J. W. KENDRICK.

RAIL SECURING AND SUPPORTING MEANS.

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1,241,857. Patented Oct. 2, 1917.

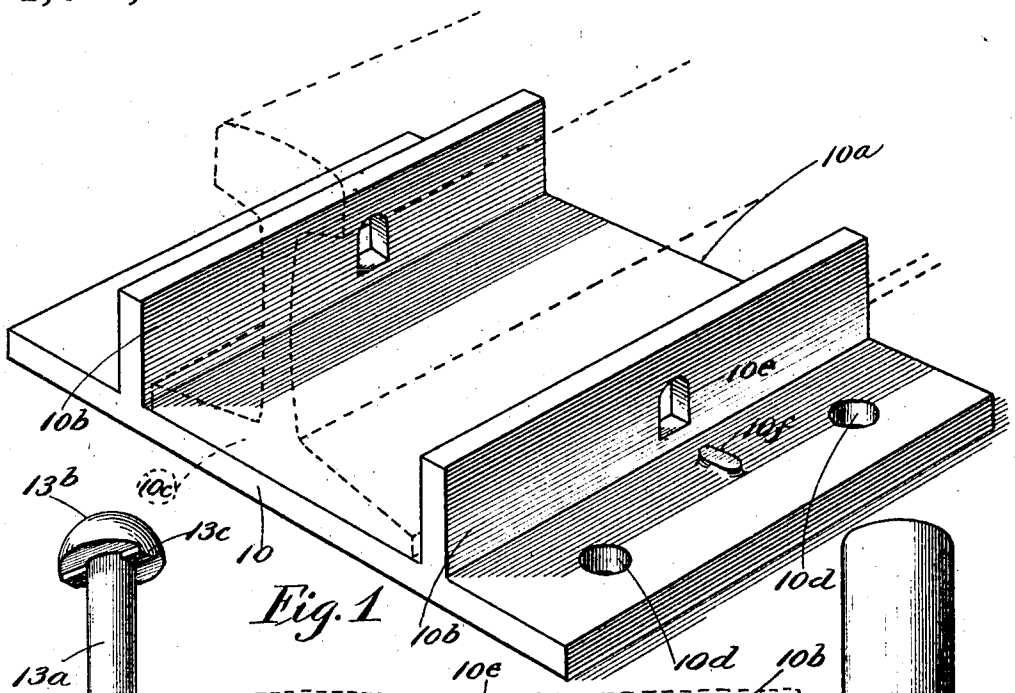

Fig. 1

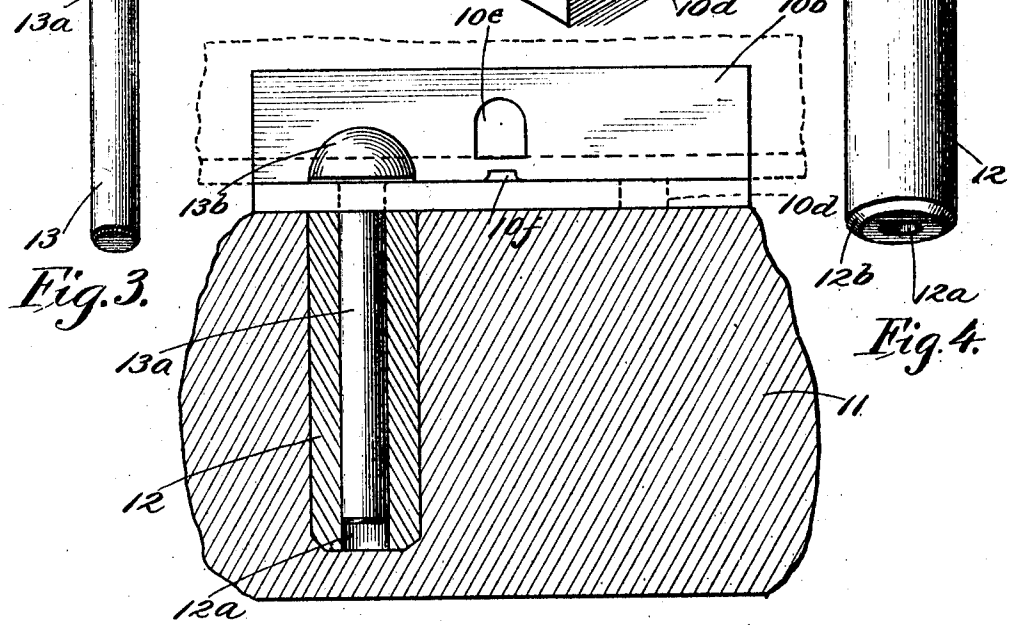

Fig. 3.

Fig. 4.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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RAIL SECURING AND SUPPORTING MEANS.

1,241,857. Specification of Letters Patent. Patented Oct. 2, 1917.

Application filed June 4, 1914. Serial No. 842,998.

To all whom it may concern:

Be it known that I, JOHN W. KENDRICK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rail Securing and Supporting Means, of which the following is a specification.

This invention relates to improvements in rail securing and supporting means, and has for its object to provide an improved form of rail fastening construction by which the rail may be directly supported upon a tie-plate or the like, the latter being secured to a tie and supported thereon in a new and improved manner.

As is well known in railway construction where metal tie-plates are used, as is often the case, the downward thrust of force transmitted by these plates to the wooden ties results in the partial crushing and wearing of the latter so that they become, in a comparatively short time, unfit for use, and this crushing in the case of creosoted or other treated ties, often results in the exposure of non-treated portions of the tie to the elements so as to decrease the life of such tie.

My invention aims to not only provide a new form of fastening device which will eliminate to a great extent the above objections, but I have also provided an improved form of means for supporting the tie-plate upon and securing the same to the tie so that the said plate may be readily attached or removed without injury to the tie. These and other objects will be set forth and made apparent in the following specification and accompanying drawing, in which;

Figure 1 is a perspective view of an improved form of tie-plate indicating in dotted lines the position of a rail supported thereon;

Fig. 2 is a transverse vertical section through a tie showing the method of attaching a tie-plate to a tie, a portion of the rail being indicated in dotted lines; Fig. 3 is a perspective view of one of my spikes or dowel pins; and

Fig. 4 is a similar perspective view of one of the hardwood treenails.

Like numerals refer to like elements throughout the drawings, in which 10 designates a tie-plate having the base portion 10^a from which extend upwardly the spaced apart vertical flanges 10^b between which is adapted to rest the base 10^c of a rail indicated in dotted lines in Fig. 1. The base portion 10^a is suitably apertured at 10^d, for a purpose to be hereinafter described. Apertures 10^e are provided in the vertical walls 10^b, these apertures coacting with lugs 10^f formed on the base 10^a to enable use of a locking or anti-creeping device, not forming a part of the present invention. In attaching the plate to a tie 11, the latter is preferably partially drilled out or bored at a plurality of locations to permit embedding therein of the treenails 12, formed with a centrally located tapered aperture 12^a. These treenails are chamfered or beveled at 12^b, at their lower extremity, and are preferably constructed slightly larger in diameter than the diameter of the holes drilled in the tie 11, so that it is necessary to force them into such holes or bores, thereby insuring their retention under the stresses and strains ordinarily met with. These treenails 12 are embedded in the tie 11 so that their tops are substantially flush with the top surface of the tie 11 whereby they will serve to support or assist in the supporting of the plate 10, the apertures 12^a and treenails 12 alining with the apertures 10^d in the plate 10. To secure the plate to the tie, spikes or dowel pins 13, as I term them, are provided, these latter being preferably formed of metal and comprising a cylindrical stem 13^a and a head 13^b semi-spherical in the embodiment shown in Fig. 3. The underside of this head 13^b is cut away to provide the shoulders or lugs 13^c, for a purpose to be hereinafter described. The diameter of the stem 13^a of dowel pins or spikes 13, is preferably slightly larger than that of the aperture 12^a in the treenails 12, and these dowels or spikes 13 are driven through the apertures 10^d into the apertures 12^a in the treenails 12, a close fit being insured between the dowels 13 and treenails 12, so that removal of the former from the latter is resisted.

By locating the rib or shoulder 13^c on the underside of head 13^b, approximately parallel to the vertical walls 10^b, as shown in Fig. 2 for example, a claw or pry-bar may have its edge inserted in the space between the underside of head 13^b and top of base 10^a, as will be apparent, so that initial raising or prying-up of the dowel pin 13 may be effected when it is desired to remove the plate 10.

By this construction it will be apparent that the direct downward thrust of the tie-plate 10, due to weight thereon of the rail and also weight of trains or cars passing thereover, will be at least partially borne by the treenails 12 and the latter being constructed of wood, considerably harder and tougher than that of which the tie is formed, and furthermore these treenails 12 being arranged with the grain substantially perpendicular to the plate 10, greater strength in resisting compressions is obtained. It will thus be apparent that crushing of the tie, as is the case in present day practice, will be substantially prevented by the supporting of the tie and rail upon the tops of the treenails 12, this support being sufficient to obtain the advantages set forth above. Furthermore, I have found that the frictional contact between the treenail 12 and the tie 11, and between the former and the dowel 13, is sufficient to prevent the accidental removal of the dowel, thereby preventing raising or displacement of the tie-plate 10 when in use. At the same time the device may be disassembled with respect to the tie with comparatively little trouble, as will be apparent to those skilled in the art.

While I have shown and described the specific embodiment of my invention, I do not wish to be restricted to such showing and description beyond the scope of the appended claims.

What I claim is:—

1. In combination with a tie, a plurality of supporting treenails embedded in said tie, a plate resting upon said tie above said treenails, the latter and said plate being apertured, and dowel pins or the like driven through said apertures in said plate into the apertures in said treenails to secure said plate to said tie, said dowel pins being of greater diameter than the apertures of said treenails.

2. In combination, a tie-plate, treenails adapted to be embedded in a tie, said plate and treenails being apertured, and fastening members adapted to be driven through the apertures in said plate into the apertures in said treenails, said members being provided with hemispherical heads, said heads being provided with a rib or shoulder on the under side thereof.

3. In combination, a tie-plate for supporting a rail, treenails adapted to be embedded in a tie, said plate and said treenails being provided with cylindrical apertures, and cylindrical fastening members adapted to be driven through the apertures in said plate into the apertures in said treenails, said fastening members being of larger size than the apertures in said treenails, said fastening members being provided with heads each having a rib or shoulder on the under side thereof.

4. In combination with a tie, a plurality of supporting treenails embedded in said tie, said treenails being of larger size than the apertures in said tie into which they are driven, a plate resting upon said tie above said treenails, said plate being adapted to support a rail and having apertures therethrough located outwardly from the edges of said rail, said treenails being provided with apertures adapted to aline with the apertures in said plate, and dowel pins driven through said apertures in said plate into the apertures in said treenails to secure said plate to said tie, said dowel pins being of greater diameter than the apertures of said treenails.

In testimony whereof, I have subscribed my name.

JOHN W. KENDRICK.

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