

(No Model.)

O. F. WICKHAM.
RAIL JOINT.

No. 542,666.

Patented July 16, 1895.

Fig. 1.

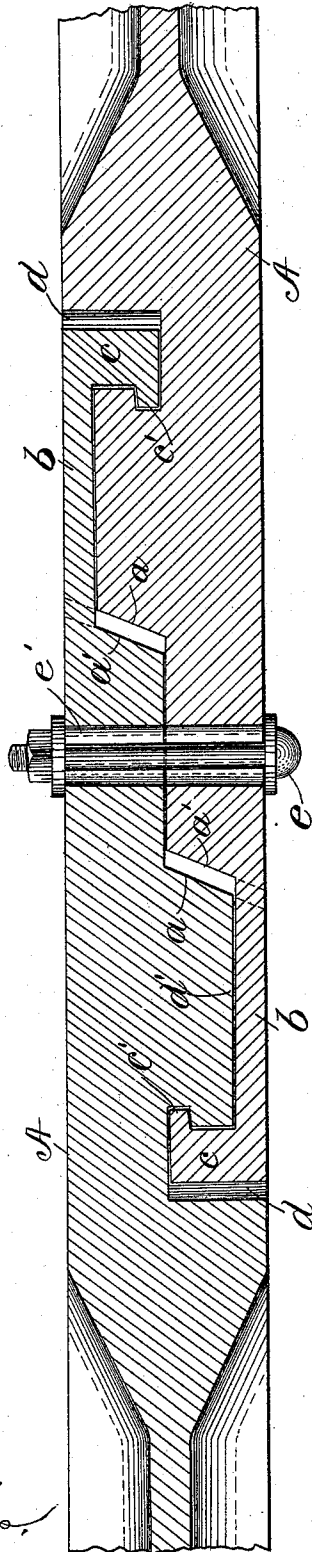
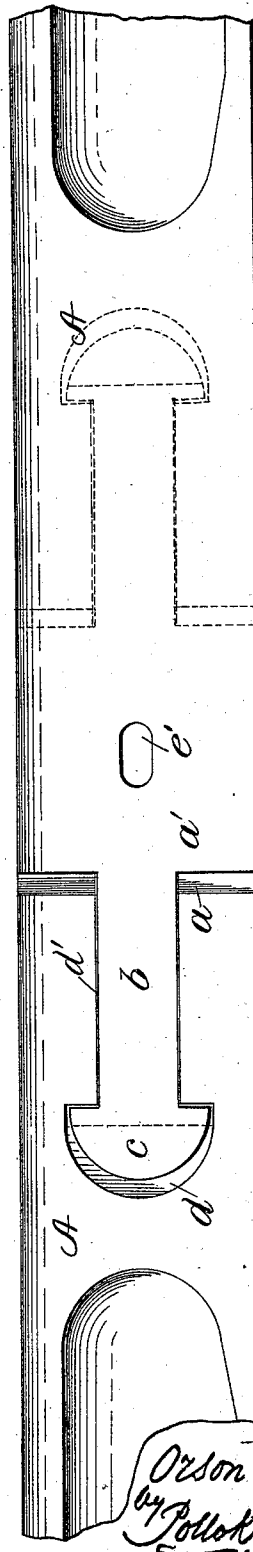


Fig. 2.



Witnesses.
H. D. Edson.
Geo. Lewis.

Inventor.
Orson F. Wickham
by J. J. Mauns & Co. Attorneys

UNITED STATES PATENT OFFICE

ORSON F. WICKHAM, OF PENTWATER, MICHIGAN, ASSIGNOR OF ONE-HALF
TO WILLIAM B. O. SANDS, OF SAME PLACE.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 542,666, dated July 16, 1895.

Application filed May 7, 1895. Serial No. 548,393. (No model.)

To all whom it may concern:

Be it known that I, ORSON F. WICKHAM, of Pentwater, Michigan, have invented a new and useful Improvement in Rail-Joints, which improvement is fully set forth in the following specification.

The present invention has reference to rail-road-rail joints and particularly to such joints wherein the meeting ends of the rails overlap and interlock to form what is generally termed a "continuous rail."

The injuries to the road and traveling stock and the annoyances to passengers traveling over the same caused by the hammering of the car-wheels in jumping the small spaces separating the adjoining ends of rails of the ordinary construction are too well known to require explanation. On the other hand, rail-joints comprising interlocking parts are usually very susceptible to fracture upon the passage of heavy cars, &c., over them and for this reason tend to detract from the safety of the road. It is also necessary to practical success that such joints be somewhat simple in construction, conducing to cheapness in manufacture and facilitating the connecting and disconnecting of the rails.

The objects of the present invention are to provide a joint for rails of the continuous type capable of withstanding the heavy strains to which it is subjected; which possesses the necessary simplicity in structure to permit of its practical use and manufacture; which allows for the expansion and contraction of the rails, and which effects a firm and secure connection, such as to prevent, when the parts are properly interlocked, the separation of the rails by lateral or transverse movements. Other advantages will appear from the following description.

In accordance with my invention the overlapping ends of the rails are each formed with a tongue extending beyond the same at opposite sides thereof. Said tongues carry blocks grooved on their under edge, so as to form with the tongue hook-shaped extensions on the rails. In its side opposite the tongues each rail is recessed to receive the hooked extension on the other rail, said recess being suitably undercut, so that when the joint is properly made the hook engaging said un-

der-cut prevents the separation of the rails, except, when desirable, by a compound longitudinal lateral movement. No fish-plates or other accessories, with the exception, possibly, of a bolt or bolts, which may be used as an additional security, are necessary in effecting the joint.

The invention will be more fully understood by reference to the accompanying drawings, wherein—

Figure 1 is a horizontal section through portions of two rails connected by my improved joint, and Fig. 2 is a side elevation thereof.

As the construction of both members of my rail-joint is exactly the same, the positions of the parts being simply reversed on the two rails, as shown in the drawings, it will suffice to describe one member only.

Referring to the drawings, A A represent two rails overlapping each other along the central line thereof and each having an inclined shoulder *a* at the point where such overlapping terminates and being correspondingly inclined at its extremity *a'*. A tongue *b*, formed integral with the rail, extends beyond the extremity *a'* thereof in a longitudinal direction. On the end of tongue *b* is a block *c*, having a flange *c'* on one side thereof so as to form with the tongue a hooked-shaped extension on the rail. The flange *c'* is inclined at its inner side for purposes hereinafter explained.

A recess *d* is formed in the side of the rail, said recess being intersected by a groove *d'* extending through the shoulder *a*. The recess *d* beneath groove *d'* is undercut, such undercut having an inclined top wall.

In joining the ends of two rails constructed as above specified, the tongue *b* and block *c* on each rail, forming the hooked extension, are engaged respectively in the groove *d'* and recess *d* (the position of the parts being reversed on the two rails) by a lateral movement, at the same time bringing the inclined extremities *a'* against the shoulders *a*. Next, by a longitudinal movement of the rails or one of them, the flange *c'* on block *c* is engaged in the undercut portion of recess *d*, the inclined side of the flange coming into contact with the inclined upper wall of the under-

cut, thus drawing the parts more closely and tightly together. In such position the rails are secured to the cross-ties, and, as will be apparent, they cannot be separated by a lateral movement. By the longitudinal movement above referred to the shoulders *a* and extremities *a'* are slightly separated to allow for expansion of the rails. A small space also separates the end of block *c* from the wall of recess *d* for a similar purpose. To prevent all possible separation of the rails, a bolt *e* is passed through elongated openings *e'* in the overlapping portions thereof.

It will be understood that, while I consider it preferable to locate the hooked extension and recesses at the side of the rails, they can be placed in any other suitable position.

What I claim as new is—

1. In a railroad rail joint the combination with overlapping rails each formed with an undercut recess in respectively opposite sides thereof, of hooked extensions on the other sides of said rails adapted to engage said undercut recesses to prevent disconnection of the rails by lateral displacement thereof, substantially as described.

2. In a railroad rail-joint the combination with overlapping rails each formed with an undercut recess, and a groove intersecting said recess, of a tongue extending beyond the extremity of each rail on the other side thereof, a flanged block at the end of said tongue formed therewith a hooked extension on each

rail, said extension on one rail lying in the groove and recess on the other when the parts are interlocked, the flange on the block engaging the undercut of the recess to prevent disconnection by lateral displacement of the rails, substantially as described.

3. In a railroad rail-joint the combination with overlapping rails each formed with an undercut recess, the wall overhanging said undercut being inclined, and a groove intersecting said recess, of a hooked extension on each rail engaging in the groove and recess of the other, the point of the hooked extension bearing against the inclined wall of the undercut to force the parts into more intimate contact and at the same time preventing disconnection by lateral displacement of the rails, substantially as described.

4. In a railroad rail-joint the combination with overlapping rails each formed with an undercut recess in respectively opposite sides thereof, of hooked extensions on the other sides of said rails engaging said undercut recesses, and a bolt passing through openings in the overlapping portions of the rails, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ORSON F. WICKHAM.

Witnesses:

C. W. EDWARDS,
I. C. HARWOOD.