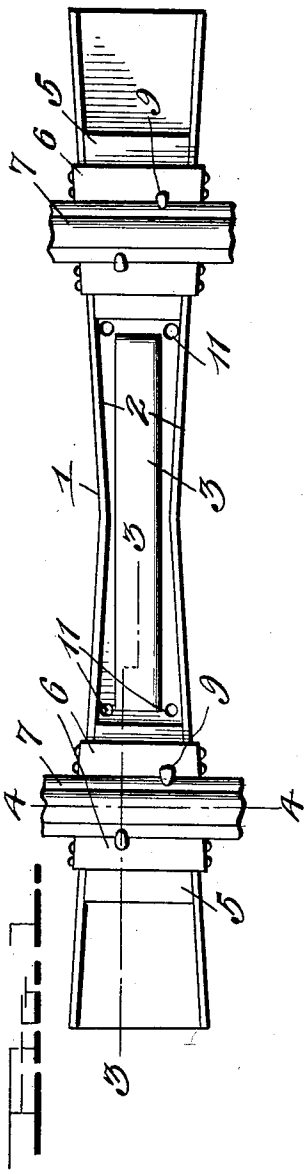
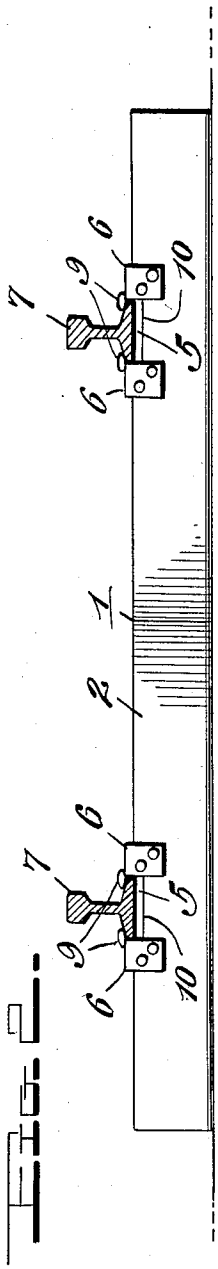
J. J. OTTERBEIN.

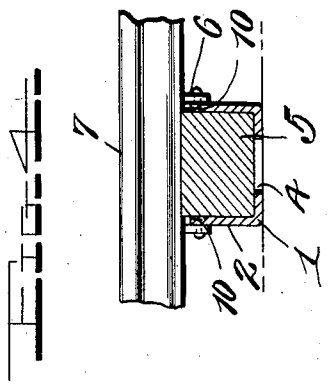
RAILWAY TIE.

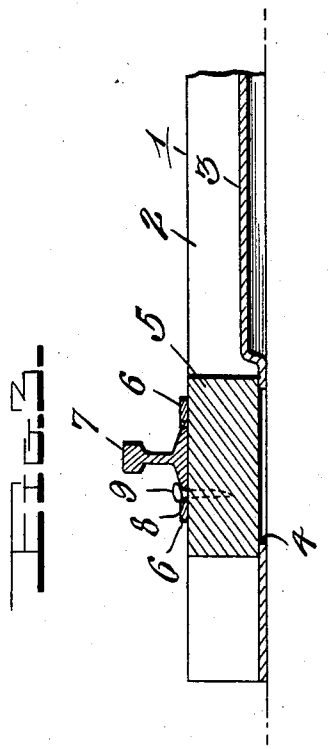
APPLICATION FILED SEPT. 23, 1911.

1,033,614. Patented July 23, 1912.









Witnesses

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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE.

1,033,614. Specification of Letters Patent. Patented July 23, 1912.

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To all whom it may concern:

Be it known that I, JOSEPH J. OTTERBEIN, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in railway ties and more particularly to metallic ties, and my object is to provide a device of this character which is simple, durable and inexpensive in construction, and one which is adapted to receive wooden blocks for the support of the rails and for receiving the rail-securing means.

A further object of the invention resides in providing a tie which is channel-shaped in cross section, the channel portion of which is faced upwardly to receive therein the wooden blocks above referred to, and still another object of the invention resides in flaring the ends of the tie outwardly and designing the blocks similarly thereto, thereby forming substantial wedge members of the blocks.

A still further object of the invention resides in providing the base of the tie with a raised portion therein, whereby the tie may be readily gripped into engagement with the earth, and a further object resides in providing enlarged openings in said base, over which the blocks are adapted to be mounted.

A still further object resides in providing bracing strips which are secured to and extend transversely of the tie and between which the rails are adapted to be held.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing forming a part of this application, Figure 1 is a top plan view of the tie. Fig. 2 is a side elevation thereof. Fig. 3 is a longitudinal section as seen on line 3—3, Fig. 1, and, Fig. 4 is a transverse section as seen on line 4—4, Fig. 1.

In carrying out my invention, I shall refer to the drawing in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates my improved tie which comprises a sheet of metal, the side edges of which are bent upwardly to form the side rails 2 of a channel-shaped member, said channel-shaped device being flared toward its ends. The channel of the tie faces upwardly and the base thereof is, for a greater portion of its length, raised upwardly, as shown at 3, to form a channel-way or the like on the under face of said base, whereby the earth may enter said channel-way and retain the device in the proper position when once tamped, and said base is also provided beyond the ends of the struck-up portion 3, with enlarged openings 4, said openings being tapered outwardly toward their outer ends coincident with the tapering of the side edges of the base of said tie, the purpose of which will be hereinafter and more particularly described. The ends of said channel-shaped tie are open, and entered within these ends, so as to be wedged tightly between the side rails 2, are the wedge blocks 5, said blocks having the side edges thereof tapered outwardly from their inner to their outer ends and being of a height substantially equal to the height of the side rails 2, whereby the upper faces of the same will be flush with the upper edges of said rails. When properly and tightly wedged between said side rails, the inner ends of said blocks 5 will reach to points immediately adjacent the ends of the struck-up portion 3 in the base of said tie and will at the same time completely cover the enlarged openings 4 in said base, and riveted to the side rails 2 of the tie and extending transversely across the upper edges thereof, are the bracing strips 6, said strips being arranged in pairs adjacent the ends of the tie. When the blocks 5 have been wedged into proper position, these strips 6 will rest on or contact with the upper faces thereof and the spaces between said strips are of a width equal to the standard width of the base of a rail, whereby the rails 7 may be entered in these spaces, the same being held snugly therein and prevented from lateral movement. The inner opposed edges of the pairs of strips 6 are provided with openings 8, through which may be entered spikes or the like 9, said spikes being en-

tered in the blocks 5, and the heads thereof engaged with the base flanges of the rail to prevent longitudinal movement thereof on the tie, and in order to prevent the rails from having engagement with any portion of the metal of the tie, the side rails 2 thereof are cut away, as shown at 10, between the strips 6, and thus, it will be seen that a slight resiliency may be obtained as a car passes over the rail, whereas little or no resiliency would be obtained should the rail rest flatly upon the rigid metallic side rails 2 of the tie. As stated, the channel of the tie faces upwardly, and it will be appreciated that snow, rain and the like will be collected in the space between the two blocks, and in order to provide a draining means therefor, the base of said tie is provided with a plurality of openings 11, which openings are disposed in the spaces between the ends of the raised portion 3 and the openings 4 in said base.

In practice, it will be seen that after the strips 6 have been applied to the side rails of the tie, the blocks 5 are wedged in position, it being understood that the heads of the rivets or the like, which are used for the securing of the strips in position, are countersunk on the inner faces of the side rails, whereupon said tie is placed in position on the ground and tamped in the usual manner. It will be appreciated that in view of the channel formed by the striking up of the portion 3 in the base of said tie, the earth may readily grip the same to prevent any appreciable movement thereof when once tamped, and thus eliminate any extra means being provided for the retaining of the tie in position, and it will further be seen that the openings 4 in the base of said rail will allow the under faces of the blocks 5 to rest flatly upon the earth, which will not alone aid in the retention of the tie in position, due to the great friction between the wood and the earth, but will also allow said blocks to yield slightly as a weight passes over the rails, as will be hereinafter mentioned. When the tie has been positioned, the rails are disposed between the strips 6 to rest flatly upon the blocks 5, whereupon spikes are entered in the openings 8 to secure said rails against longitudinal movement on the tie, and when thus positioned, it will be seen that no portions of the rails will contact with parts of the metal of the tie and that the same will rest completely upon the supporting blocks 5, thereby permitting said blocks to lend any resiliency or yielding action that the same may be capable of, upon the movement of a car over said rails. The entering of the spikes through the openings 8 and through the blocks 5 to retain the rails against longitudinal movement, will, of course, prevent the movement of the blocks in the tie, since the strips 6, against which said spikes rest, are rigidly mounted on the side rails of the tie, but it will be appreciated that should at any time the blocks become worn, or otherwise damaged, the same may be very readily removed by removing the spikes therefrom and may be replaced by a new block without the necessity of removing the strips 6.

From the foregoing, it will be seen that I have provided an improved metallic tie wherein wooden blocks are provided for an immediate means of support for the rails, and it will still further be seen that said blocks are positioned so as to have the portions thereof opposed to the portions receiving the rails, in direct contact with the ground, whereby any slight resiliency of which said blocks are capable, may be obtained, as a weight passes over the rails. It will further be seen that my improved tie, although channel-shaped in cross section, is designed so as to flare outwardly toward its ends so that the portions of the adjacent ties over which the rails extend, will be nearer one another than the central portions of said ties, the purposes of which are obvious. Furthermore, it will be seen that the blocks which enter said ties have their side edges tapered coincident with the tapering of the side edges of said ties, whereby the same may be wedged into position. It will further be seen that by raising a portion of the base and also forming openings therein so that the under faces of the blocks may contact with the ground, the ties may be readily retained in position. Furthermore, it will be seen that my device is extremely simple and durable in construction, inexpensive to manufacture, and one which is very effective and useful in operation.

What I claim is:—

1. A rail tie designed channel-shape in cross section, the base of which is provided with a pair of enlarged openings arranged adjacent the respective ends, said base being also provided with a struck up portion extending longitudinally of the tie between said openings, wedge blocks mounted in said tie immediately over the openings therein, the side walls of said tie being provided with cut-away portions at the points wherein said blocks are disposed, bracing strips secured to the side walls of the tie on opposite sides of the cut-away portions thereof, and means to secure rails to said blocks between said bracing strips.

2. A rail tie designed channel-shape in cross section, and tapering inwardly from the ends to the center thereof, the base of which is provided with a pair of enlarged openings arranged adjacent the respective ends thereof, said base being also provided with a struck up portion disposed longitudinally of the base and between said openings, wedge blocks seated in the base of said

tie immediately over the openings therein, the side walls of said tie being provided with alining cut-away portions in the same vertical planes with the openings in the base, a plurality of bracing strips secured to the side walls of the tie and extending transversely thereof, said strips being arranged contiguous with the edges of the cut-away portions in the side walls, and means to secure rails to said blocks between said bracing strips.

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

JOSEPH J. OTTERBEIN.

Witnesses:
CHARLES M. KURTZ,
J. AUSTIN SULLIVAN.