A. J. HIGGINS.

RAILROAD CROSSING.

APPLICATION FILED APR. 8, 1912.

1,067,171.

Patented July 8, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

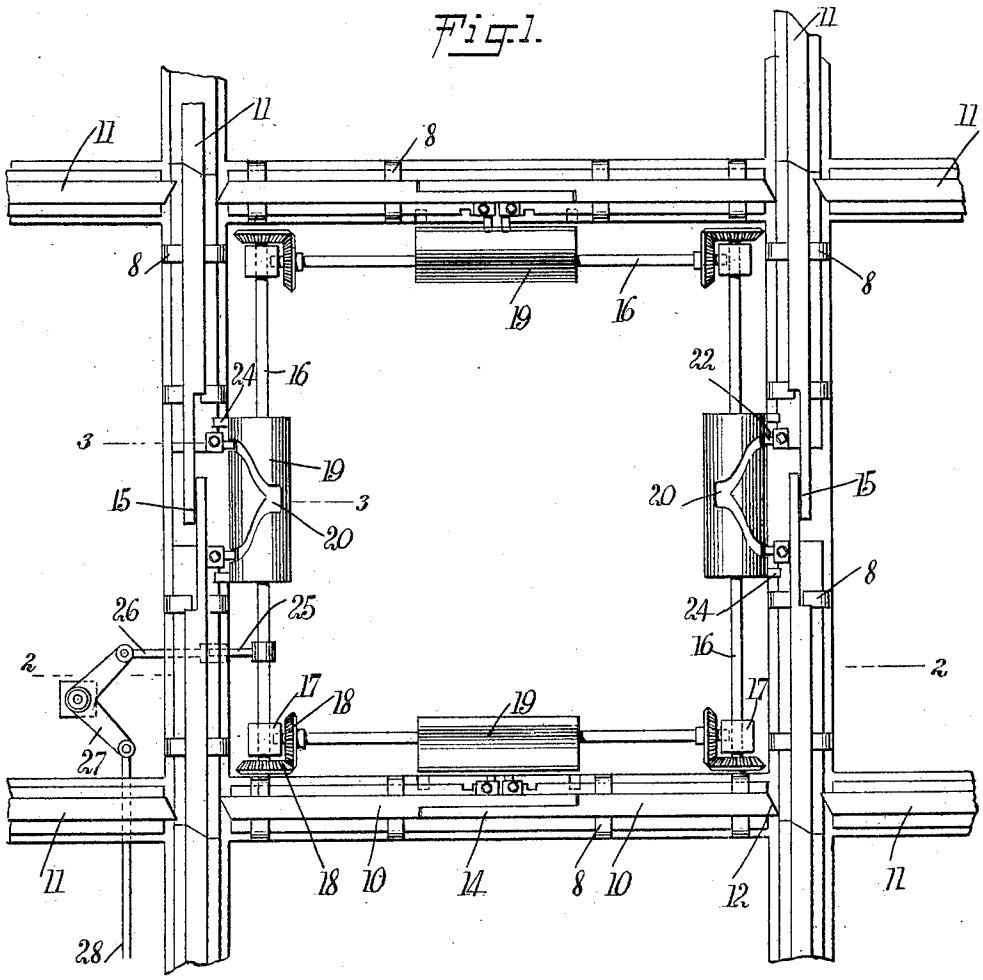
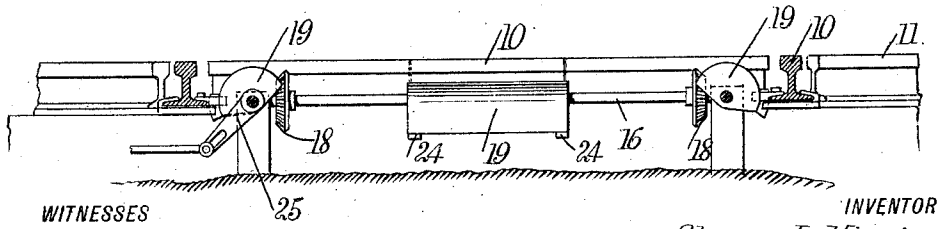


Fig. 2.



WITNESSES

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Fig. 3.

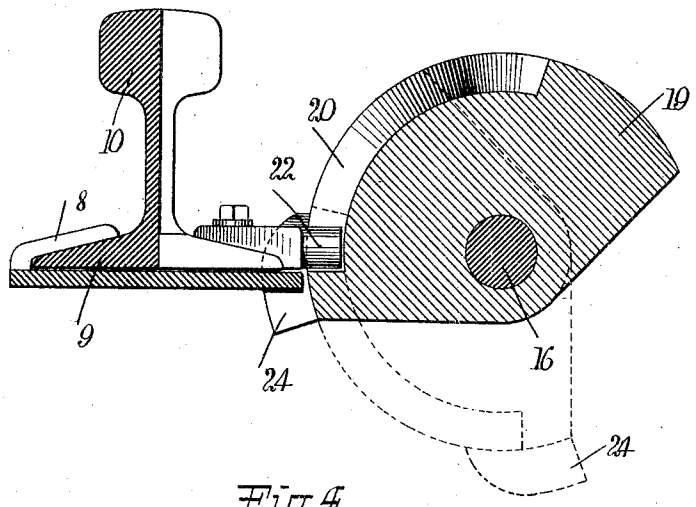


Fig. 4.

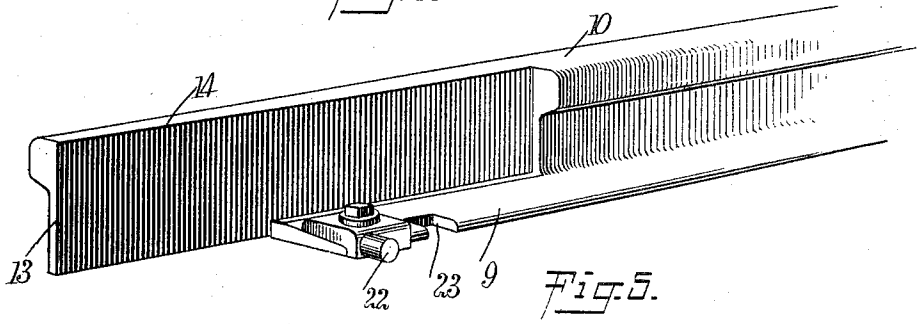


Fig. 5.

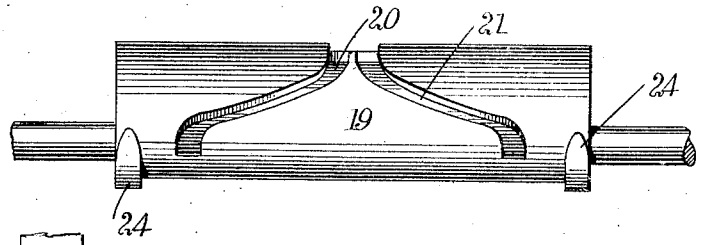
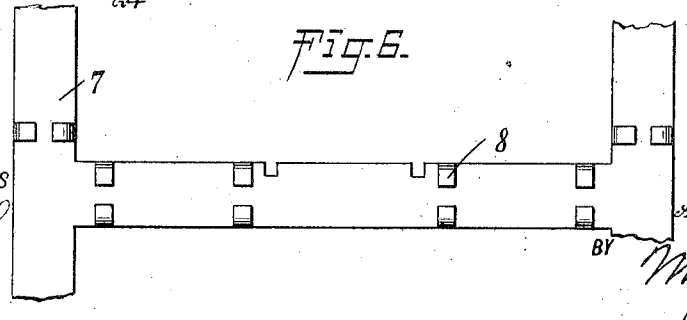


Fig. 6.



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RAILROAD-CROSSING.

1,067,171. Specification of Letters Patent. Patented July 8, 1913.

Application filed April 8, 1912. Serial No. 689,236.

To all whom it may concern:

Be it known that I, ABNER J. HIGGINS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Railroad-Crossing, of which the following is a full, clear, and exact description.

My invention relates to a railroad crossing, and an object of my invention is to provide at the crossing, a continuous track for cars moving in either direction.

In the constructions of crossing at present in use, there must be a gap in each track to permit the flange on the wheels of the car on the crossing track to pass the rails of the other track. This open space causes much jarring as the car moves over the crossing necessarily producing a heavy wearing action on both the rails and wheels.

I attain the object of my invention by making the portion of each track between the crossing tracks of sliding rails, which are brought into position to one of the crossing tracks of a continuous unbroken rail and simultaneously withdrawing the parts of the other track out of line with the continuous track.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a plan view looking down upon a preferred embodiment of my invention; Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is an enlarged transverse sectional view through one of the tracks and the actuating cam cylinder and taken on the irregular line 3—3 of Fig. 1; Fig. 4 is an enlarged detailed section of one of the movable rails; Fig. 5 is an enlarged plan view of the actuating cam; and Fig. 6 is a fragmentary plan view of a portion of the crossing foundation.

My improved crossing preferably comprises a foundation plate 7 formed of two or more pairs of parallel members, each pair crossing another pair at an angle, and as shown in Fig. 6, at right angles to each other. The parallel members of each pair are spaced apart a distance equal to the space between rails, and each member is of a thickness slightly greater than the width of the bottom flange of the rail, integrally connected with each of which members and projecting from the upper side thereof, are spaced-apart pairs of holding fingers 8, which fingers are adapted to overhang the bottom flange 9 of the sliding rail member 10 in order to hold these rails slidably upon the foundation 7. The regular rails 11 of each of the pairs forming the track proper, terminate at the crossing.

Mounted between the terminated ends of these rails and of a combined length when telescoped equal to the distance between parallel rails, is a pair of alined sliding rail members 10, each of which members has an outer end 12 of a shape adapted to fit the adjacent end of the rail 11, and, as shown in Fig. 1, these meeting edges are beveled transversely of the rail. The inner meeting end of each of the members 10 is overlapped, and to afford a neat sliding joint at this point, the web 13 of each member is reduced substantially one-half of the thickness of the web, as shown more particularly in Fig. 4, so that the two reduced sections 14 will have a combined thickness equal to the thickness of the regular rail. By this construction it will be understood that when the rails are drawn away from each other, the outer ends will abut the adjacent track to form a continuation of the same, as shown in the right and left rails in Fig. 1, and as shown in the upper and lower rails, the members 10 may be telescoped longitudinally, so as to leave a space between the outer end of each of these members and the adjacent parallel rail forming the track, so as to afford a space to permit the insertion of the transverse continuous track-extending member 10. Referring to the members in their extended position, as shown in the right and left rails in Fig. 1, it will be noted that the reduced sections 14 overlap, as shown at 15, thereby affording a continuous support for the wheels passing over the crossing.

It is desirable to simultaneously move the rails of one track into continuous alinement, and at the same time to move the rails of the other track into position to permit a continuity of the first-mentioned rails. One means for attaining this means depends upon the engagement of each pair of sliding rails with a cam cylinder, all of which cylinders being simultaneously actuated from a signal tower or other convenient location.

Extending parallel to each of the members 10 and between the tracks, is a cam shaft 16 suitably mounted in journal supports 17, each end of each of the shafts 16 having a bevel gear 18 meshing with the next adjacent bevel gear 18, so that the four shafts form a quadrilateral connected to move in unison. Rigidly mounted centrally upon each of the shafts 16 is a cam cylinder 19, the face adjacent the members 10 having a Y-shaped cam groove 20 therein, and each of the arms 21 of each groove has slidably positioned therein a pin 22 extending inwardly from the bottom flange 9 of each of the sliding members 10. By this construction it will be seen that the rotation of the shaft in one direction will draw the members of one pair of tracks together, and at the same time, due to the reversed position of the groove 20 in the transversely-disposed cam cylinder actuating the transversely disposed sliding members, will cause the latter sliding members to distend.

In order to lock the sliding members in their extended position, as shown at the right and left of Fig. 1, there is provided in each of the lower flanges 9 of the sliding members 10, adjacent the cam cylinder 19, a recess 23, which recess is adapted to be engaged by one of a pair of spaced-apart fingers 24 extending outwardly from the periphery of the cam cylinder 19 and positioned adjacent the free end of the arm 21 of the groove 20. By this construction it will be seen that the pin 22, in effect, moves to the outer end of the arm of the groove, and when the pin has reached the limit of its movement, the finger 24 will engage the recess 23, thereby firmly locking the sliding members 10 in engagement with the main rails 11. Any suitable means may be used to rotate the cam shaft 16, and as shown in Figs. 1 and 2, an arm 25 has one end rigidly affixed to one of the cam shafts 16, the opposite end of which arm is connected by a link 26 with one arm of a bell crank lever 27, which bell crank lever is actuated by any suitable reach rod 28 leading to the switch or tower.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A rail having an interrupted portion, a pair of telescoping rail members adapted when distended to bridge said interrupted portion and form a continuous rail, a cam having a Y groove in the side thereof, positioned adjacent each of said telescoping rail members, and a pin projecting from each of said members, each pin engaged in one of the arms of the Y groove, whereby the rotation of said cam will collapse and distend said members relative to each other.

2. A rail having an interrupted portion, a pair of telescoping rail members adapted when distended to bridge said interrupted portion and form a continuous rail, a cam having a Y groove in the side thereof, positioned adjacent each of said telescoping rail members, a pin projecting from each of said members, each pin engaged in one of the arms of the Y groove, whereby the rotation of said cam will collapse and distend said members relative to each other, and means carried by the cam engaging the telescoping rail members to lock the same in distended position.

3. In a railroad crossing, the combination with a pair of tracks extending at an angle to each other having interrupted portions at the point of crossing, a pair of rail members for each of the rails of said tracks, said rail members having overlapping portions designed to provide a continuous upper surface and permit a distention and telescoping or collapsing of the length of the respective rail members, a pin projecting from each of said rail members, and a cam acting on each of said pins for causing said rail members to be collapsed or telescoped and distended at will for causing the rails of either of said tracks to be continuous.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABNER JOSEPH HIGGINS.

Witnesses:
JOHN B. NEARY,
FRANK J. REGAN.

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