

H. W. SAWYER.
RAIL JOINT.
APPLICATION FILED JULY 9, 1909.

961,027.

Patented June 7, 1910.

Fig. 1.

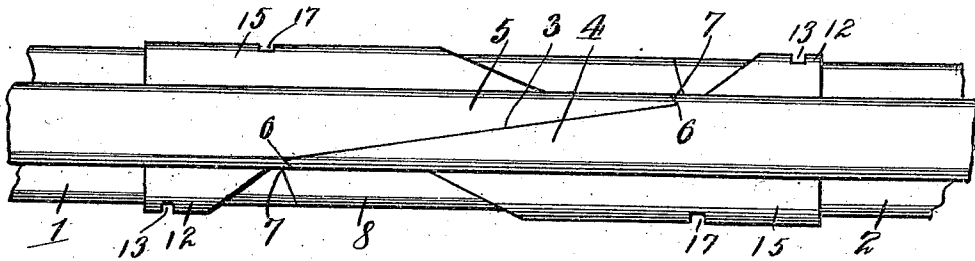


Fig. 2.

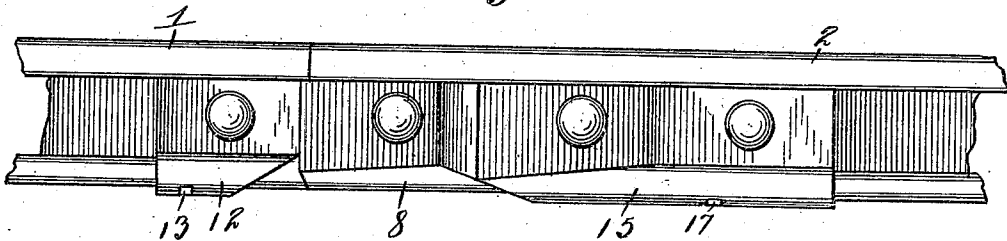


Fig. 3.

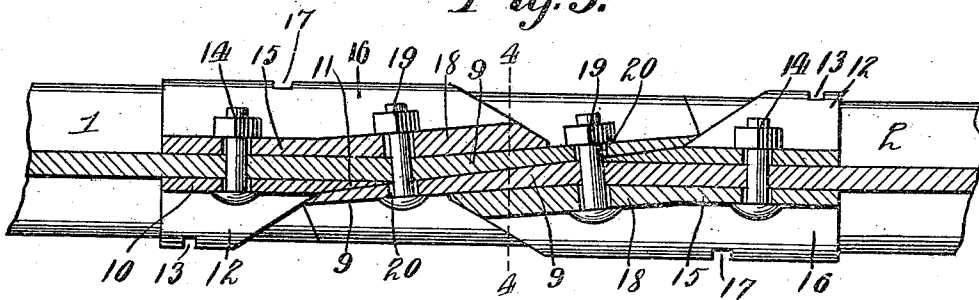
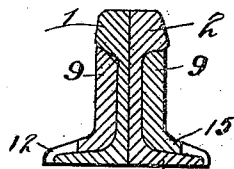


Fig. 4.



Witnesses
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HENRY W. SAWYER, OF HURON, SOUTH DAKOTA.

RAIL-JOINT.

961,027.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY W. SAWYER, a native-born citizen of the United States, residing at Huron, in the county of Beadle and State of South Dakota, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, the object in view being to provide a thoroughly braced rail joint which provides a practically continuous or unbroken rail thereby preventing the usual pounding of the wheel at the various points and also materially increasing the life and durability of each and every joint along the road.

A further object of the invention is to provide a joint, the construction of which will admit of the rail ends being easily and accurately brought together by an endwise movement, the overlapping portions of the rail ends being firmly secured together in a manner which will admit of the necessary movement for expansion and contraction due to changes in the weather.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawing:—Figure 1 is a plan view of a joint. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal section through the joint. Fig. 4 is a vertical cross section through the joint on the line 4—4 of Fig. 3.

Referring to the drawings, 1 and 2 designate rail ends which meet on a miter or bevel joint indicated at 3. In order to produce this joint, the rail ends are provided with tapering extremities 4 and 5 which terminate in acute angle points 6, the latter being received in corresponding notches 7 with which each rail end is provided, as shown in Fig. 1. The joint defined by the meeting line 3 and the points and notches 6 and 7 extend vertically through the rail from top to bottom including the base flanges 8. Furthermore, the web portions 9 of the rail ends are laterally deflected as shown in Fig. 3 and lie side-by-side in contact with each other.

In connection with the joint thus far described, I employ a pair of shims 10 each having its inner end beveled to a point, as

shown at 11, the shim being also provided with a base flange 12 which extends downward around the outer edge of the base flange 8 and is provided with a spike notch 13 through which a spike is adapted to be driven in the tie for securely holding the shim in position. The pointed extremity 11 of the shim fits snugly into the angular space between the web of one rail and the extremity of the laterally deflected portion 9 of the web of the other rail, as clearly shown in Fig. 3. The shim is secured to the web of the rail by means of a bolt 14. In connection with the joint I also employ a pair of fish plates 15 provided with base flanges 16 having spike-receiving notches 17 through which spikes are driven into the tie for holding said fish plates firmly in position. The bolts 14 which pass through the shims 10 also pass through the fish plates 15, as clearly illustrated in Fig. 3. Each fish plate is provided with a laterally deflected portion 18 and the outer faces of the said laterally deflected portions of the fish plate lie in parallel relation to each other and at a slight angle to the general direction of the webs of the rail ends, as shown in Fig. 3. Fastening bolts 19 are inserted through the fish plates and also through the webs of the rails as shown in Fig. 3 and while the holes for said bolts in the main bodies of the webs are just of sufficient size to snugly receive the bolt 19, the laterally deflected end portions of the webs are provided with slots 20 through which said bolts pass, the said slots admitting of the necessary relative movement of the rail ends to allow for the required expansion and contraction of the rails due to changes in the weather.

The joint hereinabove described will be found strong and effective in use and by reason of the mitered connection between the rail ends, a practically continuous and unbroken joint is provided which will avoid the usual pounding and hammering and materially increase the life and durability of the joint, as a whole.

I claim:—

In a rail joint, rail ends having a beveled or mitered joint and having the overlapping portions thereof dove-tailed into each other and also having the end portions of the webs laterally beveled and overlapping, fish plates arranged at opposite sides of the overlapping portions of the webs and bolted

thereto on opposite sides, and shims arranged at opposite sides of the webs and bolted thereto, said shims embodying tapering extremities which fit between the main
5 body of the webs and the extremities of the laterally beveled portions thereof, substantially as described.

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

HENRY W. SAWYER.

Witnesses:

C. A. BLAKE,

E. L. ABEL.