C. G. GATES.

RAIL SPLICE.

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928,747. Patented July 20, 1909.

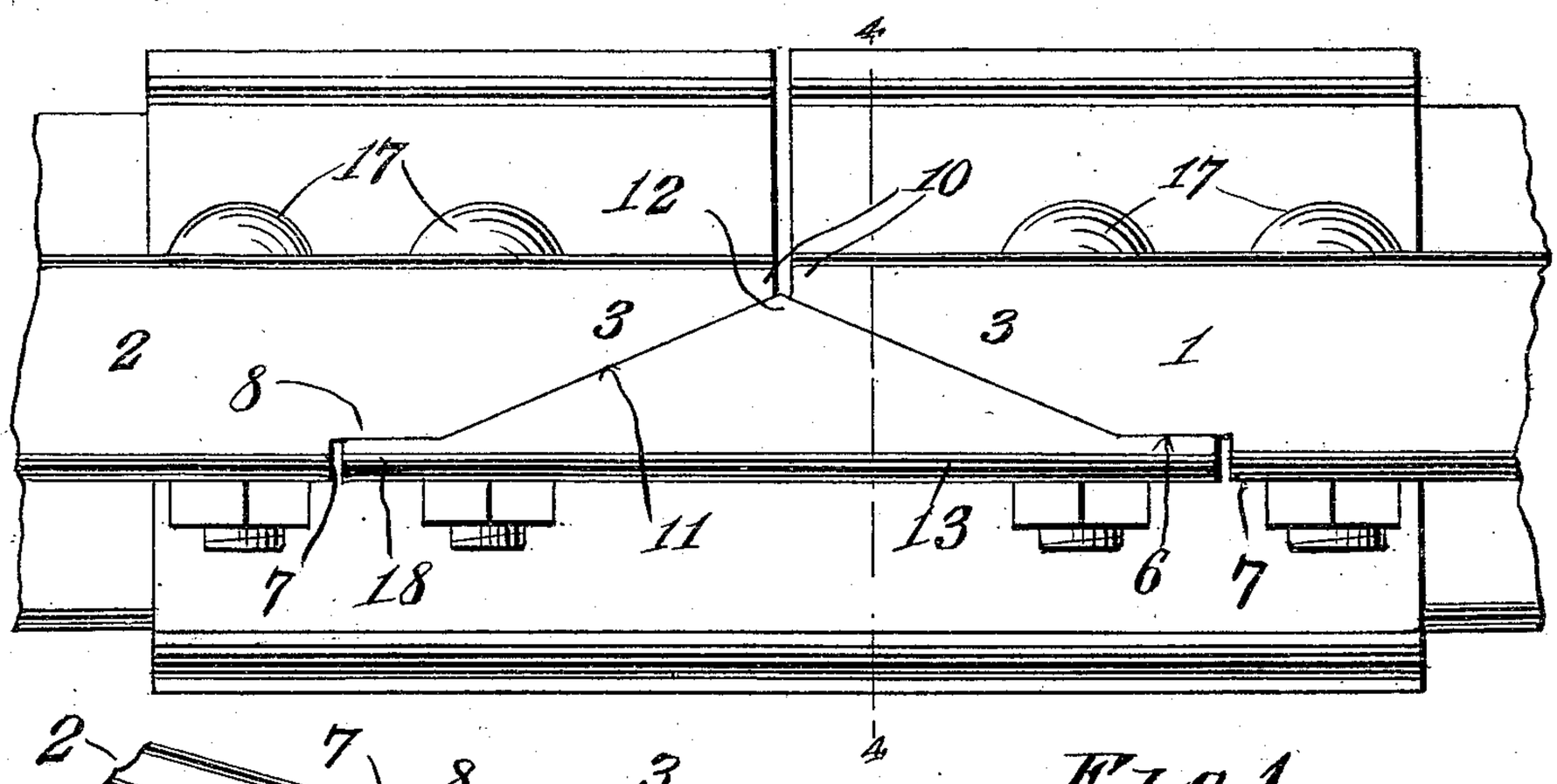

Fig. 1.

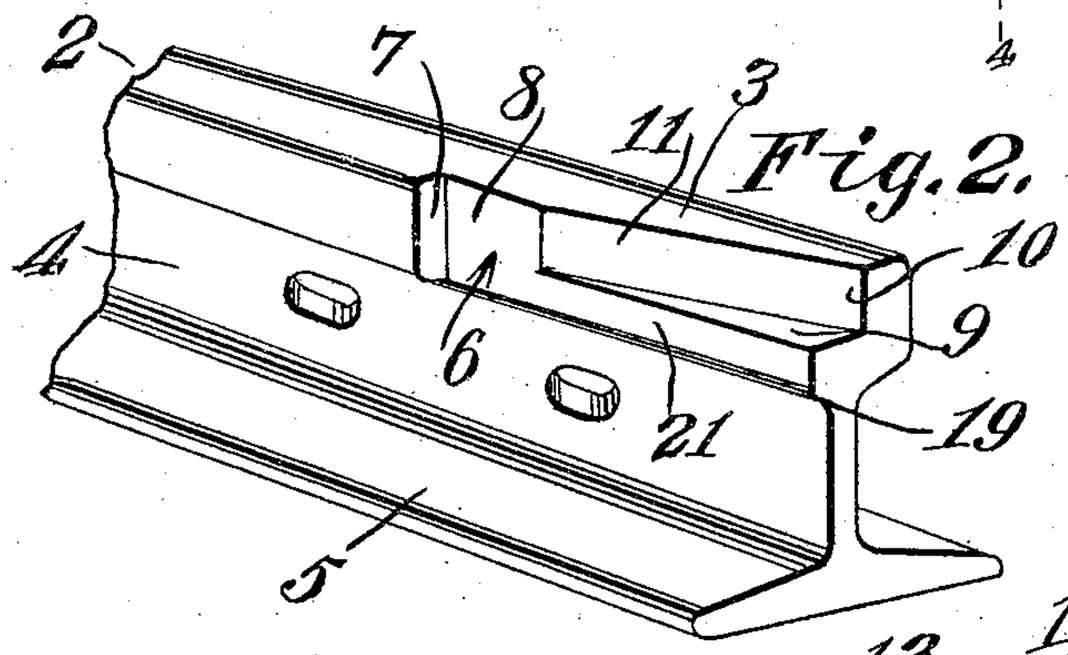

Fig. 2.

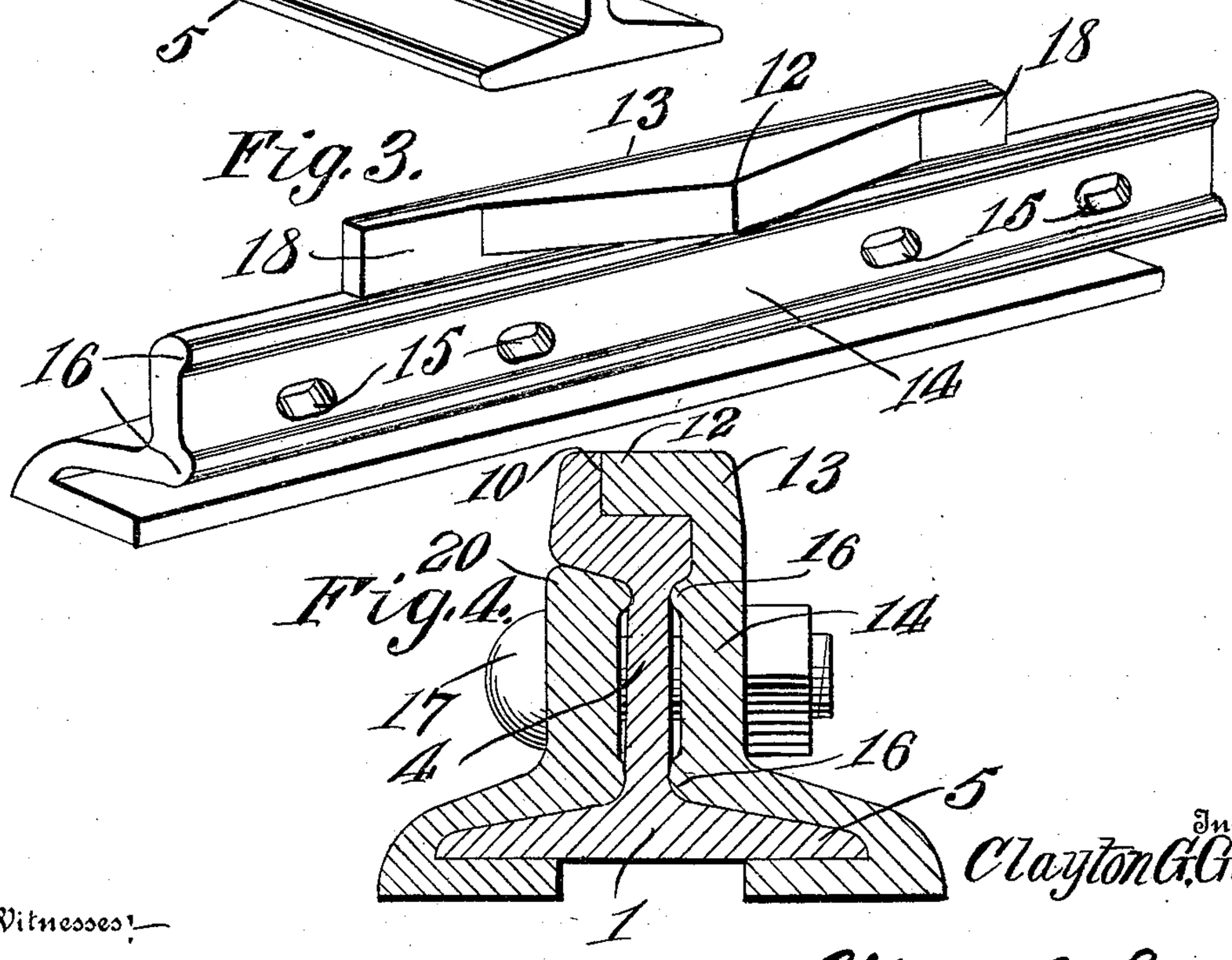

Fig. 3.

Fig. 4.

Witnesses:—

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UNITED STATES PATENT OFFICE.

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RAIL-SPLICE.

No. 928,747. Specification of Letters Patent. Patented July 20, 1909.

Application filed February 14, 1908. Serial No. 415,935.

To all whom it may concern:

Be it known that I, CLAYTON G. GATES, a citizen of the United States, residing at Marlow, in the county of Stephens and State of Oklahoma, have invented new and useful Improvements in Rail-Splices, of which the following is a specification.

This invention relates to rails and rail splices, and the object of the invention is to provide a rail splice for connecting the contiguous ends of rails, whereby the rails are effectively secured together and the jolt and noise of the car wheels passing over the joint is entirely obviated, and injury to the road bed due to the jolting of the rail joints entirely overcome.

To these and other ends the invention resides in the novel construction of railway rails and rail splices therefor hereinafter fully described and claimed.

In the drawings, Figure 1 is a top plan view of a pair of rails constructed in accordance with my invention and connected together by my improved rail splice. Fig. 2 is a perspective view of the end of one of the rails. Fig. 3 is a perspective view of the rail splice employed with my invention. Fig. 4 is a sectional view upon the line 4—4 of Fig. 1.

In the drawings the numerals 1 and 2 designate a pair of rails of the ordinary construction, having heads 3, webs 4 and base flanges 5. The webs 4 of the rails are provided with a series of openings adapted for the reception of the securing members or bolts, by which the rails are attached to the splice and the fish plate. Near their ends the rails have one side of their heads 3 cut away longitudinally a suitable distance as at 6. This cut away portion 6 extends parallel with the web 4 and is positioned a suitable distance away from the point of meeting of the head, and terminates in a wall 7, at an approximately right angle to a wall 8 provided by the cut away portion 6. At a suitable distance above the lower edge of the wall 8 the heads of the rails are further cut away to provide a horizontal portion 9 and a vertical wall 10. The wall 10 is provided upon the head 3 of the rails at a point upon the wall 8 a sufficient distance from the wall 7 and extends at an angle toward the end of the rail terminating at the end of the rail at a point upon the head adjacent the opposite side of the web of the rail to that of the cut away portion 6. By providing the rails with the cut away portions forming the walls 9 and 10 an efficient pocket 11 is provided and adapted for the reception of the tongue 12 of the splice 13. Between the wall 9 and the lower edge of the head of the rails, a flange or offset 21 is provided, the purpose of which will hereinafter appear.

The rail splice 13, employed with my invention, comprises a suitable fish plate, having an elongated longitudinal body portion 14, having a series of openings 15 adapted for the reception of the retaining elements 17. The body portion 14 is provided at its upper and lower edges with longitudinal beads 16 and at a suitable distance from its ends the body portion is formed with a vertically projecting part 18, of a width slightly less than that of the wall 7 provided by the cut away portion 6 of the rails. This projecting portion 18 is constructed of less longitudinal length than the cut away portions 6 of the rails, in order to allow for the contraction and expansion of the rails. The tongue 12 provided upon the extension 18, is of a thickness equaling the wall 10 of the pocket 11, and is of a V-shaped formation coinciding with the formation of the pockets 11 provided by the rails 1 and 2, and the space between the projecting tongue and the upper bead 16 forms a substantial pocket for the flanges 21 of the rails. The walls of the V-shaped tongue 12 are adapted to lie against the walls 10 of the pockets 11, and to fit snugly and securely within the pockets when in position upon the rails.

In connecting the ends of the rails constructed in accordance with my improvement, the rails 1 and 2 are positioned against each other, the pockets 11 forming a substantially V-shaped recess, and the splice 13 is then positioned upon the rails, the tongue 12 occupying the pockets 11, the projecting portion 18 occupying the space formed by the cut away portion 6 of the rails, the upper bead 16 lying within an offset 19 formed between the wall 8 and the web 4 of the rails, the wall 21 occupying a position between the lower face of the tongue 12 and the upper bead 16, and the lower bead 16 engaging the longitudinal point of meeting of the flange and web of the rails. A fish plate 20 may be arranged upon the opposite side of the rail and the retaining element 17 positioned within the openings provided upon the fish plate,

those of the webs of the rails and of the rails splice, and the elements thus effectively secured together.

From the above description it will be noted that I have provided an extremely simple and efficient means for connecting the ends of rails, one in which the rails are effectively supported, and whereby the jolt and noise of car wheels passing over the joint is entirely overcome.

It will be further seen that the invention comprises the use of rails constructed in the ordinary manner, the cut away portions and pockets of the rail ends being easily provided by any ordinary mechanic having knowledge of the use of iron saws, and the tongue and projection of the fish plate is simply an addition to the ordinary fish plate, thus an extremely simple, cheap and efficient device is provided for effectively securing the meeting ends of railway rails.

It will be still further noted that when my device is in applied position upon the meeting ends of the rails, the tongue 12 having its edges engaging the walls of the pocket 11 is effectively secured against vertical or upward movement by the face 21 engaging between the upper bead 16 and the lower face of the tongue 12. The bead 16 of the splice resting against the offset 19 effectively supports the head of the rail at a point where it is most weakened, and by the construction and arrangement of parts shown and described a simple, cheap and efficient substantially continuous rail is produced.

Having thus fully described the invention what is claimed as new is:

The combination with the abutting ends of a pair of rails, each having its head provided with a pocket having its vertical wall extending at an angle away from the ends of the rails, and each having its head provided with a longitudinally cut away portion communicating with the V-shaped pocket, a splice member provided with a base portion having an integrally formed angular overlapping portion adapted to engage the base flange of the rail, the splice having its upper end provided with a longitudinally extending inwardly beveled portion engaging beneath the heads of the rails, and said flange being also provided with a vertical extension provided with a central V-shaped tongue adapted to engage the cut away portions formed in the head of the rails, and means for connecting the rails and splice.

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

CLAYTON G. GATES.

Witnesses:

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