Jan. 2, 1923. 1,440,390

A. KALLIO.
RAIL CLAMP.
FILED JUNE 28, 1922.

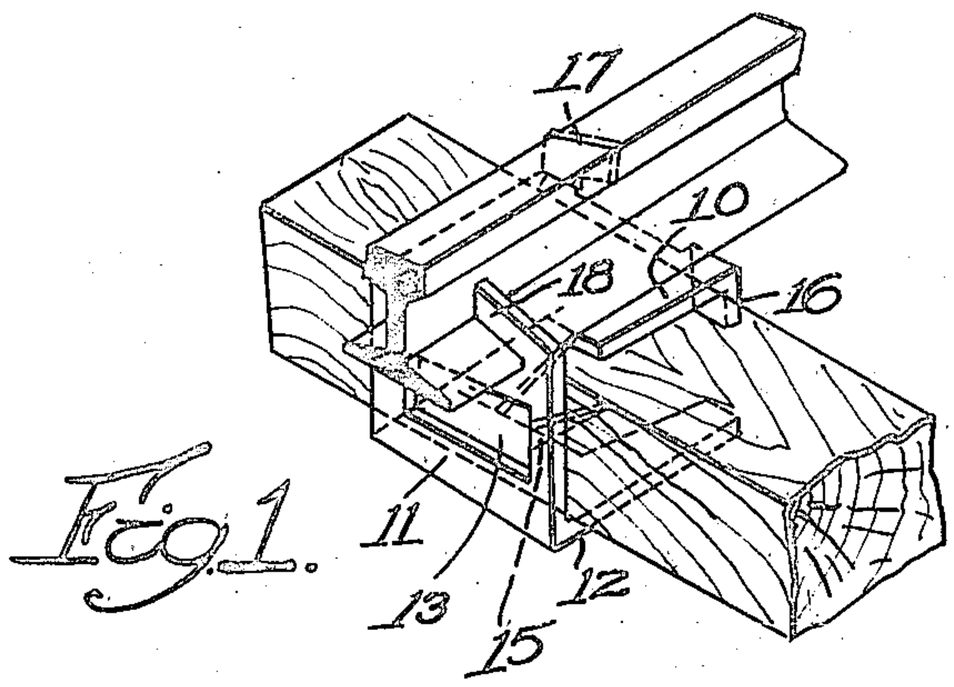

Fig. 1.

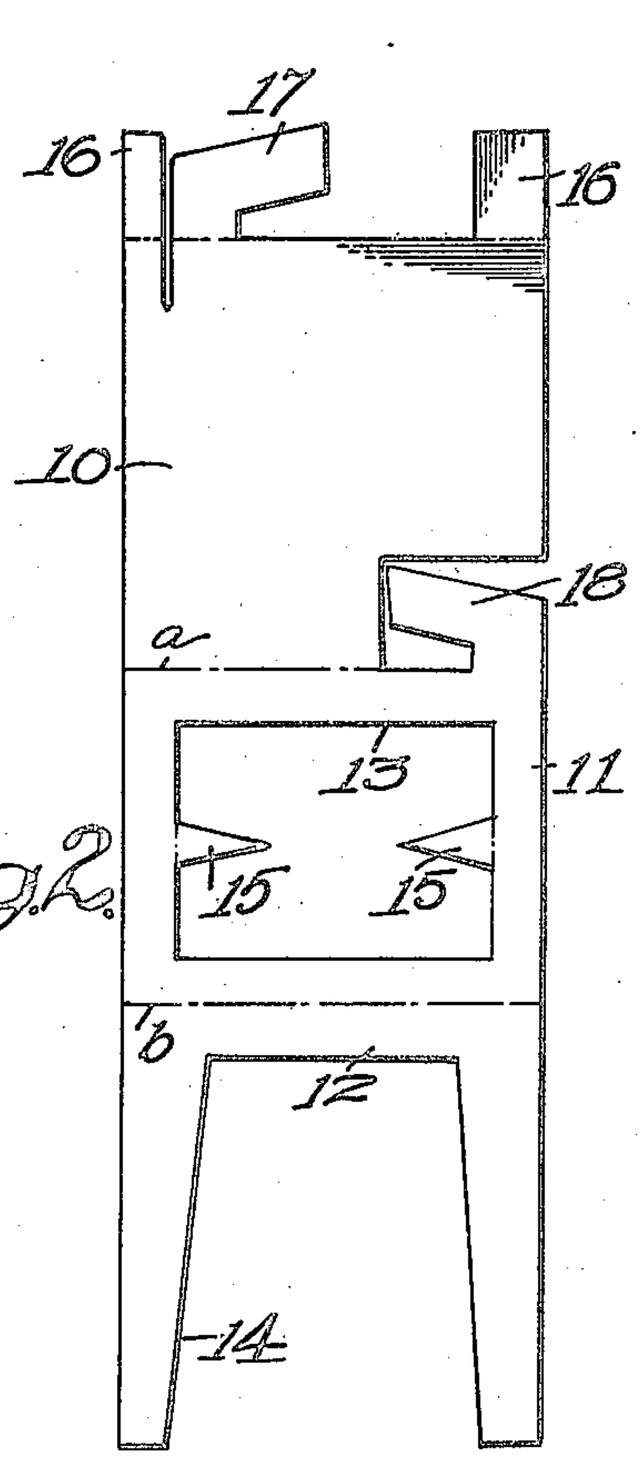

Fig. 2.

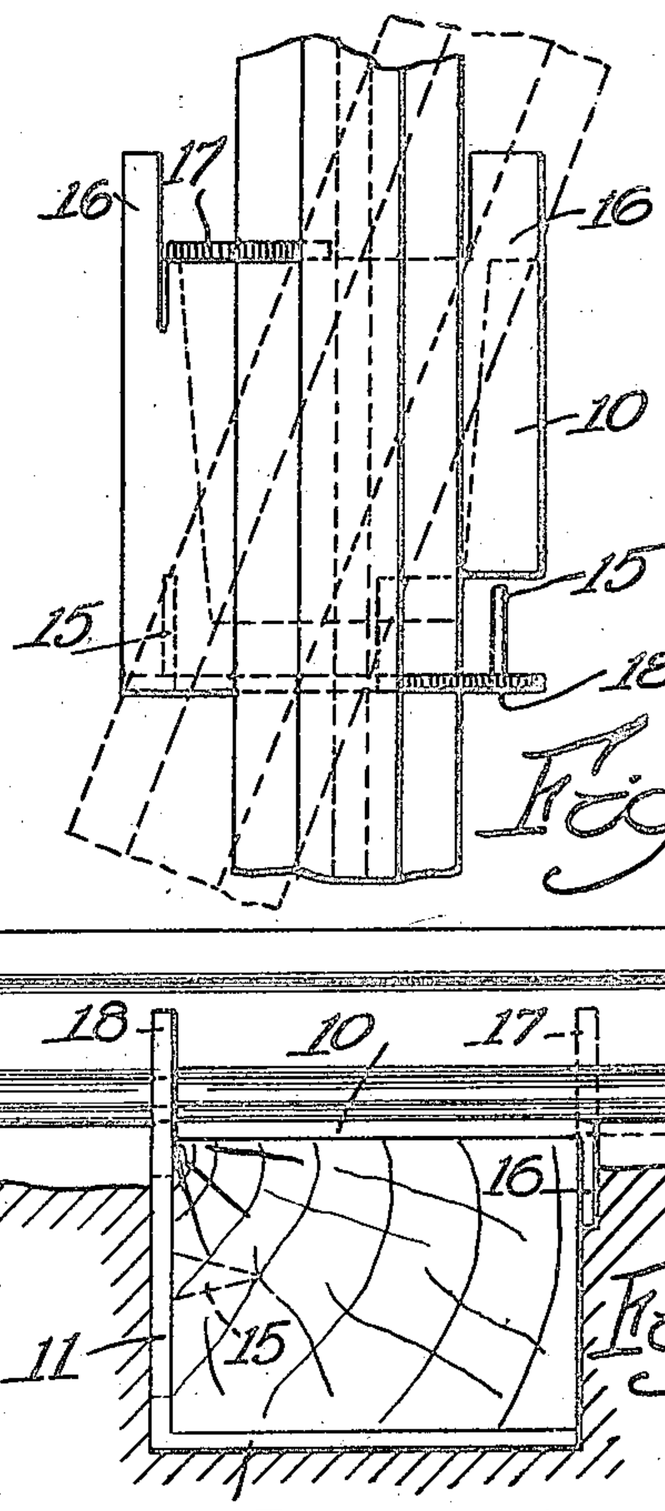

Fig. 3.

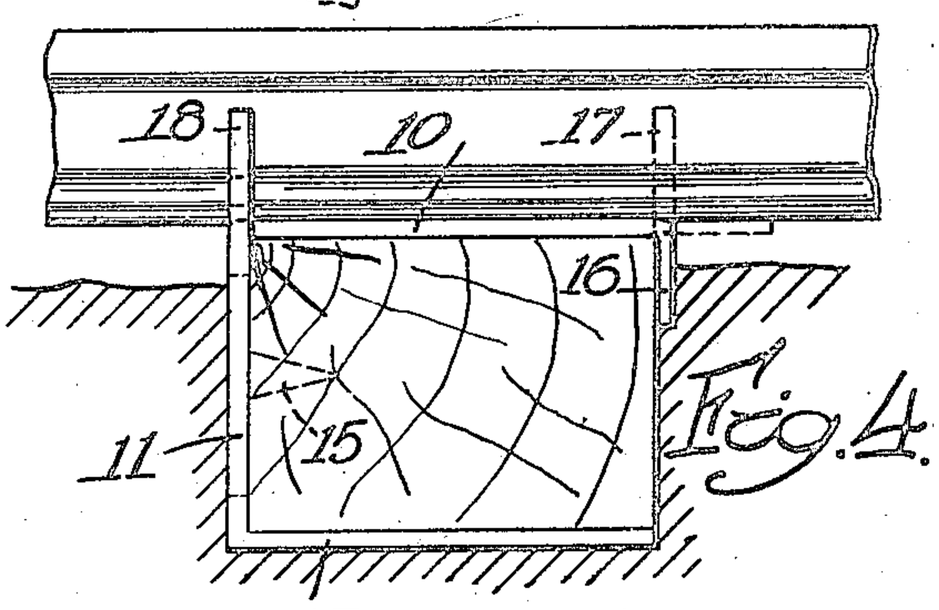

Fig. 4.

Inventor:
Arvo Kallio.
By attorneys
Southgate & Southgate

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UNITED STATES PATENT OFFICE.

ARVO KALLIO, OF WORCESTER, MASSACHUSETTS.

RAIL CLAMP.

Application filed June 28, 1922. Serial No. 571,483.

To all whom it may concern:

Be it known that I, ARVO KALLIO, a citizen of the Republic of Finland, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Rail Clamp, of which the following is a specification.

This invention relates to a clamp adapted for use in securing a rail to a tie in a railway road bed. It is customary to secure the rails by means of spikes driven directly into the ties at both edges of the rail. This method of holding the rail leaves it in direct contact with the tie, subjecting the latter to excessive wear and requiring frequent replacement thereof. The driving and removal of the spikes also involves severe manual labor.

It is the object of my invention to provide a rail clamp so constituted that it may be easily applied or removed and that it will also serve as a wearing plate between the rail and the tie when in use.

A further object of my invention is to provide a clamp which may be conveniently and cheaply constructed from a single piece of heavy sheet metal entirely by press operations.

My invention further relates to arrangements and combinations which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of my invention is shown in the drawings in which

Fig. 1 is a perspective view of my improved rail clamp in use;

Fig. 2 is a plan view of the blank before the clamp is bent to the shape in which it is used;

Fig. 3 is a plan view illustrating the way in which the clamp is applied to a rail, and

Fig. 4 is an end elevation of the clamp in use.

Referring to the drawings, I have shown a rail clamp adapted to be formed from a single flat piece of heavy sheet metal. This clamp comprises an upper body portion 10, an end portion 11 and a bottom portion 12. The end portion 11 preferably has a recess or opening 13 which materially reduces the weight of the clamp and the bottom portion 12 is preferably formed with two legs spaced apart by a relatively wide recess 14. A pair of spurs 15 may be formed in the end 11, projecting into the recess 13 as shown in Fig. 2. Lugs or projections 16 extend from the outer end of the upper portion 10 and oppositely disposed hooks 17 and 18 are formed at each side of the portion 10. The hook 17 projects from the outer edge of the upper portion 10 while the hook 18 projects from the upper edge of the end portion 11.

After the blank is thus formed, the end 11 and bottom 12 are bent at right angles along the broken lines *a*, *b*, (Fig. 2) and the prongs or spurs 15 are also bent at right angles, as indicated in Figs. 3 and 4, so that they may be driven into the side of the tie. The hook 17 is also bent upward to a right angle with the portion 10, and the hook 18 assumes a similar position from its attachment to the end 11.

When in this position, the hooks 17 and 18 are sufficiently separated diagonally so that the clamp may be slipped over the base or flange of the rail when turned to a diagonal position with reference thereto.

In the use of my improved device, the clamp is slipped diagonally over the rail as above described and is then moved up against the tie, enclosing the same on the top and bottom sides as shown in Fig. 4. The clamp is then hammered or otherwise forced against the side of the tie to seat the spurs 15 therein, preventing movement of the clamp longitudinally of the tie. The projections 16 are then bent downward as indicated in Fig. 4 to hold the clamp securely in position.

It will thus appear that I have provided a clamp which may be easily and quickly placed in position and which provides a broad, flat, wearing surface 10 upon which the rail may rest, thus protecting the tie from the wear caused by movement of the rail and greatly prolonging the life of the tie.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what I claim is:—

1. A clamp for securing a rail to a tie comprising a flat upper plate having bendable locking lugs, oppositely disposed rail-engaging hooks adjacent the edges of said upper plate, and means adapted to extend along one side and the bottom of the tie to prevent displacement of the clamp.

2. A clamp for securing a rail to a tie comprising a flat upper plate, means to secure a rail thereto, a side plate having an opening and having positioning spurs extending in-

wardly from the edges of said opening, and means to prevent upward or transverse displacement of said clamp.

3. A rail clamp formed from a single piece of sheet metal and comprising a body having top, side and bottom portions, rail-engaging projections on said top portion, and means to secure said body to a tie, said body also having integral spurs formed thereon in the side portion thereof to prevent displacement of said clamp longitudinally of the tie.

In testimony whereof I have hereunto affixed my signature.

ARVO KALLIO.