

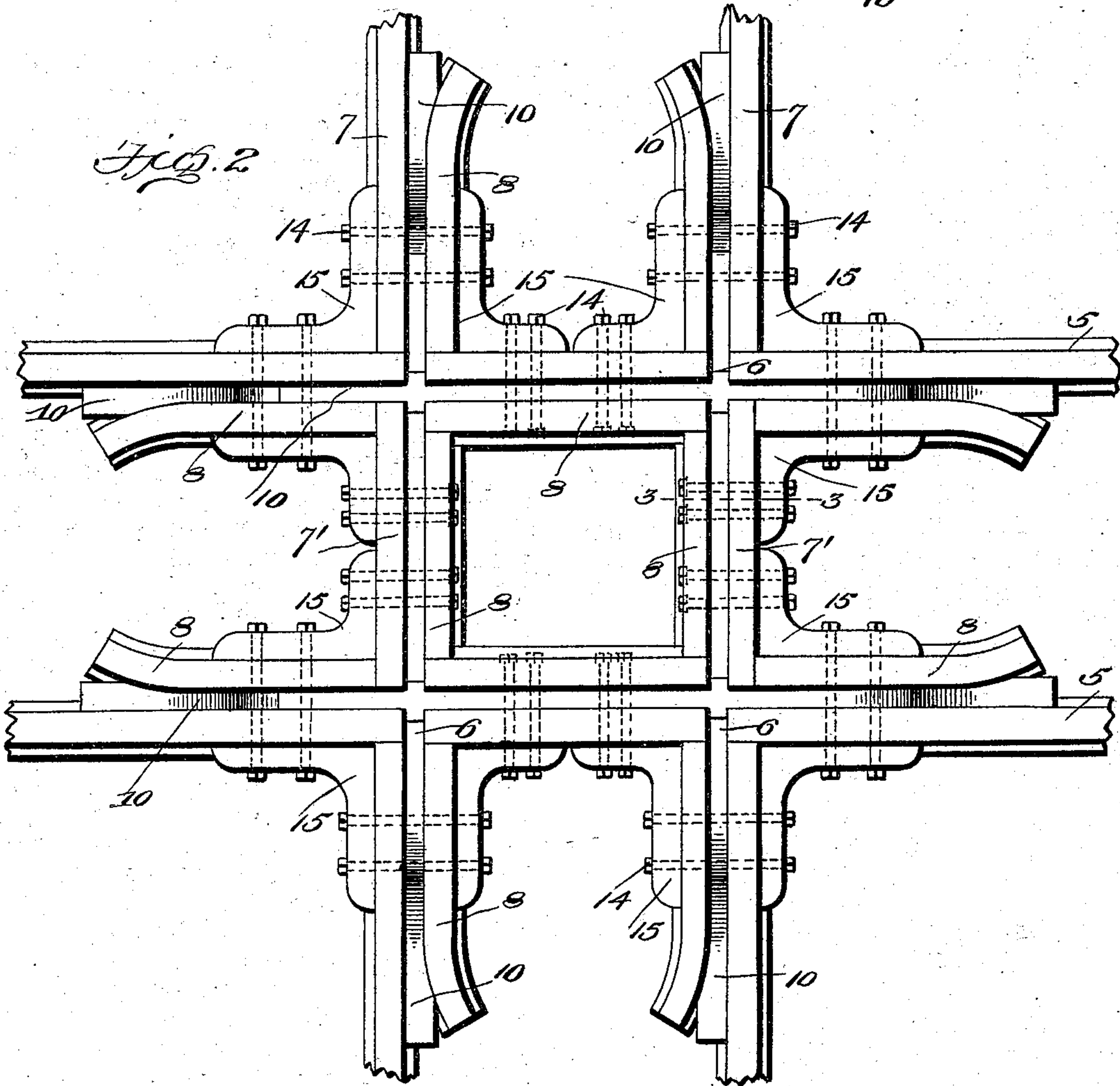
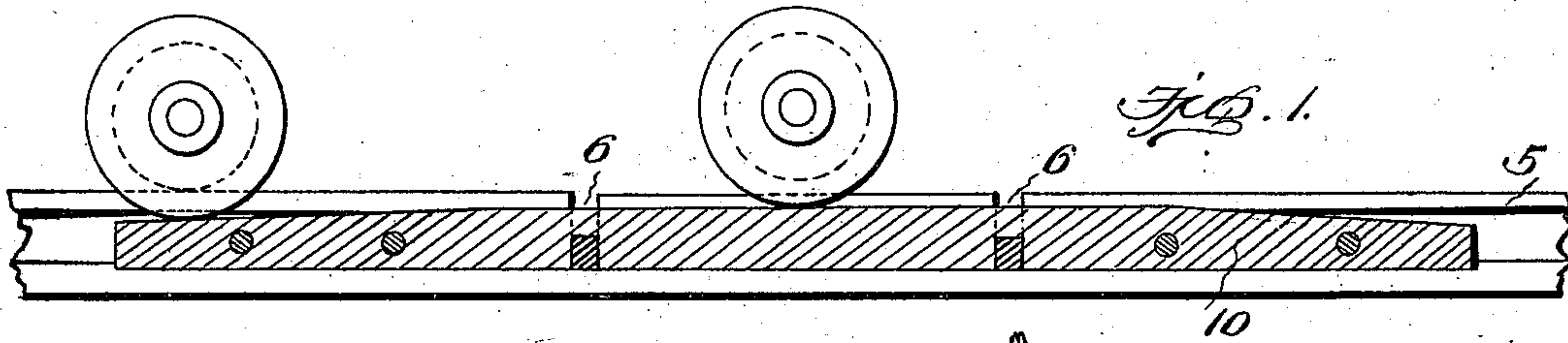
No. 695,457.

Patented Mar. 18, 1902.

J. H. HIGGINS.
RAILWAY CROSSING.

(Application filed Aug. 24, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES H. HIGGINS, OF WANATAH, INDIANA.

RAILWAY-CROSSING.

SPECIFICATION forming part of Letters Patent No. 695,457, dated March 18, 1902.

Application filed August 24, 1901. Serial No. 73,159. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. HIGGINS, a citizen of the United States, residing at Wanatah, in the county of Laporte and State of Indiana, have invented a new and useful Railway-Crossing, of which the following is a specification.

My invention relates to certain improvements in railway-crossings, and has for its principal object to provide a construction of crossing which will entirely obviate the jarring due to the passage of the wheel-treads over the open spaces formed at these points for the passage of the wheel-flanges.

A further object of the invention is to construct a crossing in which the parts will be more firmly and securely held together than is usual in devices of this class.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a sectional elevation on the line 1 1, Fig. 2, of a railway-crossing constructed and arranged in accordance with my invention. Fig. 2 is a plan view of a complete crossing in accordance with the invention. Fig. 3 is a transverse sectional elevation of the same on line 3 3, Fig. 2.

In railway-crossings as generally constructed the heads of the rails of the main track are notched for the passage of flanges of car-wheels traveling on a crossing-track, and the crossing-tracks are cut in sections in such manner as to leave open spaces for the passage of the flanges of car-wheels traveling on the main track. This arrangement leaves a space over which the wheel-treads must pass and the exposed ends of the rails soon become worn and make the crossing dangerous, necessitating frequent repairs or the substitution of entirely new crossings at frequent intervals. The constant jarring and hammer-like blows soon shortens the life of the wheels and aside from this is unpleasant for passengers occupying the car. To overcome these difficulties, I make a crossing in such manner that at the crossing-points the cars will be supported on the flanges of the wheels,

the wheel-treads being raised slightly above the heads of the rails and carried over the open spaces without jar or concussion.

Referring to the drawings, 5 5 represent the rails of the main track, notched at 6, as usual, for the passage of the flanges of car-wheels traveling on a crossing-track 7 7. The crossing-tracks have a separate section 7' between the pair of rails forming the main trackway 5, and guard-rails 8 of the usual construction are arranged at suitable points inside of various rails, as shown more clearly in Fig. 2. Between the track-rails and the guard-rails is placed a flange-supporting rail 10, four of such flange-supporting rails being employed in the present instance, the said flange-rails, at their crossing-points, being preferably notched for a distance equal to half their vertical height, the notched portions being fitted together and forming a strong, rigid, rectangular frame which when placed in position between the main and guard rails will serve to hold such rails more securely in place. The structure here described is applicable in cases where both the main rails and the crossing-rails are made in sections, and where the main rails are continuous the flange-rail extending parallel thereto is also in one continuous piece, and the crossing flange-rails are made in sections.

The main body of each flange-rail has its upper surface only a short distance below the tops of the main rails, as shown in Fig. 1, and the ends are inclined to a degree sufficient to bring the opposite ends of the flange-rails below the flange of the car-wheel when the latter is in its normal position with the tread of the wheel resting on the track. The flanges of approaching wheels will strike against the inclined portions of the flange-rails and will be elevated by the latter until the treads of the wheels are above the surface of the main rail, the wheel traveling in this position until it passes the two notched portions of the rail and finally reassuming its normal position on the track when the wheel-flange arrives at the opposite inclined end of the flange-rail.

The various portions of the structure are firmly secured in place by bolts 14, angle-bars 15 being employed at all points in order to hold the structure more securely. The flange-rails 10 are of a shape in cross-section corre-

sponding to the contour of the main and the guard rails, so as to be firmly supported and at the same time to act as a spacing-block between the main rails and the guard-rails.

5 Various changes in the proportion, size, and minor detail of the structure may be made to meet different requirements of use on either street or steam railways without departing from the spirit or sacrificing any of the advantages of the invention.

10 Having thus described my invention, what I claim is—

The combination in a railway-crossing, of the flange-supporting rails 10, notched at their
15 crossing-points for a distance approximately equal to half their vertical height, the notched portions being interfitted to form a strong, rigid, rectangular frame, the edges of said flange-rails being shaped to conform to the
20 adjacent faces of supporting and guard rails of the usual type, main-line-supporting rails 5 having notches 6, crossing-rails 7 terminat-

ing at the outer sides of the main-line rails, separate rail-sections 7' between said main-line rails and in alinement with the rails 7, 25 guard-rails 8 having their upper surfaces in the horizontal plane of the main-line and crossing rails, said guard-rails being arranged parallel with and in proximity to all of the rail-sections, angle-bars 15 connecting the 30 main-line and the crossing rails, angle-bars connecting the main-line and guard rails, angle-bars connecting the crossing-rails and guard-rails, and securing-bolts extending through the several rails and angle-bars to 35 form a rigidly-braced structure, substantially as specified.

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

JAMES H. HIGGINS.

Witnesses:

STEPHEN D. BAILEY,
JULIUS COURTZ.