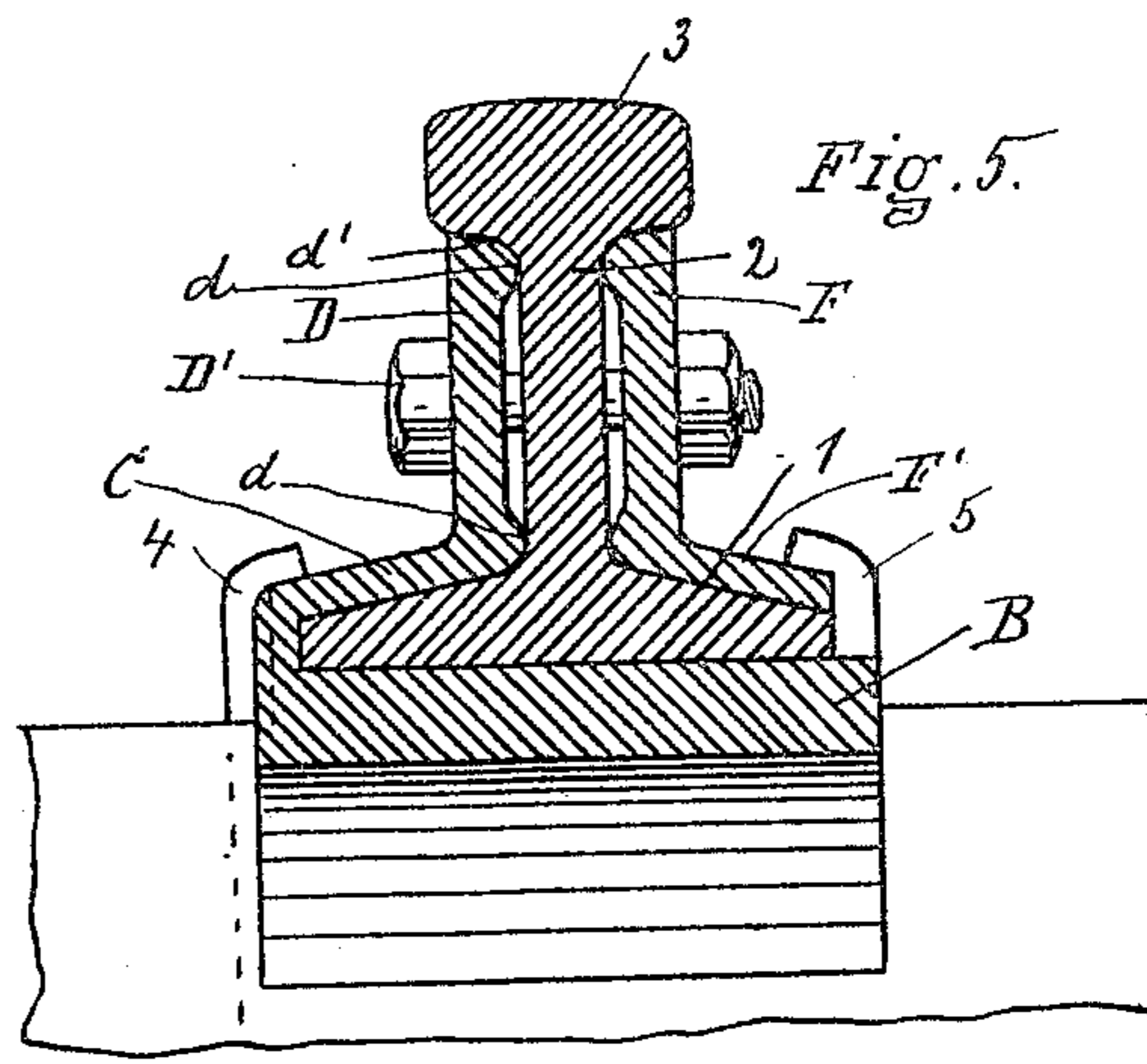
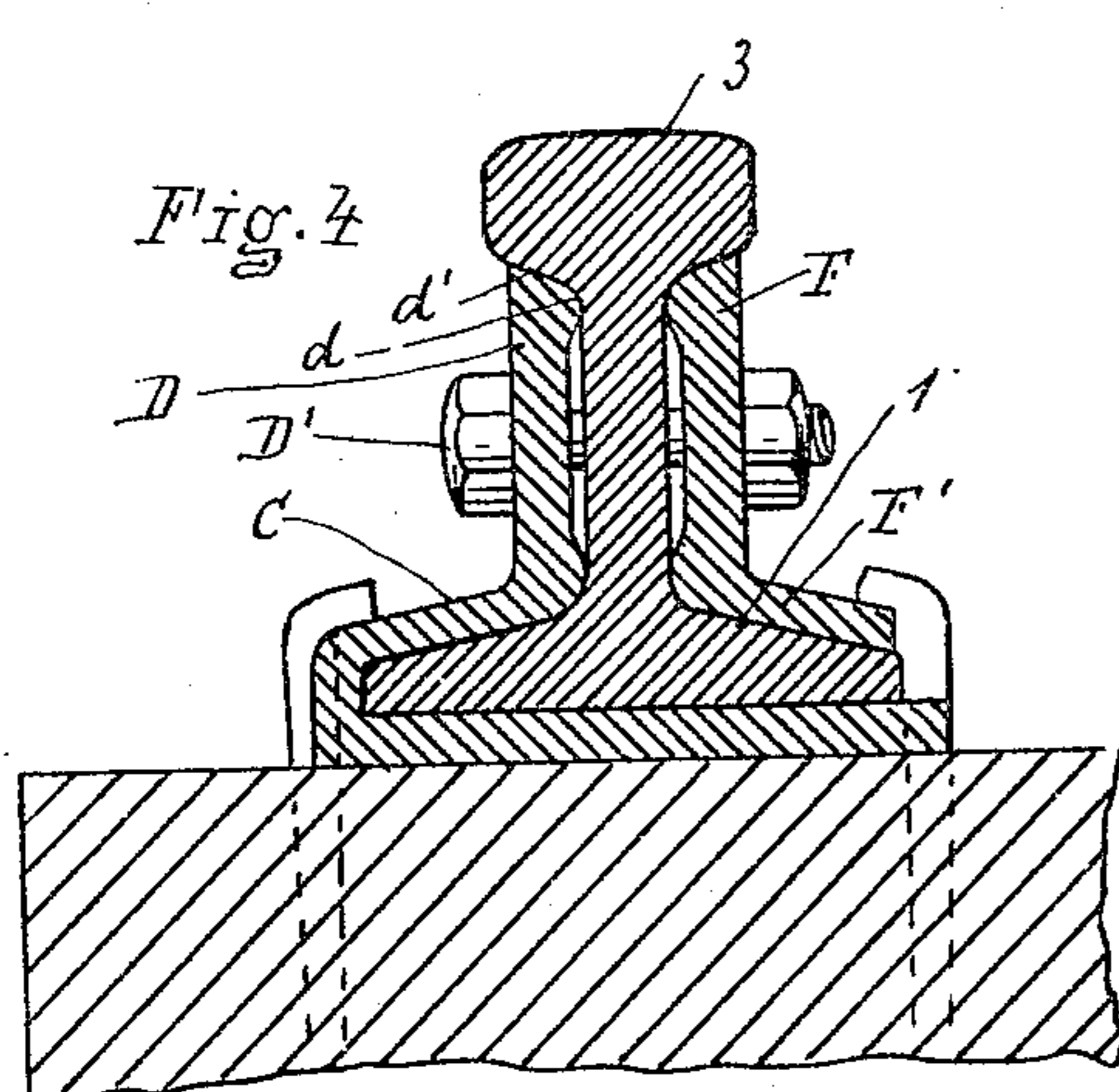
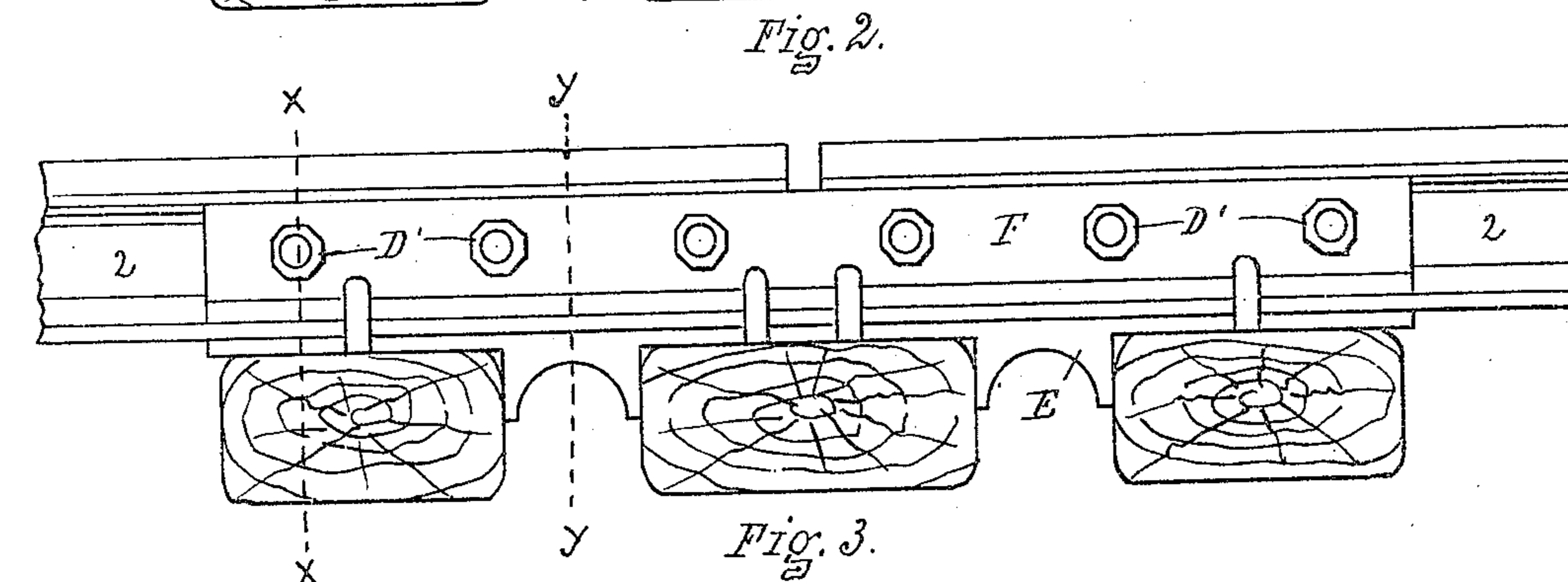
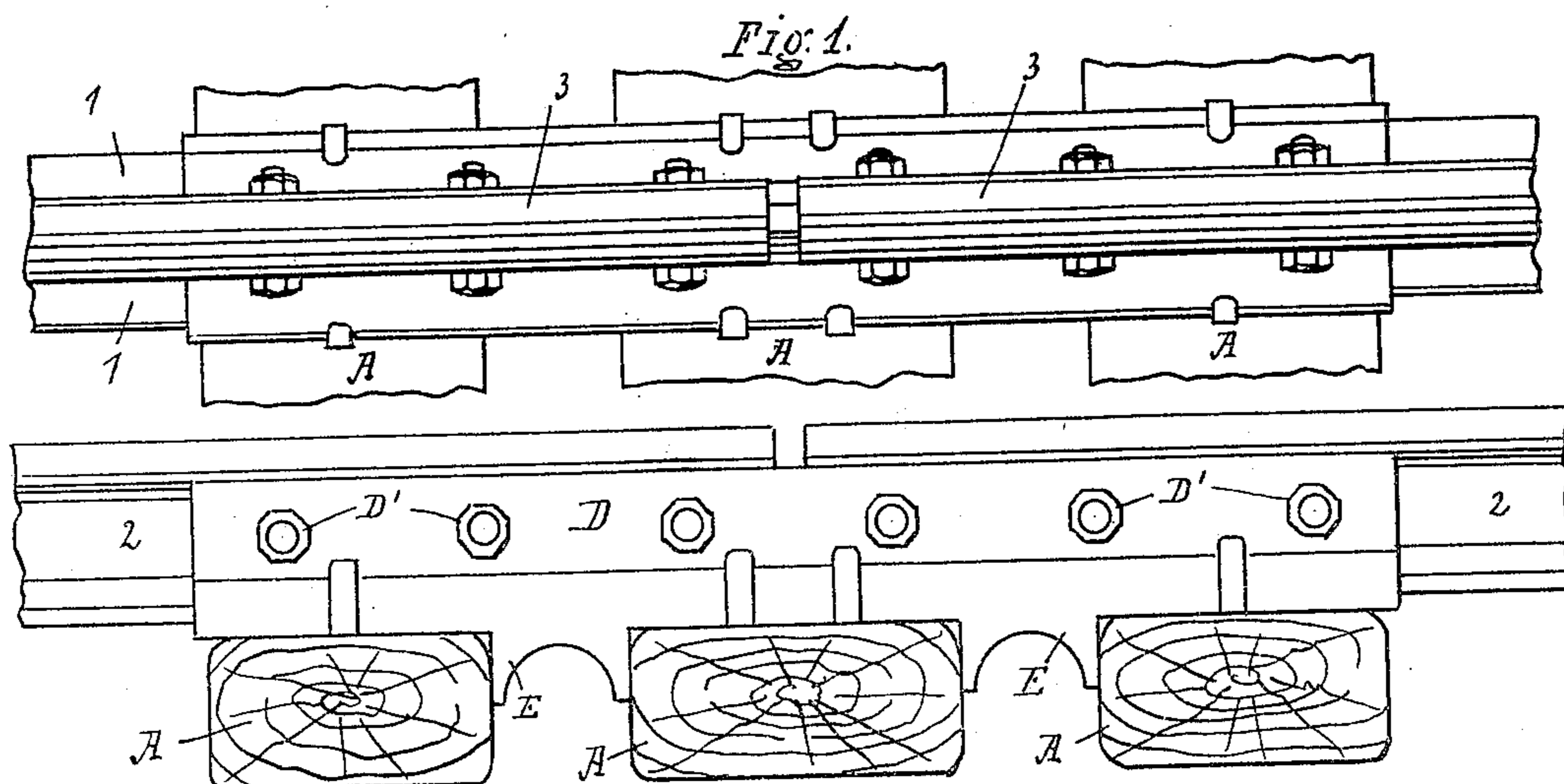


No. 807,509.

PATENTED DEC. 19, 1905.

F. SHERWOOD.
RAIL JOINT CONSTRUCTION.
APPLICATION FILED NOV. 9, 1904.



WITNESSES.
Rich. A. George
E. G. DeLongi.

INVENTOR
FRED SHERWOOD
BY *Rusley & Love*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRED SHERWOOD, OF ROME, NEW YORK, ASSIGNOR OF ONE-FOURTH TO
B. D. KNEELAND, OF ROME, NEW YORK.

RAIL-JOINT CONSTRUCTION.

No. 807,509.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed November 9, 1904. Serial No. 231,968.

To all whom it may concern:

Be it known that I, FRED SHERWOOD, a citizen of the United States, residing at Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Rail-Joint Construction, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved rail-joint construction; and I declare that the following is a full, clear, concise, and exact description thereof sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings, in which like letters and numerals refer to like parts throughout.

My invention consists of a structure to be used at the joint of rails, and comprises the various elements, formation, and arrangement shown and described, including a chair or base for the support of the adjacent ends of rails with means secured on or integral therewith for engaging one side of the base portion of the rail and the adjacent web and tread thereof and also having on the under side of the chair means for engaging with the ties the bed structure or the members which support the rails.

The purpose of my invention is to provide a chair or support underneath the joint of the rails, so as to hold the ends true against the tendency to vertical play as weight passes thereover and also to hold them true against lateral movement and to prevent a rail end from becoming displaced and prevent the ends from buckling or getting out of their true position in the rail-line.

A further purpose is to prevent the running of the rails, as is sometimes apparent. In rail structures it is found that the pressure of the stock on the rails tends to flatten them at the ends, especially if there is the slightest opportunity for the end of either rail to yield vertically, and also in such use the rail tends to run by reason of its becoming gradually lengthened, and it is frequently necessary to cut off the ends of rails to take out beaten ends and to compensate for the expansion resulting from wear of the rails. It is also found that this expansion of the rails will frequently carry a joint an appreciable distance along the rail-bed, so that the adjacent ends of rails will not rest over a tie so as to be supported thereon, but will come between ties,

when it becomes natural and inevitable that the ends should be hammered and flattened and by the passing of the rolling-stock the rail-line or rail structure gets out of true alignment. For the purpose of obviating these dangers and curing the difficulties as above specified, together with others, I have devised the structure shown in the accompanying drawings and specification.

In the drawings, Figure 1 is a plan view of my structure supported on the ties and supporting the rails. Fig. 2 is a side view of the same, and Fig. 3 is an opposite side view. Fig. 4 is a cross-section view of one rail on the line xx of Fig. 3, and Fig. 5 is a like view on the line yy of Fig. 3.

Referring to the figures more in detail, A represents railroad-ties.

B represents the base of my chair construction, which has a length sufficient to reach over a plurality of ties and is formed of sufficient width to support the rail, which is of ordinary construction, having a base 1, a web 2, and a tread 3. At one edge of the base B is provided integral therewith or fixed thereto a member C, which is longitudinal of the base and rises from the edge, whence it turns toward the middle on such a line, and leaving such a space as will receive the corresponding side of the base 1 of the rail, as is clearly seen in Figs. 4 and 5. The member then rises vertically, as shown by D, having its outer surface substantially parallel with the web of the rail and having on its inner surface contact-ridges $d\ d$, which bear against the web, there being longitudinal space between the web of the rail and the portion D, through which bolt-holes are provided for the bolts D' to hold the rail to the vertical webbed member D. This webbed member terminates at the upper edge in a surface adapted to fit against the lower curved face of the rail-tread, as shown at d' . On the opposite side of the rail I provide plate F, which is shown as having a web portion and a base portion F' , though it need not be given such form as shown. It is properly secured by the bolts and spikes.

In employing my device as thus far explained the rails are laid on the base B with suitable distance between their ends and are crowded with one edge of the base into the recess provided under the part C of the chair construction, the upper edge of the portion D coming under the lower face of the rail-

tread, when the bolts are passed through the holes provided therefor and the rails secured to the base portion. Spikes are used passing through the edge of the chair-base, as shown by 4, securing it and the rail to the tie, and spikes (shown at 5) are used on the opposite side, passing through cut-outs in the edge of the chair-base and engaging the base of the rail. Beneath the chair I provided downwardly-depending members E, integral therewith or fixedly secured thereto, of which sufficient number is provided under each chair, leaving space therebetween and on the outside of the outer ones for engaging the ties A. I illustrate the members E as cut out on the under face to provide facilities for the passing of wire or for drainage, the essential feature being that they have sufficient strength and bearing-surface to hold the chair from being moved along and carrying the rail-joint out of its position above a tie. To fully meet the latter requirement, they are extended transversely the width of the chair, or more, so as to provide abundant bearing-surface against the tie without the possibility of the surface eating into the tie or injuring it and thus lessening its utility for holding the chair firmly to the ties and the latter and the chair in proper position relatively to the rail.

It will of course be apparent that various modifications may be made in the form of my invention as I have illustrated without departing from the spirit and scope of the invention, which it will be seen provides a rigid support for the rail ends, holding them securely thereon and keeping the chair or supporting means from moving relatively to the ties, and consequently preventing the joint of the rails coming between ties.

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

1. A rail-joint comprising ties, rails, a longitudinal chair comprising the wide base arranged beneath adjacent rails and overlying a plurality of ties and having on one side a longitudinal web extending over one side of the rail-bases and up along the webs of the rails, whereby said wide base can slide freely transversely under the rail-bases, a separate plate arranged longitudinally along the opposite sides of the rail webs and bases, clamping-bolts passing through the webs of the adjacent rails, said plate and said chair-web, the rail ends being arranged over a tie, and said

chair having transversely-arranged abutments depending between and engaging the side faces of the ties, substantially as described.

2. A rail-joint comprising a horizontal elongated chair comprising the base arranged beneath approximately the full width of adjacent rails with the ends thereof at the central portion of the chair and over a tie, the opposite longitudinal edges of said chair being notched beyond the rail-bases to receive spikes securing the same to the several ties, said chair fitting over one side of the rail bases and webs and bolted thereto and open at the opposite side to receive the rails, and having a plurality of rigid abutments depending at the vertical faces of the several ties to hold the rail-joint against creeping, substantially as described.

3. A rail-joint comprising an elongated chair having the unobstructed side opening to laterally receive the end portions of two adjoining rails and consisting of a longitudinal base under said two rail-end portions and in width approximately equal to the width of the rail-bases and overlying several ties and having a plurality of rigid depending abutments engaging the edges of the several ties to hold the chair and ties in fixed relation, and a web portion receiving one side of the rail bases and webs, a longitudinal plate engaging the opposite side of the rail-webs, and means clamping said plate and chair and rail-webs together, substantially as described.

4. A rail-joint comprising a chair elongated to rest on a plurality of ties and open throughout one side to laterally receive the end portions of two adjoining rails and consisting of the longitudinal base extending completely across and supporting said rail-end portions and formed at its opposite longitudinal edges to receive means, beyond the rail-bases, for fastening the chair to ties and having the rigid abutments depending at the vertical faces of the several ties and a web portion fitting over one side of the rail-bases and one face of the rail-webs, and means securing said chair-web portion to the rail-webs, substantially as described.

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

FRED SHERWOOD.

Witnesses:

JOHN P. DAY,
HENRY M. LOVE.