G. P. SMITH.

RAILWAY RAIL.

APPLICATION FILED SEPT. 26, 1910.

987,835. Patented Mar. 28, 1911.

Fig. 1.

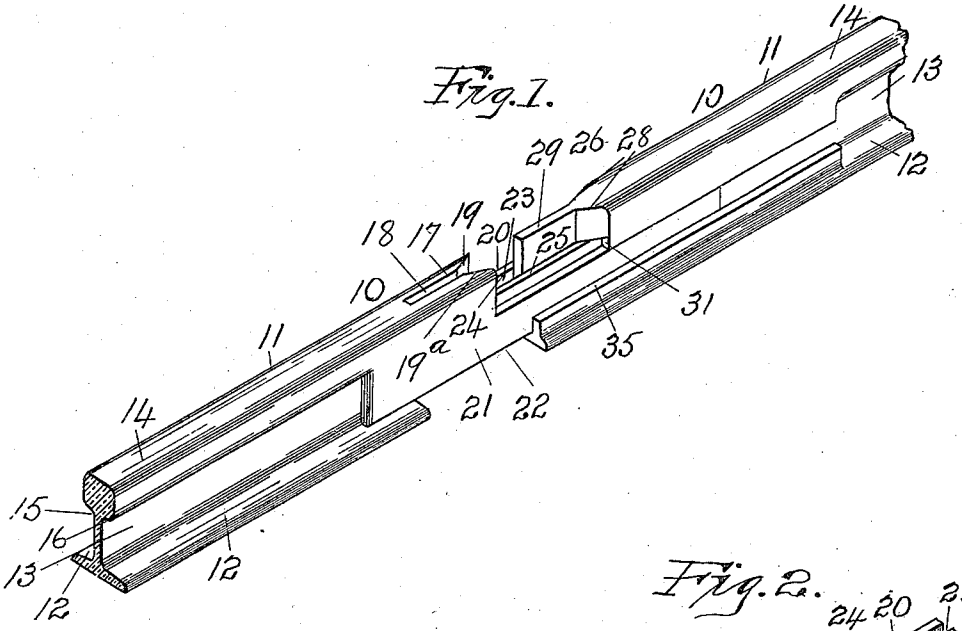

Fig. 2.

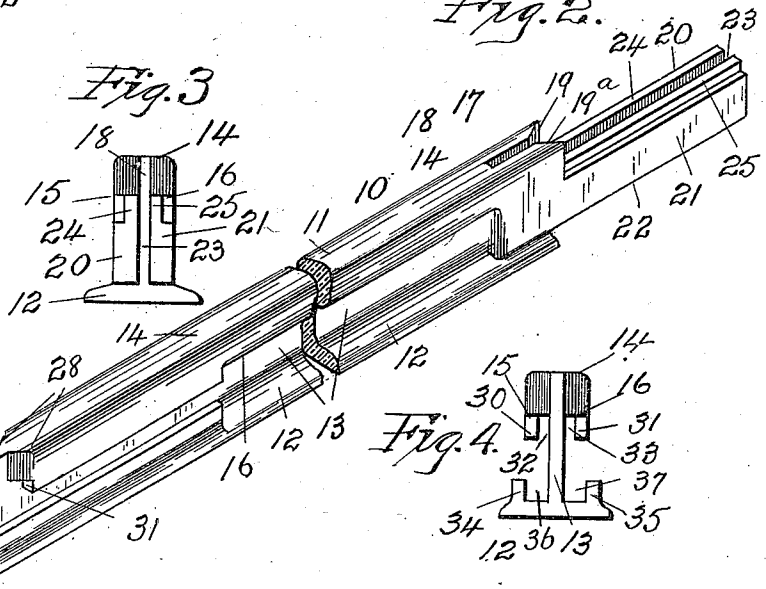

Fig. 3

Fig. 4.

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RAILWAY-RAIL.

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To all whom it may concern:

Be it known that I, GEORGE P. SMITH, a citizen of the United States, and a resident of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Railway-Rails, of which the following is a full, clear, and exact specification.

This invention relates more particularly to a class of rails for railway tracks which are adapted to be connected without the employment of fish-plates, bolts and nuts.

My invention has for its object primarily to provide a rail having opposite ends adapted to interlock with the opposed ends of similar adjoining rails in a manner so as to remain firmly connected whereby a track for railways, street car lines, and other purposes may be laid with facility and which will permit a ready exchange of one or more of the rails when damaged or worn thereby avoiding delay to traffic and saving time and labor in repairing the track when necessary.

Another advantage attained by my invention is the elimination of all separate means for connecting the rails together, such as fish-plates, bolts, or nuts, as used at present for securing the abutting ends of railway rails in ordinary use, thus overcoming the objections to the employment of such means which soon become so loose and insecure as to often endanger the lives of passengers of the cars traveling upon the tracks.

Still another object of my invention is to provide a form of rail whereby a plurality of the same may be so laid in interlocked engagement that tracks having unusual smooth and even surface bearing are produced, thus serving to prevent all pounding of the wheel flanges of the cars when passing from one rail to the other, and which allows for proper expansion or contraction of the rails during changes of temperature of the atmosphere.

My invention consists furthermore in certain other novel constructions, combination and arrangement of parts as will be hereinafter more fully described with reference to the accompanying drawings forming a part of this specification, and will then be more particularly pointed out in the claims at the end of this description, in which similar characters of reference indicate corresponding parts in all the views.

In the drawing, Figure 1 is a perspective view of my railway rail showing how the abutting ends of two rails are fitted together for interlocking engagement. Fig. 2 is a perspective view of the improved rail which is centrally broken away. Fig. 3 is an end elevation of the railway rail, and Fig. 4 is another end elevation thereof.

A railway rail, as 10, constructed according to my invention has the usual form of body 11 consisting of a base flange 12, a web 13, and a head 14 having shoulders 15 and 16 upon the underside of the lateral edges thereof which are provided by forming said head of greater width than the web 13. One end, as 17, of the head 14 of the rail extends for some distance beyond the base flange 12 and web 13, and said end is slotted lengthwise thereof, as at 18. The slot 18 is substantially rectangular and one of its ends communicates with an approximately V-shaped notch 19 provided in the vertical face of the projecting portion 17 of the head 14. In contact with each face of the web 13 and between the top face of the base flange 12 and the shoulder 15 and 16 of the projecting end 17, as well as a part of the head 14 of the body 11, is provided a member or arm 20 and 21 of a locking element 22, and said members or arms 20 and 21 may be formed integral with, or made separately of the body 11, and connected thereto. As shown, the arms 20 and 21 extend for some distance beyond the projecting end 17 of the head 14 and are disposed in parallel arrangement in alinement with each face of the web 13 so as to form a space or channel 23 therebetween. The lengthwise upper part of each of the free portions of the arms 20 and 21 is cut away or reduced to provide a flange, as 24 and 25, adapted to be guided in the grooves or slots of a corresponding adjoining rail as will be hereinafter more fully explained. At the opposite end of the rail 10 is provided a substantially Y-shaped tongue 26 which is adapted to snugly fit in the Y-shaped recess of the projecting portion 17 of an adjoining rail in laying a track, and said tongue is formed by tapering or similarly beveling the lateral edges 28 of the head 14 so as to reduce the end of said head and provide a substantially rectangular straight arm 29 projecting from the apex of the tapered portion.

At the edge of each of the shoulders 15 and 16 adjacent to the tapered edges 28 of the head 14 is provided a depending flange, as at 30 and 31, and between said flanges and

the opposed faces of the web 13 are grooves or slots 32 and 33 for reception of the flanges 24 and 25 of the members or arms 20 and 21 of the locking element 22.

Upon the opposed top surface of the base flange 12 at the Y-shaped tongue of the rail are provided upwardly projecting ribs or flanges 34 and 35, and between said flanges and the opposed faces of the web 13 are grooves or slots 36 and 37.

As illustrated in Fig. 1, in joining two rails of my improved type the Y-shaped tongue 26 of one rail is guided in the space or channel 23 of the abutting rail and the arms 20 and 21 of said abutting rail are directed in the grooves or slots 36 and 37 of the first rail. As one rail is forced toward the other rail the Y-shaped tongue 26 is passed into the Y-shaped notch 19ª of the second rail and in turn the flanges 24 and 25 are received by the grooves 32 and 33 of the first rail. Obviously by this arrangement the ends of any number of the rails 10 may be interlocked and securely held against displacement as well as providing a smooth, even surface bearing upon the top of the head 13 especially at all joints of the rails whereby pounding of the car wheels running thereover will be obviated.

In the foregoing description I have embodied the preferred form of my invention, but I do not wish to be understood as limiting myself thereto, as I am aware that modifications may be made therein without departing from the principle or sacrificing any of the advantages of this invention, therefore I reserve to myself the right to make such changes as fairly fall within the scope thereof.

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

1. In a railway rail having a base flange and a web; a head formed upon the web and of greater width than said web so as to provide shoulders upon the lateral undersides thereof, said head having a substantially Y-shaped recess formed in one of its ends; a substantially Y-shaped tongue formed upon the opposite end of said head; a depending flange formed upon the outer edge of each of the shoulders of the head adjacent to the Y-shaped tongue whereby a groove is provided between each flange and the opposed face of the web; and an upwardly projecting rib provided upon the top surface of each base flange at the Y-shaped tongue end of the rail whereby a groove is provided between each rib and the opposed surface of said web.

2. In a railway rail having a base flange and a web; a head formed upon the web and of greater width than said web so as to provide shoulders upon the lateral undersides thereof, said head having a substantially Y-shaped tongue formed upon the opposite end of said head; a locking element consisting of two spaced apart parallel arranged members, formed upon the opposed surfaces of the web of the rail under the Y-shaped recessed end and projecting for some distance beyond said end on alinement with the web; a depending flange formed upon the outer edge of each of the shoulders of the head adjacent to the Y-shaped tongue whereby a groove is provided between each flange and the opposed face of the web; and an upwardly projecting rib provided upon the top surface of each base flange at the Y-shaped tongue end of the rail whereby a groove is provided between each rib and the opposed surface of said web.

3. In a railway rail having a base flange and a web; a head formed upon the web and of greater width than said web so as to provide shoulders upon the lateral undersides thereof, said head having one of its ends projecting beyond the web and base flange and having a substantially rectangular slot formed lengthwise thereof; a locking element consisting of two spaced apart parallel arranged members, formed upon the opposed surfaces of the web of the rail and extending for some distance beyond the slotted end in alinement with the web; a substantially rectangular tongue formed upon the opposite end of the head of the rail and adapted to enter the rectangular slot when said end of the rail is guided between said spaced apart members of a similarly constructed rail.

4. In a railway rail having a base flange and a web; a head formed upon the web and of greater width than said web so as to provide shoulders upon the lateral undersides thereof, said head having one of its ends projecting beyond the web and base flange and having a substantially rectangular slot formed lengthwise thereof and a communicating V-shaped notch in the end of said projecting end; two spaced apart parallel arranged arms, having one end of each formed upon the opposed surfaces of the web of the rail and extending for some distance beyond the V-shaped notched end and in alinement with the web; similar tapering edges provided at the opposite portion of the head of the rail and having a substantially rectangular projecting arm adapted to enter the V-shaped notch and the rectangular slot when said end of the rail is guided between said spaced apart arms of a similarly constructed rail.

5. In a railway rail having a base flange and a web; a head formed upon the web and of greater width than said web so as to provide shoulders upon the lateral undersides thereof; said head having one of its ends projecting beyond the web and base flange and having a substantially rectangular slot formed lengthwise thereof and a communi-

cating V-shaped notch in the end of said projecting end; two spaced apart parallel arranged arms, having one end of each formed upon the opposed surfaces of the web of the rail and extending for some distance beyond the V-shaped notched end and in alinement with the web; similar tapering edges provided at the opposite portion of the head and having a substantially rectangular arm; a depending flange formed upon the outer edge of each of the shoulders of the head adjacent to said tapered portion whereby a groove is provided between each flange and the opposed face of the web; and an upwardly projecting rib provided upon the top surface of each base flange at the rectangular projecting arm end of the rail whereby a groove is provided between each rib and the opposed surface of said web.

This specification signed and witnessed this twenty first day of September A. D. 1910.

GEORGE P. SMITH.

Witnesses:
ROBT. B. ABBOTT,
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