

(No Model.)

J. M. PRICE.  
GIRDER JOINT FOR RAILROAD RAILS.

No. 517,660.

Patented Apr. 3, 1894.

Fig. 1.

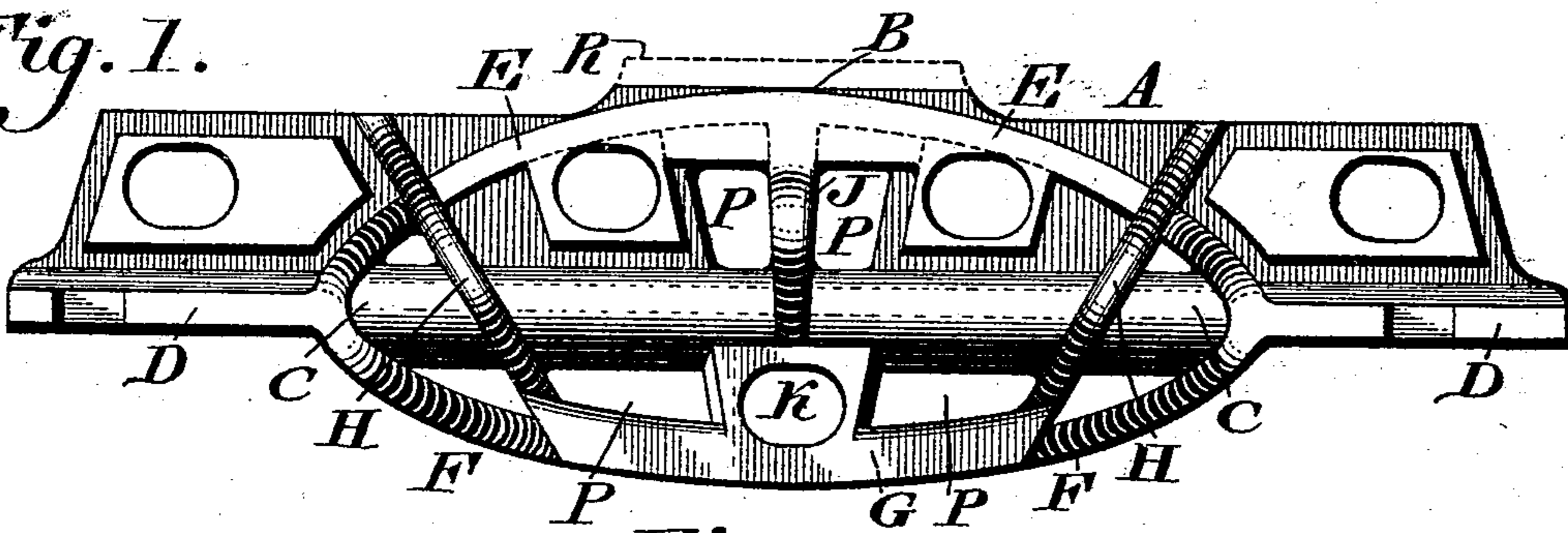


Fig. 2.

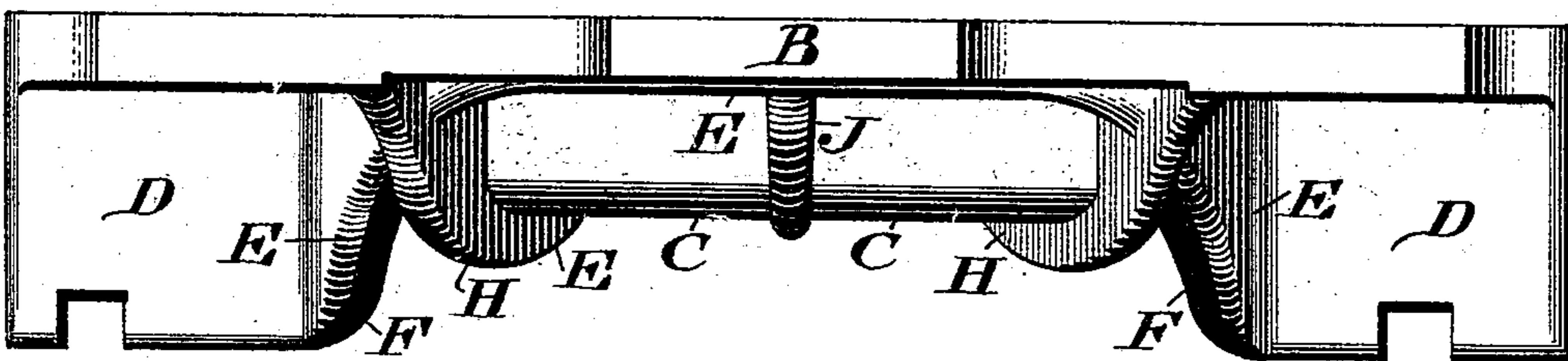


Fig. 3.

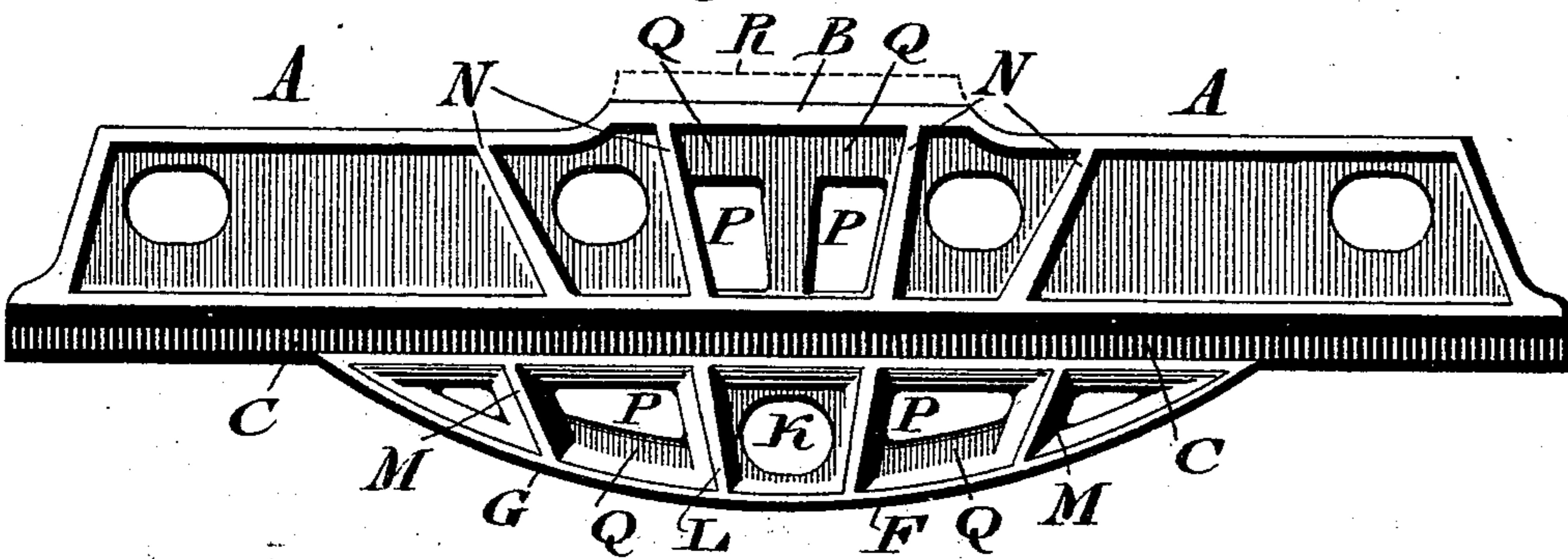
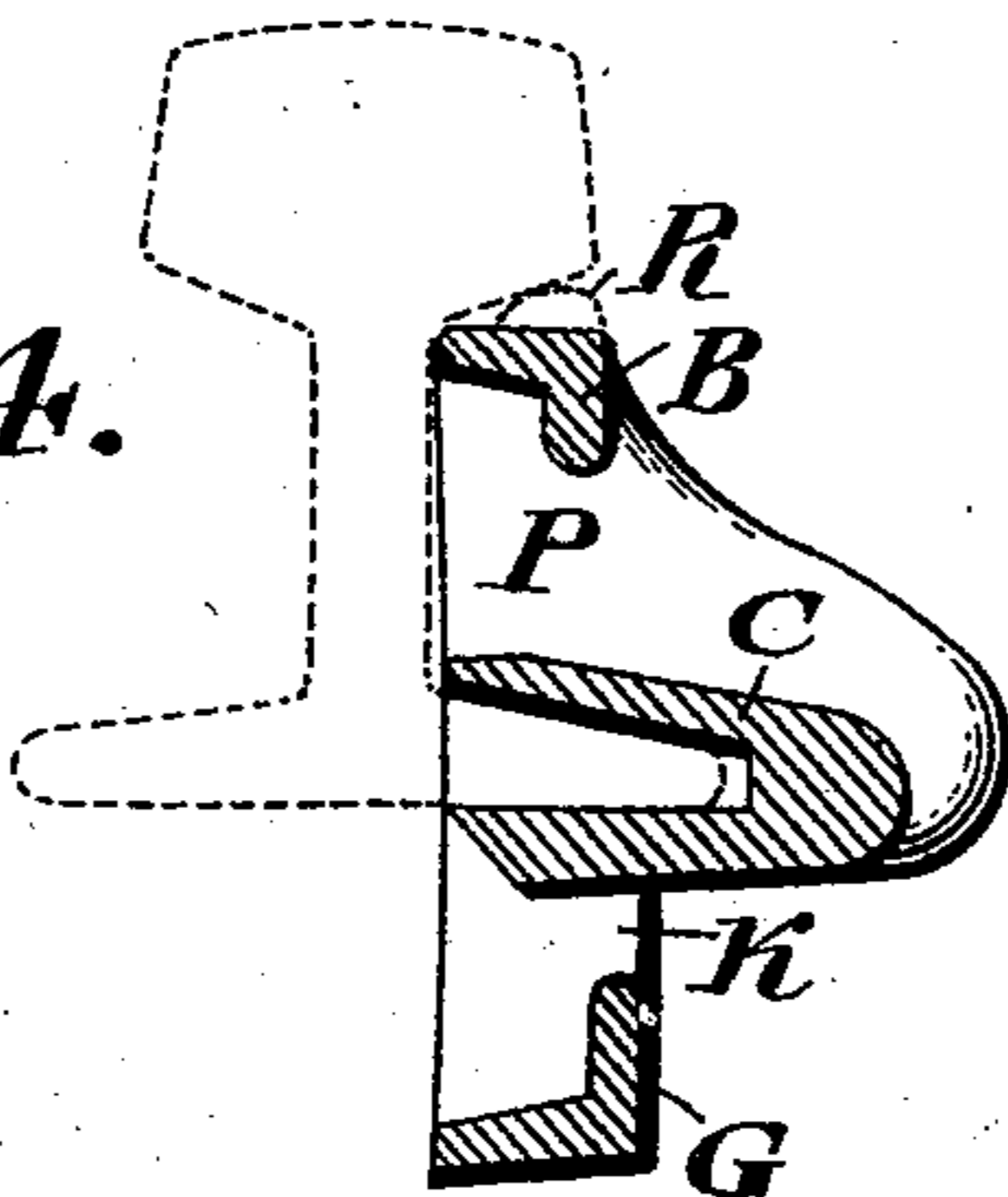


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## GIRDER-JOINT FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 517,660, dated April 3, 1894.

Application filed March 23, 1893. Serial No. 467,306. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. PRICE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Girder - Joints for Railroad-Rails, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in girder joints for railroad rails and consists of metallic plates formed as hereinafter described.

Figures 1 and 3 represent side elevations of a girder joint for a railroad rail embodying my invention. Fig. 2 represents a top or plan view thereof. Fig. 4 represents a transverse vertical section thereof.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings: A designates vertical plates having raised centers or combs B, and the horizontal grooves or jaws C, in which latter the flanges of the rails inclosed in the joint are rested, while the heads of the rails are supported on said centers or combs B.

D designates the feet which are notched for the spikes, whereby the joint may be attached to two adjacent ties. The inner ends of the feet overhang the ties, and are connected with the ends of the arch E and inverted arch F, or circular guides.

G designates the bench which depends from the jaws C, and is continuous with the same. Strong ribs H, J, curved to correspond with the shape of the combined plate, jaw and bench, surround and embrace the exterior part of the joint plates. In the bench G is a bolt opening K, which is central to the lower arch F, whereby an additional security is provided for the joint plates by binding together the bases of a pair of the same beneath the rails, as well as the middle of the rails themselves.

L designates skirting ribs around the bolt opening K, forming a box or reinforce therefor, thus adding greatly to the strength of the joint at its center. To further increase the strength of the joint, slanting ribs M and N are attached to the interior of the bench, and the upright plate A, or body of the plate, and

the entire edge is skirted by projections, which not only contribute much to the strength of the structure, but act at its upper edge against the web of the two rails, to keep the latter to a true alignment. Openings P are made in the main plate A, the same deducting from the weight of the same, and contributing to the elasticity of said plate. The walls of the top and bottom, and upper and lower openings P, respectively, have thin plates Q thereon, the same being set on their edges and connected with the front of the plate to avoid weakness at said plates. Further adjustment to a large number of rails may be had by laying a thin plate R upon the comb in the pattern, to make the height from the upper side of the rail flange to the under side of the head of the rail greater for the joint, when required, so that the comb shall be in contact with the heads of the two rails where they meet, and contribute support to them. It will be observed that the central rib J has been made so short as to come down only to the top of the box for the lower bolt, to avoid interfering with the handling of the same. If ever found in practice however, desirable to dispense with the hole beneath the rail flanges, I should retain the square box for the bolt hole, filling in the hole itself, and run or extend the rib outward and downward to embrace the lower edge of the under arch, thus attaining remarkable strength at that point.

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

1. A girder joint for meeting rails consisting of a vertical plate with a raised center, a horizontal groove forming a jaw, and feet, arches connecting the inner end of the said feet, and a bench depending from said jaw, said parts being combined substantially as described.

2. Two plates of metal, consisting each of a vertical plate resting upon the flange of two meeting rails and in part upon the cross ties on which those rails sit, by means of a foot nearly horizontal spreading out upon them, the plates strengthened by two arches of metal, foot to foot, and by embracing ribs, binding all parts together, the plates being

pierced by bolt holes and connected by bolts through the rails, and below them at one and the same time, as a rail joint, substantially as described.

- 5 3. Two joint plates, each ribbed externally by curved and projecting ribs, and on the inner side by straight and slanting ribs, supporting a ribbed periphery, from which rises at the center of the plate a comb to support  
10 at their meeting point the heads of the two meeting rails, embraced and upheld between the ties by the joint plates, these being secured together, where they embrace the flanges of the rails inclosed by bolts midway  
15 of the rails themselves and traversing them and the joint plates, and by another bolt passing through the plates below the rails, the whole constituting a rail joint, substantially as described.
- 20 4. A rail joint, consisting of two metallic plates, deeply furrowed or guttered to receive and compress the flanges of two meeting railroad rails, the plates consisting in the main of a vertical back or girder, with center raised  
25 into contact with the heads of the rails inclosed, and feet resting in part upon the rail

flanges and inclosed in part upon the cross-ties supporting the rails, with encircling ribs and arches of metal inverted to each other, and bolted above and below the flanges of the  
30 rails embraced, substantially as described.

5. A girder joint consisting of a plate with groove and feet, said plate having openings therein, and reinforce plates Q for the walls of said openings, said parts being combined  
35 substantially as described.

6. A girder joint consisting of a plate with a horizontal groove therein, and a raised central portion, and feet, a depending bench with openings therein arches connecting said  
40 bench and feet, and slanting strengthening ribs and projections, said parts being combined substantially as described.

7. A girder joint for meeting rails having a raised central portion, in combination with  
45 adjusting plates adapted to rest on the raised portion, substantially as described.

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Witnesses:

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