No. 888,441. PATENTED MAY 19, 1908.

W. E. JOHNSON.

RAILWAY RAIL JOINT.

APPLICATION FILED JUNE 12, 1907.

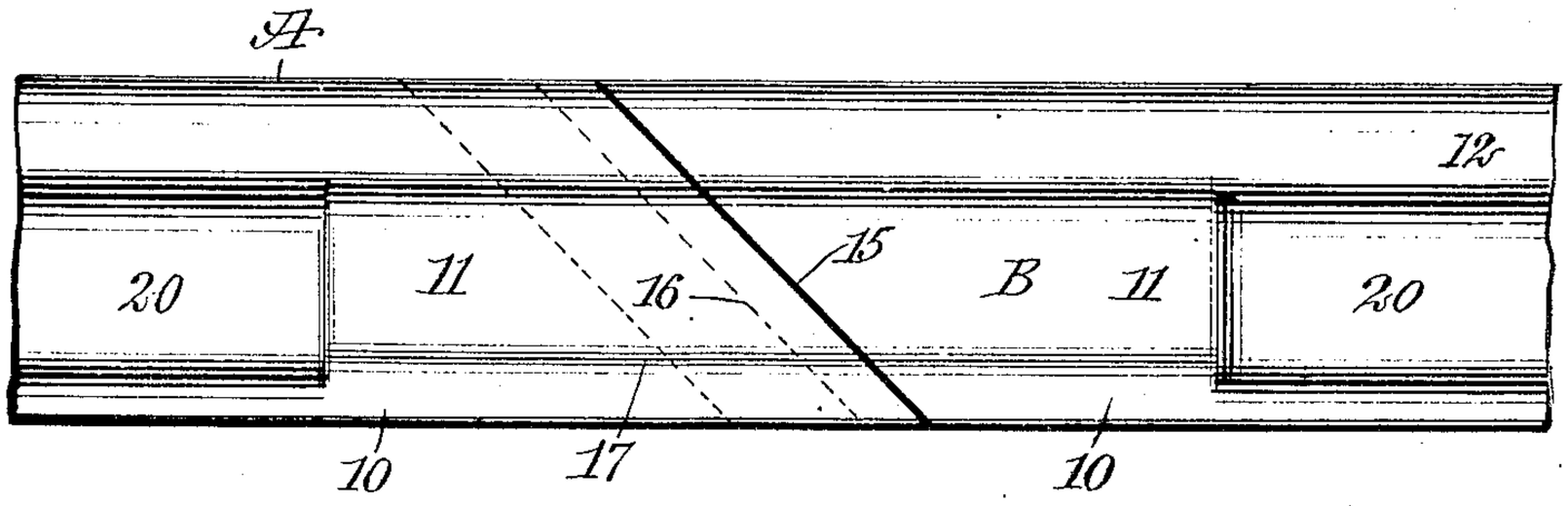

Fig. 1

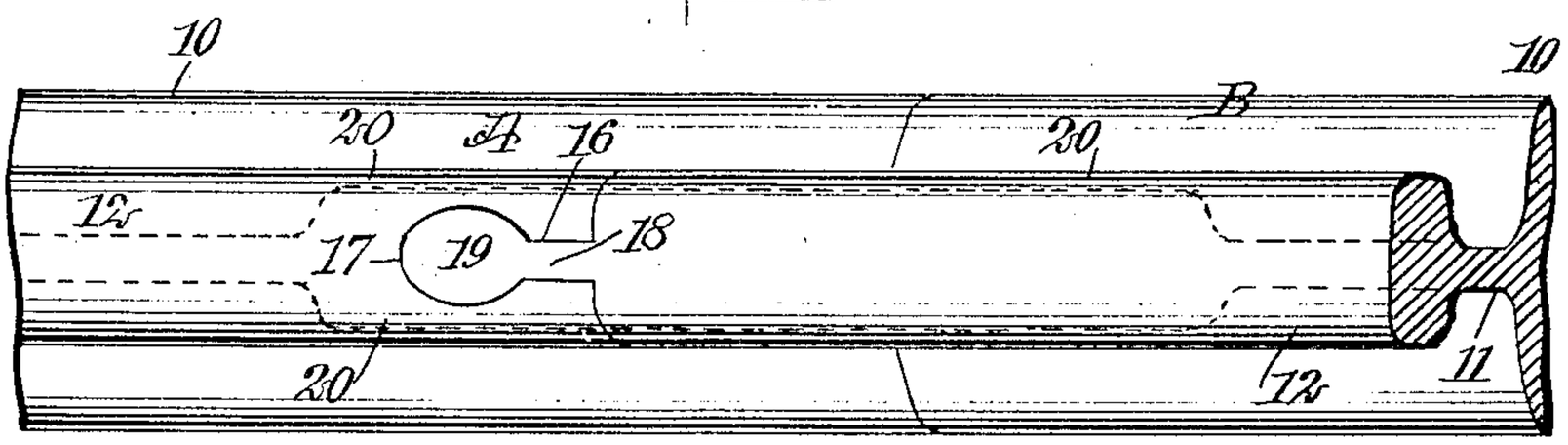

Fig. 2

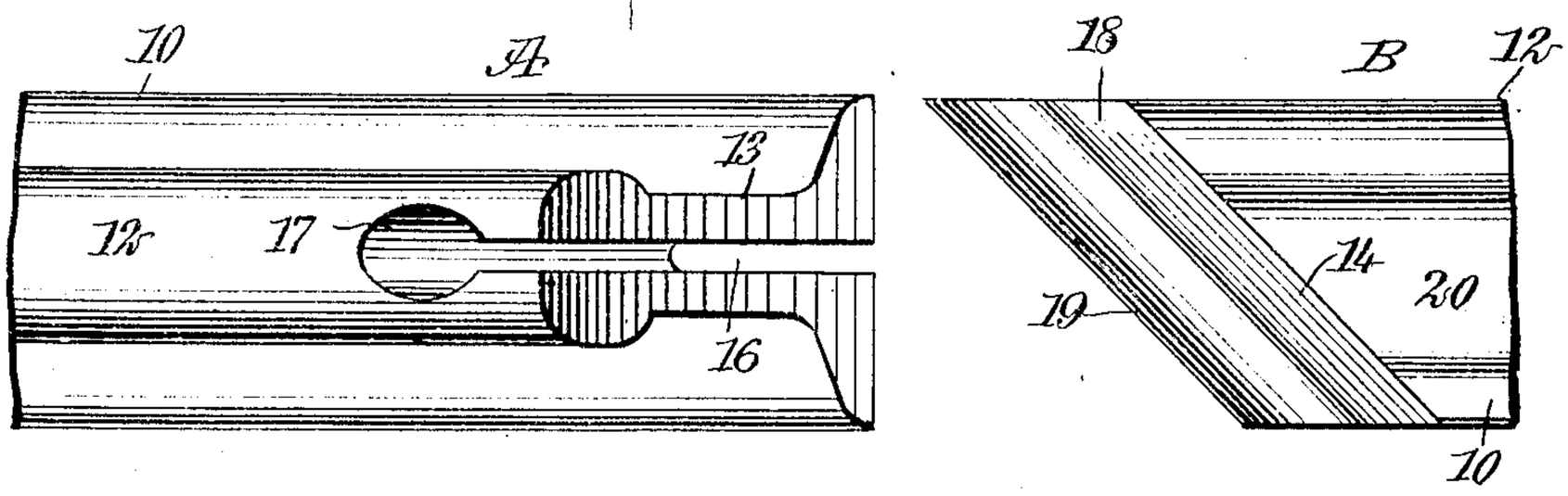

Fig. 3

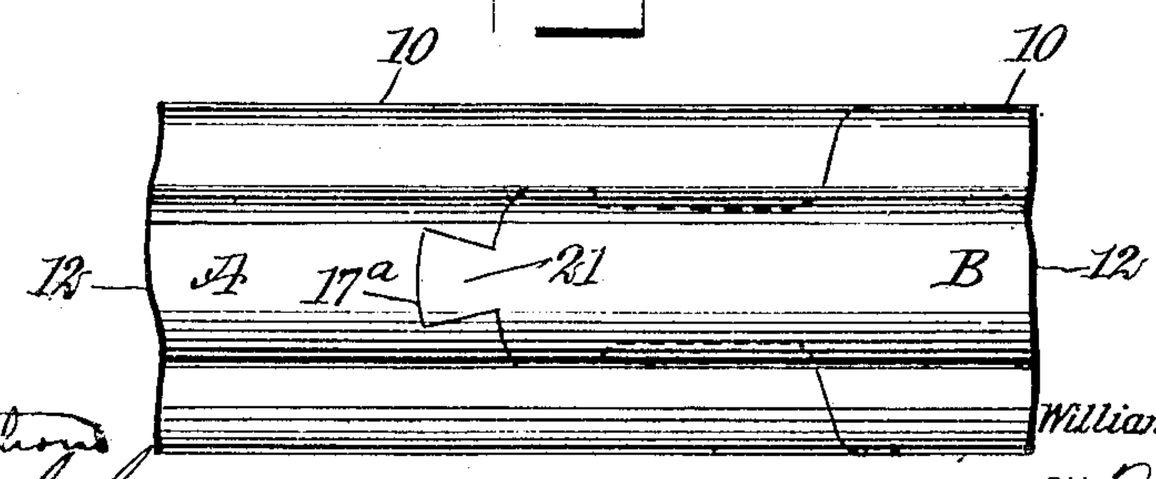

Fig. 4

WITNESSES

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RAILWAY-RAIL JOINT.

No. 888,441. Specification of Letters Patent. Patented May 19, 1908.

Application filed June 12, 1907. Serial No. 378,493.

To all whom it may concern:

Be it known that I, WILLIAM EDMOND JOHNSON, a citizen of the United States, and a resident of Porter township, in the county of Midland and State of Michigan, have invented a new and useful Improvement in Railway-Rail Joints, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a construction for the meeting ends of railway rails, of a simple and inexpensive character, and whereby, when joints are made thereby, the rails will be practically continuous, and whereby also the joint will be smooth and scarcely discernible.

It is also a purpose of the invention to provide a railway rail joint of an interlocking type, that will be exceedingly strong, and wherein no fish-plates are needed, and the rails will not ride up at their ends to any appreciable extent, thus avoiding the jarring and pounding of the wheels on the ends of the rails, as is customary.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claim.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of opposing rails illustrating the improved connection; Fig. 2 is a plan view of the connected rails shown in Fig. 1; Fig. 3 is a view of the two rails shown in Fig. 2 separated, one rail being illustrated in plan and the other in side elevation; and Fig. 4 is a plan view of portions of connected rails illustrating a slightly different form of the tongue and groove or interlocking connection therefor.

A represents an end of a rail, and B the abutting or opposing end of a second rail; each rail is provided with the usual flange 10, web 11, and head 12. The rail A at its end is provided with an inclined end face 13, which face inclines from the upper face or tread of the head of the rail downward and outward through its flange, and is best shown in Fig. 3, and the corresponding end of the rail B is provided with a correspondingly inclined end face 14 adapted to fit snugly to the face 13 of the rail A when the said two rails are brought together, as is shown at 15 in Fig. 1. A recess 16 of uniform width is made in the central portion of the inclined face 13 of the rail A. This recess follows the inclination of the said surface 13 and extends from the tread of the rail through its flange, as is also best shown in Fig. 2, and at the rear of the said recess 16, and in direct communication therewith, an enlargement 17 is made for the recess so as to provide practically a chamber, and this chamber 17 in the form of of rails shown in Figs. 1, 2, and 3, is substantially ovate, and the chamber has the same downward inclination as the groove or passage 16, in the end face 13 of the said rail A.

The rail A is provided with a tongue at its inclined edge 14 adapted to enter what may be broadly termed the groove in the end of the rail A. This tongue consists of a neck 18 that extends through the central portion of the inclined surface 14 of the rail B from the tread through the flange, the said neck following the inclination of the surface 14, and the said neck is further of uniform thickness and width, the thickness and width of the neck being such that the neck will be received in the slot 16 in the rail A, and integral with this neck 18 a head 19 is formed, following the inclination of the neck and likewise extending from the tread of the rail to its flange, and the said head 19 is of such shape and is of such dimensions that it will freely enter and slide in the chamber 17 in the grooved portion of the rail A.

In assembling the parts it is simply necessary to enter the tongue of the rail B in the grooved portion of the rail A, and then to force the rail B downward until its tread is flush with the tread of the rail A, and the two inclined surfaces 13 and 14 at the abutting ends of the rails will be in close engagement, as is shown in Fig. 1. By this construction the rail is joined in such manner as to render it practically continuous, and the joints are so made that they present a smooth surface to the wheels of the rolling stock, and owing to the inclined abutting faces of the rails at the joints and the corresponding inclination of their tie members, the rails practically lock themselves together and are not liable even under severe conditions of use, to jar at the ends.

In order to render the rails exceedingly strong, particularly at their end portions, the web 11 of the rail at said end portions is

increased in thickness, as is shown at 20 in the drawings, an equal amount of reinforcing metal being employed at each side of the web.

In Fig. 4 I have illustrated a slightly different way of producing the connection between the rails, or making the rail joints. The only difference consists in that the slot 16 is omitted from the rail section A, and the chamber 17 is of different form and in its place a dove-tailed shaped groove 17ª extends in the inclined face 13 of the rail A through the tread and the flange, and the tongue 21 which extends from the inclined face 14 of the rail B is of corresponding dove-tailed shape, so as to fit into said dove-tailed groove 17ª. It will be observed that sufficient play is provided for between the rails at their joints, to permit of the necessary expansion and contraction of the metal.

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

In a railway joint, opposing rails having their meeting faces inclined in the same direction, one of said rails having its inclined faces provided with a longitudinal undercut groove, and the other with a tongue fitting within the groove.

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

WILLIAM EDMOND JOHNSON.

Witnesses:

GEO. W. LONG,

E. D. PHILLIPS.