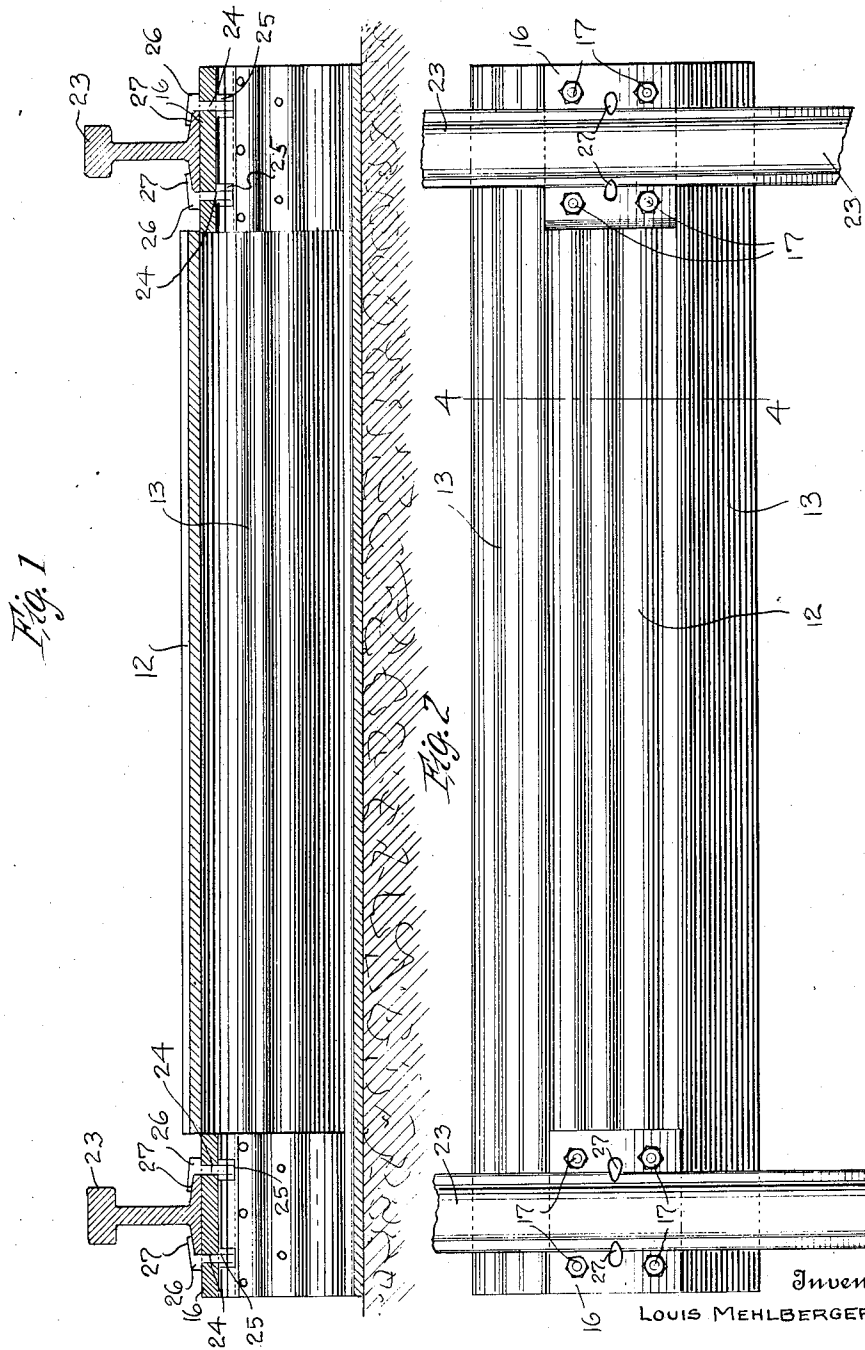


L. MEHLBERGER.
STEEL RAILROAD TIE.
APPLICATION FILED AUG. 27, 1912.

1,046,480.

Patented Dec. 10, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3

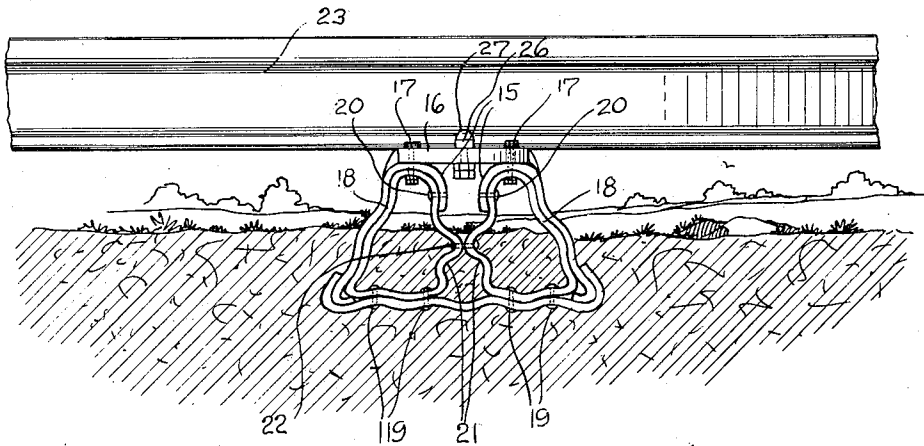


Fig. 4

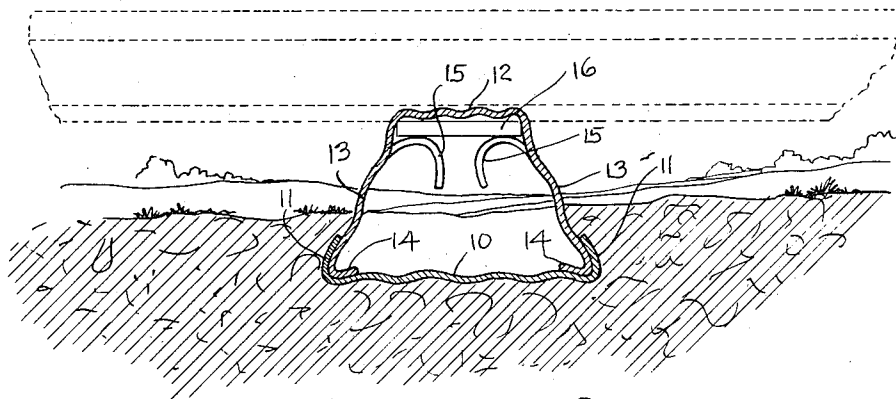
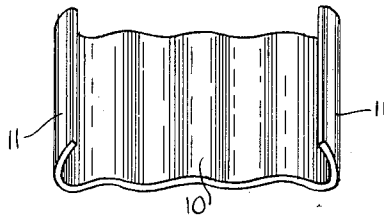


Fig. 5



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STEEL RAILROAD-TIE.

1,046,480.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed August 27, 1912. Serial No. 717,345.

To all whom it may concern:

Be it known that I, LOUIS MEHLBERGER, a subject of the Emperor of Germany, residing at Sparta, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Steel Railroad-Ties, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to railroad ties, and the principal object of the invention is to construct a tie which will be easily handled and easy to construct.

Another object of this invention is to provide a tie having a simple construction and which will be very strong and durable, the tie being formed from corrugated resilient metal thus giving the tie a spring action and thus taking up the strain placed upon the tie as a train passes over the same.

This invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a longitudinal sectional view through the tie. Fig. 2 is a top plan view of the tie. Fig. 3 is an end elevation, the rail being shown in side elevation. Fig. 4 is a sectional view along the line 4-4 of Fig. 2, the supporting plates in the end of the tie being removed. Fig. 5 is a perspective view of one end portion of the base plate.

Referring to the accompanying drawings by numerals, it will be seen that this invention comprises a base plate 10 which is formed from corrugated spring steel and has its side portions bent to form the longitudinally extending side flanges 11. This base section is separate from the remaining portion of the tie thus permitting the upper and lower sections of the tie to be carried independently and thus permitting the tie to be easily carried from one place to another and then connected together. This will also permit the base sections of the tie to be closely packed when shipping the ties from one part of the country to another thus making the cost of handling the ties a great deal less than is usually the case. The upper section of the tie is also formed from a corrugated plate of spring steel which is bent longitudinally to form the bridge 12 and side walls 13. The edge portions of the side walls 13 are bent inwardly to form the inwardly extending feet 14, these feet fitting within the flanges 11, as clearly shown in Figs. 3 and 4, and thus causing the upper

portion of the tie to be removably connected with the base plate. It should be noted, however, that when the upper section is in place there is no danger of the sections slipping since any pressure from above will cause the side walls to spread thus bringing them more firmly into contact with the flanges 11 and causing a binding action which will firmly hold the upper section in place. It should also be noted that the corrugations of the side walls 13 will take up any undue strain thus preventing any danger of the flanges being forced open.

The bridge 12 is split adjacent each end portion to form tongues 15 which are bent inwardly as shown in Figs. 3 and 4 and form resilient supports for a rail chair 16. This rail chair is held in place by means of bolts 17. Reinforcing bands 18 are placed within the end portions of the tie and fit close against the upper and lower sections as shown in Fig. 3. Securing rivets 19 hold the bands to the base plate and rivets 20 secure the bands to the end portions of the tongues 15, the bolts 17 assisting in holding the bands 18 to the tongues 15. The inner portions 21 of the bands are crimped as shown in Fig. 3, and secured together by means of a rivet 22 thus forming a very strong spring which greatly assists in reinforcing the end portion of the tie.

When in use, the upper and lower sections are conveyed to the place where the track is to be laid and the reinforcing bands secured to the upper sections by the rivets 20. The upper sections are then connected with the base plate, and the rivets 19 inserted thus securely holding the upper section in place. The rail chair is then secured by means of the bolts 17 and the tie embedded in the road bed with the rails 23 resting upon the rail chairs. Bolts 24 are then passed through the openings formed in the rail chair, and securing nuts 25 screwed upon the bolts 24 until the bolts are tightly held in place. It should be noted that the opening between the reinforcing bands 18 above the rivet 22 is of such size that a suitable wrench may be inserted to tighten the nuts 25. A shoulder 26 extends from each of the bolts 24 so that when the nuts 25 are tightened, the inward movement of the bolts will be limited, and thus the overhanging heads 27 of the bolts prevented from being bent upwardly and thus broken off.

This tie when completed is very strong

and durable since it is formed from spring steel and so constructed that while it is light and easily handled, when laid is very strong and not liable to be broken when trains pass over the rails. The corrugations in the plate form troughs so that rain water may readily drain out of the tie.

Having thus described the invention, what is claimed as new, is:—

1. A tie comprising a base plate provided with longitudinally extending corrugations and having its edge portions turned to form longitudinally extending flanges, a body portion formed from corrugated material provided with side walls fitting between the flanges of said base plate and having its lower edges turned inwardly, rail chairs secured to said upper section, and bracing bands secured to said upper section and base plate beneath said rail chairs.

2. A tie comprising a base plate, an upper section carried by said base plate, the end portions of said upper section being cut to form tongues, the tongues being bent inwardly to form a rail chair adjacent each end of said upper section, and reinforcing bands positioned adjacent at each end of said tie and secured to said tongues and to said base plate.

3. A tie comprising a base plate, an upper section carried by said base plate, said upper section being formed from corrugated resili-

ent material and being bent to form a bridge having side walls extending therefrom, the bridge near each end of the tie being cut to form tongues bent inwardly, a rail chair at each end of said tie secured to the inwardly bent tongues, and reinforcing bands positioned beneath the tongues near each end of the tie and conforming to the contour of the base plate and upper section, and means for securing the bands to the base plate and upper section and to each other.

4. A tie comprising a base plate, an upper section carried by said base plate and comprising a bridge having corrugated side walls extending therefrom and resting upon said base plate, tongues struck from each end portion of said bridge and curved inwardly, bands positioned within each end of the tie and fitting against the base plate and against the side walls and inwardly curved tongues of said upper section, the inner portions of said bands being crimped and secured together, and means for securing said bands to said base plate and the tongues of said upper section.

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

LOUIS MEHLBERGER.

Witnesses:

A. B. CHENEY,
WILLIAM H. MEKEEL.