

J. T. CLARK.
RAILWAY TIE AND FASTENER.
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1,034,585.

Patented Aug. 6, 1912.

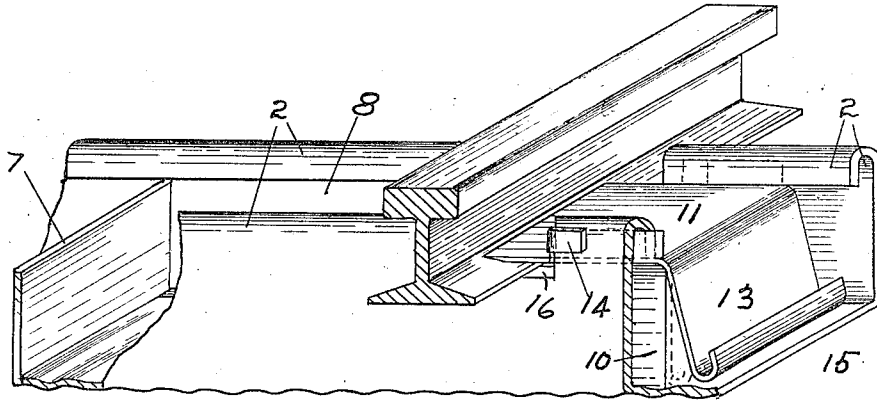
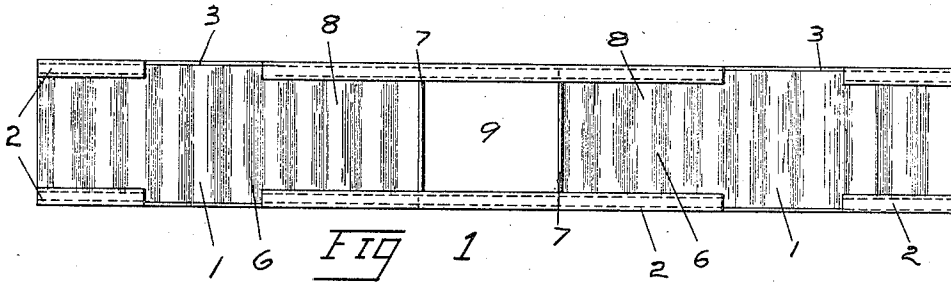


FIG 4

FIG 2

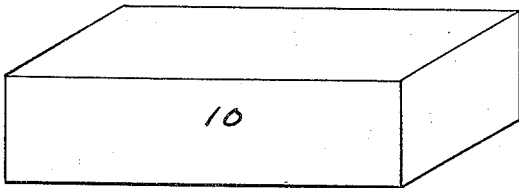


FIG 5

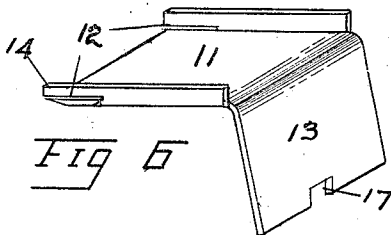
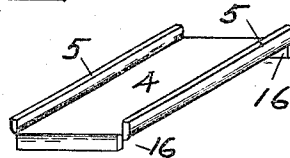


FIG 6

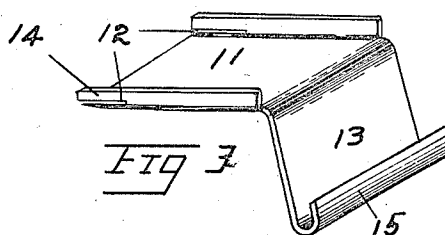


FIG 3

John T. Clark. Inventor

By J M Thomas

Attorney

Witnesses
F. L. Harpool
W. F. Williams

UNITED STATES PATENT OFFICE.

JOHN T. CLARK, OF PROVO, UTAH.

RAILWAY-TIE AND FASTENER.

1,034,585.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN T. CLARK, a citizen of the United States, residing at Provo city, in the county of Utah and State of Utah, have invented certain new and useful Improvements in Railway-Ties and Fasteners, of which the following is a specification.

The purpose of my invention is to provide a metal railway-tie and fasteners to securely hold a rail thereon, which will provide the cushioned sustaining surface for the rails and with the cushion support fully protected.

A further object is to provide a tie and fastener with few parts and those interchangeable.

These objects I accomplish with the device illustrated in the accompanying drawings, in which similar letters of reference indicate like parts throughout the several figures, and as described in the specifications forming a part of this application.

Figure 1 is a plan view of the tie. Fig. 2 is a view in perspective of one end of the tie and a part of a rail thereon, parts cut away. Fig. 3 is a view in perspective of one of the clamping wedges. Fig. 4 is a view in perspective of one of the supporting blocks. Fig. 5 is a view in perspective of one of the rail plates. Fig. 6 is a view in perspective, in modified form, of one of the clamping wedges.

In many localities insects and climatic condition make it desirable to use metal ties and fasteners for railways, and my purpose is to provide a tie and fastening means, of which the greater part is metal, and by which the rail supporting means when not made of metal is inclosed and protected.

My tie is made from a sheet of metal, bent to form a channel with an open top, and having the upper edges thereof turned inwardly and downwardly to form holding channels 2. Portions of said holding channels with the adjoining part of the sides of said channel 1 are cut out to form cuts 3. Said cuts are wider than the base flange of a rail in order that a rail plate 4, having upwardly projecting flanges 5 thereon may be placed within each of said cuts. A portion of the bottom of said channel 1 has corrugations 6 formed transversely therein to aid in holding said tie from lateral and longitudinal displacement, and other portions of the bottom of said channel have H-shaped

slits cut or struck therefrom, partially severing portions of said bottom, and the free ends of said partially severed portions are bent upright as at 7 to form ballast receiving pockets, 8 having bottoms, and 9 having closed sides and ends but an open bottom within said channel 1. I propose to fill said pockets with ballast to aid in holding said tie from displacement. Within each end portion of said channel 1, and adjacent said cuts 3, is placed a rail supporting block 10, having its upper side above the edges of said channel in the cut out portions thereof, to prevent the bottom of said rail plates 4 from contacting with the sides of said channel. On said blocks are placed the said rail plates 4, each of which has the ends turned or bent downwardly to form lugs 16, which engage the sides of said channel and thereby lock them from outward bending, as well as to protect the portion of said blocks 10 which extend above the sides of the channel adjacent. The side edges of said rail plates 4 are bent upwardly to form flanges 5 to hold the base flange of a rail therebetween. Clamping wedges 11, having flanges 12 on the side edges thereof, are driven longitudinally within said channel 1, with the said flanges 12 slidably engaging in the said holding channels 2, and the front edge of each made to contact with the upper side of the base flange of a rail resting on said rail plate 4. The rear end portion 13 of each of said clamping wedges is bent downward at an angle within said channel 1, and made of sufficient length to contact with the bottom of said channel before that portion 13 is forced or driven to a right angle with the wedge portion 11, and with another portion bent to form a removal lug 15. A slit is cut in the front end of each of said flanges 12, partially severing a portion and forming a lug 14, and when said clamping wedges 11 have been driven into gripping contact with the base flange of a rail, the said lugs 14 are bent outwardly, as shown in Fig. 2, thereby locking said wedges from unintentional withdrawal. To further secure said clamping wedges 11 from unintentional withdrawal, the portion 13 of each may be driven toward the said block 10 adjacent, until the said portion 13 and said block adjoin and the said portions 11 and 13 are practically at right angles to each other, as shown in Fig. 2 in dotted lines. If it should become necessary to withdraw said

clamping wedges from engagement with said rail, the said removal lug 15 is provided on the lower end of the said portion 13, on which may be fastened a pick or other tool.

5 A modified form of the clamping wedge is shown in Fig. 6, on which the removal lug is omitted and an opening 17 is cut therein, through which the tool may be inserted to withdraw the said clamping wedge
10 from said channel 1.

Having thus described my invention I desire to secure by Letters Patent and claim:—

15 1. A railway tie and fastener consisting of an upturned metal channel with a partially corrugated bottom; vertical lugs formed by partially severing portions of the bottom of said channel and bending said
20 portions upright; rail supporting blocks in said channel; rail plates superimposed on said blocks; depending lugs on the ends of said rail plates; upwardly extended flanges on the side edges of said rail plates adapted
25 to engage the base flange of a rail resting on said rail plates; wedges driven within said channel adapted to press down on the base flange of a rail; flanges extended vertically and adapted to slidably engage against portions
30 of the sides of said channel; lugs formed on the end of said last mentioned flanges adapted when bent to engage the sides of said channel to prevent unintentional withdrawal of said wedges.

35 2. A railway tie and fastener consisting of an upturned metal channel having a partially closed and corrugated bottom; vertically extended portions of the bottom of said channel adapted to form ballast receiving pockets; inverted channels integral with
40 the sides of said upturned channel; rail supporting means in said channel; clamping wedges within said upturned channel adapted to engage the base flange of a rail; vertically extended flanges on the sides of
45 said clamping wedges adapted to slidably engage in said inverted channels; lugs on the end of said flanges adapted when bent to lock said wedges against unintentional withdrawal; and downwardly bent portions
50 of said clamping wedges adapted to be driven into contact with the bottom of said channel and to hold said wedges in gripping contact with the base flange of a rail.

55 3. A railway tie and fastener consisting of an open top metal channel; inverted channels integral with the sides thereof; rail plates transversely placed across the said channel in open cuts in said inverted channels having portions of the ends bent to engage
60 the sides of said channel; vertically extended flanges on said rail plates adapted to receive the base flange of a rail and wedges driven below said inverted channels into
65 contact with the upper side of the base

flange of a rail resting on said rail plates and having a portion of each of said wedges bent into contact with the bottom of said channel.

70 4. A railway tie and fastener consisting of an upturned metal channel; inturned flanges on the edges of said channel having portions thereof cut out; rail plates transversely placed across said channel within
75 said cuts; depending lugs integral with said rail plates adapted to engage the sides of said channel to prevent outward displacement of said sides; clamping wedges adapted to be driven longitudinally within said
80 channel and in slidable contact with said inturned flanges; and a depending portion of said wedges driven into locking contact with the bottom of said channel.

5. A railway tie and fastener consisting of an upturned metal channel; inverted
85 holding channels on the upper edges on said upturned channel; rail supporting blocks in said upturned channel; metal rail plates superimposed on said rail supporting blocks; upwardly extended flanges on said
90 rail plates; a depending lug on each end of each of said rail plates adapted to engage the sides of said upturned channel; clamping wedges in said upturned channel; upwardly extended flanges on said clamping
95 wedges adapted to slidably engage in said inverted holding channels; lugs on the ends of said last mentioned flanges adapted when bent to engage the sides of said upturned
100 channel to prevent the unintentional withdrawal of said wedges; and downwardly bent portions of said clamping wedges adapted to contact with the bottom of said upturned channel.

6. A railway tie and fastener consisting
105 of a sheet of metal cut and bent to form an upturned channel; holding channels formed by bending the sides of said channel inwardly and downwardly; transverse rail receiving cuts through said holding channels
110 and into the sides of said upturned channel; rail supporting blocks within said upturned channel and adjacent said cuts in the sides; rail plates on said blocks; lugs on each end of each of said rail plates adapted to
115 engage the sides of said upturned channel; vertically extended flanges on the sides of said rail plates; clamping wedges having their edges upwardly turned to engage in said holding channels; lugs on the end of
120 said upwardly turned portions of said clamping wedges adapted when outwardly bent to engage the sides of said upturned channel; and another portion of said clamping wedges bent downwardly to engage the
125 bottom of said upturned channel and thereby to aid in holding said clamping wedges in gripping contact with the base flange of a rail superimposed on said rail plates.

7. A railway tie and fastener consisting 130

of an upturned channel; inturned flanges
on the edges of said channel having por-
tions thereof cut out; rail plates transversely
placed across said channel within said cuts;
5 depending flanges on the ends of said rail
plates adapted to fit over the sides of said
channel to prevent outward displacement of
the sides; clamping wedges adapted to be
driven longitudinally in said channel and in
10 slidable contact with said inturned flanges;
a depending portion of each of said wedges

bent downwardly in contact with the bottom
of said channel; and a lug thereon to with-
draw said wedge from contact with said
rail.

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

JOHN T. CLARK.

Witnesses:

SAM RANEY,

W. R. WILLIAMS.