No. 682,911. Patented Sept. 17, 1901.

C. A. CARBAUGH.

RAIL JOINT.

(Application filed June 27, 1901.)

(No Model.)

Fig. 1.

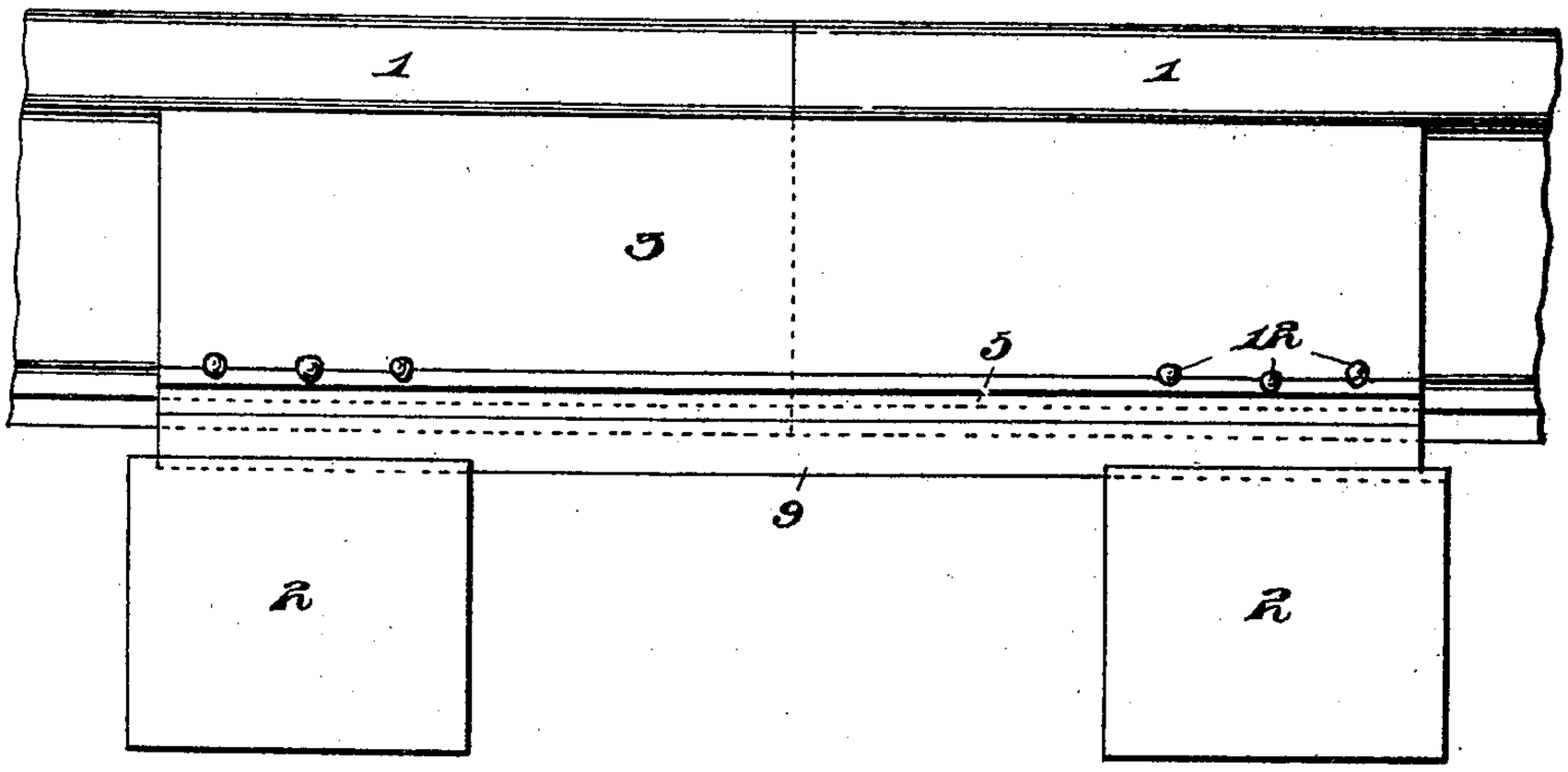

Fig. 2.

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CONRAD A. CARBAUGH, OF JOHNSTOWN, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 682,911, dated September 17, 1901.

Application filed June 27, 1901. Serial No. 66,310. (No model.)

To all whom it may concern:

Be it known that I, CONRAD A. CARBAUGH, a citizen of the United States, residing at Johnstown, in the county of Cambria, State of Pennsylvania, have invented a new and useful Rail-Joint, of which the following is a specification.

This invention relates to certain new and useful improvements in rail-joints, and relates more particularly to that class wherein the use of nuts and bolts is entirely dispensed with.

The present invention has for its object the provision of novel means whereby two sections of rails are easily and securely joined together.

A further object of my invention is to construct a rail-joint that will take up the jar and vibrations that are caused when the train is passing from one rail section to the other; furthermore, to cushion the jar that is caused in this manner to assure an easy and smooth traveling of the wheels over the rails.

A still further object of my invention is to construct a rail-joint of the above described class that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its use.

With the above and other objects in view the invention consists of a rail-joint formed of a single piece of metal, preferably steel or any other suitable material; furthermore, to provide novel means whereby the rails may expand and contract, which is caused by the change in the temperature.

The invention finally consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout both views, and in which—

Figure 1 is a side elevation of two sections of rail having my improved rail-joint attached thereto. Fig. 2 is an end elevation thereof.

In the drawings the reference-numeral 1 indicates the rails, and 2 indicates the cross-ties, upon which the rails and rail-joint are seated.

The reference-numeral 3 represents the rail-joint, formed of a single piece of metal, said rail-joint consisting of fish-plates which each have two walls, and a chair formed integral therewith.

The reference-numeral 4 represents the outer wall of the fish-plate, which is constructed at an angle and extends from the flat portion 5 to the underneath portion of the tread of the rail. At this point the outer wall 4 is bent inwardly, as shown at 6, to conform to the lower face of the tread of the rail, and 7 indicates the inner wall, which is slightly curved and extends to the upper face of the base of the rail and incloses the web thereof.

The reference-nnmeral 8 indicates the inner wall of the fish-plate, extending downwardly from the lower portion of the web of the rail and over the upper face of the base of the rail. This inner wall extends outwardly, carrying an extension 9, which is bent over upon itself and forms a chair 10 or base portion, upon which the base of the rail rests. This chair 10 extends under the base of the rail outwardly, as shown at 11, where it is again bent over upon itself, corresponding with the opposite side 9, forming the opposite side of the fish-plate, as heretofore described.

The reference-numeral 12 indicates spikes or other suitable fastening means extending through the portions 5, 9, and 10 into the cross-ties 2. Any suitable fastening means may be employed for this purpose; but I have found in actual practice that it is advantageous to employ spikes extending through the three thicknesses of steel into the cross-ties.

The manner of attaching my improvements is as follows: The rails are secured to the rail-joints endwise and are arranged within the integral fish-plates and chair, the ends of the rails abutting against each other, but allowing sufficient lineal movement to take up the expansion and contraction that may take place. The lateral displacement of the rails will be impossible, as the device is securely fastened, as heretofore described. It will be impossible for the rails to spread and cause a displacement of the same accidentally, as is

now often the case, and this objectionable feature causes many accidents that my invention effectually overcomes.

The many advantages obtained by the use of my improved rail-joint will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. A rail-joint composed of a single piece of metal having fish-plates formed of angularly-disposed walls, one of said walls engaging the upper face of the rail-base, bent over upon itself and extended to form a chair, the other of said walls engaging the said bent-over portion and simultaneously spiked therewith to the tie, substantially as described.

2. In a rail-joint, fish-plates having inner and outer walls with a space therebetween, a chair, the ends of said chair being bent over upon themselves, the ends of the outer walls of the fish-plate engaging said ends, and spikes passing through said fish-plate ends and the chair ends, substantially as described.

3. In a rail-joint, fish-plates having curved inner walls, angular outer walls with a space between said inner and outer walls, a chair having its ends bent over upon themselves, and upper and lower engaging faces on said fish-plates, substantially as described.

4. In a rail-joint, the combination of fish-plates formed of angular outer walls, curved inner walls, a chair having its ends bent over upon themselves, and means whereby the fish-plates and chair are securely fastened to the ties, all parts being arranged and operating substantially as described and for the purpose set forth.

5. A rail-joint composed of a single piece of metal having inner and outer fish-plates with a space therebetween, upper and lower engaging faces on said fish-plates, a chair having its ends bent over upon themselves at each side of the rail-base, the outer fish-plate having its ends extended to engage the said chair ends, the fish-plate ends and chair ends being simultaneously spiked to the tie, substantially as described.

6. A rail-joint formed of a single piece of metal with angularly-disposed inner and outer walls forming fish-plates, a chair having bent-over ends which are continuations of one of said walls, the end of the other of said walls being simultaneously spiked to the tie with said bent-over ends of the chair, substantially as described.

7. A rail-joint formed of a single piece of metal the one end of which is bent to form an outer wall, continued to form an inner wall, then bent to form a chair the ends of which are doubled upon themselves, and engage the said first-named end, substantially as described.

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Witnesses:
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