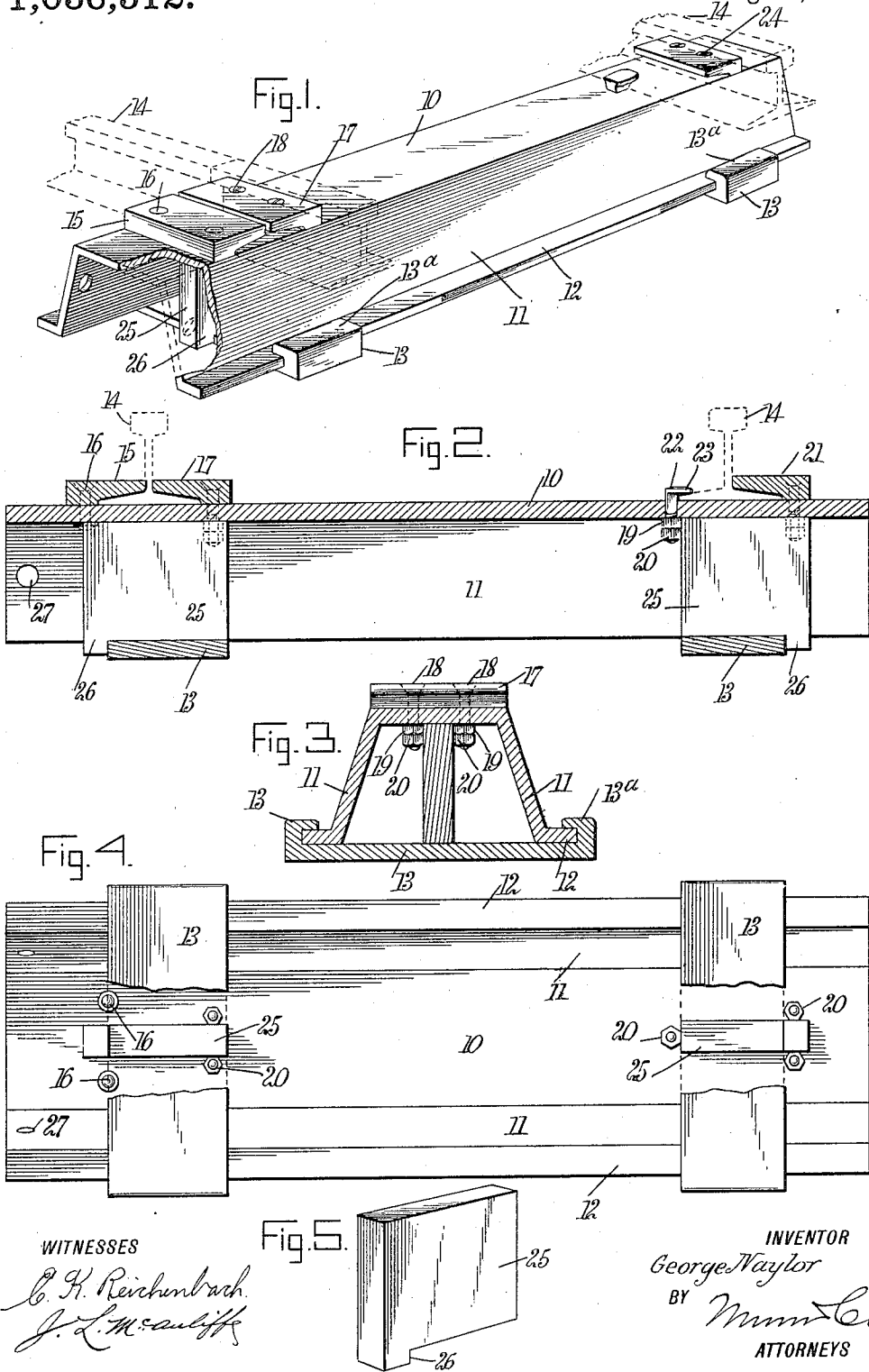


G. NAYLOR.
RAILWAY TIE.
APPLICATION FILED FEB. 17, 1912.

1,036,512.

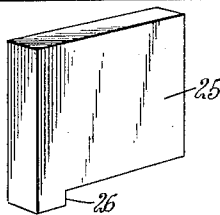
Patented Aug. 20, 1912.



WITNESSES

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Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE NAYLOR, OF SALT LAKE CITY, UTAH.

RAILWAY-TIE.

1,036,512.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed February 17, 1912. Serial No. 678,217.

To all whom it may concern:

Be it known that I, GEORGE NAYLOR, a citizen of the United States, and a resident of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and Improved Railway-Tie, of which the following is a full, clear, and exact description.

An object of my invention is to provide a metallic railway tie having the maximum of strength in comparison to the amount of material involved.

A further object is to provide an improved form of rail-engaging device that will hold the rail firmly while permitting expansion and contraction, and by reason of which the use of fish plates becomes unimportant and may be done away with, if desired.

A further object is to provide a rail-engaging means having securing bolts so related to the other elements entering into the tie that they will not be readily accessible to unauthorized parties seeking to maliciously tamper therewith.

A further object of the invention is to provide a tie and its appurtenances of a form to promote convenience in the assembling of the parts and the securing of the ties and the rails in place.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a tie embodying my invention and partly broken away, the rails being indicated in dotted lines; Fig. 2 is a longitudinal sectional elevation; Fig. 3 is a transverse section; Fig. 4 is a partially broken plan view; and Fig. 5 is a perspective view of the prop or king post, hereafter specifically referred to.

In forming a tie in accordance with my invention, the body thereof is provided with a preferably continuous flat top 10, slightly flaring sides 11 and laterally extending base flanges 12 extending the length of the tie, the flaring sides and flanges specified providing a broad base. The form described results in a tie of maximum strength and forms a protector for the tamped bed, preventing the displacement of the latter.

The flanges 12 are tapered at the ends to produce a wedge-like formation, and on the tapered portions at each end is fitted a horizontal sliding tie clamp 13, having inturned

hooked ends 13^a. This clamp, when driven home, tightly wedges itself transversely of the tie beneath the seats of the rails 14.

To each tie at one end I firmly rivet a fixed rail clamp 15, and in practice the ties are so laid that the fixed clamps 15 will alternate so as to be disposed on alternate ties at the outside of the outer rail and the outside of the inner rail, this arrangement being designed to prevent the rails from spreading, the fixed clamps referred to affording increased strength to withstand any tendency of the rails to spread. The fixed clamps are preferably secured in place by rivets 16, the heads of which are countersunk, and will require the entrance of a cold chisel beneath the head and in the countersink to cut off the head and remove the clamp.

In connection with the fixed clamp 15, any suitable form of co-acting clamp member may be employed for the opposite base flanges, there being shown a clamp 17 at the left of Figs. 1 and 2, corresponding in form with the clamp 15. Desirably I employ for securing the clamp 17 bolts 18 having nuts 19 and desirably lock nuts 20. A clamp 21, similar to the clamps 15 and 17, is employed at the opposite end of the tie at the outside, and there may be employed for the inside of the rail a corresponding clamp or bolt 22, having a head 23 similar to an ordinary spike to engage the base flange of the rail, the lower end of the spike having nuts 19 and lock nuts 20, as described in connection with the clamp 17. Similarly, the clamp 21 is secured by bolts 24, having nuts and lock nuts. Beneath the rail seats and at the under side of the tie bars 13, I provide removable props or king posts 25, which, in the preferred form, are of general rectangular formation with a depending projection 26 at the lower outer corner. These props are driven home, and are of such a right fit as to require the use of a sledge hammer that they may be tightly wedged in place, and they are disposed between the sides of the nuts that secure the bolts of the rail clamps in place, as clearly shown in Figs. 3 and 4, whereby the nuts cannot become loosened accidentally. Thus the props act as king posts, strengthening the tie vertically and receiving endwise the weight of passing trains. At the same time, the props and the nuts locked thereby are not readily accessible to unauthorized

parties, and therefore may not be readily tampered with by malicious persons. The depending members 26 form stops which bring up against the side edge of the tie plate 13, thereby limiting the inward movement of the prop.

The form of the tie is such as to make it possible to produce it cheaply, as the various steps to produce the slope, shearing, punching and heating, may be performed in practically one operation. Moreover, the tie and its appurtenances involve a minimum of expense and present no complications.

The tie may have holes 27 of any desired shape for receiving a tool to aid in pulling the tie into and out of place.

It is to be understood that the bolts that secure the clamps 17 and 21, and the bolt holes may, in practice, be square or round.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A railway tie, comprising a body, tie bars separate from the said body and engaging opposite sides of the body at the bottom at points inward from the ends of the body and in vertical line with the rail seats of the tie, and vertically disposed props within the ends of the tie and extending from the transverse tie bars to the under

surface of the top of the tie, and rail-clamping means independent of said props.

2. A railway tie, comprising a body having flanges at the bottom and transverse tie members at the base of the body and engaging the flanges thereon, and vertical props fitting between the tie members and the under side of the top of the tie, at points within the ends of the tie, the props having a depending member at the under side lying against the transverse tie members and there being space for tamped bed material at the sides of the props.

3. A metallic railway tie, having rail clamps, bolts securing the clamps to the top of the tie, and extending through said top to the under side, nuts on said bolts, transverse members at the base of the tie, and props wedged between said members and the under side of the top of the body of the tie, the said members lying between and against the nuts to prevent the turning of the latter.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE NAYLOR.

Witnesses:

MABEL HAMPTON,
WILMA F. SULLIVAN.

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