

(No Model.)

C. P. HAWLEY.
METALLIC RAILROAD TIE.

No. 379,576.

Patented Mar. 20, 1888.

Fig. 1.

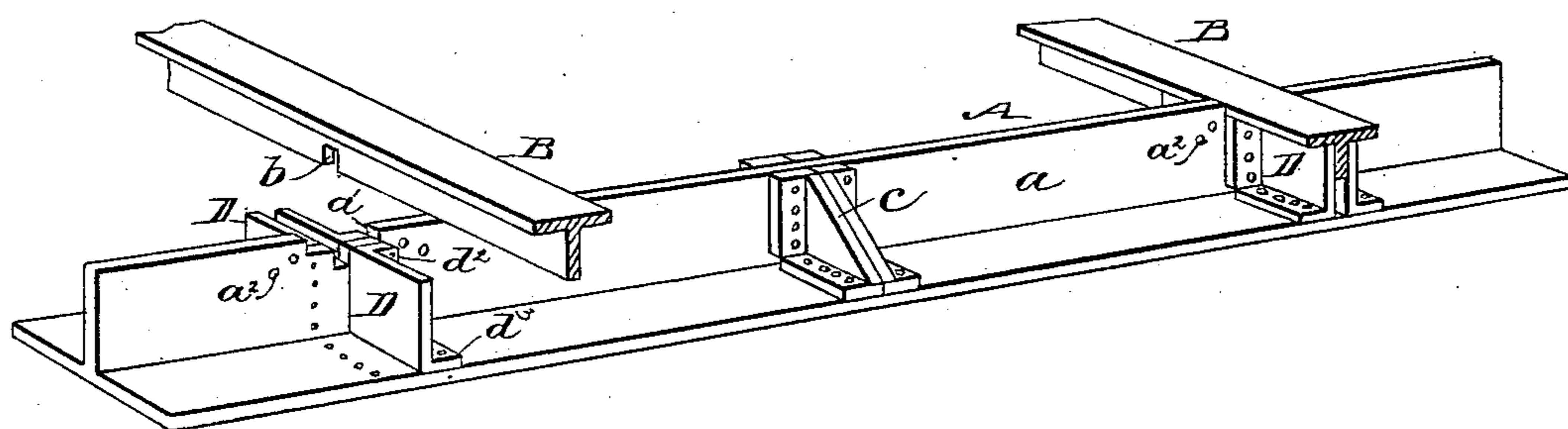


Fig. 2.

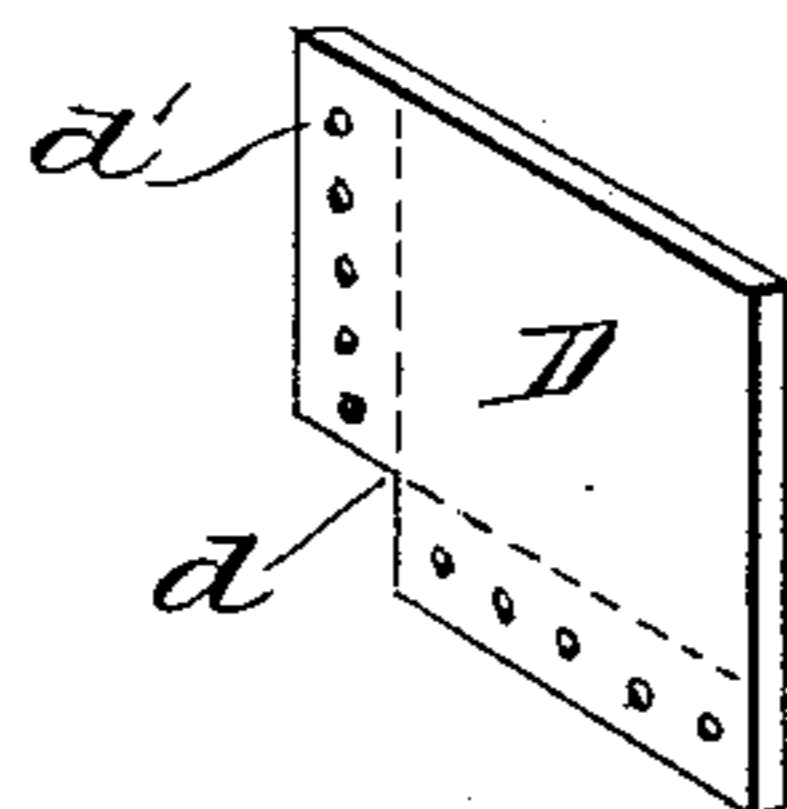


Fig. 3.

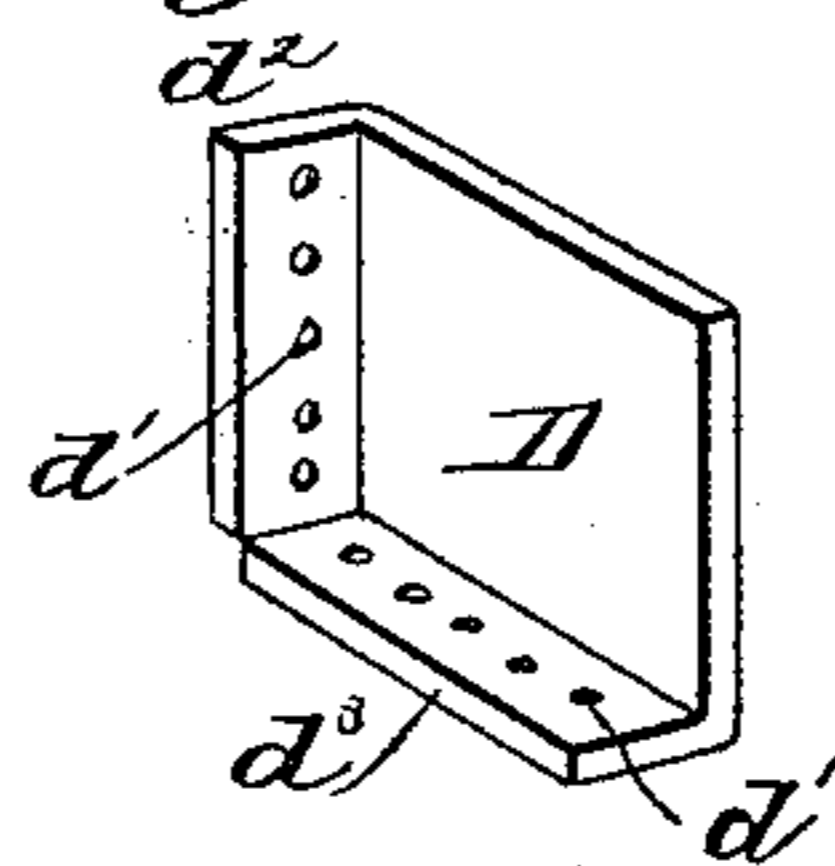
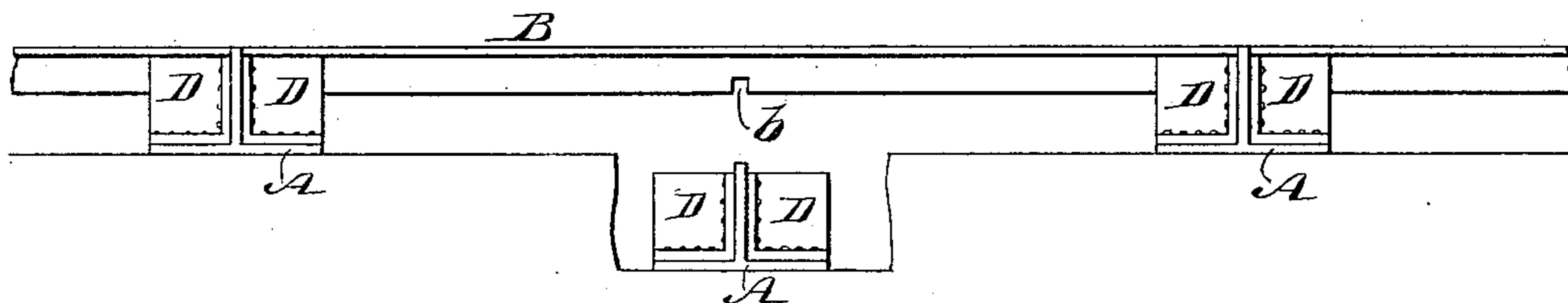


Fig. 4.



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METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 379,576, dated March 20, 1888.

Application filed November 10, 1887. Serial No. 254,755. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. HAWLEY, of the city, county, and State of New York, have invented a new and useful Improvement in Metallic Railroad-Ties, of which the following is a full, clear, and exact description.

My invention relates to metallic railroad-ties, and has for its object to so improve the construction of the metallic tie described in application for patent allowed to myself August 30, 1887, as that the tie may be easily withdrawn from under the track and replaced without disturbing the movement of the rolling-stock, and wherein the tie will offer a perfect form for strength and lightness, and to be held securely by the ballast.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully described, and pointed out in the claims.

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

Figure 1 is a perspective view of the tie, illustrating one rail-supporting plate in position. Fig. 2 is a perspective view of a blank for use as a brace; Fig. 3, a perspective view of the finished brace. Fig. 4 is a side elevation of a track supported upon the improved ties, illustrating one tie in position for withdrawal.

The object of the present invention, as aforesaid, is to improve the construction of the metallic railroad-tie allowed to myself August 30, 1887. By reference to the said allowed application it will be observed that the rail is supported continuously by bridging from tie to tie, passing the stepped ends of the bridge through suitable openings in the web of the tie, and bolting the same. Now it is obvious that when a railroad-track has been laid in that manner, if it becomes necessary to remove one of the ties it cannot be done without much labor, time, and expense. To obviate this trouble is the purpose of the present invention, and to that end I provide a T-shaped tie, A, a T-shaped rail-supporting plate or bar, B, adapted for use with the tie, and the braces C and D, which braces are detachable from the body of the tie.

The body A of the tie is made from a beam of rolled T-shaped iron cut or sawed to the proper length, which beam may be of any original length. Near each end in the web *a* of the tie-body, when in the normal cold state, in the upper edge of said web, a T-shaped recess, *a'*, is cut or otherwise made, adapted to accommodate the rail-supporting plate or bar, hereinafter described. The recess in the web may be positively cut to the actual gage of the track, all shrinkage having previously taken place. The end braces, D, are also cut from cold metal and in the shape illustrated in Fig. 2, which is substantially rectangular, a right-angular recess, *d*, being cut in one lower corner, while in the blank a series of apertures, *d'*, are produced parallel with and near the two edges separated by the aforesaid recess. The blank is now pressed or molded to the proper shape, which is accomplished by bending the apertured edges at right angles to the body upon the dotted lines shown in Fig. 2, whereby the apertured flanges *d*² *d*³ are obtained.

The braces D are employed at each side of the web, the vertical flanges bearing against the web, the horizontal flanges resting upon the base. In locating the said braces the straight vertical face of each is made to align the side walls of the vertical portion of the web-recess *a'*, the flanges being upon the outer side and the upper end of the vertical flanges in alignment with the horizontal portion of said recess *a'*.

It will thus be observed by reference to Fig. 1 that a space is obtained between the smooth contiguous faces of the braces D equal in width to the width of the vertical portion of the recess *a'*, and that the tops of the braces upon opposite sides of the web and the bottom wall of the horizontal portions of the said recess *a'* are in the same plane. The braces are secured in position by passing rivets or bolts through the aperture in the opposing vertical flanges and through the web, and also through the apertures in the horizontal flanges and through the base of the tie.

The T-shaped supporting plates or bars B can be made of any length originally, and may embrace any number of ties, thus making a perfect continuous support for the rail; or

they can be cut or sawed into sections the width of the tie, and not act as a support between the ties.

The horizontal portions of the recess a' are of a depth equal to the thickness of the flanges of the supporting plates, and the vertical portions of the recess are preferably of a depth equal to one-half the depth of the vertical web of said plates.

10 In the lower edge of the vertical member of the rail support or bar B, where it is adapted to engage the web of the tie, a slot, b , is cut, preferably of half the depth of said member, as shown in Fig. 1. The rail-supporting plates
15 are not adapted to be fastened to the tie, being held in connection therewith by causing the vertical portion of the recess a' and the recess b to interlock, whereby the horizontal member of the rail-supporting plate is made to bear
20 at the under side upon the bottom walls of the horizontal portion of the said recess a' , the web of the said supporting plate being projected down and held between the braces D. When so positioned, the upper surface of the
25 supporting plate or bar is flush with the upper surface of the tie.

The web of the tie is supported and strengthened centrally upon each side by two abutting braces, C, secured in like manner to the braces
30 D, and differing only from said braces, inasmuch as the bodies of the braces C are triangular instead of rectangular.

At each side of the recess a' apertures a^2 may be made in the web, through which the rail-
35 clamps heretofore secured to me can be bolted, which, when the rails are placed upon the supporting plate, clamp the said rails, fastening them down and also the plate.

With this construction, when it becomes
40 necessary to remove a tie, it can be accomplished as easily and quickly as at present with the ordinary wood tie and in the same way, as it is obvious that, the rail supporting plate or bar not being fastened to the ties, by
45 removing the rail-clamps and excavating beneath the tie sufficiently, as shown in Fig. 4, it drops free from the rail-supporting plate or bar, and then can be readily pulled out endwise from under the track and replaced again,
50 while the rail and rail-supporting plate or bar

will retain their position, the neighboring ties not having been disturbed. Thus the travel of the rolling-stock is not delayed.

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

1. The combination, with a metallic tie having a vertical central web provided with a T-shaped notch, of a T-shaped rail-supporting plate adapted to rest upon said web, substantially as shown and described.

2. The combination, with a T-shaped metallic tie having its web provided near the ends with T-shaped notches, of T-shaped rail-supporting plates notched to interlock with
65 the notches in the web, substantially as shown and described.

3. A T-shaped metallic railroad-tie having its vertical web provided with T-shaped notches near the ends, and spaced aligning braces opposite to said notches having their upper
70 edges flush with the base of the horizontal portion of said notches, substantially as shown and described.

4. A T-shaped metallic railroad-tie having
75 its vertical web provided near the end with T-shaped notches, and aligning braces opposite said notches, spaced to have their opposing sides flush with the vertical portion of the notches and their upper edges flush with the
80 base of the horizontal portions of said notches, substantially as shown and described.

5. The combination, with a T-shaped metallic railroad-tie having its vertical web provided near the end with T-shaped notches, and
85 aligning braces opposite said notches, spaced to have their opposing sides flush with the vertical portion of the notches and their upper edges flush with the base of the horizontal portion of said notches, of T-shaped rail-
90 supporting plates notched to interlock with the notches in the web, the vertical member of said plates being clamped by the spaced braces, substantially in the manner and for the purpose herein set forth.

CHARLES P. HAWLEY.

Witnesses:

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JEROME MAGIVNY.