No. 753,470. PATENTED MAR. 1, 1904.

W. C. BURGUM.

RAIL JOINT.

APPLICATION FILED JULY 5, 1901.

NO MODEL.

Fig. 1

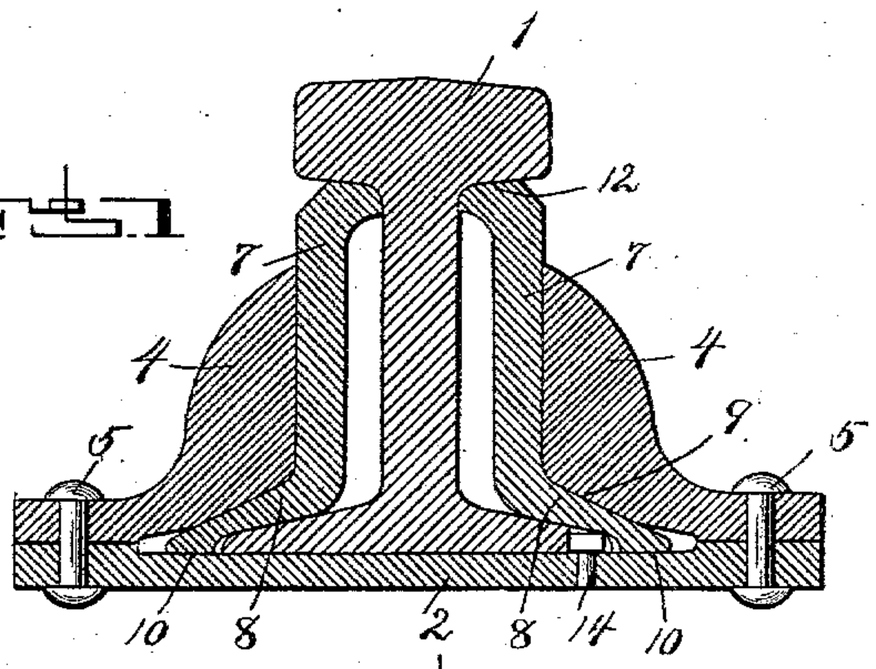


Fig. 2.

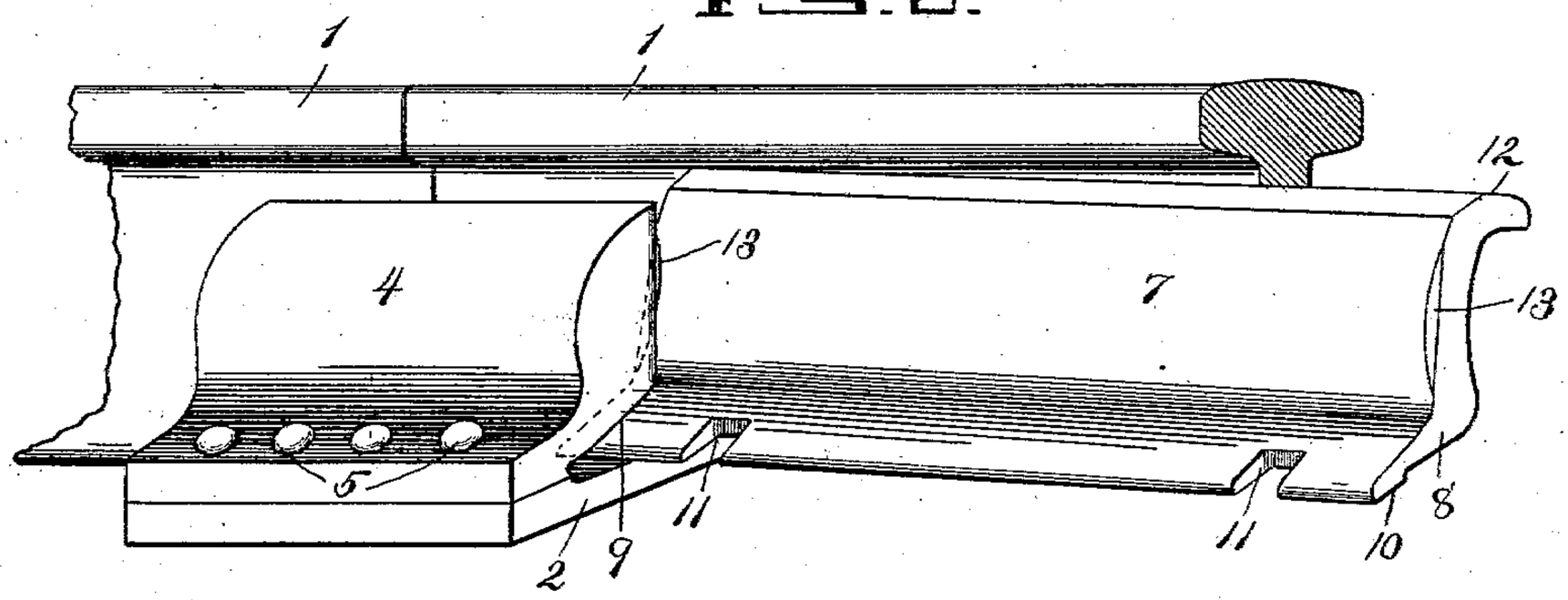
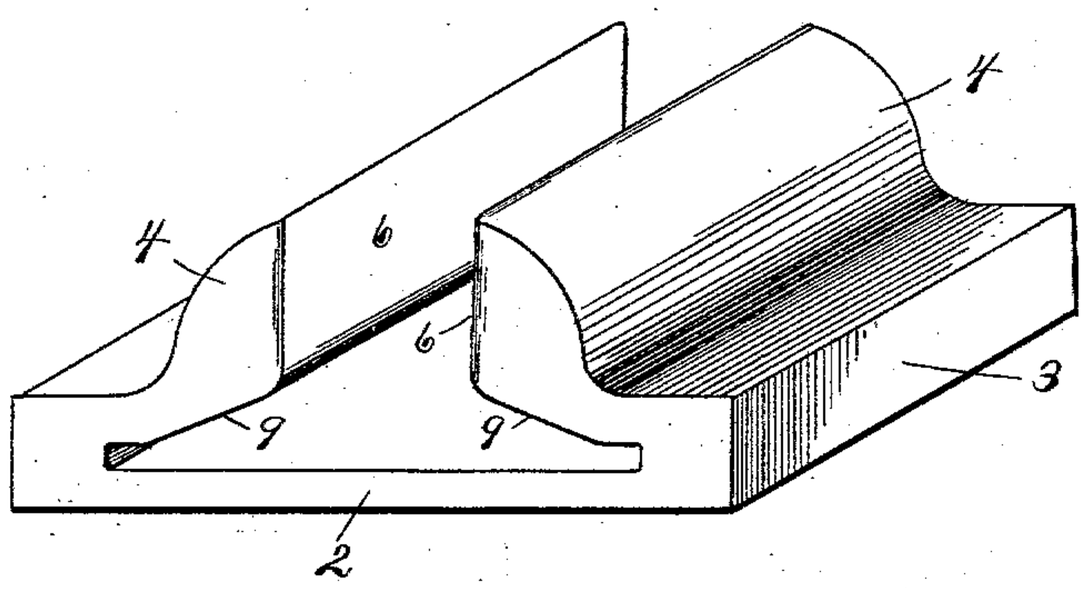


Fig. 3.



WITNESSES:

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No. 753,470. Patented March 1, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM C. BURGUM, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN W. HOUSBERG, OF PITTSBURG, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 753,470, dated March 1, 1904.

Application filed July 5, 1901. Serial No. 67,159. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. BURGUM, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints; and I do hereby 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.

The object of my invention is to provide new and improved means for supporting and maintaining the meeting ends of two adjacent rails in alinement; and to this end my invention consists of a new and improved rail-joint and in the construction and combination of parts, all as fully hereinafter described and claimed.

Among the important and characteristic features of the present invention, to which attention is particularly called, are—

First, the simple and efficient construction, whereby I am enabled to utilize the ordinary fish-plates, thereby permitting my invention to be put into practice in cases where the rails are laid and joined by the fish-plates in the usual and well-known manner at very little additional expense and in cases where the track has not been constructed at much less expense than under the present method of joining the ends of the rails.

Second, I do away with the usual bolts and nuts and their accompanying disadvantages.

Third, I construct a joint with special reference to expansion and contraction of the rails caused by variation in temperature, and to this end I find it is necessary in order to obtain the best results to have the parts forming the joint of substantially the same expansive and contractive properties as the rails, and therefore roll the chair or clamp instead of casting it. By rolling the clamp instead of casting it the advantages resulting will be readily appreciated by those skilled in the art, for it is well known that a rolled-metal clamp and a cast-metal clamp are quite different structures.

Fourth, I provide a joint in which it is not necessary to employ a tapering wedge. It is well known that a tapering wedge is a very objectionable element in a rail-joint. Practical railroad experience has proved it almost impossible to maintain a tapering wedge in the desired position when employed in a rail-joint.

In the accompanying drawings, which illustrate an application of my invention, Figure 1 is a central vertical sectional view of a rail, showing my invention applied thereto; Fig. 2, a perspective view particularly showing the manner of inserting the fish-plates, and Fig. 3 a perspective detail view of a modified form of chair or support from that shown by Figs. 1 and 2.

Referring to the drawings, the bases of the ends of two adjacent rails 1 rest upon the base-plate 2 of the chair, support, or casing 3. This chair should be made of rolled metal and may be made in the manner shown by Figs. 1 and 2—that is to say, made in three pieces comprising the base-plate 2 and the two side pieces or parts 4, which latter are securely joined to the base 2 by means of rivets 5. Another and perhaps a more desirable form of chair or support is shown by Fig. 3. In this instance the base and sides are made integral.

Interposed between flat bearing-faces 6 of the parts 4 and on both sides of the webs of the rails are plates 7. These plates are similar to the usual and well-known fish-plates now so generally employed in railway-track construction. Each plate 7 is provided with a flanged portion 8, which when the plate is in position is held tightly between the upper surfaces of the bases of the rails and a bearing-face 9 of each of the parts 4. Plate 7 is further provided at its lower end with a bearing-surface 10, running longitudinally of the plate and preferably for its entire length. This part 10 overlaps the edges of the bases of the rails and rests upon the base-plate 2. Cut-out portions 11 are formed in the plate to receive spikes for securing the plates 7 to the railway-ties. At the upper end of the plate a bearing-surface 12, shaped to conform to the lower faces of the heads of the rails, is provided. In the manufacture of the plates

7 they are formed with a slight outward curve or bow between the upper and lower ends of the plate. This construction is particularly shown in the plate 7 in Fig. 2. For convenience in assembling the parts I cut away a portion of the outer edges of the plates, as shown by 13. In order to prevent a longitudinal movement of my rail-joint on the rails, I provide two or more pins or bolts 14, which enter holes in the base-plate 2 and engage with nicked portions of the bases of the rails, as shown by Fig. 1. The distance between the flat bearing-faces 6 of the parts 4 is just sufficient to permit the plates 7 to be driven between said faces and the webs of the rails. Owing to the bow of the plates 7 coming in contact with the flat faces 6 as they are driven into place, the flanged portion 8 will be tightly wedged between the bases of the rails and the bearing-faces 9, and the upper surface 12 will be forced up tightly against the heads of the rails, thereby maintaining the adjacent ends of the rails in perfect alinement and providing a strong, cheap, and efficient rail-joint having a rigid chair or support, all as herein described.

Attention is called to the fact that my chair or support is formed so as to permit the same to be applied to two adjacent rails without first separating the rails and then sliding the chair or support along one rail before it is applied to the other adjacent rail, as is usual in this class of rail-joints. In other words, the space inclosed by the flat bearing-faces 6, bearing-faces 9, and base-plate 2 is sufficient to permit the chair or support to be applied to the ends of the adjacent rails without separating the rails.

Having thus described my invention, what I claim is—

In a rail-joint, the combination with the ends of two adjacent rails, of a rolled-metal chair or support having substantially the same expansive and contractive properties as the metal of the rails and comprising a base-plate and sides constructed in such a manner as to form a sufficiently large space for the chair or support to be applied to the adjacent rails without separating the rails, each side having a flat straight bearing-face, bowed fish-plates on both sides of the webs of the rails disposed between the straight flat bearing-faces of the chair and the webs of the rails so as to cause the bowed portions of the fish-plates to bind against the flat bearing-faces of the chair thereby maintaining the bowed portions of the fish-plates in close frictional contact with the flat bearing-faces without the aid of a wedge, and means engaging the base-plate and the base of a rail for preventing a longitudinal movement of the chair on the rails, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM C. BURGUM.

Witnesses:
MILDRED E. MCGREGOR,
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