

1,055,253.

Patented Mar. 4, 1913

2 SHEETS-SHEET 1.

Fig. 1.

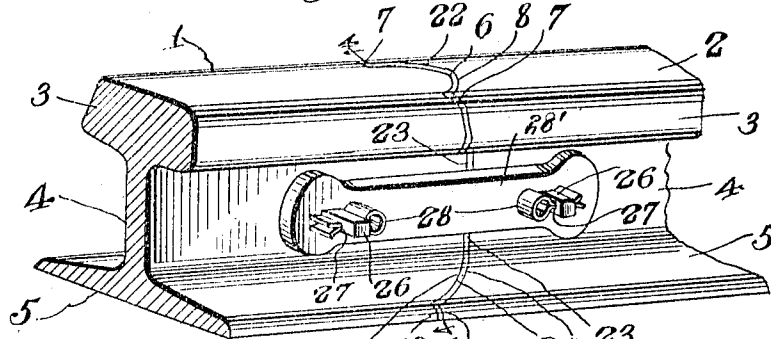


Fig. 3.

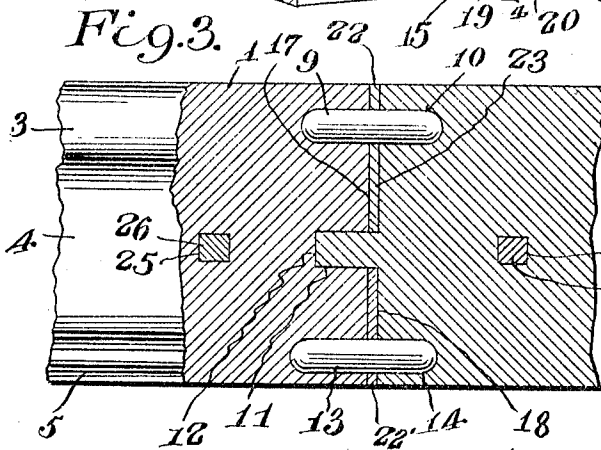


Fig. 4.

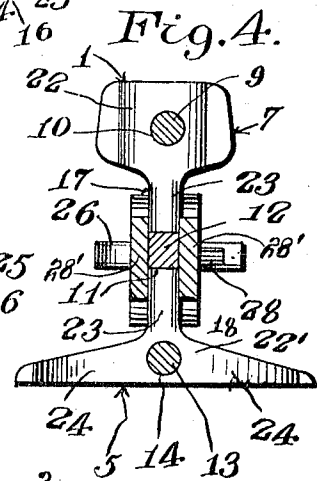
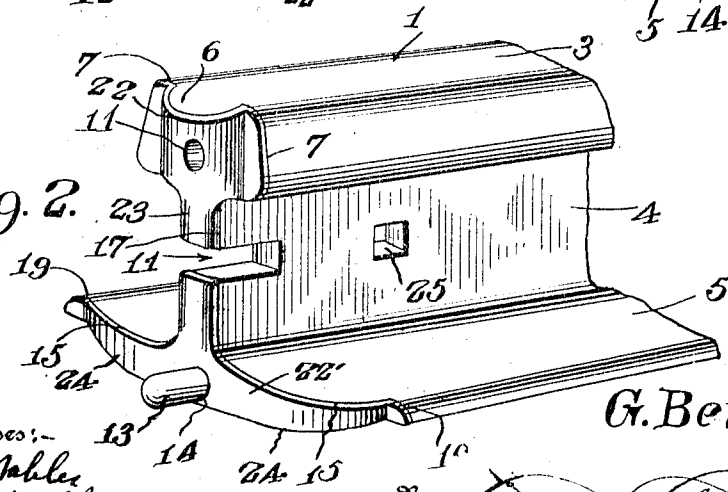


Fig. 2.



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RAIL JOINT.

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2 SHEETS—SHEET 2.

Fig. 5.

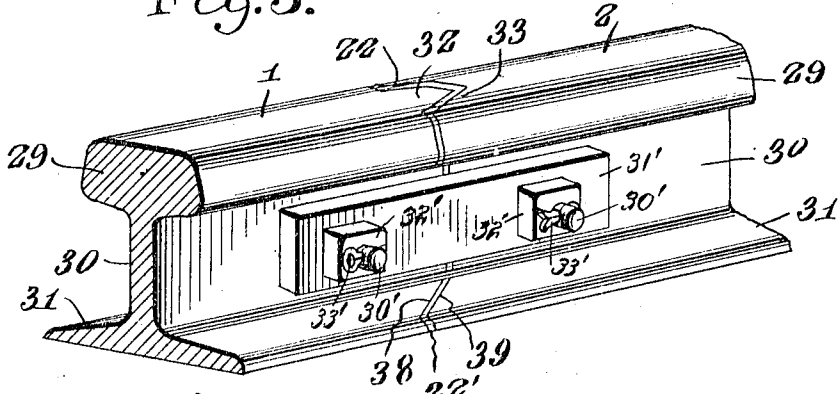


Fig. 6.

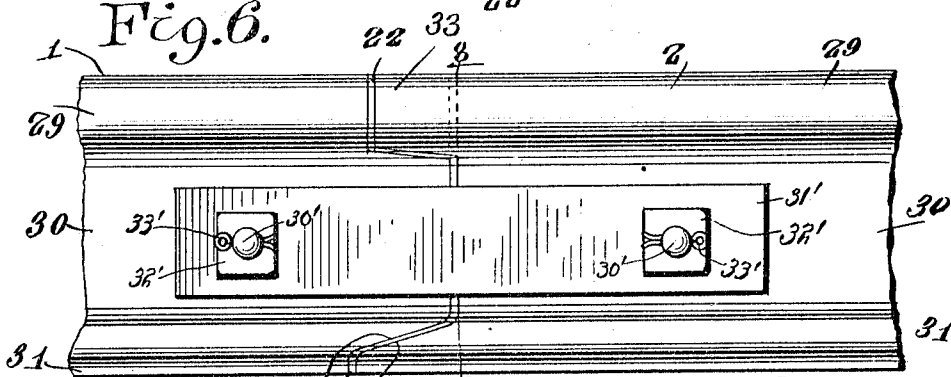


Fig. 7.

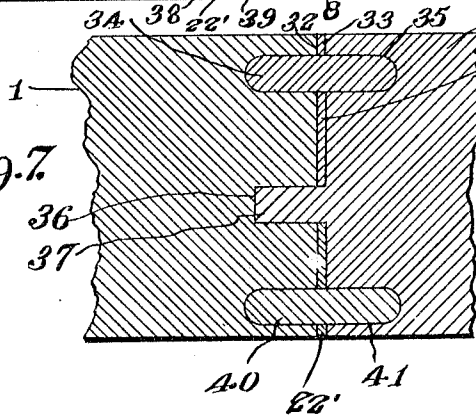
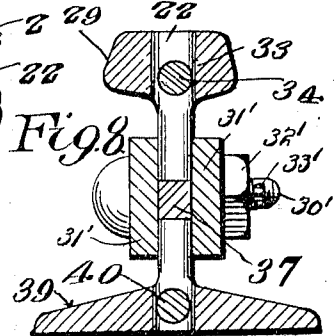


Fig. 8.



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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

1,055,253.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed July 3, 1912. Serial No. 707,513.

To all whom it may concern:

Be it known that I, GUSTAV BENZEL, a citizen of the United States, residing at Lorain, in the county of Lorain, State of Ohio, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention is directed to improvements in rail joints, and has for its object to provide a new and novel means for connecting the ends of track sections.

A further object of the invention is to so construct the joints that the tread surface is continuous, thus overcoming the objectionable feature of pounding the rails when the wheels of the car or locomotive are passing thereover.

With these and other objects in view, this invention resides in the novel features of construction, formations, combinations and arrangements of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of the joint. Fig. 2 is a perspective view of one of the rail sections. Fig. 3 is a longitudinal sectional view. Fig. 4 is a sectional view on line 4—4 of Fig. 1. Fig. 5 is a perspective view of the modified form of the invention. Fig. 6 is a side elevation of the same. Fig. 7 is a longitudinal sectional view. Fig. 8 is a sectional view on line 8—8 of Fig. 6.

Referring to the accompanying drawings, the numeral 1 designates a part of the rail section, and 2 the other section, each of which comprises the head 3, web 4, and base flange 5. One end of the head 3 of the rail section 1 is formed with a convexed extension 6, which produces a shoulder 7, said extension being adapted to engage in the concaved recess 8 formed in the opposing end of the rail section 2. Detachably carried by the extension 6 is a pin 9, the same being adapted to engage the socket 10 formed in the rail section 2 and opening into the concaved recess 8. The web 4 of the rail section 1 is provided with a recess 11, said recess being adapted to be engaged by the extension 12 carried by the web of the opposing rail section. Projecting from the lower edge of the web 4 of the rail sec-

tion 1 is a pin 13, said pin being adapted to engage the socket 14 formed in the web of the opposing section. The base flanges 5 of the rail section 1 are rounded as at 15 and are adapted to confront with the concaved recess 16 formed in the base flange of the adjoining rail section. The web section of the rail 1 is rounded, as at 17, upon its outer edge so that the same will lie in the semi-cylindrical recess formed in the web of the opposing rail section. The base flanges of the rail section 1 are formed with shoulders 19 which are adapted to abut the squared ends 20 of the base flanges of the opposing section. The shoulders 7 formed upon the head 3 of the rail section 1 are adapted to lie adjacent the ends of the opposing rail section, and at which time the shoulders 19 lie adjacent the squared ends 20.

Interposed between the abutting ends of the rail sections are plates 22 of heavy zinc or lead, one of said plates being positioned so as to be between the convexed extension 6 and concaved recess 8, said plates being further provided with a tongue 23 which rests against a portion of the web 4. The other plate 22' consists of wings 24 which engage the rounded ends of the base flanges and a portion of the web. By providing the plates it will be seen that movement of the rails, due to change of temperature will be accommodated, but at the same time the space between the rails will be lessened, thus producing practically an even tread for the wheels.

The webs of the rail sections are provided with rectangular openings 25, which are engaged by bolts 26, the same being provided at one of their ends with slots 27 which are engaged by heavy cotter pins 28, said pins bearing against the plate 28' to retain the same in place.

In the modified form of the invention, the rail sections consist of heads 29, webs 30 and base flanges 31, one of said sections being provided with an angular extension 32 which is adapted to engage a similarly formed recess 33 carried by the adjoining section. The extension 32 carries a pin 34 which engages a socket 35 formed in the adjacent section.

One of the rail sections is provided with a recess 36, which is engaged by an extension 37, similar to that described in the preferred form.

The base flanges of one of the sections are formed angularly, as at 38, and are adapted to engage the corresponding recess 39 formed in the base flanges of the adjoining section, a lug 40 being carried by one of the sections to engage a socket in the other section, said socket being designated by the numeral 41.

In the modified form of the invention plates 42 are provided, which serve to partially close the space between the meeting ends of the rails.

The webs 30 are engaged by bolts 30', which pass through the plate 31', nuts 32' being carried by the bolts for retaining the plate in position. The nuts are held against accidental rotation by cotter pins 33'.

What is claimed is:—

1. The combination with meeting ends of a pair of rails, of an extension formed upon the head of one of the sections and adapted to fit in a recess upon the other section, a pin carried by the said extension for engagement with a socket opening into the recess of the opposing section, a recess formed in the web of one section and adapted to be engaged by an extension carried by the other web, a lug carried by the base of the section and adapted to engage a socket in the opposing section, and means for holding the sections against accidental removal, and plates interposed between the abutting ends

of said sections to partially close the space therebetween.

2. The combination of the meeting ends of a pair of rail sections, one of said sections having its head formed with a convexed extension having a lug carried thereby, the opposing section being provided with a concave recess adapted to receive the convexed extension, a socket opening into the concaved recess for receiving a pin carried by the convexed extension, a recess formed in the web of one of the sections and adapted to engage the extension carried by the web of the opposing section, the base flanges of one of the sections being rounded and adapted to engage the semi-circular recess formed in the base flanges of the opposing section, a socket formed in the last named recess and adapted to be engaged by a pin carried by the flange of the other section, plates formed from metal adapted to be placed between the abutting ends of the rails for partially closing the space therebetween and means for holding the rail sections in their clamped position.

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

GUSTAV BRNZEL.

Witnesses:

JOHN GREKERE,

MIKE CRONKER.