W. H. NUNAMACHER.

RAIL JOINT.

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1,039,997. Patented Oct. 1, 1912.

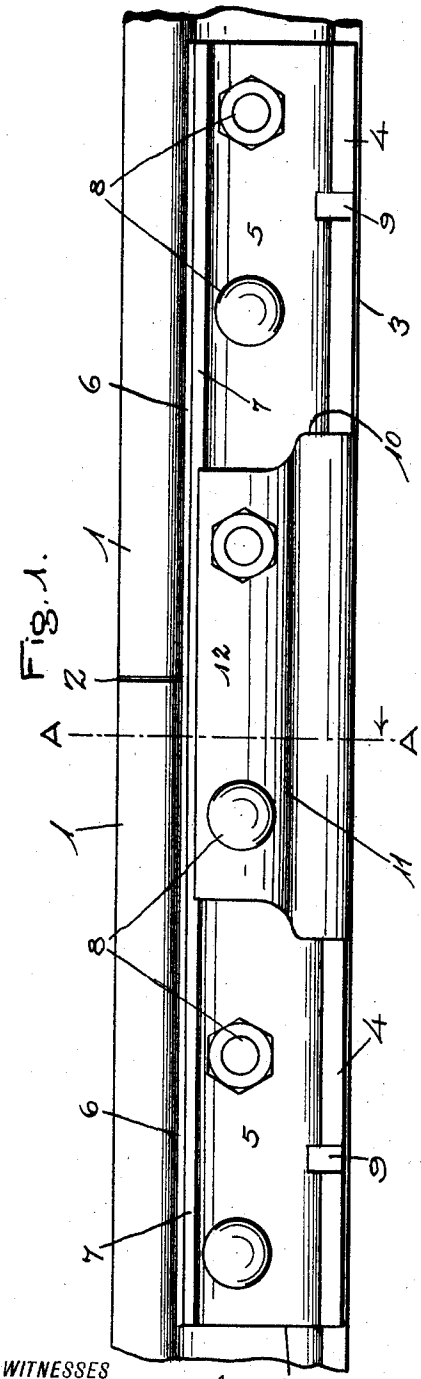

Fig. 1.

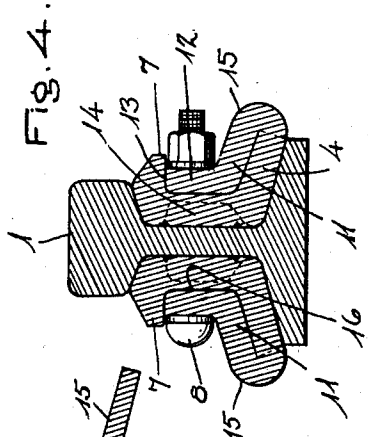

Fig. 4.

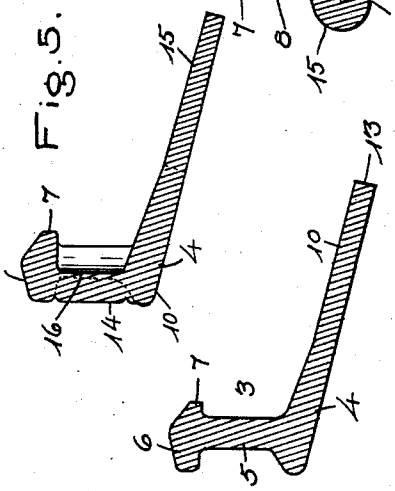

Fig. 5.

Fig. 3.

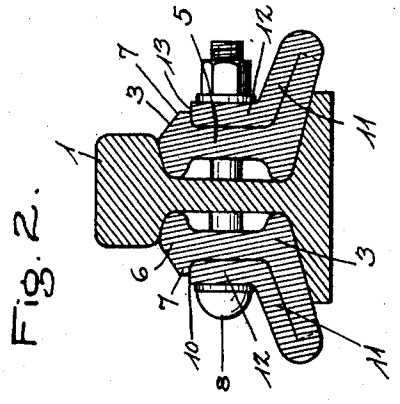

Fig. 2.

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RAIL-JOINT.

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To all whom it may concern:

Be it known that I, WILLIAM H. NUNAMACHER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain Improvements in Rail-Joints, of which the following is a specification.

The objects of this invention are to reinforce the vertical portion of the rail joint connecting plate between the head and base flange of a rail, so that it will more effectually resist the great strain at the point where the two rail ends meet; to thus lessen the danger of rail joints giving way because of one or both of the connecting plates breaking transversely where the rail ends meet, thus causing a wreck; to reinforce the connecting plates by bending upward from the outer edge a portion of the base; to bring the marginal portion of this bent-up part of the flange into vertical position at the side of the meeting point of the rail ends; to enable said bent-up portion to be clamped tightly against the vertical parts of the connecting plates by means of the usual rail joint bolts; to depress the upright portion of the connecting plate to receive the bent-up portion; and to provide a construction which can be easily and inexpensively manufactured, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate the same parts throughout the several figures, Figure 1 is a side elevation of a rail joint embodying my invention; Fig. 2 is a section upon a line A—A of Fig. 1; Fig. 3 is a similar cross-section of a single connecting-plate, before the reinforcing portion is bent up into place; Fig. 4 is a cross section, similar to Fig. 2, of a rail joint of modified construction, and Fig. 5 is a section of a single plate, similar to Fig. 3, further illustrating the said modified construction.

In the specific embodiment of the invention illustrated in the drawings, 1, 1, indicates two rails meeting in the joint 2. Connecting said rails are the angle plates 3, 3, each of which has the customary base flange 4, upright portion or web 5, and head 6 with outer bead 7, the functions of which are readily understood by those familiar with the art to which this invention appertains. The said bead 7 preferably plays an important part in my invention, and for my purposes is preferably made sharper and more prominent than heretofore. The two connecting plates are clamped against opposite sides of the meeting rail ends 1, 1 by bolts 8, of the usual type, and notches 9 are shown in the outer edge of the base flange 4 to receive spikes as is common.

In carrying out my invention, the connecting plate is provided at the outer edge of its base portion, preferably, with a wing or reinforcing extension 10 which is integral with the connecting plate. This extension is at the middle of the connecting plate, and long enough longitudinally thereof to extend past the meeting point of the two rail ends 1, 1 and receive one or more of the transverse bolts 8 in each rail end. In the drawing I have shown the extension 10 receiving one bolt 8 on each side of the meeting point of the rail ends, but obviously the extension could be made longer, and receive more bolts, if desired. The said extension 10, as shown in Fig. 3, for instance, is long enough so that it can be doubled back onto the base flange 4 of the connecting plate and flatwise against the web 5 of the connecting plate, as at 12, the extreme edge 13 of the extension fitting beneath the bead 7, all as shown in Fig. 2. The extension when thus doubled or folded back and pressed firmly against the outside of the connecting plate, or its body portion, very greatly strengthens or reinforces the same, as will be understood. While I prefer to make the said extension 10 integral with the connecting plate, it will be evident that it might be a separate piece from the body portion of the connecting plate, and variously shaped to suit various conditions. It is preferable, however, to give the extension a broad bearing upon the base flange 4 of the body of the connecting plate, as at 11, and especially preferable to connect it to said body portion, as by making it integral, in order to secure the greater firmness and stability.

Under some conditions, as for greater compactness, I may employ the modified construction shown in Figs. 4 and 5 of the drawing, where that portion of the web 14 of the connecting plate against which the reinforcing extension is to lie, is depressed or forced inwardly, as at 16, in Fig. 5. This forms a recess into which the upright portion of the reinforce fits, and a further re-

sult of such construction is that the upper edge of the reinforce gets a better bearing under the head of the connecting plate body.

Various other modifications of construction will occur to those skilled in the art, and I do not wish to be understood as limiting myself except as required by the following claims when construed in the light of the prior art.

Having thus described the invention, what I claim is:

1. A rail joint connecting plate, comprising a body portion having a base flange and an upright web, and a centrally disposed reinforcing extension shorter than said body portion integral with said base flange and having a marginal portion adapted to lie flatwise against said web.

2. A rail joint connecting plate, comprising a body portion having a base flange and an upright web, and a reinforcing extension shorter than said body portion integral with said base flange and adapted to lie flatwise against said base flange and web.

3. A rail joint connecting plate, comprising a body portion having a base flange, an upright web and a head with an outward projection, and a reinforcing extension of less length than the body portion integral with said base flange and having its marginal portion adapted to lie flatwise against said web with its top in engagement with said projection of the head.

4. In a rail joint, the combination of meeting rail ends, a connecting plate body portion having a base flange and an upright web, said web having opposite the meeting point of the rail ends a recess at its outer side of less length than the web, a reinforcing member seated in said recess, and clamping bolts extending transversely through said rail ends, connecting plate body, and reinforcing member.

5. A rail joint connecting plate, comprising in combination a body portion having a base flange and an upright web, and a reinforcing extension shorter than said body portion integral with said base flange having its marginal portion adapted to lie flatwise against said web.

6. A rail joint connecting plate, comprising in combination a body portion having a base flange, an upright web and a head with an outward projection, and a reinforcing extension shorter than said body portion integral with said base flange having its marginal portion adapted to lie flatwise against said web with its top and bottom in engagement with said projection of the head and base flange respectively.

7. A rail joint connecting plate, comprising in combination a body portion having a base flange and an upright web, said web having intermediate of its ends a recess in its outer side of less length than the web, and a reinforcing extension integral with said base flange having a marginal portion adapted to lie in said recess flatwise against the web.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."