No. 759,263. PATENTED MAY 10, 1904.

H. W. GANDER.

METALLIC RAILROAD TIE.

APPLICATION FILED AUG. 10, 1903.

NO MODEL.

Fig. 1.

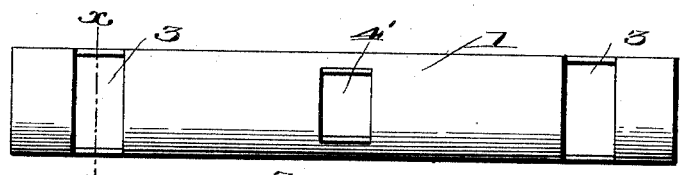

Fig. 2.

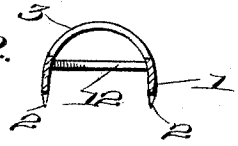

Fig. 3.

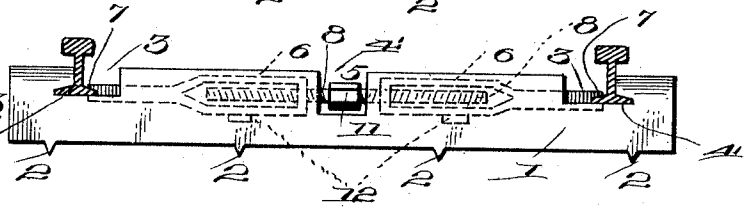

Fig. 4.

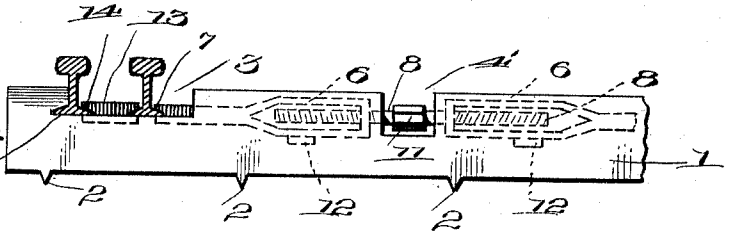

Fig. 5.

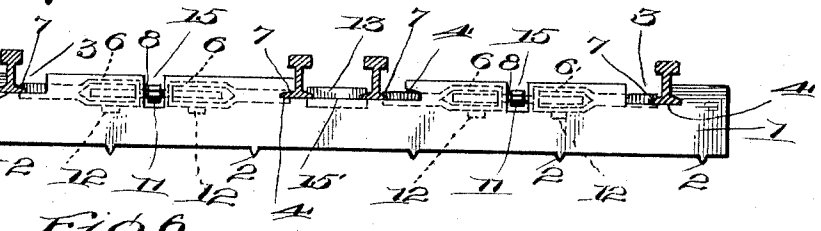

Fig. 6.

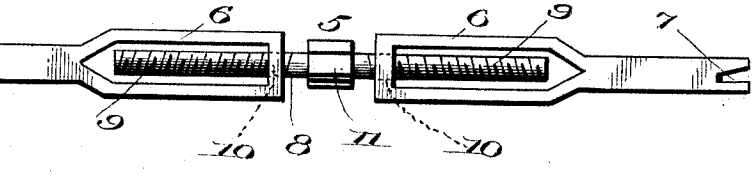

Fig. 7.

WITNESSES:

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No. 759,263. Patented May 10, 1904.

UNITED STATES PATENT OFFICE.

HARRY W. GANDER, OF RUDY, PENNSYLVANIA.

METALLIC RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 759,263, dated May 10, 1904.

Application filed August 10, 1903. Serial No. 168,863. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. GANDER, a citizen of the United States, and a resident of Rudy, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railroad-Ties, of which the following is a specification.

My invention relates to railroad-ties, and particularly to that class thereof known in the art as "metallic" railroad-ties.

It has for its object to provide a hollow metallic railroad-tie having means on its base for engaging the road-bed, and thereby preventing the tie from creeping in any direction, to provide seats for the rails therein, and to provide a brace for the tie and rails constructed and arranged to be extended laterally to engage and hold the rails securely in their seats or to be contracted to disengage the rails and allow them to be removed from their seats.

It has for a further object to provide a railroad-tie of the character set forth which will possess advantages in point of simplicity, inexpensiveness, facility of adjustment, convenience, effectiveness, and general efficiency.

In the drawings, Figure 1 is a plan view of the metallic railroad-tie, the brace for the tie and rails being removed. Fig. 2 is a transverse sectional view taken on the line *x x* of Fig. 1. Fig. 3 is a side view of the metallic railroad-tie for a single set of rails, showing rails in the seats therein and the brace for the tie and the rails. Fig. 4 is a modification showing the form of metallic railroad-tie which I employ at a switch, the brace for the tie and rails and the wedge which I employ therewith located between the intermediate rail and one of the outside rails. Fig. 5 is a modification showing the form of metallic railroad-tie which I employ for a double set of rails, the braces for the tie and rails, and the wedge located between the intermediate rails. Fig. 6 is a side view of the brace for the tie and rails. Fig. 7 is an end view of a modification showing the prongs separate from the tie and bolted thereto.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates the hollow metallic railroad-tie, cast, bent, or otherwise formed to present concavo-convex walls, prongs 2 on the lower edges of the side walls for engaging the road-bed, thereby preventing the tie from creeping in any direction, slots 3 in the side and top walls forming rail-seats, grooves 4, extending laterally from the base of the slots to receive the outside flanges of the rails, and a central slot 4′. The brace 5 is located within the hollow tie and comprises open frames 6, having forked ends 7, which engage the inner flanges of the rails, and a rotatable shaft 8, having oppositely-threaded ends 9, which engage threaded holes 10 in the inner ends of the frames, and a central nut 11, located in the slot 4′ in the tie and adapted to be engaged by a wrench for the purpose of turning said shaft, and thereby causing the forked ends of said frames to engage or disengage the flanges of the rails. The frames 6 of the brace contact with and brace the upper wall of the tie and are in turn supported on bars 12, extending across the interior of the tie.

Referring to the modification Fig. 4 it will be seen that the only difference between it and that shown in the first three figures resides in the employment of a wedge 13 between two of the rails at a switch, said wedge having forked ends 14, which engages the inner flange of the outside rails and the outside flange of the inner rail.

Referring to the modification Fig. 5 it will be seen that the only difference between it and that shown in the first three figures resides in providing two nut-slots 15, a central rail-seat 15′ for two rails, the employment of a wedge 13 between said rails, and the employment of two braces 5, one located between each side rail and one of the intermediate rails.

Referring to the modification Fig. 7 it will be seen that instead of forming prongs integral with the hollow metallic railroad-tie 1 separate prongs 2′ are provided and bolted or otherwise secured on the lower edge of the tie.

The operation is as follows: The rails are inserted into the tie through the slots 3 therein and placed on their seats. The rotatable shaft is then turned by means of a wrench applied to the nut 8, which causes the frames to move outwardly and the forked ends thereof to en-

gage the inner flanges of the rails, sliding said rails on their seats until their outer flanges engage the grooves 4, whereupon the rails will be securely clamped in their seats. To remove the rails, the shaft 8 is turned in the opposite direction, which will cause the frames to move inwardly and their forked ends to disengage the flanges of the rails, when they can be slid out of the grooves 4 and withdrawn from the seats 3.

I do not desire to be understood as limiting myself to the details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made in the features of construction and arrangement in the adaptation of the device to various conditions of use without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variation and modification as properly fall within the scope of my invention and the terms of the following claims.

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

1. The combination with a railroad-tie having means for engaging the flanges on corresponding sides of a plurality of rails, of a brace for engaging the flanges of the rails comprising open frames each having a threaded hole in its end leading into the open space therein, and a rotatable member having oppositely-threaded ends arranged to engage said holes and be projected therethrough into or to be withdrawn from said open spaces, substantially as described.

2. The combination with a hollow metallic railroad-tie having rail-receiving slots, of a brace for engaging the flanges of the rails comprising open frames each having a threaded hole in its end leading into the open space therein, and a rotatable member having oppositely-threaded ends arranged to engage said holes and be projected therethrough into or to be withdrawn from said open spaces, substantially as described.

3. The combination with a hollow metallic railroad-tie having rail-receiving slots, and removable engaging prongs on its lower edges, substantially as described.

4. The combination with a hollow metallic railroad-tie having rail-receiving slots and removable engaging-prongs on its lower edges, and a brace for engaging and holding the rails in their slots, substantially as described.

5. The combination with a railroad-tie having means for engaging the flanges of a plurality of rails, non-extensible wedging means for engaging the flanges of the rails, and extensible means for engaging the flanges of the rails and holding the rails in engagement with the tie and the non-extensible means, substantially as described.

6. The combination with a railroad-tie having means for engaging the flanges on one side of a plurality of rails, a wedge for engaging the inner flanges of two of the rails, and means located between two of the rails arranged to be extended or contracted to hold the rails in engagement with the engaging means on said tie, substantially as described.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

HARRY W. GANDER.

Witnesses:
AMELIA C. SLOTTERER,
W. S. SLOTTERER.