No. 641,254. Patented Jan. 16, 1900.

W. T. ANDERSON.

RAIL JOINT.

(Application filed June 15, 1899.)

(No Model.)

Fig. 1.

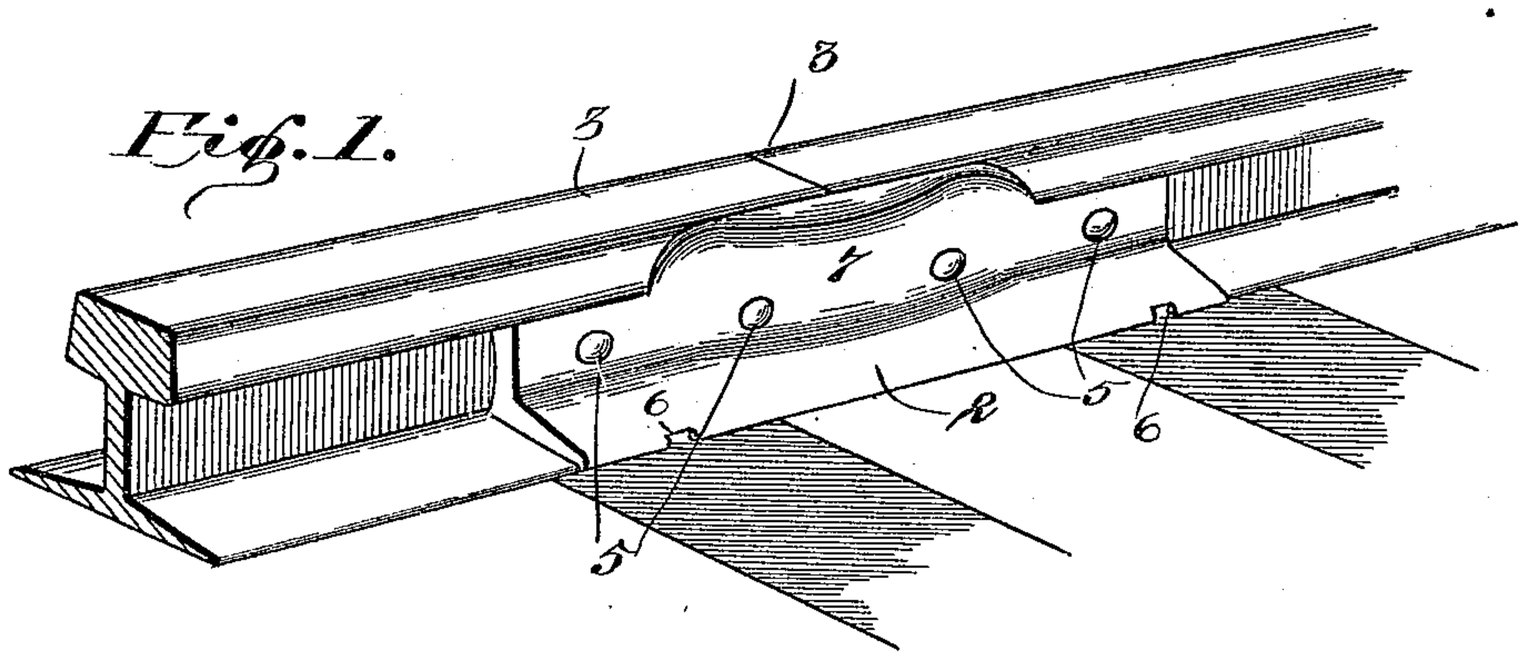


Fig. 2.

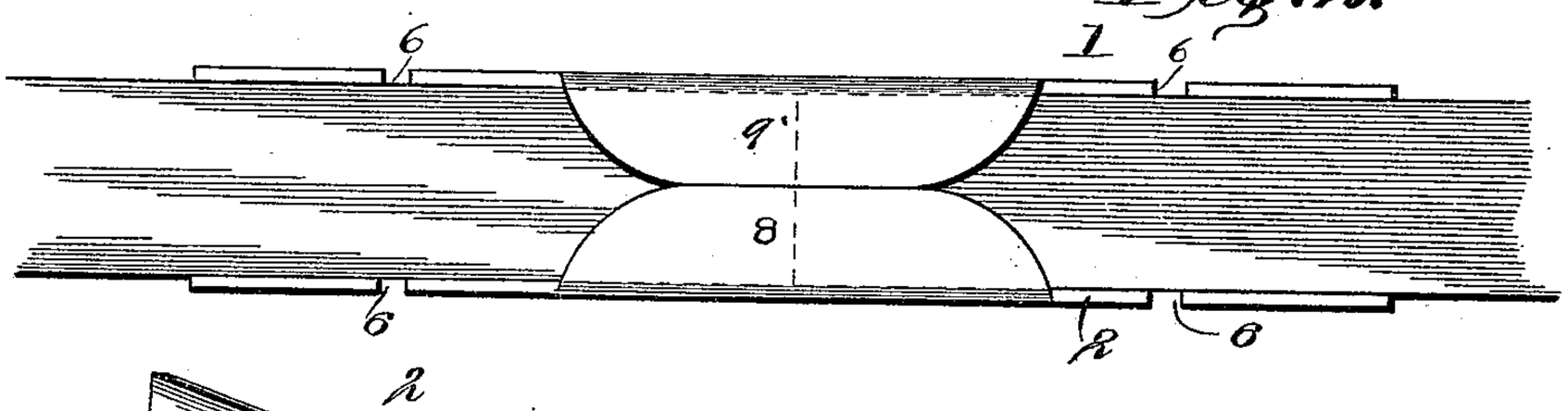


Fig. 4.

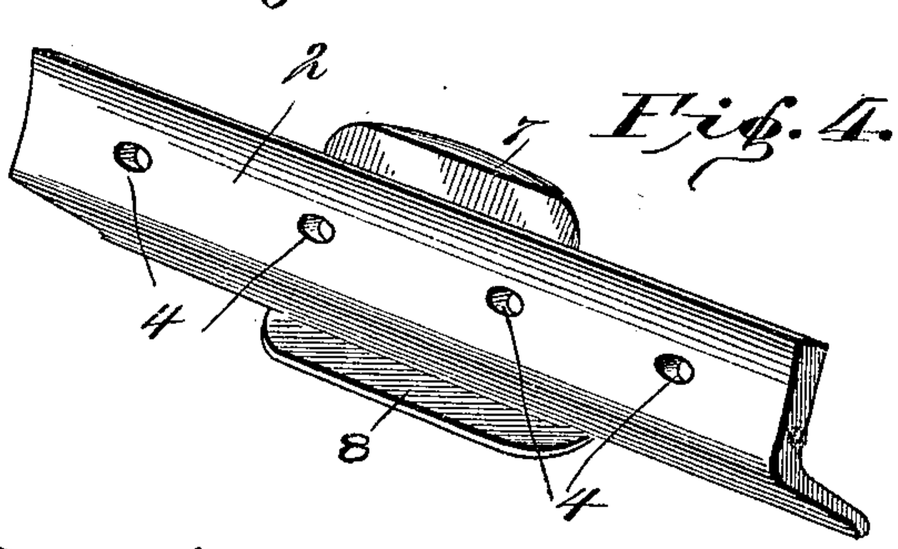


Fig. 5.

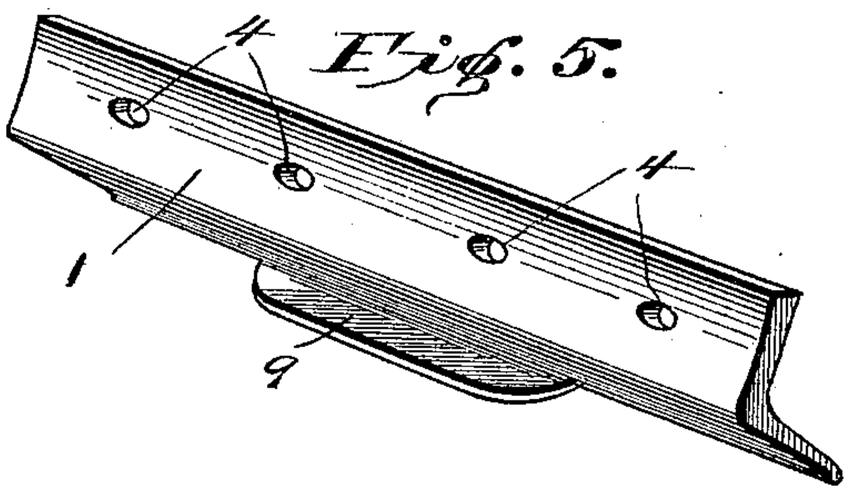
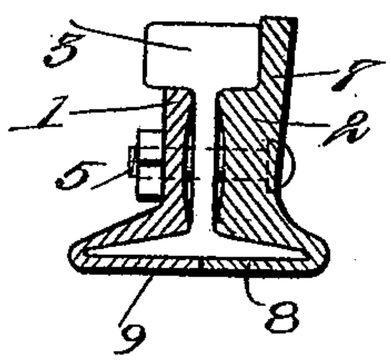


Fig. 3.



Witnesses
Clarence A. Walker
T. J. Riley

W. T. Anderson Inventor
By his Attorneys,
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UNITED STATES PATENT OFFICE.

WILLIAM T. ANDERSON, OF HARMONY, SOUTH CAROLINA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 641,254, dated January 16, 1900.

Application filed June 15, 1899. Serial No. 720,641. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. ANDERSON, a citizen of the United States, residing at Harmony, in the county of York and State of South Carolina, have invented a new and useful Rail-Joint, of which the following is a specification.

The invention relates to improvements in rail-joints.

One object of the present invention is to improve the construction of rail-joints and to provide a simple, inexpensive, and efficient device designed to be applied to the ends of a rail similar to the ordinary angle fish-plates and capable of firmly supporting the said rails and of preventing their ends from sagging and presenting rough surfaces to the wheels of a train.

A further object of the invention is to provide a device of this character which will carry the wheels over the ends of the rails and which will prevent the wheels from breaking down the ends of the rails and form, practically, a continuous unbroken rail.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a rail-joint constructed in accordance with this invention. Fig. 2 is a reverse plan view of the same. Fig. 3 is a transverse sectional view. Figs. 4 and 5 are detail views of the inner and outer plates.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 and 2 designate inner and outer angle-plates designed to be arranged at the inner and outer faces of the ends of a pair of rails 3 in the usual manner and provided with perforations 4, arranged to register with the perforations of the webs of the rails and adapted to receive transverse bolts 5 or other suitable fastening devices. The perforations of the rails or those of the angle fish-plates may be elongated to allow for the contraction and expansion of the rails. The lower edges of the angle-plates are provided with suitable notches or recesses 6, adapted to receive spikes for securing the rail-joint to the adjacent cross-ties.

The outer fish or angle plate 1 is provided at its central portion with an upwardly-extending enlargement 7, located at the ends of the rails and having its upper edge approximately flush with the tread of the rails and adapted to receive the wheels of a train to prevent the same from striking the ends of the rails. The upper edge of the enlargement 7 tapers laterally toward each end to secure lateral strength directly opposite the joint with the least weight of material and is oppositely inclined, the enlargement being rounded, as shown, and by carrying the wheels of a train over the ends of the rails in this manner much of the jar and vibration of a train is prevented. The enlargement may project slightly above the upper face or tread of the rails to prevent the wheels from contacting with the rails at the ends thereof.

The inner angle or fish plate presents a smooth outer face to the flanges of the wheels, and the ends of the rails are supported by inwardly-extending horizontal flanges 8 and 9, extending beneath the rails, as clearly illustrated in Fig. 2 of the accompanying drawings, and forming a chair for the same. The inwardly-extending horizontal flanges, which are approximately segmental, have their adjacent edges abutting against each other, and they effectually prevent the end of one rail dropping below the plane of the end of the adjacent rail.

The invention has the following advantages: The rail-joint, which is simple, inexpensive, strong, and durable, is adapted to be applied to the ordinary rails similar to angle fish-plates, and it greatly increases the durability of the rails, besides rendering travel much smoother. The enlargement carries the wheels of a train over the ends of the rails, and the bottom flanges prevent the said ends from dropping out of true alinement.

One great defect to be overcome in devices of this class is the liability of the plates warping out of true in cooling, owing to different thicknesses between the flanged and the main portions and also to the length of the flanged portion. To overcome this, I form the flange on the bottom and the enlargements on the

head so short that the variation in the thickness of the parts is reduced to a minimum and locating them at the center with their ends wholly between the central notches or recesses for the spikes and substantially between the inner holes of the plate and only extending them a short distance upon each side of the joint between the rails. This construction prevents the liability of the flange upon the bottom coming in contact with a tie and requiring the tie to be recessed or cut away for its reception, and it also permits of the notch in the edge for the reception of the spike being formed through a single thickness of material instead of through a doubled portion, as would be necessary if the flange extended the entire length of the plate.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claim may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is--

The combination with adjacent cross-ties, and the rail-sections supported thereon and abutting therebetween, of an outer connecting angle-plate, fitting against the webs and flanges of the rails, overlapping the joint therebetween, and having an inwardly-projecting longitudinal flange located at an intermediate portion of the lower edge of the plate, said lower edge having openings or notches located beyond the opposite ends of the intermediate flange, over the respective cross-ties, and for the reception of fastenings, and an intermediate lateral enlargement of the upper portion of the plate projecting at the outer side and above the top thereof, and terminating flush with the treads of the rail-sections, and an inner angle-plate, having an inwardly-projecting longitudinal flange at the lower edge and intermediate of the opposite ends thereof, the flanges of both plates extending beneath the joint between the rail-sections, and located between the adjacent cross-ties, substantially in the manner described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM T. ANDERSON.

Witnesses:

E. L. MURPHY,

JOHN S. TURNER.