

(No Model.)

2 Sheets—Sheet 1.

J. K. CLARK.
RAILWAY TIE OR SUPPORT.

No. 310,794.

Patented Jan. 13, 1885.

Fig. 1.

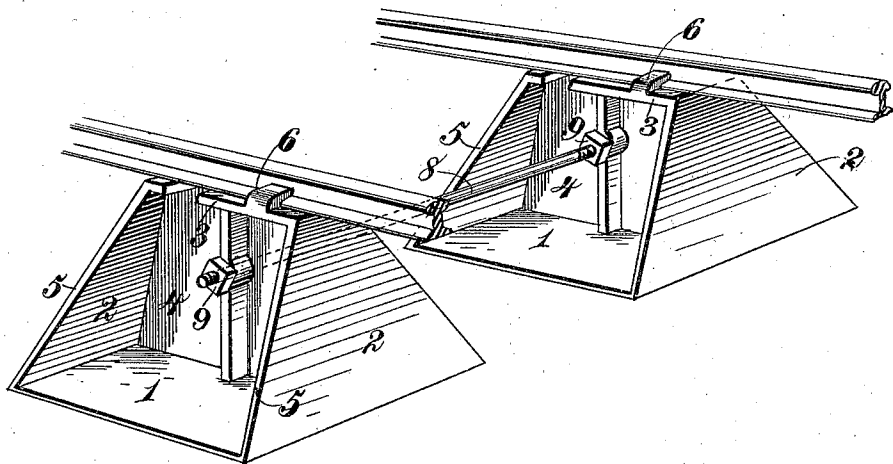


Fig. 2.

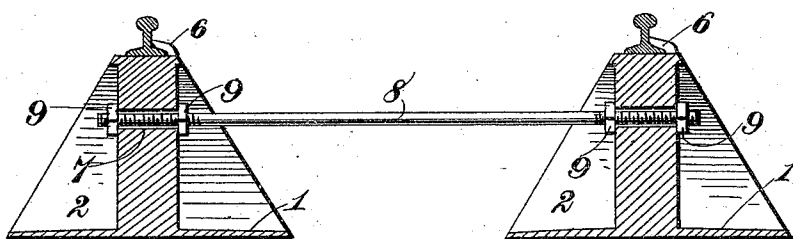
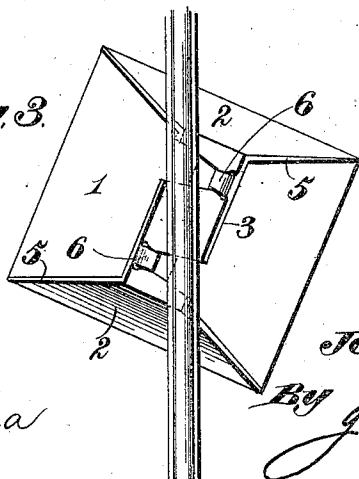


Fig. 3.



Witnesses.

Robert Emmett.

George W. Rea

Inventor.

John K. Clark.

By *James L. Norris.*

Atty.

(No Model.)

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Fig. 4.

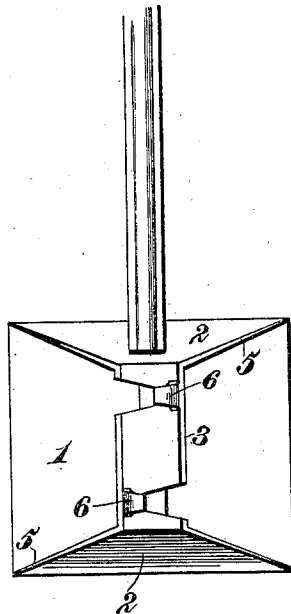
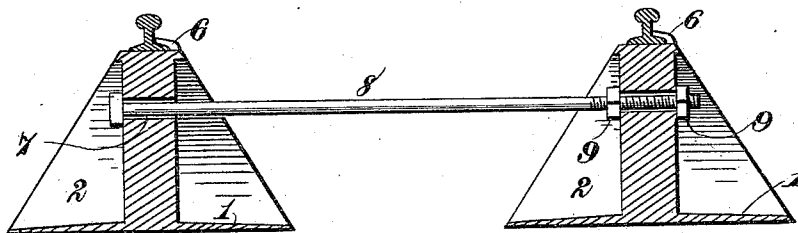


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN K. CLARK, OF BUFFALO, NEW YORK.

RAILWAY TIE OR SUPPORT.

SPECIFICATION forming part of Letters Patent No. 310,794, dated January 13, 1885.

Application filed February 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. CLARK, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Railway Ties or Supports, of which the following is a specification.

This invention has for its objects to provide a durable and novel construction of supports for railway-rails, whereby wooden ties are dispensed with and the use of railway-spikes avoided; to provide a metallic railway-support with an extended supporting-wall, and a top plate joining upright walls, and having diagonally-arranged overhanging lips to engage the rail-flanges, whereby the rails can be conveniently and rapidly tied in position, while the support is prevented from sinking into the earth, while it can be effectually ballasted and embedded, and a practically solid structure is produced at less cost than metallic ties of which I am aware, and to provide a support of novel construction, whereby an extended bottom supporting-wall is produced, the rail is tied down by overhanging diagonal lips, and a central strengthening-web is provided, which is formed integral with the bottom wall, the upright walls, and the upper lipped plate, and serves as a medium for imparting considerable strength to the structure, and also as a means for connecting two of the oppositely-arranged supports to solidly join the whole after the rails are in position.

The objects of my invention I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of two of the supports connected together, with the rails in place. Fig. 2 is a vertical sectional view of the same, taken longitudinally through the connecting-rod; Fig. 3, a detached top plan view of one of the supports, showing one method of engaging it with a rail; Fig. 4, a detached plan view of one of the supports, showing another method of engaging it with a rail; and Fig. 5, a view similar to Fig. 2, showing a modification in the construction of the connecting-bolt.

Referring to the drawings, it will be seen that each support is composed of an extended

horizontal bottom wall or base, number 1, vertical side walls, 2, a transverse top plate, 3, and a central web, 4, which joins with the bottom and side walls and the top plate, thus imparting strength and rigidity to the structure. The end edges, 5, of the side walls incline from the ends of the top plate outwardly to the ends of the bottom wall, thus providing a narrow top surface for the rail as compared to the extended bottom wall or base. The top plate is formed at its opposite edges adjacent to the ends with diagonally-arranged overhanging lips 6, and between the latter and at each end the plate is solid or unbroken, to form a seat for the base of the rail.

The above parts are cast integral from malleable iron or other suitable metal, thus producing a cheap, strong, and durable support, and during the process of casting an orifice or hole, 7, is cored transversely through the web for the passage of the rod or bolt 8, employed to connect and hold two opposite supports.

As shown in the drawings, the ends of the rod or bolt pass through the orifices in the webs, and on each end of the rod are two screw-nuts, 9, arranged, respectively, on the outer and inner sides of the webs, the outer nuts serving to tighten the rod or bolt to solidly connect the supports, and the inner nuts serving as jam-nuts for retaining the parts in solid connection; but, if desired, one end of the rod may be formed with a head, and the tightening and jam nuts only placed at the other, as shown in Fig. 5, so that by alternating the arrangement of the rods, to reverse the position in every other pair of supports, all would be solidly joined together.

In order to engage the support with a rail, the former is preferably presented at an angle to the rail to bring the diagonally-arranged lips over the rail-flanges, which effectually retains or ties the rail in position on the top plate; but instead of this method of engaging the tie with the rail, the former may be slipped on in a straight line from the end of the rail, as in Fig. 4. Either of these methods enables the rail to be quickly and conveniently connected with the support without the employment of spikes or extraneous devices, and when the rails have been connected with two oppo-

site supports in the manner explained the rod is connected with the webs, and the supports are thereby joined, preventing spreading or crowding of the latter, while the rod engaging the webs provides for elasticity of the parts, which admits of one support settling without breaking its connection with the other.

In practice the lips on the top plate should be of such height as to permit the rail to slightly rise and fall to provide for the contraction of the metal. The construction of the base of the support is such that an extended wall is presented, which effectually prevents the support from sinking into the earth. The web not only joins the bottom and side walls and top to strengthen the structure, but provides simple means for the attachment of the connecting-rod. The top plate having the diagonal lips serves as a seat for the rail, and to quickly and conveniently connect the support with the rail without the use of spikes or separate devices, while by casting the support integral with its characteristic features described the structure is rendered durable and the cost of production lessened.

In building a railway in which my invention is used the ballasting material is packed into the support and upon the bottom wall or base, thereby securely embedding the support in position, which makes it a solid fixture, which is of manifest advantage.

Having thus described my invention, what I claim is—

1. A support for a railway-rail cast integral with the extended bottom wall, side walls, top plate, and diagonally-arranged overhanging lips on the top plate, and a web having an orifice for the passage of the connecting-rod, substantially as described.

2. A support for a railway-rail cast integral with the extended bottom wall, side walls, top plate, diagonally-arranged overhanging lips on the top plate, and a central web having an orifice for the connecting-rod, and joined to the top plate and the bottom and side walls, substantially as described.

3. The combination of the two supports, each constructed with an extended bottom wall, side walls, a top plate formed with diagonally-arranged overhanging lips, and a web having an orifice, with a connecting-rod passing through the webs and having a tightening and a jam nut, substantially as described.

4. The combination of the two supports, each cast integral with an extended bottom wall, side walls, a top plate, diagonally-arranged overhanging lips on said plate, and a web having an orifice and joined to the top plate and the bottom and side walls, with the connecting-rod passing through the webs and nuts for tightening and holding the rod, substantially as described.

5. A railway-support having two side walls joined at the base by an extended bottom wall, and at the top by a plate formed with diagonally-arranged overhanging lips, and a web between the walls and plate having an orifice for the passage of a connecting-rod, substantially as described.

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

JOHN K. CLARK.

Witnesses:

HARLOW C. CURTISS,
CHARLES R. WILSON.