

G. J. FLEISSNER.
 COMPOSITE RAILROAD TIE AND RAIL FASTENER.
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1,069,120.

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Fig. 1.

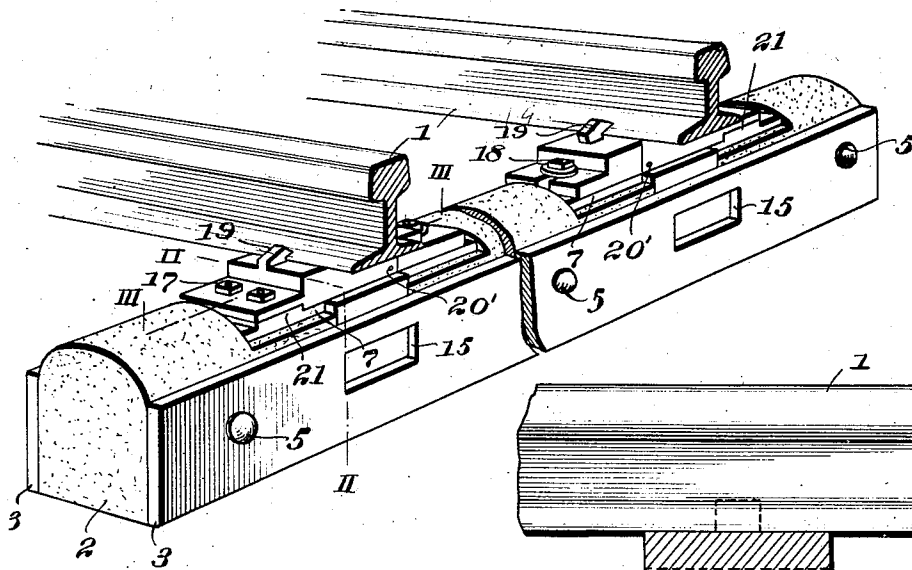


Fig. 2.

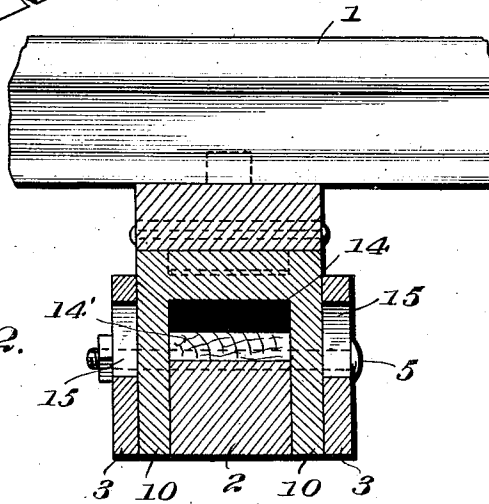
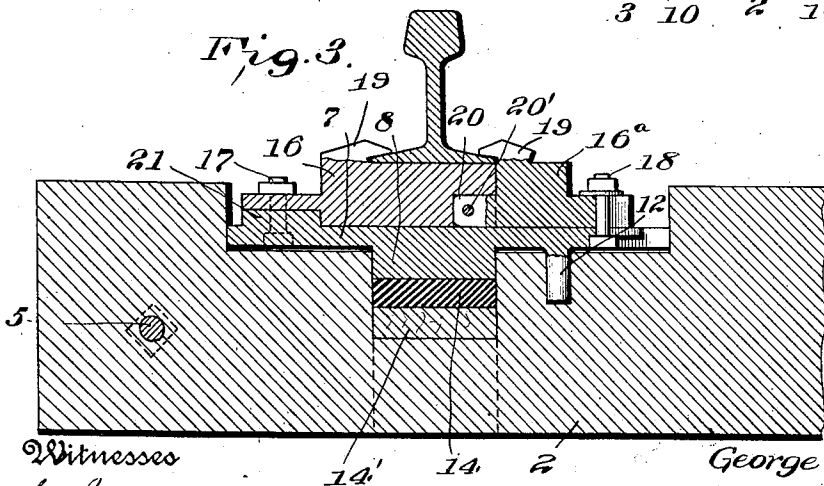


Fig. 3.



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COMPOSITE RAILROAD-TIE AND RAIL-FASTENER.

1,069,120.

Specification of Letters Patent.

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Application filed August 15, 1911. Serial No. 644,078.

To all whom it may concern:

Be it known that I, GEORGE J. FLEISSNER, a citizen of the United States, residing at Washington, in the county of Washington and State of Pennsylvania, have invented new and useful Improvements in Composite Railroad-Ties and Rail-Fasteners, of which the following is a specification.

My invention relates to composite railroad ties and rail supports and particularly to the construction of ties having a main body portion of cement or concrete.

One of the main objects of my invention is to provide a rail tie and support which shall be durable and to this end I provide a certain amount of movement of the rail-chair with relation to the tie and also reinforce the main concrete body portion with metal side plates.

Other objects of my invention will be apparent from the following description which is to be taken in connection with the accompanying drawings showing one embodiment thereof, in which—

Figure 1 is a perspective view showing my railroad tie and rail support with a pair of rails supported thereon; Fig. 2 is a vertical section on the line II—II of Fig. 1; and Fig. 3 is a longitudinal section on the line III—III of Fig. 1.

The tie or sleeper comprises a main concrete body portion 2, and side reinforcing metal plates 3, 3, the opposite plates being bolted together as at 5, 5. The top of the body portion is preferably arched or rounded, as shown, as this shape is best adapted to resist blows and to prevent the tie from becoming worn and chipped. Upon either side there are recesses or depressions in the top of the concrete body to receive the metal rail-chair supports, which comprise a base or bearing plate 7, provided with a central depending support 8, flanked upon either side by guide and thrust plates 10, which are movable in vertical slots in the concrete body portion and engage the inner walls of the reinforcing plates 3. These depending plates 10 take the longitudinal thrust of the rails due to any creeping or tilting action, while the spreading or lateral thrust is taken by the portion 8, and by the lug-post 12 depending from the base plate 7.

In order to absorb the shock and pounding action of the rails 1 upon the tie and to give the desirable resiliency, such as is im-

parted by the ordinary wooden tie, I support the rail supporting members upon one or more resilient blocks 14, which may be rubber or springs and rest in a socket in the concrete body, and upon which bears the depending part 8 which constitutes in effect a plunger. The bottom of the plate 7 is normally supported by the plunger 8 slightly above the bottom of the recess, in order that the shock caused by a passing train may be taken by the shock-absorbing media 14, 14'. Access to the latter may be had through the apertures 15 when the plates 7 have been lifted sufficiently to raise the plates 10.

The rail-chair comprises interlocking portions 16, 16^a, which are bolted at 17 and 18 to the supporting plate 7, and each is provided with a clamping lug 19 which engages the rail. The rail is first placed in position upon the chair-part 16 and the other part 16^a is then forced into the position shown, the under-running lug 20 sliding into the corresponding recess in the bottom of the other chair-part, and then the parts are rigidly secured by means of a pin 20^a and one or more bolts 18, which can be slid into the slotted ways in the plate 7 and in the flange of the chair-part 16^a as indicated. In order to relieve the bolts 17 of the lateral strain or twisting action of the rails, due to the tendency of the rails to spread, I preferably form the lug flange at a distance above the bottom of the chair-part 16, thus providing a shoulder which bears against an extended thrust-block 21 formed upon the plate 7, and any tendency of the plate to tilt or move outwardly is resisted by the lug-post 12 depending from the opposite side of the center.

The several advantages of my invention and its superiority will now be appreciated.

The form of the tie is adapted to resist the strains and blows to which it may be subjected, and the reinforcing metal plates have been utilized in a manner to relieve the concrete and prevent undue wear and shocks due to the severe pressures and blows caused by the passing trains.

The rail-supporting and locking members are exceedingly rigid and secure, and yet the parts are simple in construction and are easily assembled.

The parts of the tie and rail securing members cooperate in a manner to form an exceedingly efficient rail support.

While I have described in detail the construction illustrating one embodiment of my invention, I am aware that various changes may be made therein without departing from the spirit of my invention, and it is my purpose to cover such modifications.

I claim:—

1. A railway track construction comprising a tie having a concrete body portion and metal side plates bolted or otherwise rigidly united, and rail supports having means for clamping the flanges of a rail and provided with depending guide and thrust extensions passing through sockets between the body portion and the side plates.

2. A railway track construction comprising a tie having a concrete body portion and metal side plates bolted or otherwise rigidly united, rail supports having means for clamping the flanges of a rail and provided with depending guide and thrust extensions passing through sockets between the body portion and the side plates, and resilient buffers carried in recesses under said supports.

3. A railway tie comprising a concrete body portion having an arched or rounded top, and metal plates extending longitudinally upon either side of said body portion and rigidly secured together, said arched top extending above the top edges of said metal plates, and said arched top being provided with recesses to receive rail-fastening means.

4. A railway track construction, comprising a tie having a concrete body portion and metal plates bolted together upon either side thereof, said body portion having recesses each provided with a central socket and lateral downward extensions, and a rail-support having a bearing-plate adapted to lie in one of said recesses and provided with a plunger and depending guide plates adapted to engage said socket and lateral extensions respectively.

5. A railway track construction, comprising a tie having a concrete body portion and metal plates bolted together upon either side thereof, said body portion having recesses each provided with a central socket and lateral downward extensions, a rail-support having a bearing-plate adapted to lie in one of said recesses and provided with a plunger and depending guide plates adapted to engage said socket and lateral extensions respectively, a rail-chair having means for clamping the flanges of a rail, and means for detachably securing said chair to said rail support.

6. A railway track construction, comprising a tie having a concrete body portion and

metal side plates, said body portion having recesses in the top thereof provided with lateral downward extensions adjacent the plates, rail supports each having a bearing plate adapted to fit in one of said recesses and provided with depending guide-plates vertically movable in said extensions and with an upwardly-extending thrust-block, rail chairs each provided with rail-clamping devices and having a shoulder adapted to bear against said block, and means for fastening said chairs to said rail supports.

7. A railway track construction, comprising a tie having a concrete body portion and metal side plates, said body portion having recesses in the top thereof provided with lateral downward extensions adjacent the plates, rail supports each having a bearing plate adapted to fit in one of said recesses and provided with depending guide-plates vertically movable in said extensions and with an upwardly-extending thrust-block, rail chairs each provided with rail-clamping devices and having a shoulder adapted to bear against said block, said bearing plate being also provided with a depending lug-post adapted to resist lateral movement due to the spreading of the rails, and means for fastening said chairs to said rail supports.

8. A railway track construction comprising a rail support having a bearing-plate provided with an upwardly extending lug or thrust-block, and a two-part rail-chair formed with interlocking parts and having means for securing said parts in locked position, one of said parts bearing laterally against said thrust-block.

9. A railway track construction comprising a rail support comprising a bearing-plate provided with an upwardly extending lug or thrust-block upon one side thereof, a downwardly-extending lug-post upon the other side, and a separable interlocking rail-chair clamped on said bearing plate and bearing laterally against said thrust-block.

10. A railway track construction comprising a rail support having a bearing-plate provided with an upwardly extending lug or thrust-block, and a two-part rail-chair formed with interlocking parts and having means for securing said parts in locked position, one of said parts bearing laterally against said thrust-block and having an extended flange adapted to extend over said thrust-block and be secured thereto.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE J. FLEISSNER.

Witnesses:

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ANDREW E. MCKEE.