

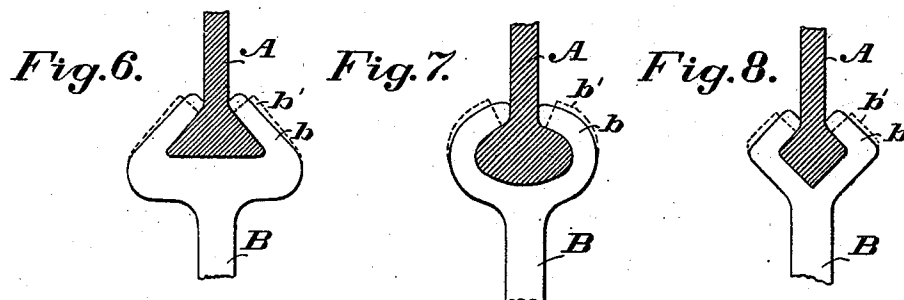
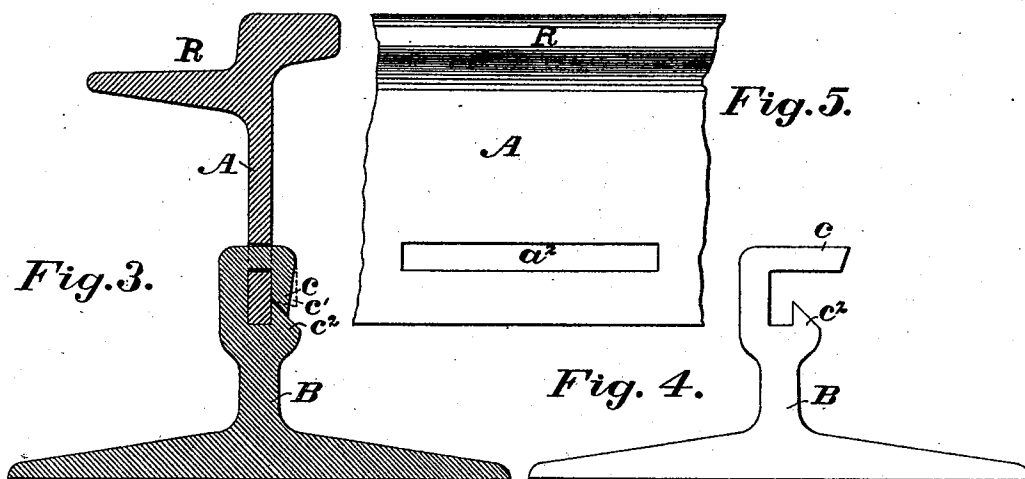
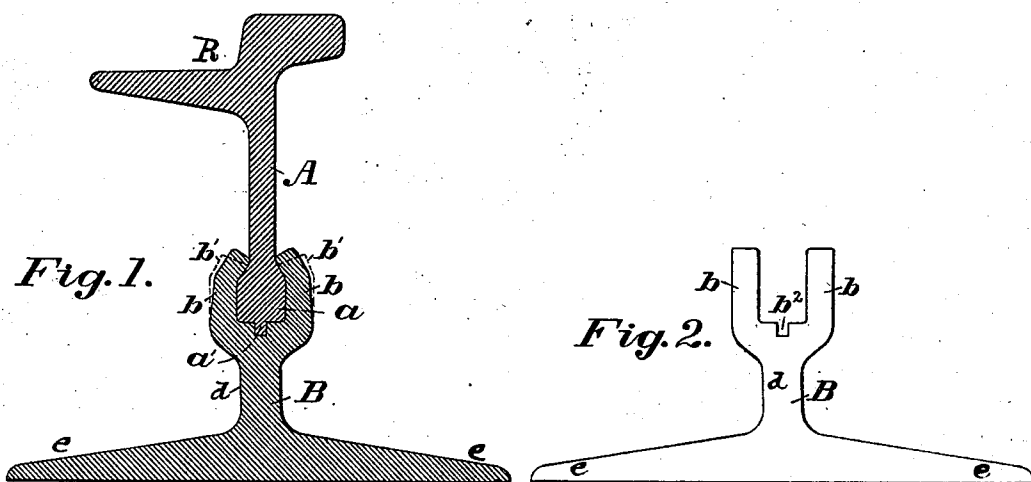
(No Model.)

M. M. SUPPES.

RAILROAD RAIL AND CHAIR AND PROCESS OF UNITING SAME.

No. 517,075.

Patented Mar. 27, 1894.



WITNESSES:

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MAXIMILIAN M. SUPPES, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR, BY
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RAILROAD RAIL AND CHAIR AND PROCESS OF UNITING SAME.

SPECIFICATION forming part of Letters Patent No. 517,075, dated March 27, 1894.

Application filed January 26, 1892. Serial No. 419,289. (No model.)

To all whom it may concern:

Be it known that I, MAXIMILIAN M. SUPPES, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Railroad Rail and Chair and Process of Uniting the Same, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is to firmly attach supporting chairs to railroad rails without the use of bolts, rivets or other like fastenings. It is of the essence of this invention the forcible molding together, so to speak, of the connecting surfaces, not the mere contact obtained by the tendency of the parts to spring together or their resilience when sprung apart. The pressure necessary to effect this result must therefore be sufficient to cause an adherence of the parts due to displacement, flow, or "upsetting" of the metal surfaces brought together to be united. The resilience of the metal therefore plays no part in carrying out this invention.

The invention will first be described in detail and then particularly set forth in the claims.

In the accompanying drawings, Figure 1 shows, in cross-section, a rail and chair embodying my invention. Fig. 2 is an end-elevation of the chair shown in Fig. 1, detached. Fig. 3 shows in cross-section, another form of rail and chair embodying my invention. Fig. 4 is an end-elevation of the chair shown in Fig. 3, detached. Fig. 5 is a side-elevation of the rail shown in Fig. 3, detached. Figs. 6, 7 and 8 show end-elevations, partly in section, of portions of rails and chairs embodying different forms in which my invention may be applied. In said figures the several parts are respectively indicated by reference letters as follows:—

Referring first to Figs. 1 and 2:—the letter R indicates a rail having a web A provided with a bead or enlargement a , extending along its lower edge. Said bead may be constructed in various forms in cross-section as circumstances may require. Three forms of said bead are shown in Figs. 6, 7 and 8. The letter B indicates a chair provided with base-flanges e , a vertical web d , and jaws b , said

jaws being adapted to interfit with the bead a , on the rail R.

The method of uniting the rail and chair is as follows:—When a chair B has been placed in the desired position on the rail with the open jaws b , spanning the bead, said jaws are then forced, by hydraulic pressure, or by other means, into such intimate contact with said bead that the material under pressure is displaced, the rail and chair being thus molded together.

The dotted lines b' (Figs. 1, 2, 6, 7 and 8) show the appearance of the jaws b after the same have been bent in any suitable manner before being subjected to the excessive pressure just described, to force them into intimate contact with the web of the rail.

In Figs. 3, 4 and 5, the web A of the rail is devoid of any bead or enlargement but is provided with a slot a^2 . Through this slot is inserted the jaw c of the chair (Fig. 4) and the end of said jaw is bent downward by any suitable means as shown by the dotted line c' (Fig. 3). Excessive pressure is then applied by any suitable means, and the rail and chair are thus secured together as shown in Fig. 3, the material in the rail and chair being molded together by displacement in the manner above described for the other figures.

By means of this invention the rail and chair are firmly united without bolts, rivets, or other like attachments. If desired, the chairs may be attached to the rail, at any desired intervals, in the shop, and the combined rails and chairs shipped ready to be placed in position in track; or the rail and chairs may be secured together when being laid in track.

If desired, the bead a of the rail may be provided with a longitudinal rib a' , in which case the head of the chair, between the jaws b , should be provided with a groove b^2 to receive such rib. Said rib will serve to prevent any tendency of twisting, under heavy lateral strain, as between the chair and rail.

It is obvious that the jaws may be formed on the rail and the bead or slot on the chair, if it is for any reason desirable to do so, without departing from my invention, as by inverting the figures of the drawings will be

made quite apparent, the rail and chair being supposed to occupy reverse positions.

I do not wish to limit myself to any form or size in cross-section of the interfitting parts, as these may be varied indefinitely without departing from the spirit and purpose of my invention. In some cases the bead might be of such form as to be more properly called a base or flange, in which case if the jaws of the chair were made to correspond, the rail and chair could be united in the manner above described. Neither do I confine myself to the shape of the lower portion of the chair as it may be varied as circumstances may require.

Having thus fully described my said invention, I claim—

1. In combination, a railroad rail and support each having a single vertical web, the web in one terminating in a pocket, or jaws, fitted to receive the web of the other and said

parts, connected together only by the jaws, being molded by pressure against said web as described.

2. In combination with a railroad rail having a bead or enlargement on its vertical web and a rib, as a' , a chair provided with jaws molded to said bead as described, and a groove as b^2 to receive said bead and rib.

3. In combination with a railroad rail having a bead or enlargement on its vertical web and a rib as a' , a chair provided with jaws molded to said bead as described, base-flanges, a vertical web, and a groove as b^2 .

4. A chair composed of an I-beam having its upper flanges bent or pressed into contact with the lower flanges of the rail.

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Witnesses:

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