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J. C. HOSHOR.
RAILWAY TRACK FASTENER.

APPLICATION FILED SEPT. 18, 1903.

NO MODEL.

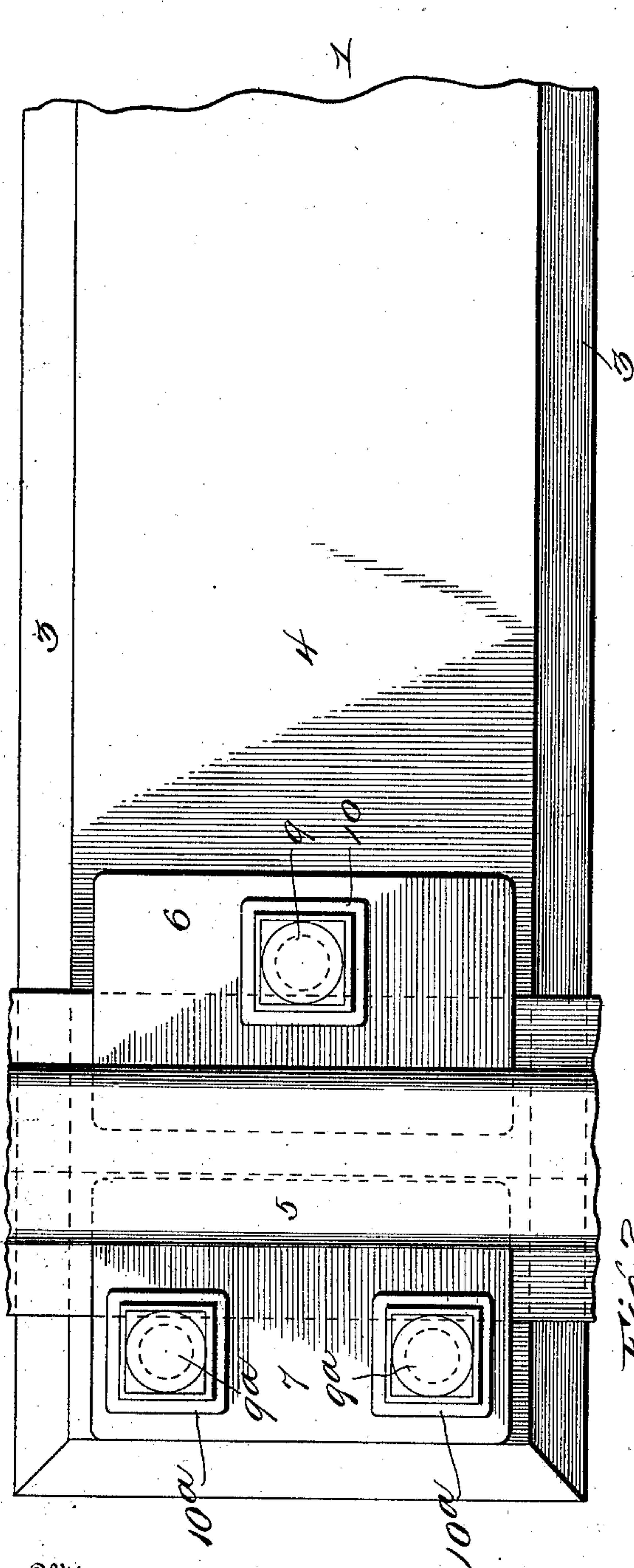


Fig. 1.

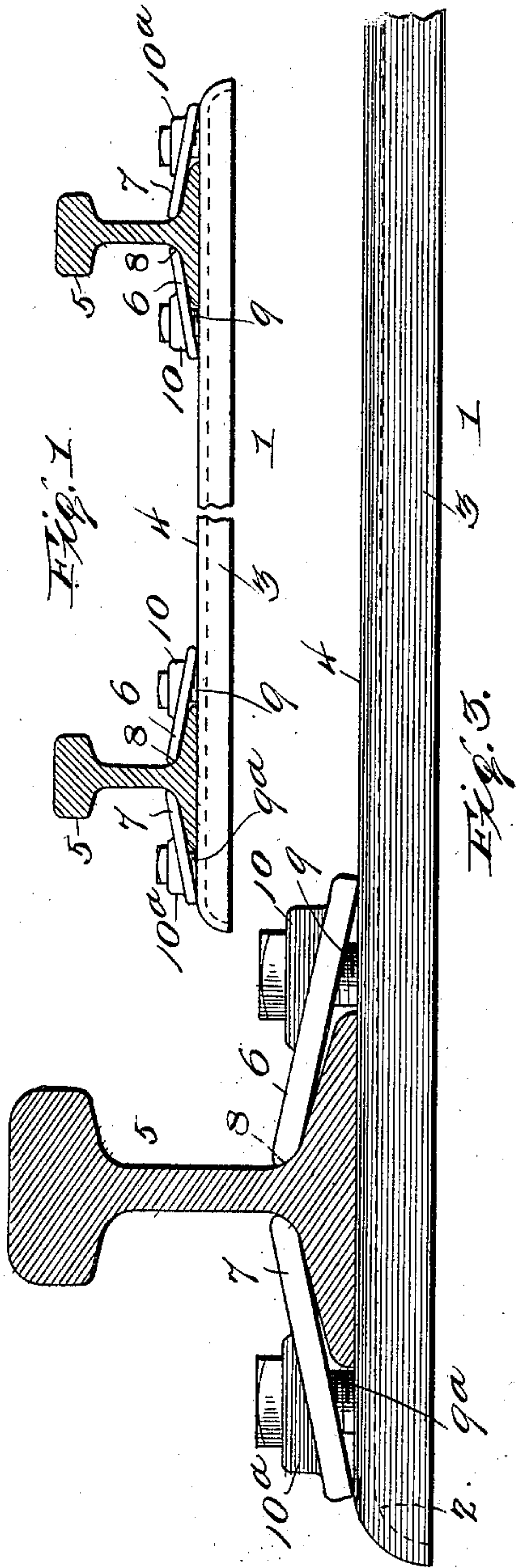


Fig. 2.

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RAILWAY-TRACK FASTENER.

SPECIFICATION forming part of Letters Patent No. 757,116, dated April 12, 1904.

Application filed September 18, 1903. Serial No. 173,718. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CARPER HOSHOR, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Railway-Track Fasteners, of which the following is a specification.

This invention relates to railway-track fastenings, and has special reference to that type of fastenings wherein a metallic tie is employed in conjunction with metallic fastenings engaging with the rail and tie to provide for holding the former in proper position.

To this end the invention has special reference to a simple, practical, and thoroughly effectual fastening means for securing a rail upon a metallic tie whereby the rail shall be strongly braced from both the base and web thereof. In carrying out this object the invention contemplates as an important feature thereof the employment of ties and also rail clamps or clips of malleable iron, as much greater strength in the bracing can be obtained by utilizing this combination than by any other. Furthermore, it is a distinct advantage in track-fastenings to employ malleable iron in the construction of the rail clamps or clips, as well as of the ties, as the corrosion from the elements, which naturally occurs with metal ties other than of malleable iron, quickly destroys the utility of such other ties.

A further object of the invention is to combine with the malleable-iron tie and rail-clamps a novel arrangement of fastening-bolts whereby a most effectual and rigid bracing is secured for the rail.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described, illustrated, and claimed.

The essential feature of the invention involved in the specific arrangement and mounting of the rail clamps or clips in conjunction with the bolts and malleable-iron tie is susceptible to some modification without departing from the scope of the invention; but a

preferable embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is an elevation of a metallic tie and set of track-rail fastenings embodying the present invention. Fig. 2 is an enlarged plan view showing one of the rail-fastenings. Fig. 3 is an enlarged elevation showing one of the rail-fastenings.

Like reference-numerals designate corresponding parts throughout the several figures of the drawings.

In carrying out the invention, in place of the common wooden ties or cast-iron or steel ties as sometimes used the present invention contemplates as one of the essential features thereof the employment of a tie constructed of malleable iron. This tie is designated in the drawings by the numeral 1 and is of a sufficient length to extend across the road-bed and span the interval between the two rails of a track in the usual manner. Preferably this malleable-iron tie 1 is of a hollow flanged formation, the same being formed with a recessed under side 2 and having the longitudinal side flanges 3, which contribute to the strength of the tie by reinforcing the same along the edges thereof throughout its entire length. The said tie presents a flat upper rest surface 4 for the oppositely-located rails 5, embodying the usual base, web, and tread, said rails having their bases resting flat upon the upper rest-surface 4 of the tie, adjacent to the ends thereof.

Another distinctive feature of the invention resides in the employment of rail-clamps, which are likewise of malleable iron, but bear a special and peculiar relation to the rails and tie, as shown in the drawings. Referring particularly to the drawings, it will be seen that the rail resting upon each end portion of the malleable-iron tie 1 has a similar arrangement of fastenings to the rail upon the other end portion of the tie, so a description of one set of fastenings in connection with the rail will suffice for the other.

Each rail is clamped or fastened upon the tie 1 by a pair of inner and outer clamp-plates 6 and 7, respectively. Each of the clamp-plates consists of a flat rectangular blank of malleable iron of a length substantially equaling the width of the upper rest-surface 4 and

arranged at an angle to have a binding engagement with the tie and also with the rail, against the web thereof and the base adjacent to the web, so as to provide a firm brace for these portions of the rail. Referring more particularly to the arrangement of the individual clamp-plates 6, it is to be observed that each of these plates is not only of a flat formation, but unbent or shouldered, so as to have a clearance from the edge of the base, flange, while at the same time completely bridging over the latter, so as to have resting-points at its inner or bracing edge next to the rail and at what may be properly termed its "outer" edge remote from the rail, and which outer edge has a binding engagement on top of the tie. In this connection it is to be observed that the inner longitudinal edge of each clamp-plate is rounded, as indicated at 8, to provide an inner bracing-nose which fits in the angle between the web and the base-flanges, and thereby provides for said inner edge of each clamp-plate bearing directly against the web of the rail and also upon the contiguous portion of the base-flange, so that when a binding or clamping pressure is applied to the plate it will be rigidly braced against the tie at its outer edge and at its inner edge against the rail at the point indicated where the most effective holding and bracing action may be provided for. This contact of each clamp-plate with the metallic tie and the rail is preserved uniformly throughout the entire extent of both the outer and inner edges thereof, and to provide for holding each pair of plates 6 and 7 in the operative position specified it is preferable to employ a single combined fastening and bracing bolt 9 for the inside or inner plate 6.

The single clamping-bolt 9 for the inner plate 6 is passed down through the plate 6 centrally between the ends of the latter and is also mounted in an opening formed in the top of the tie 1, said bolt being also set up against the base-flange of the rail, so that when tightened down it will form a brace for the base, as well as for the web, through the agency of the clamp-plate, arranged as indicated. In connection with the bolt 9 there is preferably employed a triangular washer-block 10, interposed between the head of the bolt and the upper side of the plate.

The outer clamp-plate 7 is held in place through the medium of a pair of combined fastening and bracing bolts 9^a, having triangular washer-blocks or bolt-head supports

10^a interposed between the heads and the upper side of the plate 7, and likewise mounted in openings in the tie and set up against the edge of the base-flange rail. In connection with the pair of bolts 9^a it is to be observed that these bolts are respectively located contiguous to the opposite ends of the plate 7, while the single bolt 9 occupies a plane intermediate the plane of the bolts 9^a. Hence the three bolts 9 and 9^a are so arranged as to form a triangular brace for the rail, and in this connection it is to be further observed that the heads of the bolts and the washer-blocks overlap the vertical plane of the edges of the base-flange, so that the clamping pressure of the bolts extends well toward the inner bracing-noses 8 of the clamp-plates, all of which contributes to a rigid fastening and bracing of the rail.

From the foregoing it is thought that the construction and many advantages of the herein-described track-fastening will be readily apparent without further description, and it will be understood that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

In a track-fastener of the class described, the combination with the rails, of a metallic tie having an upper flat rest-surface, a pair of transversely straight and flat malleable-iron clamp-plates arranged respectively at the inner and outer sides of the rail and of a length substantially equaling the width of the upper rest-surface, each of said clamp-plates being arranged obliquely and clearing the upper edge portion of the base-flange with its outer edge binding upon the tie and its inner edge binding against the web of the rail and the contiguous portion of the base, combined fastening and bracing bolts passed through the clamp-plates and the tie at the edges of the base-flange, and bolt-head supports disposed at the upper sides of the clamp-plates and overlapping the vertical plane of the edges of the base-flange, substantially as described.

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

JOSEPH CARPER HOSHOR.

Witnesses:

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