

A. BUSSE.
 RAIL AND THE MANUFACTURE THEREOF.
 APPLICATION FILED APR. 23, 1908.

Patented Sept. 21, 1909.

934,884.

FIG. 1.

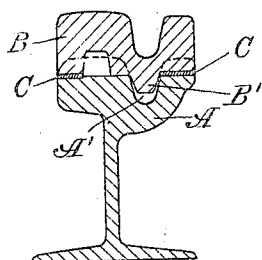


FIG. 2.

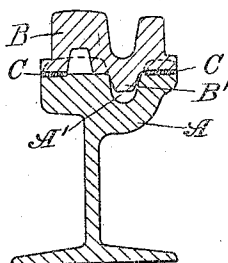


FIG. 3.

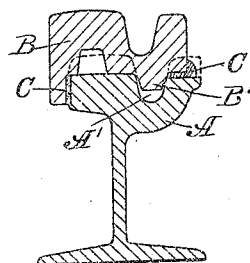


FIG. 4.

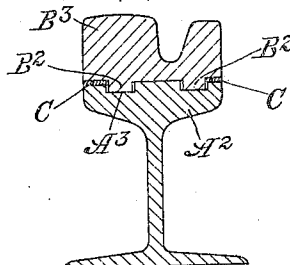


FIG. 5.

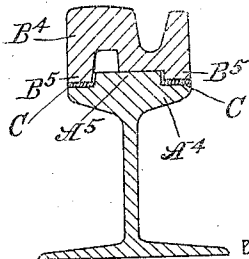


FIG. 6.

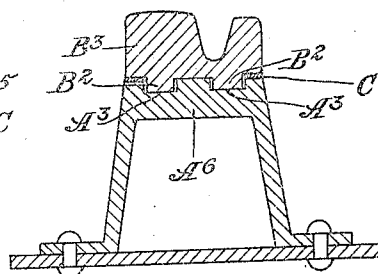
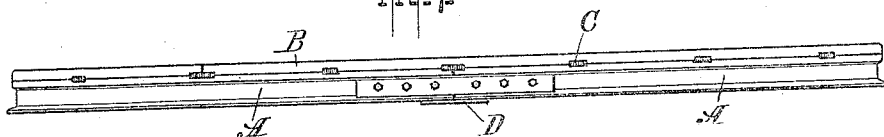


FIG. 7.



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RAIL AND THE MANUFACTURE THEREOF.

284,884.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed April 23, 1902. Serial No. 423,730.

To all whom it may concern:

Be it known that I, ARTHUR BUSSE, a resident of Charlottenburg, Germany, have invented certain new and useful Improvements in Rails and in the Manufacture Thereof, of which the following is a specification.

My present invention has for its object to increase the life of rails by providing a construction which allows the worn heads to be replaced readily without disturbing the attachment of the rails to the ties. For this purpose I employ a special construction involving the use of an auxiliary rail head secured in a novel manner.

In the accompanying drawings Figures 1-6 inclusive are cross sections illustrating various forms of my invention, and Fig. 7 is a side elevation.

In Figs. 1, 2 and 3 the lower portion A of the rail may be a used or worn rail, while the upper portion B is the auxiliary rail head, the connection between these two portions of the rail effected by fusion, for instance by brazing, the brazing metal being indicated at C. It will be seen that this metal need not intervene between the two sections of the rail along their entire surfaces; in Figs. 1 and 2 the brazing metal is placed between the horizontal surfaces at the top of the lower rail section and the bottom of the auxiliary rail head respectively, but only at the outer portions of such surfaces. In Fig. 3 the brazing metal is placed between the horizontal surfaces at one edge of the rail and between the vertical surfaces at the other edge. In either event the connection of the rail sections may be strengthened materially by providing the auxiliary head B with a projection B', or a number of such projections arranged to extend into the groove A' of the lower rail section A. This construction of course prevents any movement of the rail head laterally. The dotted lines in Figs. 1, 2 and 3 indicate the original outline of the lower rail section before it was worn down to the size indicated by the full lines.

When it is desired to use a new rail instead of old ones, the lower rail sections may be given shapes such as indicated in Figs. 4, 5 and 6. In Fig. 4 the lower rail section A' has grooves or recesses A'' in its upper surface into which extend ribs B'' on the auxiliary rail head B'. The brazing material is indicated at C. In Fig. 5 the lower rail section A' has a central rib A'' while the grooved

auxiliary rail head B' has ribs B'' along its edges to fit on either side of the central rib A''. In Fig. 6 the interlocking of the two rail sections is practically the same as in Fig. 4, the difference residing entirely in the shape of the lower rail section A'.

The brazing material might be applied along the entire length of the contact surfaces, but this is not necessary and Fig. 7 shows that it is sufficient to unite the auxiliary rail head at intervals to the lower section of the rail. Preferably the joints of the auxiliary rail heads are staggered with reference to the joints of the lower rail sections and the longitudinal extent of the brazed portions may be greater at the joints than at other points as clearly indicated in Fig. 7. The fish plates, one of which is shown in Fig. 7, may also be brazed to the lower rail sections and a supporting plate such as D may be employed at the joints of the lower rail sections to strengthen the construction and counteract the tendency of the rails to creep. When using old rails it may be necessary to first smooth those portions which are to be brazed to the auxiliary rail heads.

Among the advantages of this invention I would particularly name the following: 1. The joints of the lower rail sections are much stronger in view of the fact that the auxiliary rail head forms a continuous bridge therefor, owing to the fact that the joints of the rail heads are staggered relatively to those of the lower rail sections. 2. The lower rail sections may be made of cheaper material than the rail heads. 3. Old rails may be used for the lower rail sections. 4. It is not necessary to disturb the paving or the lower rail sections when it is desired to remove and renew the upper rail sections. 5. The brazing of the auxiliary rail heads to the lower rail sections is an effective electric bond. 6. The brazing of the auxiliary rail head to the lower rail section may be effected at the works so that only the brazing at the joints need to be attended to after laying the track. 7. The auxiliary rail head may be detached readily by means of pneumatic chisels, or other cutting tools.

While I have shown the application of my invention to grooved rails, for which it is intended to be used primarily, it will be obvious that the auxiliary rail head may receive any desired form.

I claim;

1. A track comprising rails composed of lower sections and upper sections or heads, the said heads being fused to the lower sections at intervals, at the joints and at intervening points.

2. A track comprising rails composed of lower sections and upper sections or heads, the said heads being fused to the lower sections at intervals, at the joints and at inter-

vening points, the longitudinal extent of the fused portions being greatest at the joints.

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

ARTHUR BUSSE.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.