No. 892,557. PATENTED JULY 7, 1908.

H. S. SHAFER.

RAIL JOINT.

APPLICATION FILED JULY 11, 1907.

FIG. 1

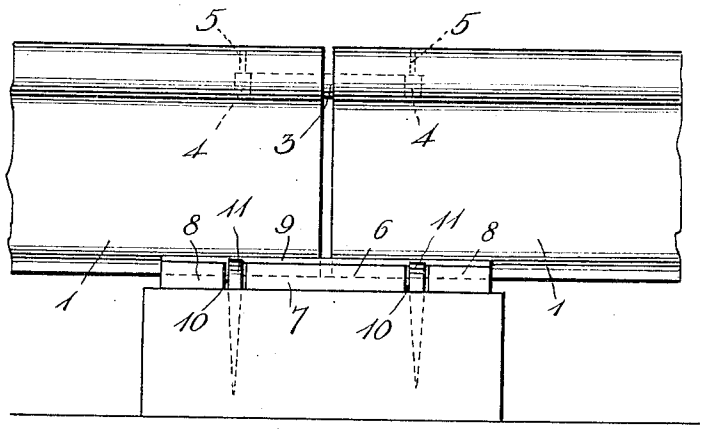


FIG. 2

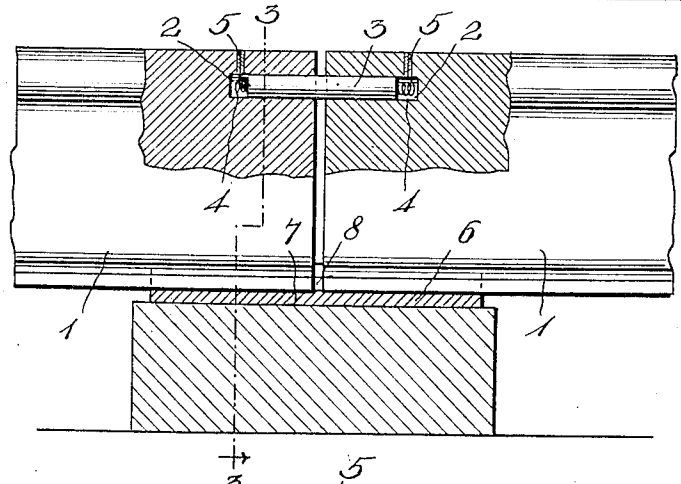
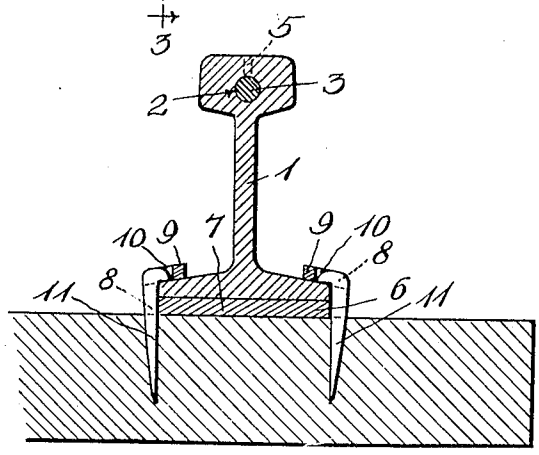


FIG. 3



Witnesses

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

No. 892,557. Specification of Letters Patent. Patented July 7, 1908.

Application filed July 11, 1907. Serial No. 383,290.

To all whom it may concern:

Be it known that I, HOWARD S. SHAFER, a citizen of the United States, residing at Nazareth, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints; and I do 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.

This invention has relation to new and useful improvements in rail joints, and while it is especially designed as a joint for the ends of rails used in connection with electric railways where the rails are employed to carry or conduct the electric current in one direction, by dispensing with certain parts it may be advantageously employed as a joint or connection for rails used in connection with steam railways.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings,—Figure 1 is a side elevation of a rail joint constructed in accordance with the invention, applied as a joint for the ends of two adjacent rails of an electric railway track; Fig. 2 is a central longitudinal section; and Fig. 3 is a cross sectional view on the line 3—3 of Fig. 2, looking in the direction indicated by the arrows.

In the embodiment illustrated and in accordance with the invention, 1 indicates the adjacent ends of two track rails for electric railway tracks. The adjacent ends of these rails are provided with longitudinal recesses or bores 2 in the tread portions thereof to receive the ends of a connecting pin 3, said pin being made of tempered steel or other suitable metal having a high degree of conductivity, and being made somewhat less in length than the distance between the inner ends of the track rails to allow for the necessary contraction thereof. Suitable coils 4 of copper or other conducting metal are arranged at the ends of said connecting pin and to insure a good electrical contact between said coils, connecting pin and track rails, the treads or heads of the rails are provided with vertical openings or bores 5 to communicate with the inner ends of said longitudinal recesses or bores 2, and the outer ends of said coils extended or arranged in said vertical openings and secured in position by filling the openings with solder.

The numeral 6 represents a suitable chair for receiving the ends of the rail, said chair comprising a body portion 7 having upwardly extending side pieces 8 and inwardly extending flanges 9 adapted to embrace or engage the inclined or upper faces of the rail bases, the side edges of said chair being cut out or recessed sufficiently at suitable points, as at 10, to enable the heads of spikes 11 to engage the side edges of the rail bases and fasten the rails in position.

Should I find it desirable in the construction and application of the invention, said chair may be dispensed with, or should it be desirable to apply the invention as a joint for steam railway tracks the coils 4 and the vertical openings of the track rails may be dispensed with.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

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

1. In a rail joint for electric railways, the combination with the track rails, said rails being formed with longitudinal sockets in their ends and with vertical openings in their tread portions, said openings leading from the inner ends of the sockets, of connecting pins arranged to fit in the sockets of adjacent ends of the rails, resilient coils of conducting material arranged between the ends of the connecting pins and the inner ends of the sockets, the outer ends of said coils being arranged to extend into said openings, fusible material filling in said openings for electrically connecting the outer ends of the coils with the track rails, and means for fastening the rails in position.

2. In a rail joint for electric railways, the combination with the track rails, said rails

being formed with longitudinal sockets in their ends and with vertical openings in their tread portions, said openings leading from the inner ends of the sockets, of connecting pins arranged in the sockets, coils of conducting material arranged between the ends of the connecting pins and the ends of the sockets, the outer ends of said coils extending into said openings, fusible material filling said openings for electrically connecting the outer ends of the coils with the track rails, and means for fastening said rail in position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HOWARD S. SHAFER.

Witnesses:
S. E. SIMONS,
A. C. KESSLER.