F. STILL.

RAILWAY TIE.

APPLICATION FILED AUG. 26, 1911.

1,011,657.

Patented Dec. 12, 1911

2 SHEETS—SHEET 1.

Fig. 1.

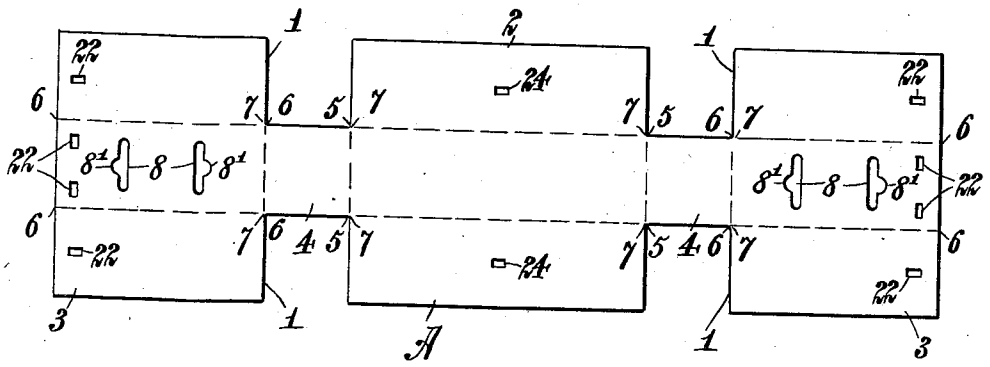


Fig. 2.

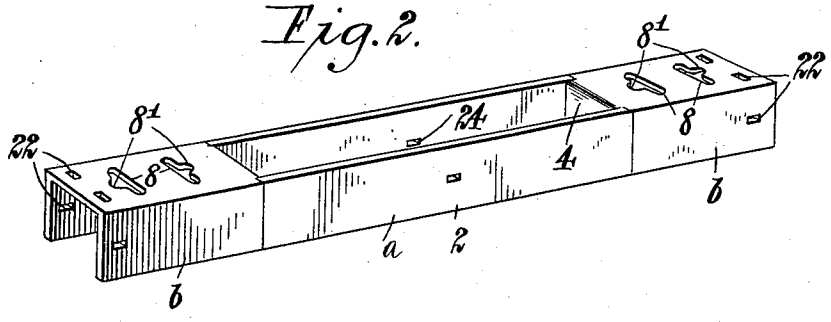
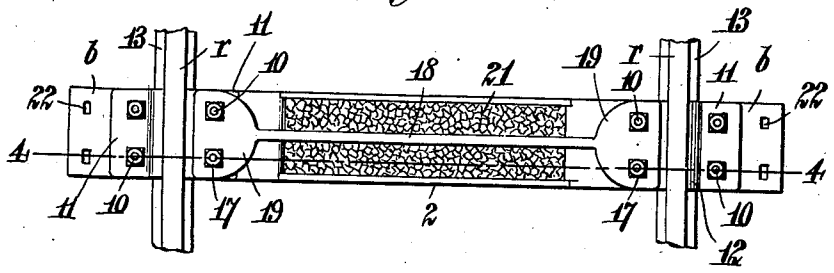


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

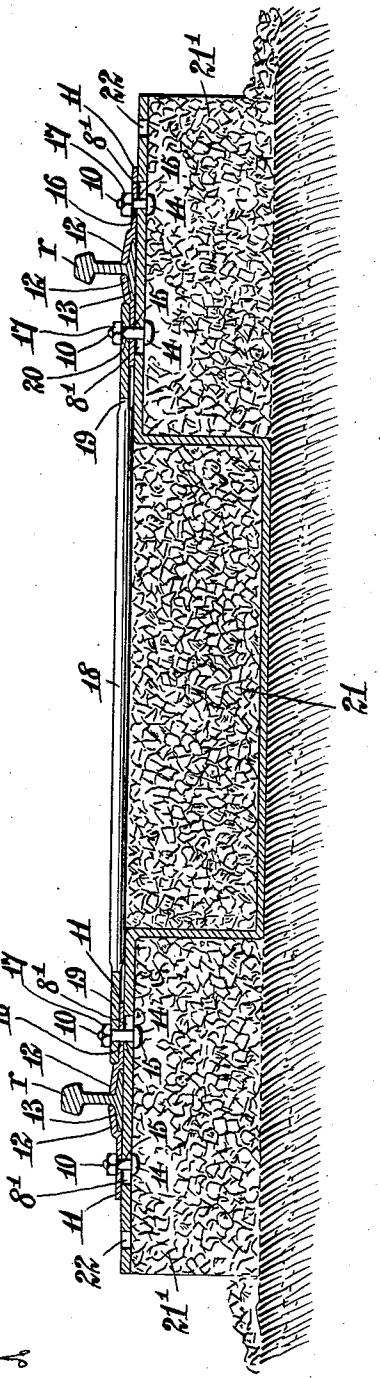


Fig. 6.

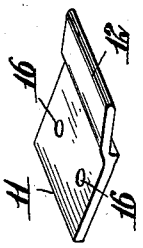
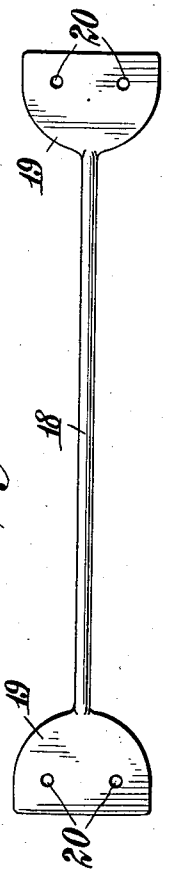


Fig. 5.



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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE.

1,011,657. Specification of Letters Patent. Patented Dec. 12, 1911.

Application filed August 26, 1911. Serial No. 646,150.

To all whom it may concern:

Be it known that I, FRANK STILL, a citizen of the United States, residing at Mortonville, in the county of Chester and State of Pennsylvania, have invented new and useful Improvements in Railway-Ties, of which the following is a specification.

This invention relates to certain novel and useful improvements in railway ties, and has particular application to a metallic tie adapted to be employed in the construction of steam railroads, street and trolley railways or under other conditions where it is desired to employ a metallic tie.

In carrying out my invention, it is my purpose to construct a tie of the class described of a metallic plate bent or braced into approximately rectangular form, said tie being further provided with means for securing the rails firmly in position and for holding such rails against spreading.

I also aim to provide a metallic tie formed of pressed steel, iron or other like material, which may be provided with a filling of concrete or other ballast for holding the tie firmly in position.

Still a further object of my invention is the provision of a tie which will embody the desired features of simplicity, strength, durability and efficiency, and which may be manufactured and installed in use at a relatively low cost.

With the above-recited objects, and others of a similar nature in view, the invention consists in the construction, combination and arrangement of parts, set forth in and falling within the scope of the appended claims.

In the accompanying drawing:—Figure 1 is a plan view of a blank from which my tie is rolled or bent. Fig. 2 is a perspective view of the tie after it has been bent or rolled from the blank. Fig. 3 is a top plan view of the tie, a section of the rails attached thereto. Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 3. Fig. 5 is a plan view of the anti-spreading brace extending between the rails. Fig. 6 is a perspective view of one of the rail plates.

Referring now to the accompanying drawing in detail, the letter A designates a blank from which my tie is pressed or rolled, said blank being of steel, iron or like metal. In the formation of the tie, the body portion of said blank is cut out or away, as is shown at 1 in Fig. 1, there being four of such cut away portions, which are so located that the blank thus cut comprises a relatively long central portion 2, end portions 3 which are as wide as the central portion but of relatively less length, both the end portions being connected to the central body portion through means of the webs 4. The blank is now rolled or bent into approximately rectangular form by bending the central portion longitudinally on the lines 5—5, while the end portions are bent along the lines 6—6 but in opposite directions from the sides of the central portion. The webs 4—4 are now bent upward along the lines 7—7, so that said webs lie between the sides of the central portion at the ends thereof, and the blank now appears as is shown in Fig. 2, that is to say, the central portion composed of a rectangular section *a* is open at the top thereof, while two short rectangular end sections *b*—*b*, are open at the bottom and connected to the central section through the medium of the vertical webs 4—4. The top surface of each of the end sections *b* is formed with two approximately T-shaped slots 8—8 spaced apart, the portion of the section between the slots being adapted to form a rest for the base of the rail *r*. Resting upon the top of each section *b*, and secured thereto through the medium of the bolts 10 are the rail plates 11, there being, of course, two plates for each rail, the end portions 12 of such plate being slightly bent upward to engage with the web 13 of the rail. The bolts 10 are each formed with a head 14 and a shank 15, said bolt being inserted through the enlargements 8′ of the T-shaped slots 8 and then moved into the reduced portions of the slots, so that the heads of the bolts abut against the under side of the top section *b* while the shanks of the bolts project to such top and through alining apertures 16 in the rail plates and are secured by nuts 17 threaded on the shank. It will be seen that I provide in the present instance two bolts for each rail plate although it will, of course, be understood that any suitable number may be employed.

In order to prevent the rails from spreading, I employ a spreader bar, which comprises preferably a rounded central shank portion 18 and the enlarged flat heads 19 at the ends thereof, each of said head portions having apertures 20 therethrough for the passage of the threaded shanks of the bolts which retain the rail plates at the inner sides of the rails. In use, the spreader

bar extends longitudinally of the tie, between the rails, the heads at the ends of the bar overlying the rail plates at the inside of the rails, and such heads are secured in position through the medium of the same bolt which holds the inside rail plate, the nuts being threaded on the shank far enough to bear against the head of the spreader bar.

In use, the central section of the tie is filled with a packing or filling of concrete, cement, broken stone or other ballast 21, while the end sections of the tie are likewise filled with concrete or other ballast 21'.

In order to permit the easy handling of the tie, I provide a suitable number of apertures 22 formed in the sides of the end sections at the top, which apertures are preferably of sufficient size to permit the insertion of a pick point or other tool so that the tie may be removed into and out of position during the construction of the track, if desired. The central portion of the tie may be provided with similar perforations 24.

From the above description, taken in connection with the accompanying drawings, the manner of pressing and rolling my tie from a blank and then securing the rails thereto, holding the same against spreading and ballasting the tie, may be readily apparent to those skilled in the art. It will be noted that I have provided a tie in which the metal body portion may be rolled or pressed from a single blank of metal, and, furthermore, I have provided a simple yet effective means for securely supporting the rails and for holding the latter against spreading.

While I have herein shown and described one particular embodiment of my invention by way of illustration, I wish it to be understood that I do not confine myself to all the precise details of construction herein set forth as modification and variation may be made without departing from the spirit of the invention or exceeding the scope of the appended claims.

I claim:—

1. A railway tie formed of a blank bent to form a central section approximately U-shaped in cross section, end sections of approximately U-shaped form in cross section, and webs integral with and connecting the two sections, the end sections forming seats for the rails, and means for securing the rails to the end sections.

2. A railway tie formed of a blank bent to form a central section approximately U-shaped in cross section, end sections of approximately U-shaped form in cross section, webs integral with and connecting the two sections, the end sections forming seats for the rails, means for securing the rails to the end sections, and a spreader bar extending longitudinally of the central section of the tie and connecting the two end sections.

3. A railway tie comprising a blank bent to form a central section open at the top, end sections forming seats for the rail, web sections formed integral with and connecting the central and end sections, said end sections having slots spaced apart in the top thereof and between which the bases of the rails are adapted to lie, bolts passing through said slots, rail plates for each rail secured by said bolts, and a spreader bar comprising a central shank portion and heads at the ends of the shank portion, said head having openings therethrough whereby the spreader bar is secured to the end sections and extends between the rails.

4. A railway tie comprising a body portion formed of a central section, end sections forming seats for the rails, webs integral with and connecting the end sections and the central sections, rail plates secured to the end sections and securing the rails in position, a spreader bar connecting the end sections and extending between the rails, said end sections having apertures therein for the reception of the point of a tool, and a filling ballast for the central section and the end sections.

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

FRANK STILL.

Witnesses:

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