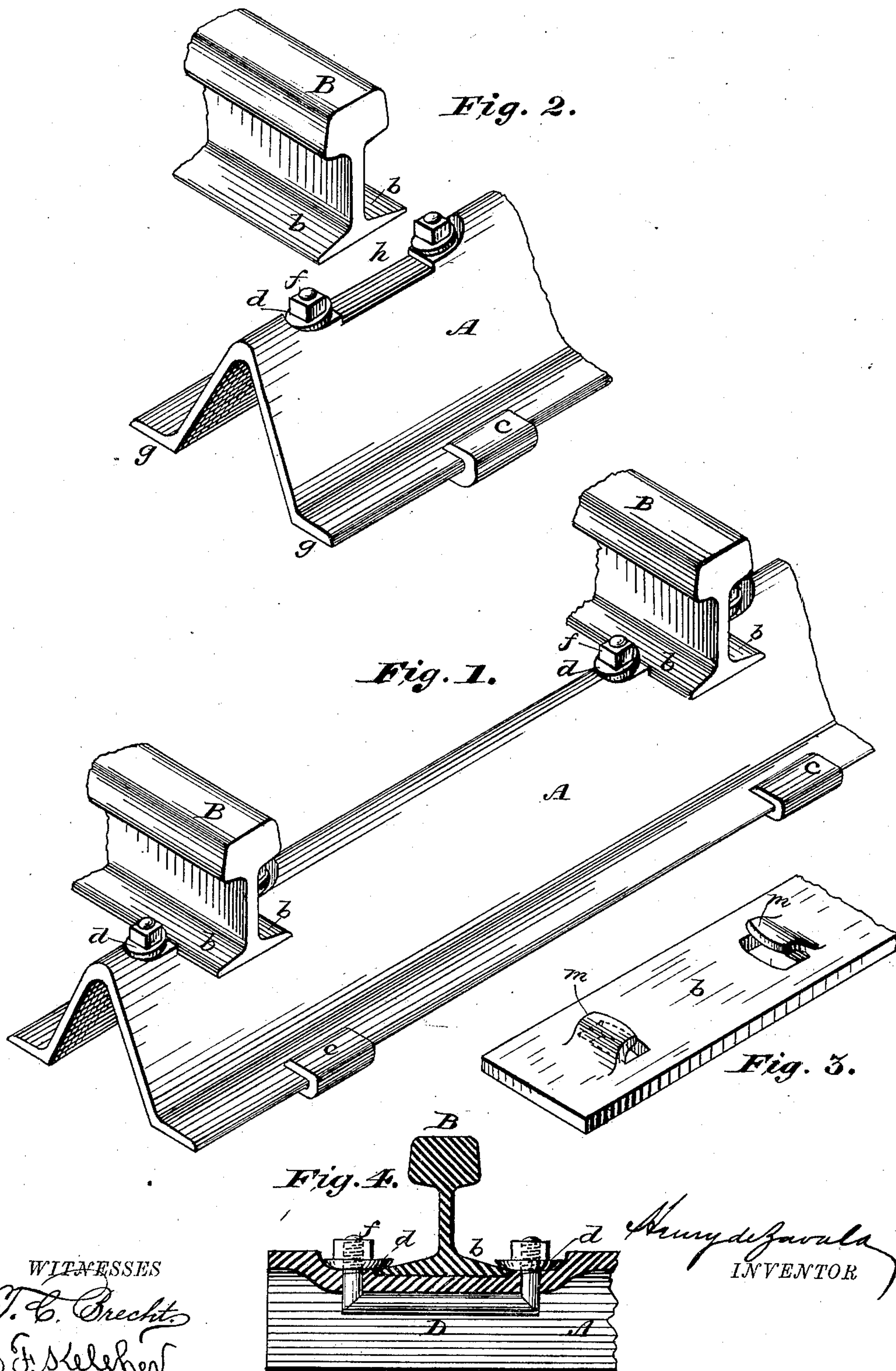


(No Model.)

H. DE ZAVALA.
METALLIC RAILWAY TIE AND FASTENING.

No. 257,437.

Patented May 2, 1882.



WITNESSES
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METALLIC RAILWAY-TIE AND FASTENING.

SPECIFICATION forming part of Letters Patent No. 257,437, dated May 2, 1882.

Application filed March 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY DE ZAVALA, a citizen of the United States, residing at the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Iron or Metallic Railroad Cross-Ties and Means of Securing Rails to the Same, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 shows a perspective view of my invention, all the parts being in position; Fig. 2, a perspective view of a section of the tie and rail; Fig. 3, a perspective view of a spacing-piece to keep the ties at proper distances from each other; and Fig. 4, a longitudinal section of that part of the tie which is under the rail, showing the mode of clamping the rail to the tie.

Like letters refer to the same parts in all the figures.

This invention relates to metallic cross-ties, made of wrought-iron, steel, or other metallic plates, having one or more longitudinal corrugations, so as to give elasticity to the tie; and it consists, first, in forming the seat in the upper crest of each tie or corrugation by pressing, stamping, or hammering, leaving intact the connection of the seat with the body of the tie at the side of the seat; second, in the combination, with a corrugated tie, such as indicated, of a device for fastening the rail to the tie, composed of a double-headed bolt with a nut and washer at each end; and, third, of means for spacing the ties and keeping them in a fixed position in relation to each other, the same consisting of a metal band or strip, with ears punched up, by which the cross-ties can be firmly held at whatever distance may be desired, and at the same time act as clamps to prevent the corrugation in the ties from being pressed down by the weight of passing trains.

The following is a description which will more fully define my invention and enable others to construct and use the same.

In the drawings, A shows a single corrugation of a cross-tie. This may be either V-shaped, as shown, or U-shaped. Several corrugations or folds may be made in a single plate, or only a single fold, with flanges *g g* to rest upon the road-bed.

B is the ordinary T-rail. The seat for the rail is shown at *h*, Fig. 2, and is formed on the crest of the corrugation by pressing or stamping, so as to exactly fit the bottom of the rail. The form of this seat is shown in Figs. 2 and 4. The double-headed bolt D is formed as shown in Fig. 4, the body lying directly under the rail and the thread ends passing up through the tie, as shown in Fig. 4, the nuts firmly pressing the washers *d* against the flange of the rail and the outside of the seat, so as to hold the rail firmly in place. For the purpose of keeping the ties at a proper distance from each other a metal plate, C, is provided with punched-up ears *m*, between which the ties are secured by slipping them in and then hammering down the ears. The ends of these bands or plates C may be turned over the last flange, as shown at *e*. The double-headed bolt D may be in cross-section either round, square, or any other suitable shape. The metal of all the parts may be protected against corrosion by any suitable means—such as galvanizing, painting, or other coating.

I do not claim broadly a corrugated metal cross-tie formed of either single or multiple corrugations.

The main advantages of my invention are, first, cheapness of manufacture, since the seat is stamped or formed by the machinery of the rolling-mill; second, ease of laying the track, since all that is required is to place the double-headed bolt in position and the washer and nut put on on one side, no skilled labor being necessary. The rail is then put in place on the seat and the other washer and nut put on, thus completely locking the rail to the tie; but I do not confine myself to this method of locking the rail to the tie, as single bolts may be used on each side, if desired, or any equivalent substituted in the place of the double-headed bolt.

The spacing piece, bar, or plate has the ears punched up at any suitable distances, as may be required by the wants of the road.

The ordinary fish-plate may be applied to the rails in any ordinary or suitable manner, and the nuts may be held by any suitable lock.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A wrought-metal corrugated tie having flattened rail-seats connected at the sides with

the body of the tie and formed by stamping, rolling, or equivalent means, substantially as described.

5 2. In combination with a corrugated tie, such as described, the double-headed screw-threaded bolt provided with washers and nuts, all arranged so as to hold the rail in position in the seat, as set forth, or any equivalent means therefor.

10 3. The clamping-plate C, having ears m, in

combination with two or more ties, so as to space and hold in position the said ties, as described.

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

HENRY DE ZAVALA.

Witnesses:

CHAS. WENDELL,
J. W. WATKINS.