

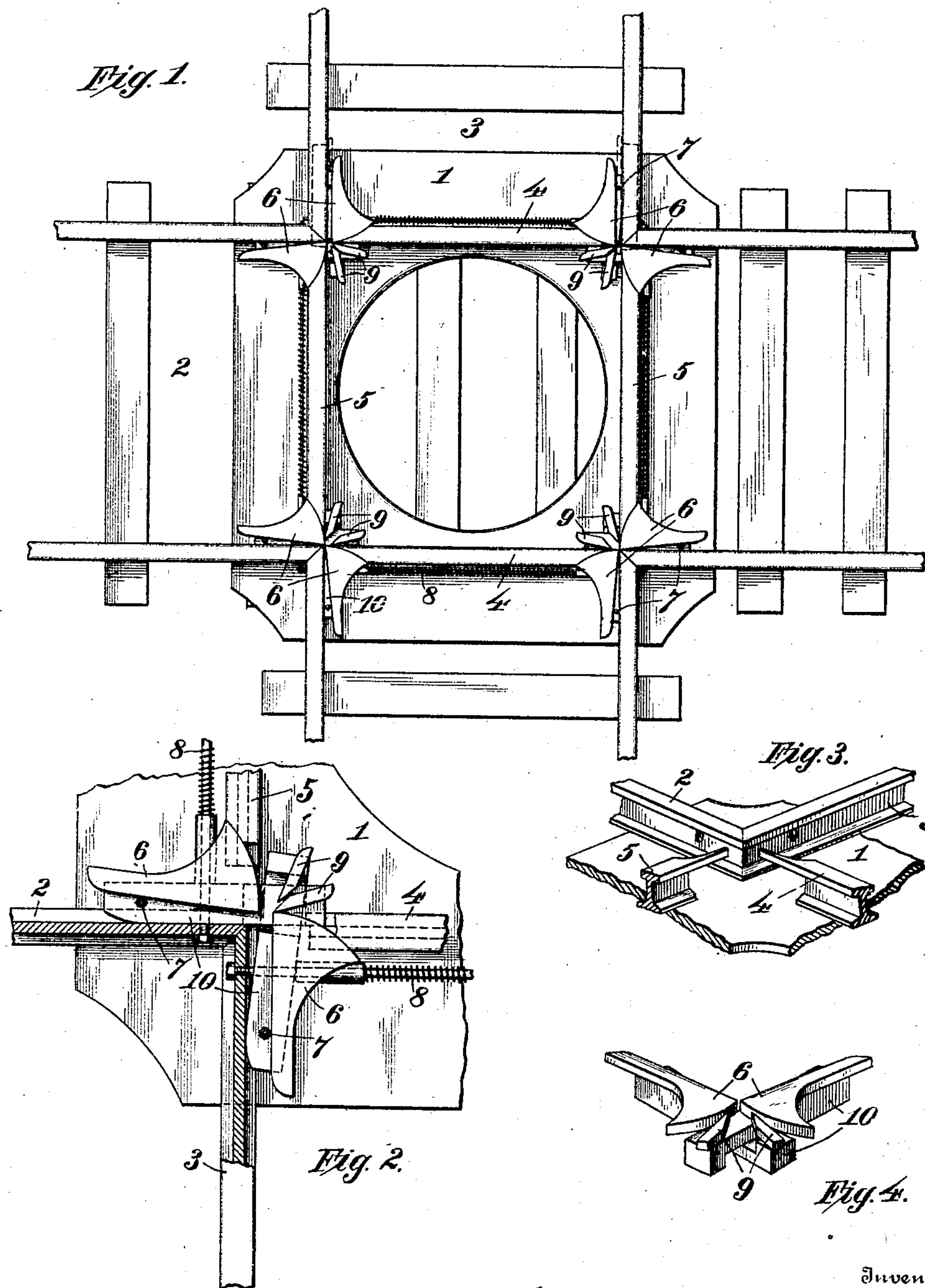
No. 764,768.

PATENTED JULY 12, 1904.

A. RHODES.  
RAILWAY CROSSING.

APPLICATION FILED APR. 8, 1904.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## RAILWAY-CROSSING.

SPECIFICATION forming part of Letters Patent No. 764,768, dated July 12, 1904.

Application filed April 8, 1904. Serial No. 202,221. (No model.)

*To all whom it may concern:*

Be it known that I, AMANDER RHODES, a citizen of the United States, residing at Baltimore, in the county of Fairfield and State of Ohio, have invented certain new and useful Improvements in Railway-Crossings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Railway-crossings in present use are subject to the objection of causing heavy jolting and pounding of the cars or trains in passing with well-known harmful and injurious effects, which is due to the presence of the slots or vacant spaces at the intersections of the rails to accommodate the flanges of the car-wheels.

The object of my invention is to avoid this objection by furnishing a smooth or solid tread for the wheels of a car passing along either track, while at the same time providing the necessary cross slots or openings in the intersecting rails at the inner sides of the crossed rails to accommodate the flanges of the car-wheels. This is accomplished by means of suitable spring-held blocks located at the junctures of the rails, which ordinarily remain fixed and furnish a smooth or solid tread along each track, while certain of said blocks are automatically opened by the approaching wheels of a car to allow the car-wheel flanges to pass unobstructed over the intersecting track.

The invention will be first fully described with reference to the accompanying drawings, which are to be taken as a part of this specification and then more particularly pointed out in the claims following the description.

In said drawings, Figure 1 is a plan view of a railway-crossing embodying my invention. Fig. 2 is a plan of one corner, partly in section. Fig. 3 is a perspective of the intersecting rails at one corner. Fig. 4 is a perspective of the movable blocks at one corner.

The numeral 1 denotes a steel plate which supports the crossing and has a central opening to provide an exit for water which might otherwise accumulate between the rails from rain or other sources. This plate, which is

secured to the ties or sleepers in any appropriate manner, serves not only as a flat substantial base over which the crossing-rails are laid, but furnishes also one solid piece to which all the movable parts are pivoted and on which they slide.

The two tracks (indicated by the numbers 2 and 3) are shown crossing at right angles, though it will be understood that they may cross at any angle, and the invention is equally applicable thereto. Inasmuch as the four junctions or crossings of the rails are of similar construction, a description of one will suffice. For convenience of explanation the portions of the rails which lie between the crossing-tracks will be designated by the numerals 4 and 5, respectively, rails 4 being a part of track 2 and rails 5 being a part of track 3. The quadrilateral space inclosed between the rails 4 and 5 may be conveniently referred to as the "diamond." At each corner of said quadrilateral space or diamond the rails of the intersecting tracks 2 3 meet in a point, and said rails are connected with the short or intermediate rails 4 5 by movable blocks 6, which provide continuous level or solid treads along both tracks. These blocks 6 are shown triangularly shaped, pivoted, as at 7, outside the diamond and at slight distances inside the track-rails 2 3, spring-held flush against the sides of said rails, and having their sides opposite their pivots in the forms of arcs of circles confronting or fitting loosely within similarly-formed concaves in the ends of the rails 4 5. The sides of the blocks which abut the rails of tracks 2 3 are practically flush therewith, but curve or turn inward toward their pivoted ends, so as to present wedge-shaped openings to receive the flanges of car-wheels approaching along the tracks. In this instance the blocks are shown held against the rails of tracks 2 3 by compression springs 8, one of which is arranged between the rails at each side of the crossing or diamond and acts oppositely against two blocks at opposite corners. The upper surfaces of the blocks 6 are of course on the same plane or level with the tops of the rails. Hence as a car or train travels along either track 2 or



3, as the case may be, the wheels have a continuous level tread along the track, while the wheel-flanges open the blocks 6 of the intersecting track. The blocks simply turn on  
5 their pivots, the arc-surfaces turning in the corresponding faces of the rails 4 5.

Connected to or rigid with the blocks 6 are the small blocks 9, located at the inner corners of the crossing or diamond. These blocks  
10 9 are shown diamond-shaped or trapezoidal, arranged substantially parallel with and close beside the inner sides of the rails 4 5, with their adjacent ends having confronting but separated diagonal faces and with their op-  
15 posite ends also formed diagonally or turned inward to provide wedge-shaped openings for the flanges of car-wheels approaching along the rails 4 or 5. Hence as a car passes over the rails 4 or 5 the wheel-flanges enter be-  
20 tween said rails and the related blocks 9, opening the latter, and thereby also opening the blocks 6 of the intersecting track to permit the car to pass onto the tracks 2 or 3. The blocks 9 are shown formed on bars or le-  
25 vers 10, extending from the pivoted blocks 6 through suitable openings in the rails 4 5. They cross each other, one bar having a portion cut away from its lower side and the other a portion cut away from its upper side,  
30 so that they both interfit in a loose manner, both resting and sliding on the plate 1. The separation normally existing between the adjacent diagonal ends of blocks 9 permits either of them to be moved without interference or  
35 abutment by the other.

The operation is as follows: If a car or train is passing along either track, a continuous level or solid tread over the crossing is fur-  
40 nished by virtue of the blocks 6 in the rails along which the car travels. As the car-wheels approach the crossing the wheel-flanges enter between the inner sides of the track-rails and the blocks 6 of the intersecting track, thus opening the latter, together with the re-  
45 lated blocks 9. As the car-wheels approach the opposite side of the crossing the wheel-flanges enter between the rails 4 or 5 and the adjacent blocks 9, thus opening them, together with the blocks 6 of the intersecting track.  
50 Accommodation for the wheel-flanges is thus automatically effected at each rail junction or intersection without interfering with the continuous level or solid tread for the wheels, whichever one of the tracks the car is travel-  
55 ing.

It will be understood that various alterations or modifications in details of construction and arrangement may be made within the scope of my invention, so,

60 Without limiting myself to the specific con-

struction illustrated, I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a railway-crossing, an intersection of rails substantially as follows: spaces between  
65 the short intermediate crossed rail-sections and the continuing rails outside the crossing, the ends of said short rail-sections being concave; blocks fitting in said spaces, having in-  
70 turned ends pivoted outside the crossing on vertical pivots, having their opposite ends arc-shaped with respect to said pivots, and adapted to turn inward away from the main rails; springs bearing laterally against said blocks and holding them against the inner sides of  
75 the main rails, except at their inturned pivoted ends; arms extending from the swinging ends of said blocks through suitable openings in the said short rail-sections, crossing each  
80 other, and each adapted to move with the block to which it is attached; and small wedge-shaped blocks carried by such arms, held thereby against the inner sides of the short rail-sections corresponding with the main rails against  
85 which the first-mentioned blocks abut; whereby the said pivoted blocks will be turned away from the rails by the flange of a car-wheel approaching the intersection in either direction, by the said flange entering either between the  
90 said blocks and the main rails or between the small wedge-shaped blocks and the short rail-sections; substantially as described.

2. In a railway-crossing, a flat metal base on which the intersecting rails are supported; spaces between the intermediate short crossed  
95 rail-sections and the continuing main rails; the ends of said rail-sections being concave; each intersection having movable blocks resting slidably on said plate and fitted in the said  
100 spaces, said blocks having inturned ends outside the crossing pivoted on vertical pivots and having their opposite ends arc-shaped with respect to said pivots as centers and fitted to said concave ends of the rail-sections;  
105 crossed arms at each intersection extending from the swinging ends of said blocks through suitable openings in the short rail-sections, each adapted to move with its block; small wedge-shaped blocks carried by said arms; and four springs, one at each outer side of the  
110 crossing, each located between the main rails and acting against the pivoted blocks and pressing them outward against the inner sides of the rails, substantially as described.

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

AMANDER RHODES.

Witnesses:

B. B. HALLAND,

E. R. DEFENBAUGH.