

R. OLSEN.
RAILROAD TIE.
APPLICATION FILED DEC. 16, 1909.

967,043.

Patented Aug. 9, 1910.

Fig. 1.

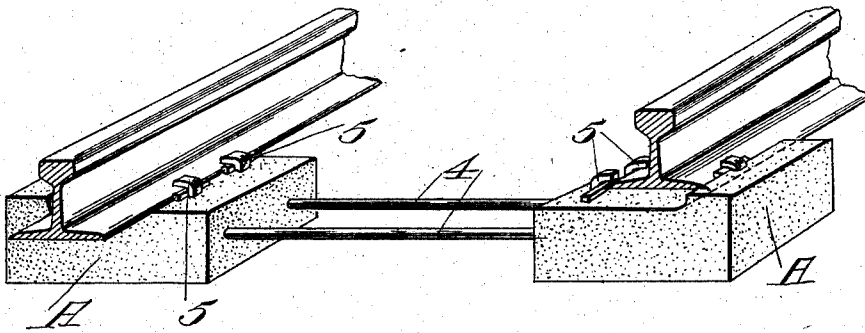


Fig. 2.

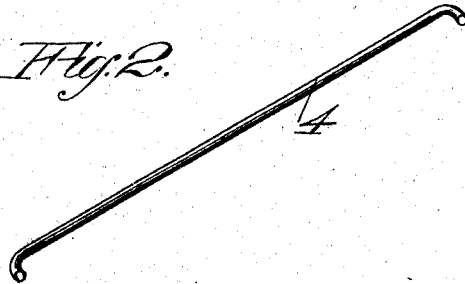
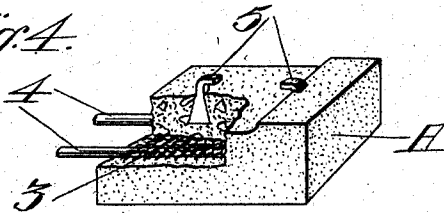


Fig. 3.



Fig. 4.



Witnesses.
H. H. Berg
F. E. Maynard

Inventor.
Rasmus Olsen
G. H. Strong
Att'y.

UNITED STATES PATENT OFFICE.

REINERT OLSEN, OF SAN FRANCISCO, CALIFORNIA.

RAILROAD-TIE.

967,043.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, REINERT OLSEN, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Railroad-Ties, of which the following is a specification.

My invention relates to improvements in ties which are especially designed to form a part of the permanent way of a railroad, and to support the rails thereof.

It consists of a plurality of concrete blocks having internal reinforcing means, and carrying rail holding devices, said blocks being united by metal bars, the ends of which are embedded in the concrete, and adapted to maintain a fixed distance between the blocks, and means formed with the blocks to prevent the spreading of the rails.

It also comprises a combination of parts, and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view showing the tie and rails in position. Figs. 2 and 3 are respective views of the tie rod and clamp. Fig. 4 is a perspective view of one of the blocks, partly broken away to show the reinforcing means.

It is the object of my invention to provide railway ties of a durable substance, and at the same time to so decrease the weight of the ties that they may be readily handled and transported.

In constructing my tie I form in suitable molds the end pieces A which may have any suitable or desired area, and within the interior are fixed reinforcing devices 3, made of expanded metal or equivalent reinforcing substance. The end pieces A are preferably made in pairs arranged at the proper distance from each other, and metal rods or bars 4 are laid into the molds, extending from one to the other, and being exposed in the open space intermediate thereof. The ends of the bars which are to be embedded in the concrete of which the rail supports are formed, are bent or formed in any suitable or desired manner to insure a strong bond which will, when the concrete has set and hardened, lock the two sections A—A firmly to the bars, and thus maintain the distance between them.

In the upper part of the molds may be fixed the rail-holding clamps 5. These clamps may have the ends which are to be

embedded in the concrete, made divergent, or in other suitable form to lock them firmly into the mass when the latter has set, and the upper ends of the clamps are bent or formed, so that the flanges of the rails engage with these holding clamps which project inwardly upon the opposite side of the rail flanges, and the rails are held firmly in place by means of keys which may be driven between the clamps and the rail flanges.

In order to insure the track against spreading, and to reinforce the exterior support, I have shown the upper surfaces of the blocks, as having the exterior raised to form a ledge against which the outer flange of the rail lies, when it is in position, and the rails are thus firmly locked against spreading. It will be manifest that if found desirable, both sides of the blocks may be formed with these ledges, and with the holding clamps, so that the blocks may be placed either side down or turned over, if desired.

It will be seen that the concrete rail supporting blocks need have only sufficient area to insure the proper support of the traffic which passes over them, and the intermediate portion occupied by the connecting rods or bars need not be filled with the concrete, thus making the ties very much lighter than if the entire length of the tie was formed of the concrete, and much easier to handle.

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

1. A railway tie consisting of polygonal concrete blocks, metal rods having the ends embedded and locked within the blocks and exposed between the inner ends thereof, and ledges formed upon the outer edge portions of the blocks adapted to act as stops against which outer flanges of railway rails directly abut, and rail clamps having lower ends embedded in the material of the blocks near the edge thereof adapted to clamp the inner flanges of the rails.

2. A railway tie consisting of a pair of separated polygonal reinforced concrete blocks, having metal uniting rods or bars, the ends of which are embedded in the opposed blocks, rail clamps having their lower ends thickened and embedded and locked in the material of the blocks, and their upper ends forming clamps by which the rails are held in position, and keys extending cross-

wise through the clamps to lock the rails within the clamps.

3. A railway tie consisting of a pair of independent separated blocks of reinforced
5 concrete, rods or bars extending between said blocks and having their ends embedded therein, said blocks having ledges formed on the outer portions against which rails
10 may abut, and by which their gage is maintained, clamps having their lower ends embedded and locked in the concrete, and the

upper ends projecting and turned to engage the opposite sides of the rail flanges, and means for locking the rails to the clamps.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses. 15

REINERT OLSEN.

Witnesses:

RAYMOND A. LEONARD,
F. E. MAYNARD.