

(No Model.)

2 Sheets—Sheet 1.

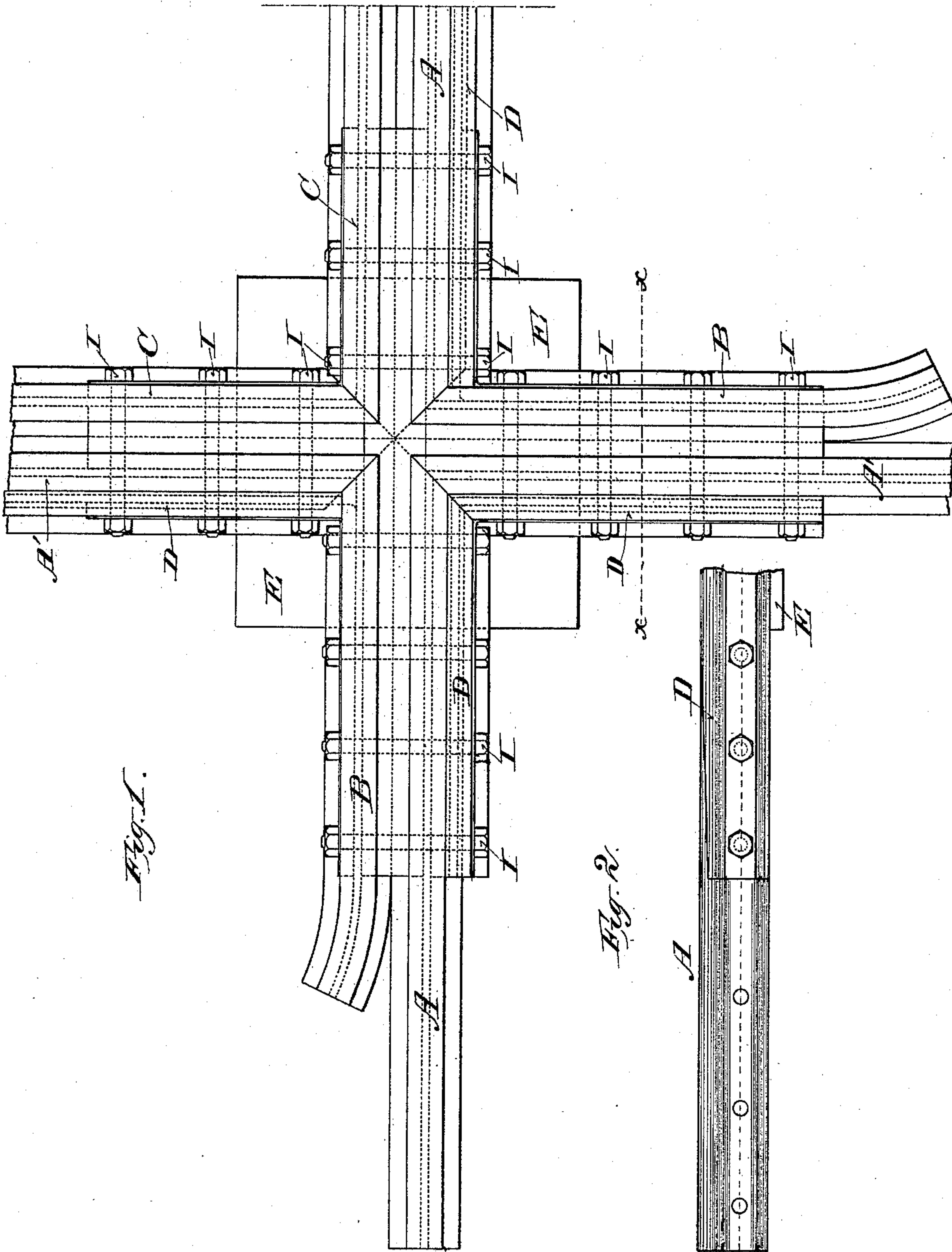
J. T. CLARK, Dec'd.

M. F. CLARK, Administratrix.

RAILWAY CROSSING.

No. 396,807.

Patented Jan. 29, 1889.



Witnesses,
Chas. L. Goss.
George M. Goll

Inventor,
James T. Clark
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2 Sheets—Sheet 2.

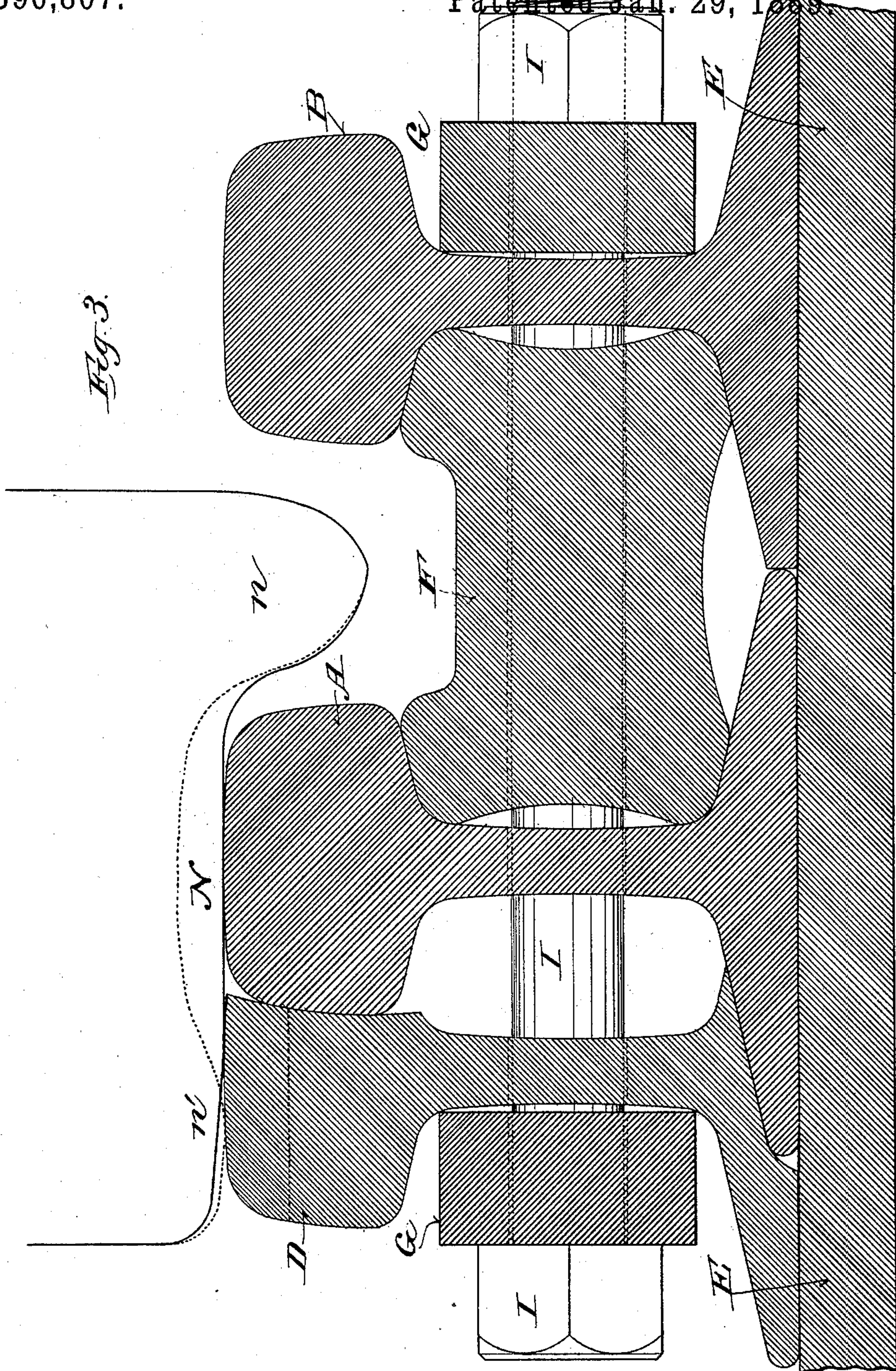
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UNITED STATES PATENT OFFICE.

JAMES T. CLARK, OF MILWAUKEE, WISCONSIN; MARY F. CLARK ADMINISTRATRIX OF SAID JAMES T. CLARK, DECEASED.

RAILWAY-CROSSING.

SPECIFICATION forming part of Letters Patent No. 396,807, dated January 29, 1889.

Application filed February 6, 1888. Serial No. 263,132. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. CLARK, of the city and county of Milwaukee, and State of Wisconsin, have invented certain new and useful Improvements in Railway-Crossings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The main objects of my invention are to prevent the hammering of the engine and car wheels against the intersecting rails of railway-crossings, and to prevent thereby unnecessary loosening, weakening, and destruction of the crossing and jolting of the locomotives and cars passing over the same.

It consists, essentially, of lateral re-enforcements having longitudinally-inclined treads, which ascend toward the intersections of the main rails to the level, or about the level, of the treads of said main rails, so as to bear the projecting portions of the treads of the wheels over the cross-rails and to gradually lift the tread of the wheels over and out of contact with the intersecting or transverse rails of the crossing.

In the accompanying drawings like letters designate the same parts in all the figures.

Figure 1 is a plan view of a portion of one of the four angles of a crossing embodying my improvements. Fig. 2 is a side elevation of a part of the main rail and the inclined rail or re-enforcement applied to it; and Fig. 3 is a cross-section, on a greatly-enlarged scale, taken on the line *x x*, Fig. 1.

Referring to Fig. 3, *N* is the tread or rim of a locomotive driving-wheel or of a car-wheel, the full line representing the contour in cross-section of its face when first made, and the dotted line representing approximately the form it assumes after it has become worn by traveling on the rails. The rails wearing a depression in the tread of the wheel next to the flange *n* produces or leaves a portion, *n'*, of the rim overhanging the outer edge of the head of the rail and projecting below its top

face. These projecting portions *n'* about the outer edges of the wheels strike the rails of the crossing running transversely to the line of travel, and to pass over them necessarily lift the wheels a distance equal to the depth of the depression worn therein. When a train is running at considerable speed, violent pounding or hammering is produced by the passage of the wheels over the rails intersecting the track upon which said wheels are running, thereby battering, loosening, and weakening the crossings, jolting and injuring the locomotives and cars passing over them, and straining and frequently breaking their wheels. Obviously the nearer the wheels cross intersecting rails at right angles the more violent will be the pounding and the greater and more rapid the injury to the crossings.

Referring to Fig. 1, *A A* represent the main rails of one angle of a crossing, each broken at the point of intersection where it meets and joins the intersecting rail to form an opening for the flanges of the wheels passing in either direction on either rail.

B B are the wings extending outwardly from the angles of the crossing between and adjacent to the main rails of each track and forming guides to the approaches of the crossing, and *C C* are the guards placed adjacent to the main rails on the interior of the parallelogram formed by the crossing.

D D are inclined rails or re-enforcements applied to the outer sides of the main rails on both sides of each angle or intersection of the main rails and gradually beveled or tapered off on their upper faces at their outer ends or toward the approaches in each direction to the crossing, as shown in Fig. 2, thus furnishing inclined ways upon which the projecting portions of the wheels at the outer edges of their rims or treads run as they approach the intersections of the crossing, and by which they are gradually elevated to the level of the top faces of the main rails, as shown by the dotted line, Fig. 3, in which position the wheels pass smoothly over the cross-rails, descending gradually to the main rails on the opposite side of the crossing.

Between the wings *B B* and guards *C C*

and the adjacent main rails are interposed blocks or bars F F, which bear against the adjacent sides of said rails and the wings or guards and hold the same rigidly in place and
5 at a uniform distance from each other, and at the same time by filling a portion of the space between them prevent persons or animals from being caught therein.

The inclined rails or re-enforcements D D
10 have a portion of the head and base cut away to adapt them to the outer sides of the main rails, to which they are securely held by bolts I I.

The bolts I I, passing horizontally through
15 the main rails, the adjacent wings or guards, the interposed bars F, and the inclined rail or re-enforcement D, and at the ends through plates or bars G G, which form bearings for their heads and nuts, bind the several parts
20 securely together.

The crossing is riveted or bolted to and rests at its angles or intersections upon base-plates E in the usual manner.

The inclined rail or re-enforcement, by
25 which the projecting portions of the wheel rims or treads are gradually elevated and guided smoothly over the cross-rails, may be applied to rails intersecting each other at various angles and to crossings of various constructions,
30 the details of construction of the crossing and the method of fastening the inclines thereto being susceptible of various modifications without departure from the spirit of my invention.

35 Instead of a separate inclined rail, the main rail may be constructed with a wide head and provided with a similarly-located incline on its outer portion.

I claim—

1. The combination, with the intersecting 40 main rails of a railway-crossing, of lateral re-enforcements having longitudinally-inclined treads which ascend toward the intersections of the main rails to the level of the treads of said main rails, substantially as and for the 45 purposes set forth.

2. The combination, in a railway-crossing, with the main rails, of inclined rails or re-enforcements applied to the sides of said main rails, and having their top faces inclined 50 downwardly toward the approaches to the crossing, substantially as and for the purpose set forth.

3. The combination, with the main rails of a railway-crossing, of inclined rails or re-en- 55 forcements, each adapted at the head and base to the head and base of the adjacent main rail and secured to the outer side thereof, and having its top bearing-face inclined downwardly toward its outer end, sub- 60 stantially as and for the purpose set forth.

4. The combination, with the intersecting rails of a railway-crossing, of inclined rails or re-enforcements placed outside of and adja- 65 cent to said rails, and having their bearing-faces gradually inclined from their outer ends upwardly toward the intersections of the crossing to the level of the top faces of the main rails, substantially as and for the purpose set forth. 70

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES T. CLARK.

Witnesses:

MARTIN J. LARSON,
E. H. BOTTUM.