A. B. CRUSH.

RAILWAY CROSSING.

APPLICATION FILED JAN. 21, 1913.

1,068,984.

Patented July 29, 1913.

2 SHEETS—SHEET 1.

FIG. 1.

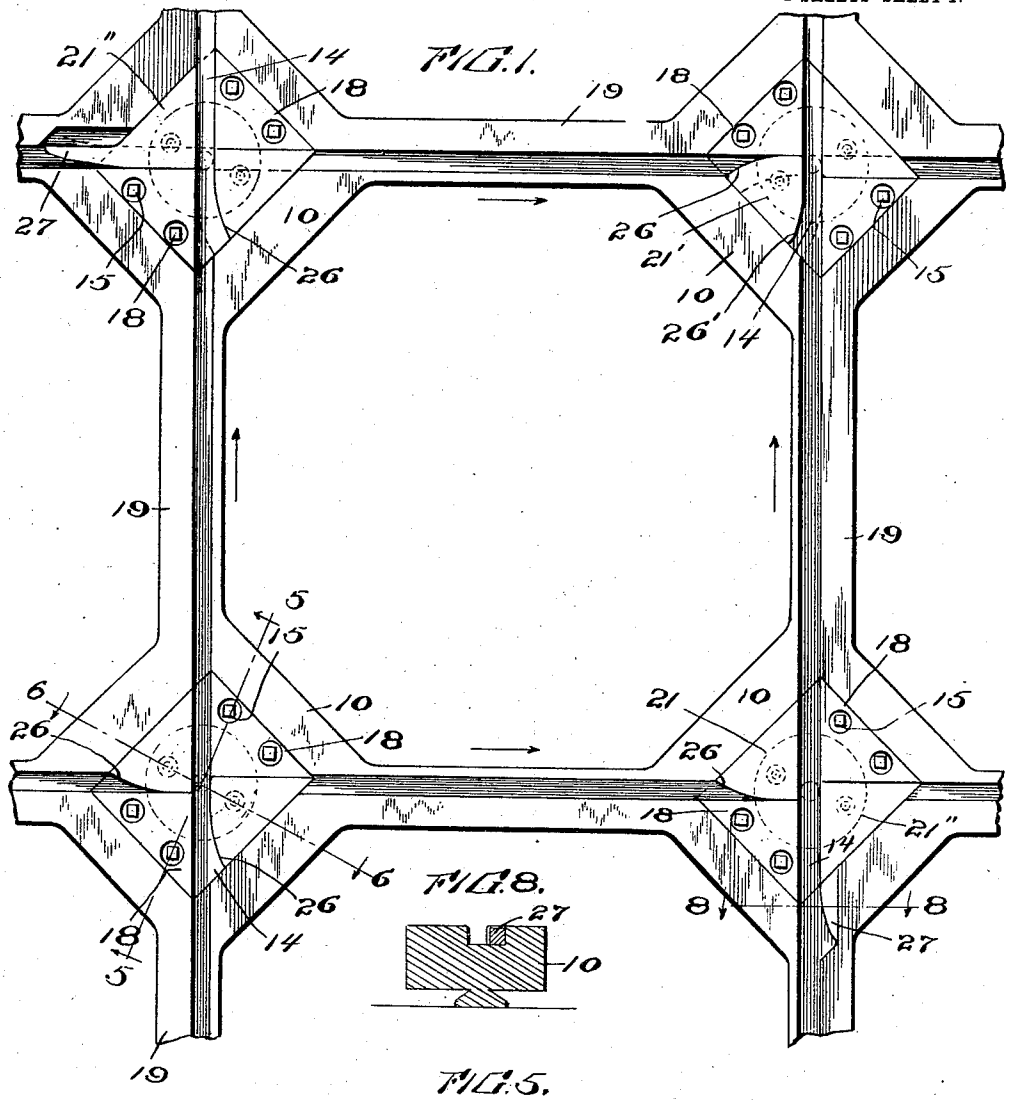
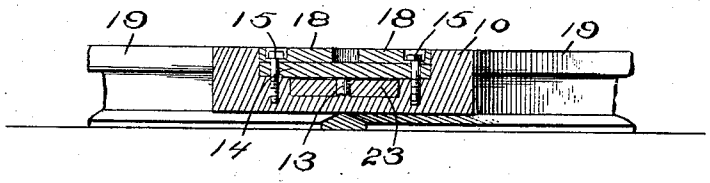


FIG. 8.

FIG. 5.



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2 SHEETS—SHEET 2.

FIG. 2.

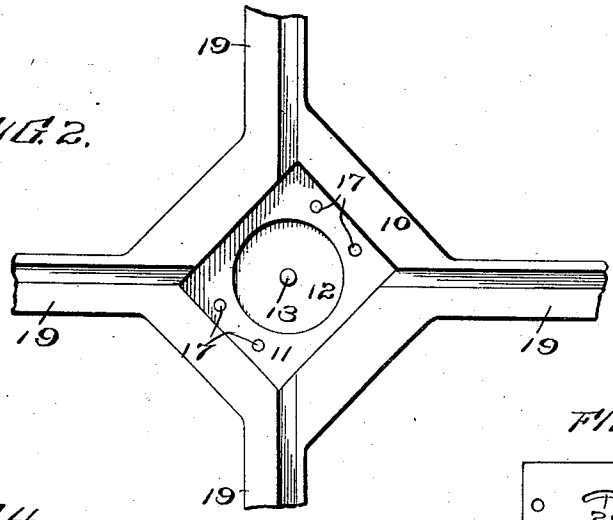


FIG. 9.

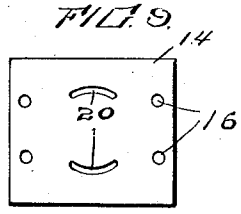


FIG. 4.

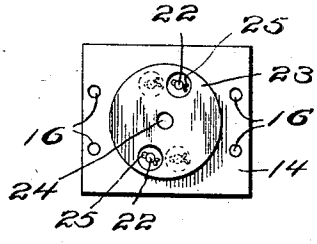


FIG. 3.

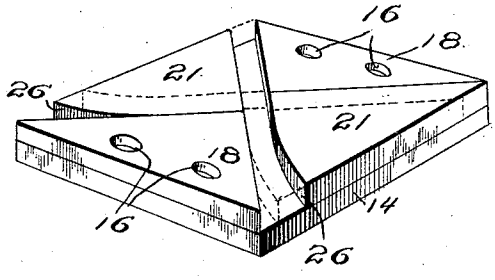


FIG. 6.

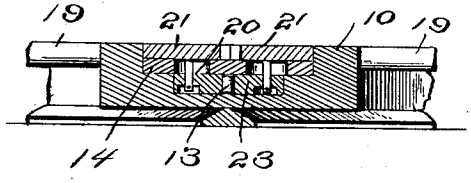


FIG. 10.

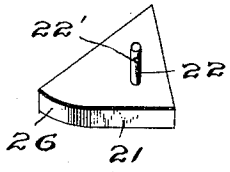
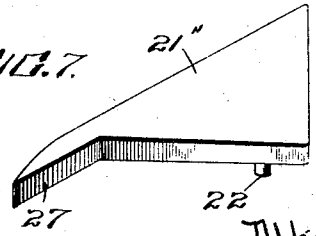


FIG. 7.



Witnesses

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ALBERT B. CRUSH, OF LOUISVILLE, KENTUCKY.

RAILWAY-CROSSING.

1,068,984. Specification of Letters Patent. Patented July 29, 1913.

Application filed January 21, 1913. Serial No. 743,382.

To all whom it may concern:

Be it known that I, ALBERT B. CRUSH, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, 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.

This invention relates to railway crossings and has for an object to provide improved means for carrying the wheels of a car over the crossing without the ordinary jolt and jar incident upon the necessary gap employed in the rails to permit the flanges to pass through.

A further object of the invention is to provide at each intersection of rails movable blocks the tops of which are flush with the tops of the rails, said blocks being movable to complete the tread of the rail in the direction in which the car is moving and with improved means for moving the blocks.

A further object of the invention is to provide at each rail intersection a box structure with a movable block structure forming a cover to the box and removable and replaceable relative to the box as an organized structure.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings: Figure 1 is a top plan view of intersecting track rails showing the present invention associated therewith. Fig. 2 is a top plan view of one of the rail intersections showing the box structure disclosed as formed integral therewith and with the movable block structure removed. Fig. 3 is a perspective view of the removable block structure separated from the box structure. Fig. 4 is a view of the removable block structure in inverted plan. Fig. 5 is a sectional view through the rigid blocks and the pivot of the movable blocks taken on line 5—5 of Fig. 1. Fig. 6 is a sectional view through the movable blocks and their actuating lugs taken on line 6—6 of Fig. 1. Fig. 7 is a perspective view of one of the movable blocks provided with a tongue. Fig. 8 is a sectional view taken on line 8—8 of Fig. 1 showing the relative height of the finger of the movable block and the tread of the rail. Fig. 9 is a top plan view of the cover member with the movable blocks removed. Fig. 10 is an inverted perspective view of one of the movable blocks.

Like characters of reference designate corresponding parts throughout the several views.

The improved railroad crossing which forms the subject matter of this application while especially adapted and intended for street railway crossings is applicable as well to other than street railways but will be described and illustrated for such purpose, the application to other uses being perfectly apparent from such explanation.

At each of the intersections a box structure 10 is provided preferably though not necessarily cast or forged integral with the rails or so much thereof as may be immediately adjacent such box. The box structure is provided with a recess 11 preferably though not necessarily rectangular as shown in Fig. 2 and a second deeper recess 12 preferably though not necessarily circular. In the bottom of the circular recess 12 a stud 13 is erected preferably though not necessarily formed integral with the box structure 10. A cover member 14 is provided properly proportioned to fit into the recess 11 and removably secured therein in any approved manner as by the use of the bolts 15 which are passed through the holes 16 in said cover member and engage in holes 17 of the box member. The cover member 14 carries blocks 18 so proportioned that the blocks 18 when the cover is in place in the recess 11 are flush with the tread surfaces of the rails 19.

As indicated in Fig. 1 the blocks 18 are carried at the opposite ends of the cover members 14 which said cover members are provided with segmental slots 20 intermediate such blocks as indicated particularly at Fig. 9. Intermediate such blocks 18 sliding blocks 21 are mounted, such blocks 21 having lugs 22 which extend downwardly through the segmental slots 20 and the cover member 14 and through a disk 23 proportioned to be accommodated within the recess 12 and provided with a central opening 24 fitting and rotating upon the stud 13. To maintain the sliding blocks 21 against displacement cotter pins 25 are inserted

through the openings 22′ in such lugs 22. It will be apparent, therefore, that when one of the blocks 21 is moved the movement serves to rotate the disk 23 and to carry therewith the other of said sliding blocks 21 so that said blocks move as indicated in full line and dotted position at Figs. 1 and 3. To facilitate the moving of said blocks each of said blocks is provided with a rounded corner as indicated at 26 to be engaged by the flange of the wheel, the exceptions to this rule being that the sliding block 21′ shown in Fig. 1 is provided with two rounded corners 26′ and the blocks 21″ are provided with fingers 27. The occasion for the fingers 27 is that as shown particularly in Fig. 1 the movable blocks 21″ are positioned upon the tread side of the rails, the car being supposed to be moving in the direction indicated by the arrows. The fingers 27 do not extend upwardly flush with the tread of the rail as more particularly indicated in Fig. 8 so that the tread of the wheel is carried upon the tread of the rail and still permits the finger 27 to be slidably moved by the flange of the wheel under such tread to move the block. Also it will be noted that the block 21′ is in position to be engaged by the flanges of wheels moving in both directions while its opposite block is not engaged at all so that said block 21′ is provided with two rounded corners as shown.

It is the purpose of the present invention to fill the box structure 10 with grease or other lubricant so that it serves to lubricate the moving parts as well as to exclude water from the box and prevent freezing of the parts. As the blocks 21 are actually engaged by the wheels as they are moved the jarring of the wheels striking such blocks serves to dislodge any ice which was formed and might otherwise prevent the free movement of such block so that such block moves under the impact of the wheels freely.

I claim:—

1. In a railway crossing, a box structure, rail members radiating from the box structure, a cover for the box structure carrying rigid blocks forming continuations of the lines of rails, a disk mounted beneath the cover and in the box, blocks movably mounted upon the cover and engaging the disk, and cam means carried by the movable blocks for engagement with the flanges of passing wheels.

2. In a railway crossing, a box structure, rails radiating from the box structure, rigid blocks carried by the box structure forming continuations of the lines of rails, blocks mounted upon the box structure and movable into engagement with proximate lines of rails, and a cam finger carried by one of said blocks the surface of which is lower than the tread of the rail.

3. In a railway crossing, a box structure substantially rectangular in shape; a cover for the box structure formed with slots; a lever centrally fulcrumed within the box structure; movable blocks mounted on the cover and connected with the lever by pins extending through the slots in the cover; substantially triangular blocks rigidly mounted on the cover on opposite sides of the center of the cover and having therein inner edges parallel to the diagonals of the cover and spaced therefrom approximately the width of a car wheel flange.

4. The combination with a rail intersection, of a box structure at such intersection; such box being provided with a cover; fixed blocks mounted on opposite sides of the intersection; having their inner faces in alinement with the adjacent rail; movable blocks arranged to slide on the cover in opposite directions whereby one face of each of said movable blocks is brought simultaneously into contact with a face of the fixed block to form a continuous bearing surface for the wheel.

5. The combination with a rail intersection, of a box structure at such intersection, said box being provided with a cover formed with slots; a lever centrally fulcrumed within the box structure; fixed blocks mounted on the cover on opposite sides of the intersection, and having their inner faces in alinement with the adjacent rail; movable blocks slidingly mounted on the cover; pins extending through the slots and connecting said sliding blocks, and said lever on opposite sides of the center of the lever; said sliding blocks being arranged to move simultaneously into contact with the faces of the fixed block adjacent to one rail.

6. The combination with a rail intersection, of a box structure at such intersection; said box being provided with a cover; fixed blocks mounted on the cover on opposite sides of the point of intersection, and having their inner faces in alinement with the adjacent rail; movable blocks slidingly mounted on said cover, and arranged to move in opposite directions to engagement with the fixed blocks.

7. In a railway crossing, a pair of intersecting rails, fixed blocks located on opposite sides of the point of intersection, and having their inner faces in alinement with the adjacent rails; movable blocks having their upper faces in the same plane as the upper faces of the fixed blocks; means to slide one block when the other block is moved, and a cam finger carried by one of said movable blocks, the surface of which is lower than the tread of the rail.

8. A selective rail intersection comprising a box structure, rails radiating from the structure, and a pair of blocks adapted to be moved to pass a wheel in one direction, one

or both of the blocks being provided with a cam surface lower than the tread of the rail and engageable by a wheel flange.

9. A selective rail intersection comprising a box structure, rails radiating from the box structure, and a pair of blocks slidably mounted in the structure and movable one by the other, the moving blocks being provided with a cam engageable by a wheel flange, the other block having an edge alining with the tread of rail and box when moved by the first mentioned section.

10. A selective rail intersection comprising a box structure, rails radiating from the box structure, and a pair of blocks adapted to move one another in parallel directions in a horizontal plane, the blocks adapted to move to open a passage between rails in a line and adapted to remain in any position.

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

ALBERT B. CRUSH.

Witnesses:
B. A. HANWAY,
ALBERT HAMILTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."