

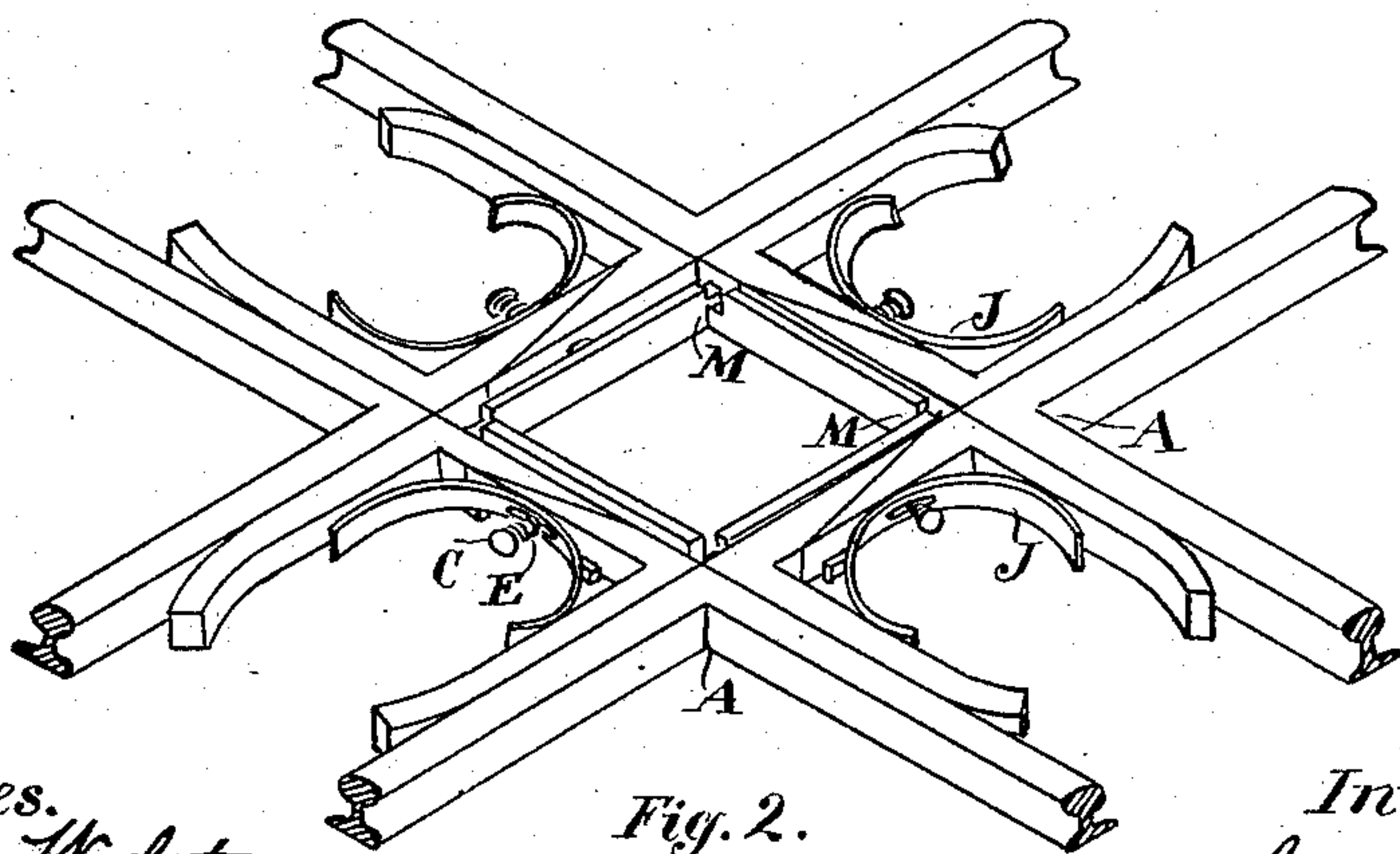
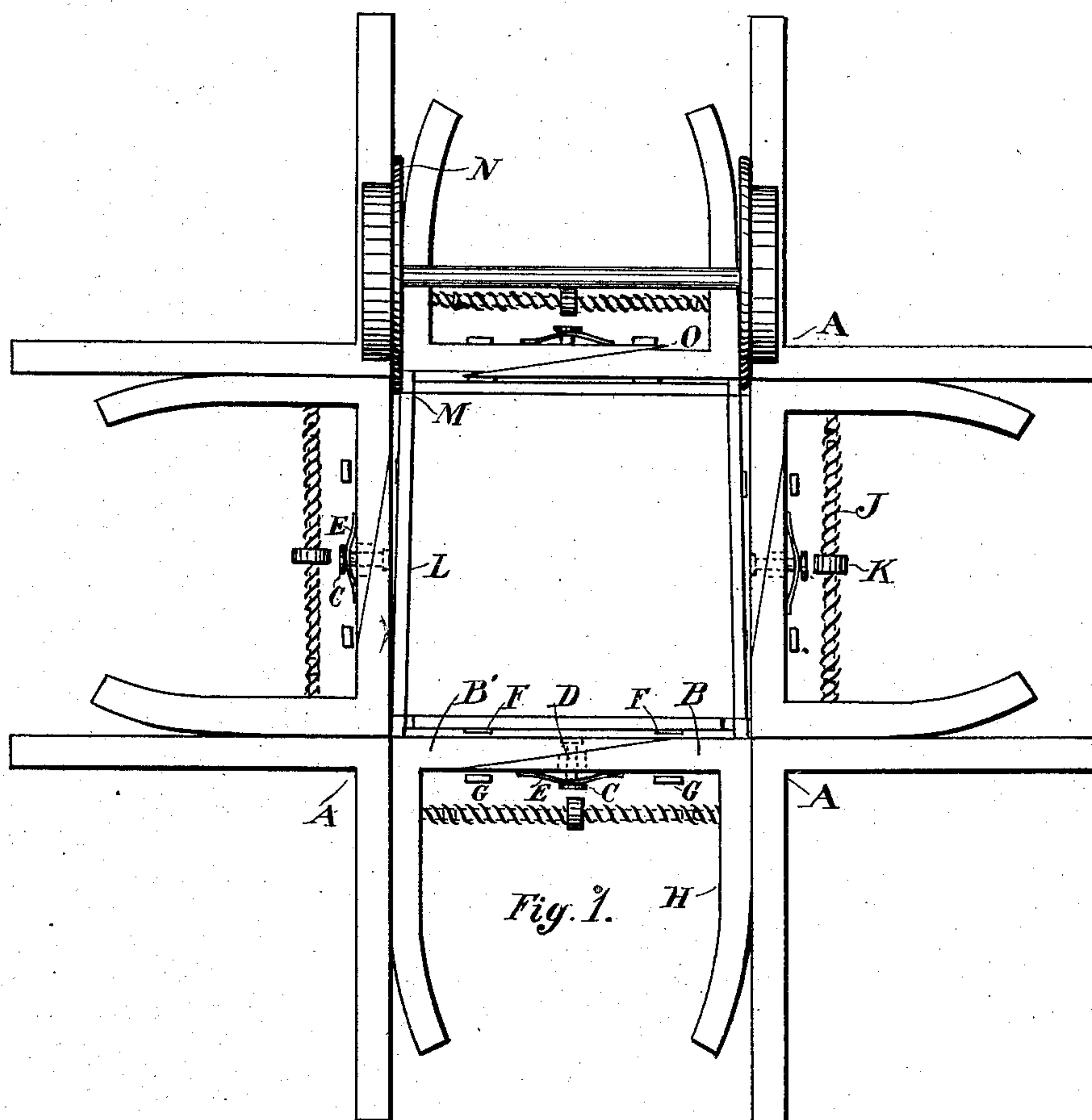
(No Model.)

T. McGRATH.

AUTOMATICALLY ADJUSTABLE RAILWAY CROSSING.

No. 373,149.

Patented Nov. 15, 1887.



Witnesses.  
Carroll J. Webster  
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Fig. 2.

Inventor:  
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Att'y



# UNITED STATES PATENT OFFICE.

THOMAS McGRATH, OF TOLEDO, OHIO.

## AUTOMATICALLY-ADJUSTABLE RAILWAY-CROSSING.

SPECIFICATION forming part of Letters Patent No. 373,149, dated November 15, 1887.

Application filed June 30, 1887. Serial No. 243,023. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS McGRATH, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Automatically-Adjustable 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to an automatically-adjustable railway-crossing, and has for its object to provide for continuous rails in the direction of movement of the train wherein two roads cross at or about right angles. In the usual construction of crossings of this character there is necessarily at the point of intersection of the rails a space provided of a sufficient width to allow the flanges of the wheels to pass. This causes an impact of the wheels with the ends of the rails, resulting not only in a sudden jar as each opening is crossed, but soon granulates and splits the ends of the rails, rendering their removal and the substitution of new ones necessary, and at the same time has a damaging effect upon the wheels of the train. I entirely obviate these difficulties by the arrangement shown in the drawings, in which—

Figure 1 is a perspective view of the railway-crossing provided with my improvements. Fig. 2 is an isometrical perspective view showing a modified form of spring.

Like letters of reference indicate like parts throughout the views.

A are the right-angled corners of the crossing, of the usual construction.

B B' are intermediate sections of rail, each of which is formed with a true wedge-like tapering end adapted, when placed side by side, to form a continuous rail, and are held in this relation by keeper C, passing through an elongated slot, D, in section B, and firmly attached to section B' by being screwed therein, or in any preferred manner. The outer end of keeper C has an enlargement adapted to hold a spring, E, either flat, as shown in Fig. 1, or

coiled, as shown in Fig. 2, which bears against the outer face of section B with sufficient force to press the two sections against the inner plates, F, thereby, with the aid of plates G upon the outer side of the sections, keeping the same in proper position for the passage of the train.

Each section B and B' is of right-angled formation, having wings H extending parallel with the sides of the right-angled corners A for some distance, terminating with inturned portions adapted to receive the flanges of the wheels of the train when passing, as will presently appear.

J are springs, either coiled, as shown in Fig. 1, or flat, as shown in Fig. 2, and are of sufficient length to bear upon wings H under constant tension sufficient to hold sections B B' firmly but yieldingly against the corners A of the crossing, and by keeping the crossing normally closed on its four sides preventing the accumulation of dirt, snow, ice, &c., between these parts, permitting the same to move freely out of and into contact with the corners. There is also by this arrangement at all times a continuous rail in the direction of a moving train. These springs are held in place either by eyebolts K, through which the springs and also a central metallic core, around which they are coiled, pass, as shown in Fig. 1, or by keepers C, passing through elongated slots in the springs, as shown in Fig. 2, or in any other preferred manner.

Upon each side and within the rectangular space of the crossing are bars L, having cut-out portions M at their ends of a sufficient width to allow the flanges of the wheels to pass. These bars L are rigidly attached to sections B B', respectively, and serve the same purpose as wings H.

In operation, when a train is approaching, the flanges of the wheels, as shown at N, Fig. 1, pass between wings H and the right-angled corner track, springs J yield to the lateral pressure of the flanges, and the parts B B' of the sections placed between the tracks upon which the train is moving are moved inwardly, the inclined portions of the sections moving upon each other, as shown at O, Fig. 1, the spring E yielding sufficiently to allow this movement. By this movement the first track



to be crossed is opened. Wheels N continuing forward, their flanges bear upon bars L, which open the sections upon the opposite side, and the track upon which the train is moving is continuous, thereby obviating any jar to the train or impact of the wheels with the ends of the tracks. The operation is the same should a train approach from the contrary direction, it only being necessary that the bars L be cut away sufficiently at M (the point of their crossing) to allow a free lateral movement.

My invention can be applied to the present form of crossing without modifying the construction of the right-angled corners.

It will be seen that the entire operation is automatic, the sections being returned to their normal positions by springs J.

It will also be observed that my device is composed of but few parts, and consequently is not liable to get out of repair, tending also, by its simplicity, to greatly lessen its cost of construction.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An automatic railway-crossing held normally closed on its four sides and adapted to

be opened by the flanges of the wheels of the train, as and for the purpose set forth.

2. An automatic railway-crossing having sectional side rails adapted to slide in a direction transverse to the direction of travel of a passing car, the rails at right angles thereto being normally closed, whereby there are at all times continuous rails in the direction of travel of a moving train, as and for the purpose set forth.

3. In an automatic railway-crossing, sectional side rails held in alignment by springs capable of allowing contraction or expansion of the sections in the direction of their length.

4. In an automatic railway-crossing, sectional side tracks having wings at right angles thereto normally held parallel and in contact with the rails by springs adapted to yield to the pressure of the wheel-flanges.

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

THOMAS McGRATH.

Witnesses:

BYRON F. RITCHIE,  
JAMES E. HUNT.