

No. 775,643.

PATENTED NOV. 22, 1904.

M. BARSCHALL.

RAIL JOINT.

APPLICATION FILED AUG. 11, 1903.

NO. MODEL.

Fig. 1.

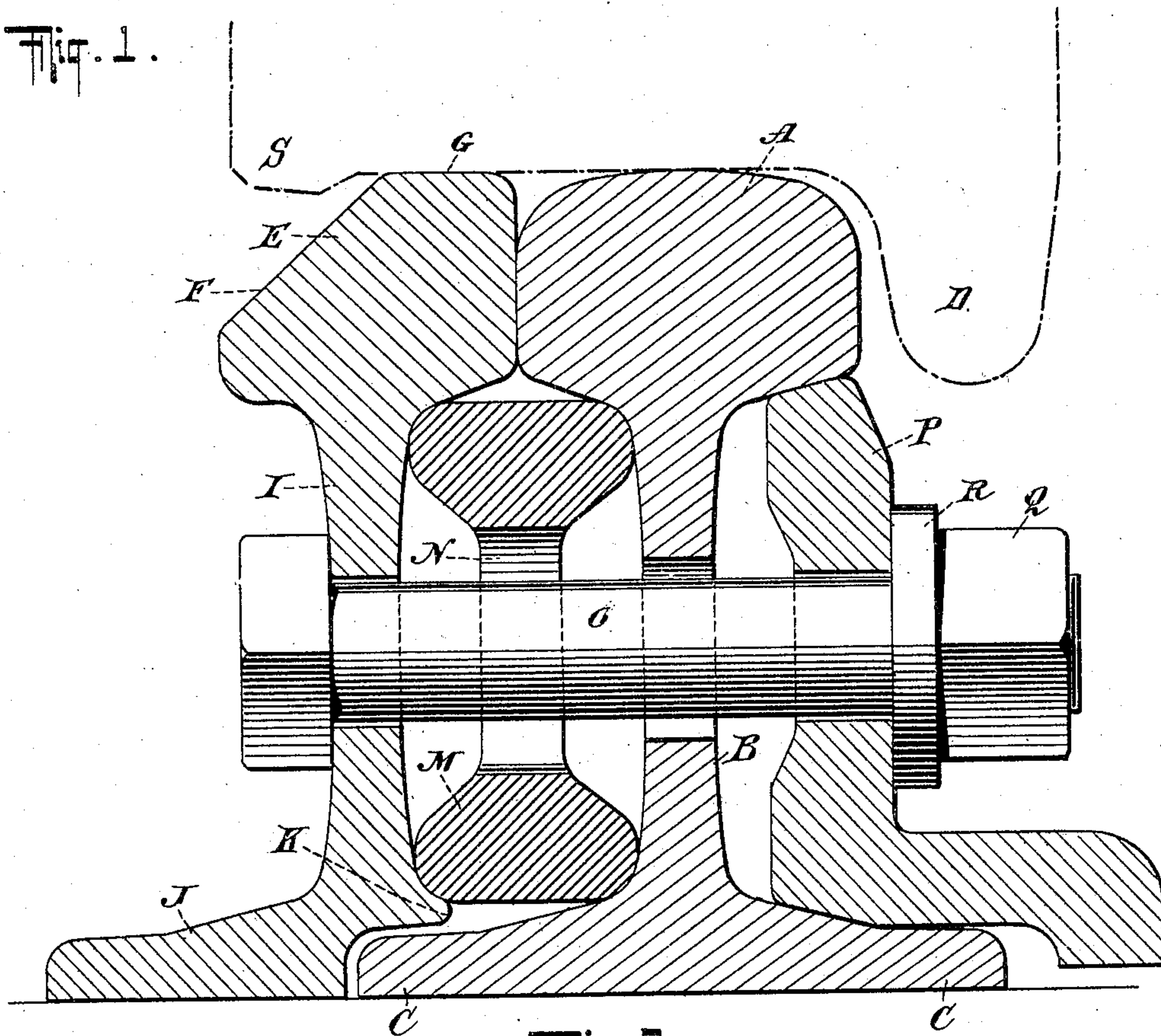
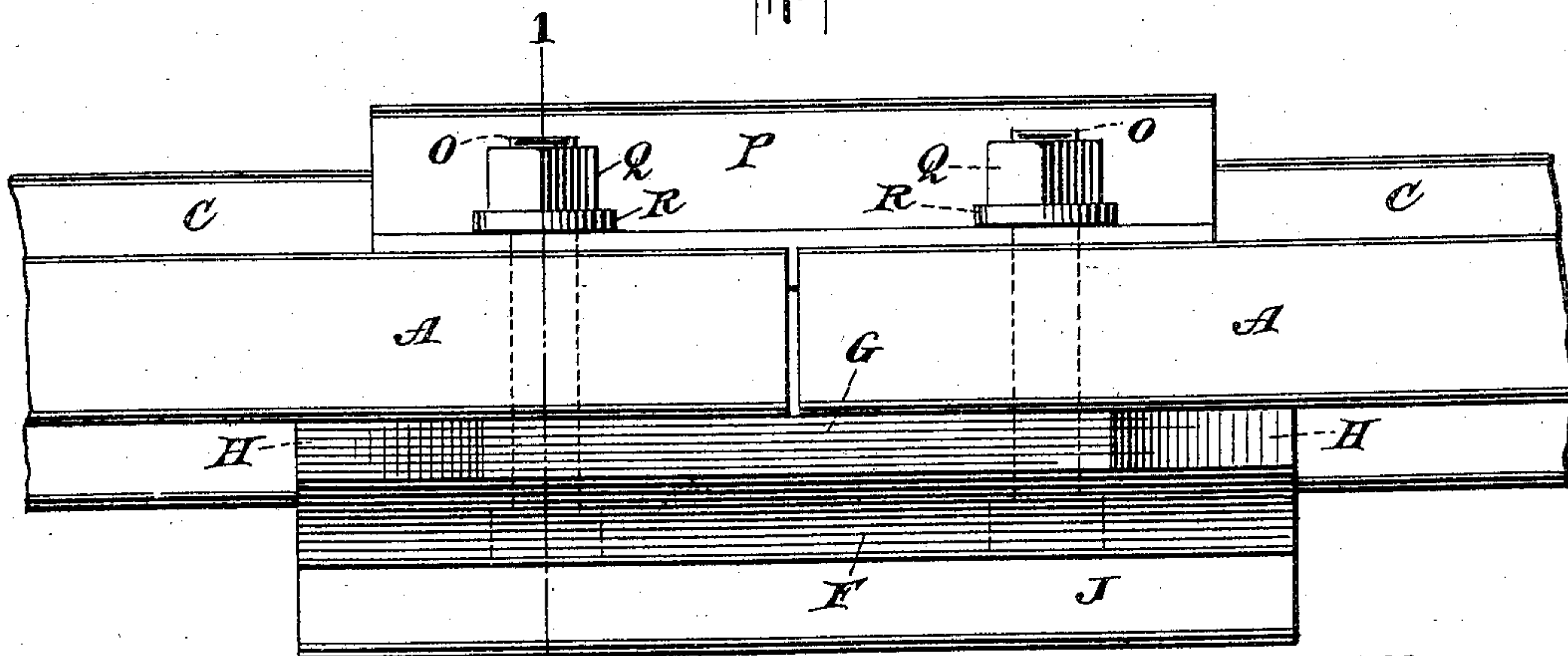


Fig. 2.



WITNESSES:

1

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 775,643, dated November 22, 1904.

Application filed August 11, 1903. Serial No. 169,112. (No model.)

To all whom it may concern:

Be it known that I, MAX BARSCHALL, a subject of the King of Saxony, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to rail-joints, and particularly to that type of rail-joints in which an auxiliary rail or support is employed to bridge the gap between the ends of the main rails. In constructions of this character difficulty has often been experienced owing to the formation on the tread of a wheel as the same wears in service of a bur or false flange which is liable to climb upon the auxiliary rail.

The object of my present invention is chiefly to prevent contact of the said false flange with the tread-surface of the auxiliary rail. For this purpose I employ a main rail having an unsymmetrical head and combine this main rail with an auxiliary rail or support in the particular manner that will be set forth hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of my improved rail-joint, taken on line 1 1 of Fig. 2; and Fig. 2 is a plan of the joint.

A indicates the heads of the main rails, B their webs, and C their bases. The base is symmetrical; but the head A is unsymmetrical relatively to the web B, the larger portion of the head being located on the inside of the rail—that is, toward the flange D of the car-wheel. The auxiliary rail or support has a head E with a transversely-sloped surface F and an approximately horizontal tread-surface G. The ends of the auxiliary rail are preferably sloped longitudinally, as shown at H in Fig. 2, so as to cause the wheels to pass without a jar from the main rails to the auxiliary rail, and vice versa. The head E may be unsymmetrical with reference to the web I of the auxiliary rail, and the base J of the auxiliary rail is cut away on one side, so as to admit of the reception of the main-rail base C. The auxiliary rail is also formed at the lower

end of its web with a projection K, upon which rests the lower end of a double-headed filling-piece M. This filling-piece engages the webs B and I at their upper and lower ends and is provided with a stem N, perforated for the passage of the bolt O, which has vertical play in the filling-piece, as shown. The bolt has a relatively tight fit in the web I and in a fish-plate P, which engages the main rails on the inside. Nuts Q and washers R or any other suitable device serve to secure the structure together. The bolts O may also have some vertical play in the webs B of the main rails.

My invention relates generally to any construction in which the main rails A are combined with any auxiliary support which bridges the joint. The particular manner of connecting and supporting the rails (shown in the accompanying drawings) is not claimed as part of my present invention, and I desire it to be understood that other means might be employed for the same purpose.

Fig. 1 shows at S the so-called "false" flange which is formed upon the wheels in consequence of uneven wear. This figure also shows that the tread-surface of the auxiliary rail will not come in contact with the false flange, yet a bearing-surface of sufficient width is afforded by the main rail and auxiliary rail.

By my improved construction a smooth running of the wheels over the joints is secured, and all danger of accidents from a climbing of the false flange upon the auxiliary rail is avoided. It will be seen that the plane of contact of the rail-heads lies centrally between the webs B and I and that the filling-piece M is located symmetrically with respect to this plane of contact. Thus, notwithstanding the unsymmetrical construction of the rail-head A, I secure a practically symmetrical support and minimize or avoid altogether such strain as might tend to tip the rail. It will be obvious that if the web B were placed symmetrically to the head A the construction would be objectionable, because the size of the chamber between the webs B I would be enlarged, thus necessitating the employment of a heavier

and more expensive filling-piece and losing to some extent the advantage of compactness and strength. Moreover, the plane of contact of the heads A E would no longer be exactly co-incident with the central plane of the filling-piece M, and thus the latter would not support the joint evenly. It would not be possible in practice to avoid the defects just mentioned by placing the web B centrally of the head A and shifting the web I outward, so that the plane of contact of the two heads A E would still lie centrally between the webs B and I, for the reason, first, that such a construction would increase the width of the filling-piece chamber and the weight of the filling-piece even more than the construction just referred to, and, second, the web I would be brought so far outward as to make it a rather unreliable support for the head E, it being remembered that the total bearing-surface formed by the tread-surface of the main rail A and the tread-surface G of the auxiliary support E must not exceed a maximum dimension depending on the width of the wheel-rims. The advantage of my improved construction will therefore be obvious.

I claim as my invention—

1. A rail-joint comprising a main rail having an unsymmetrical head, and an auxiliary rail the head of which is in contact with that of the main rail on that side where the said head projects least from the center, the webs of the said rails being located at the same distance from the plane of contact of their heads.
2. A rail-joint comprising a main rail having an unsymmetrical head, and an auxiliary rail the head of which engages that of the main rail on that side where it projects least from the center, the webs of the said rails being located at the same distance from the plane of contact of their heads, and the auxiliary rail having its base recessed to receive

a portion of the main-rail base, and being provided with a projection above said recess.

3. A rail-joint comprising a main rail, the head of which is unsymmetrical to the web, the narrower portion of the rail-head being on the outside thereof, and an auxiliary support constructed to bridge the gap between two alined main rails, and having its head in engagement with the narrower portions of the main-rail heads.

4. A rail-joint comprising a main rail, the head of which is unsymmetrical to the web, the narrower portion of the rail-head being on the outside thereof, and an auxiliary support constructed to bridge the gap between two alining main rails, and having its head in engagement with the narrower portions of the main-rail heads, said auxiliary support having a web located at the same distance from the vertical plane of contact of the heads as the web of the main rail.

5. A rail-joint comprising a main rail, the head of which is unsymmetrical to the web, the narrower portion of the rail-head being on the outside thereof, an auxiliary rail constructed to bridge the gap between adjacent main rails, and having its head in engagement with the narrower portions of the main-rail heads, the webs of the auxiliary rail and of the main rail being located at the same distance from the plane of contact of the rail-heads, and a filling-piece resting on the bases of the auxiliary rail and main rail and engaging the lower surfaces of their heads.

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

MAX BARSCHALL.

Witnesses:

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