.