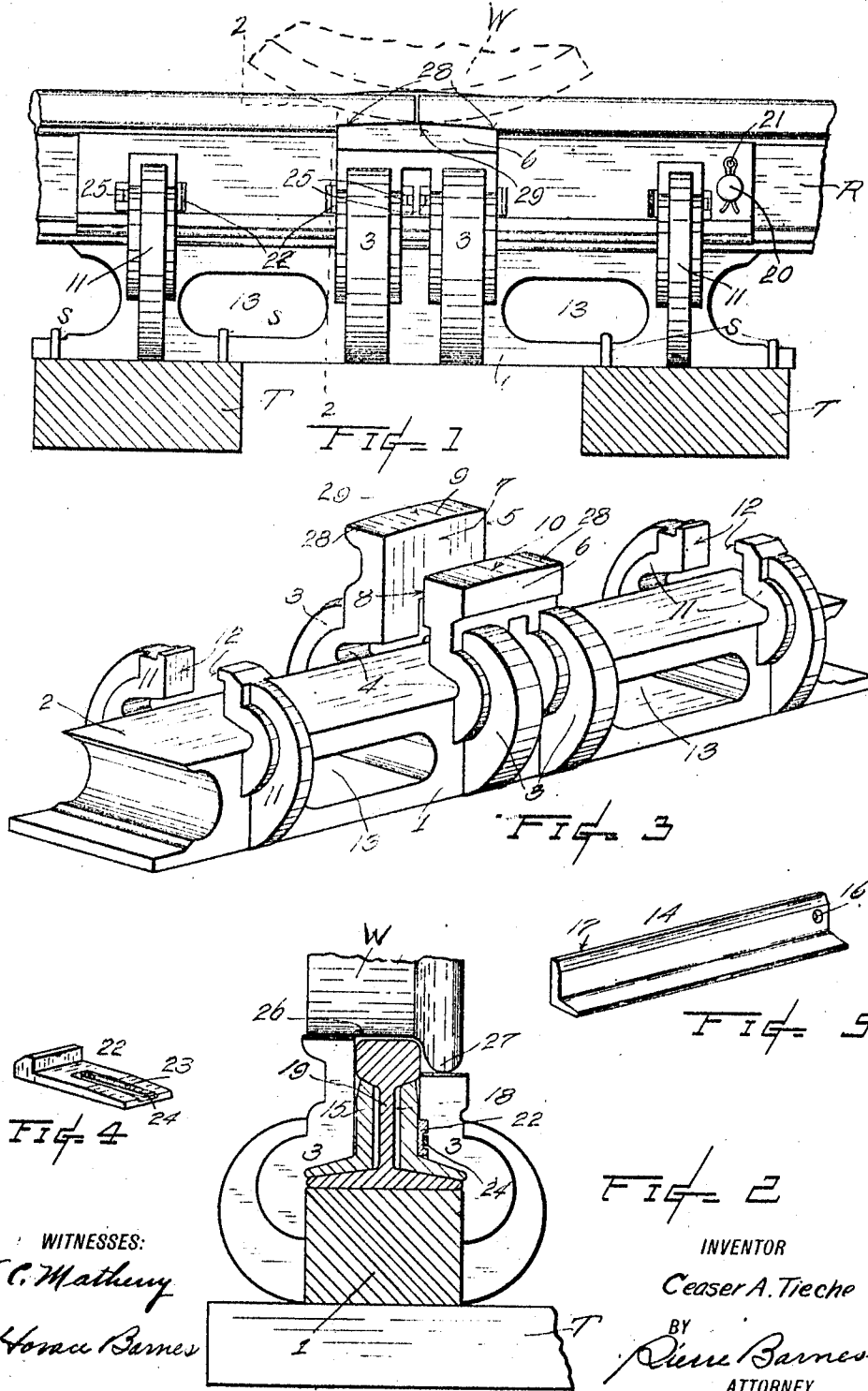


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RAIL JOINT.

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1,026,288.

Patented May 14, 1912.



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CEASER A. TIECHE, OF SEATTLE, WASHINGTON.

RAIL-JOINT.

1,026,288.

Specification of Letters Patent.

Patented May 14, 1912.

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To all whom it may concern:

Be it known that I, CEASER A. TIECHE, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail-fastening devices.

10 The object of this invention is the provision of a combined rail chair and clamp of simple construction that will retain the rail ends in horizontal and vertical alinement under the hardest service conditions.

15 A further object of the invention is to displace the ordinary use of bolts and similar devices which are unsatisfactory and unreliable in use by substitute apparatus that provides for longitudinal expansion and contraction of the rails without liability to side displacement.

20 A still further object of the invention resides in the provision of means to overcome the battering of the ends of the adjoining rails by the car-wheels and also lessening the discomfort of traveling by preventing the noise engendered by the car-wheels passing over an open joint.

25 With these and other objects in view, as will appear through the following description of the invention, the invention consists in the novel construction of a rail chair and clamp and the adaptation and combination of parts, as will be described in detail in the following specification, illustrated in the accompanying drawings, and finally set forth in the appended claim.

30 In the drawings, Figure 1 is a side elevation of devices embodying my invention, shown with a pair of rail ends secured therein. Fig. 2 is a cross-sectional view of the same through 2-2 of Fig. 1. Fig. 3 is a perspective view of the rail chair proper. Figs. 4 and 5 are perspective views of other details of the invention.

35 The reference numeral 1 designates the body of the rail chair comprised preferably of cast metal having length to rest upon two ties T placed at usual distances apart and of sufficient thickness to afford the necessary strength and rigidity in a device of such type. The body is formed with a plane upper surface 2 to afford a bed upon which the rails R are intended to be supported. Intermediate the ends of the chair it is formed integrally with a pair of up-

wardly extending hooked arms 3 at each side. Each said pair of arms are extended over the plane surface 2 toward the opposing pair affording an under cut portion 4 therebelow. Each said pair of arms are joined together at their upper extremities by an integral block, that upon one side, 5, being extended higher than the other 6. The opposing faces 7 and 8 of the blocks, respectively, are substantially vertical and parallel with the longitudinal axis of the chair. The upper surfaces 9 and 10 of the respective blocks are slightly curved longitudinally of the chair, as readily seen in Fig. 1, for the purposes hereinafter explained. In proximity of each end of the chair it is formed with a pair of oppositely disposed integral upwardly extending hooked arms 11 each having a substantially vertical face 12 respectively extending in the plane of the faces 7 and 8, and protruding upwardly somewhat lower than the surface 10 of the lower block 6. At 13 between the respective groups of arms the chair is chambered to reduce excessive weight and afford opportunity for the placing of heads of spikes S.

40 The numerals 14 and 15 indicate a pair of angle fish-plates coextensive with the length of the chair and of ordinary construction except that but one hole 16 is provided in each in adjacent ends.

45 When the joint is to be assembled the ties T upon which the chair is supported are lowered so that the chair surface 2 will be level with the adjacent ties. The rail ends are inserted from each end to meet approximately midway of the chair and midway of said blocks 5 and 6. The plates may then be placed in position one at either side of the rail, their bottom flanges resting upon the respective bottom flanges of the rail and the upper edge 17 of their vertical flanges engaging the underside of the head of the rail affording a space 18 between such vertical flanges and the web 19 of the rail. One of the rails is formed with a hole, not shown, which registers with the holes 16 of the opposing plates. A bolt 20 may be entered through said holes and secured from displacement by a split-pin 21.

50 The vertical face 8 of the arms 3 and faces 12 of arms 11 upon the same side are recessed to provide tapering seats for a plurality of wedges 22 inserted between the respective arm and the plate 15. Each said

wedge may be formed with a groove 23 in which is fixedly secured at one end a relatively flexible tongue 24 whose free end 25 is bent over the adjacent corner of the respective arm, as shown in Fig. 1, to secure the wedges against dislodgment should they become loosened.

It is to be noted particularly that when the chair and clamp is assembled in operative condition to hold the rails as described, no bolts or devices of a similar nature are utilized in the attempt to rigidly hold the rails in security and alinement. A single bolt 20 is employed with each pair of fish-plates. No positive connection is made between the rails and the chair proper. Ample frictional resistance is afforded against longitudinal movement of the rails while lateral displacement is resisted by the rigidity of the combined hooked arms.

An important and novel feature of the invention resides in the employment of the blocks 5 and 6 of different elevations and each formed with upper rounded surfaces. The upper levels of said blocks are proportioned according to the difference in diameter from the standard car-wheel axis of the tread 26 and the flange 27 of such car-wheel W, with the object of causing said tread at the outer side of the wheel to bear upon the block 5 and the flange to likewise bear upon the block 6 when passing over the rail joint, as clearly shown in Fig. 2. Similarly, the extreme ends 28 of the upper block surfaces 9 and 10 are formed slightly below the plane of the rail tread while the middle portions 29 thereof are somewhat higher than said plane.

Referring again to Fig. 2 it will be readily seen that the car-wheels are thus borne over the rail-joint upon the blocks 5 and 6 and the weight carried thereon is directed downwardly through the lower flanges of the

fish-plate and rail to the chair and ties without undue stress or danger to any part. The crowning of the surfaces 9 and 10 may be relatively slight to effect the purpose for which intended and will effectually prevent the hammering of the rail ends by the car wheels passing thereover, as well as the accompanying noise and consequent wear and tear upon rail equipment.

While I have described with some detail the various parts and workings of the invention, I do not wish to be understood as confining myself exactly to the same, as obviously modifications and changes in detail as well as its application to other purposes as are within the scope of the claim may be made without departing from the spirit of the invention or sacrificing its advantages.

What I claim as new and desire to secure by Letters Patent, is—

A rail chair and clamp comprising in combination with a pair of rail-ends, a suitably supported rail chair and clamp provided with a body having a plane supporting surface for said rails, and a plurality of integral hooked arms extending upwardly in oppositely arranged pairs between which said rails are engaged, the centrally disposed portion of said arms upon opposite sides of the body terminating in a block adjacent and parallel to said abutting rail-ends, one of said blocks having a curved upper surface whose middle portion extends above the plane of the rail treads, and the other of said blocks having a curved upper surface entirely below the plane of the rail treads.

Signed at Seattle, Wash., this 29th day of November, 1911.

CEASER A. TIECHE.

Witnesses:

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E. PETERSON.