

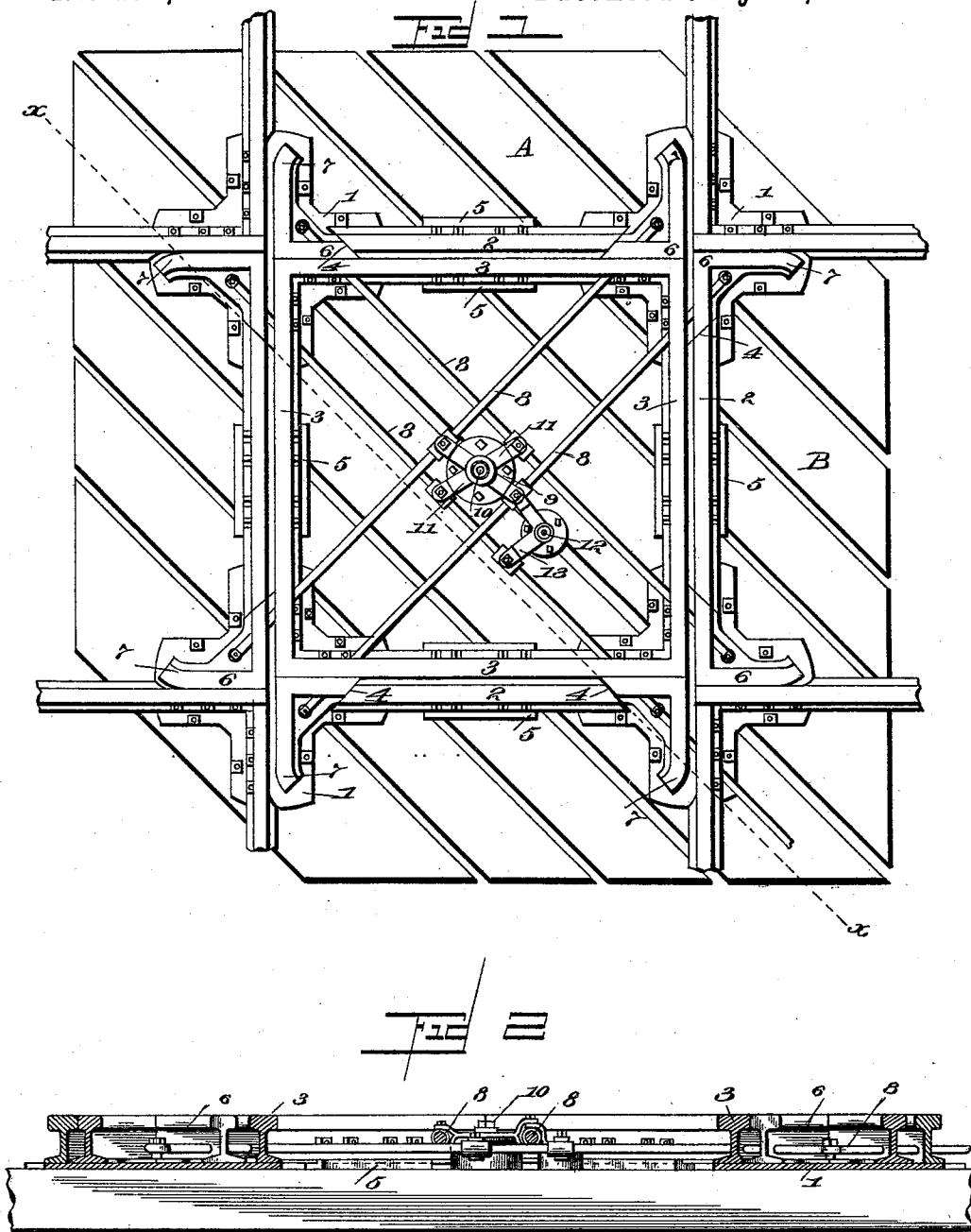
(No Model.)

2 Sheets—Sheet 1.

T. SMITH.
RAILROAD CROSSING.

No. 479,027.

Patented July 19, 1892.



Witnesses

Chas. F. Miller

R. H. Bishop

Inventor

Thomas Smith

By his

Attorney

Walter N. Calhoun

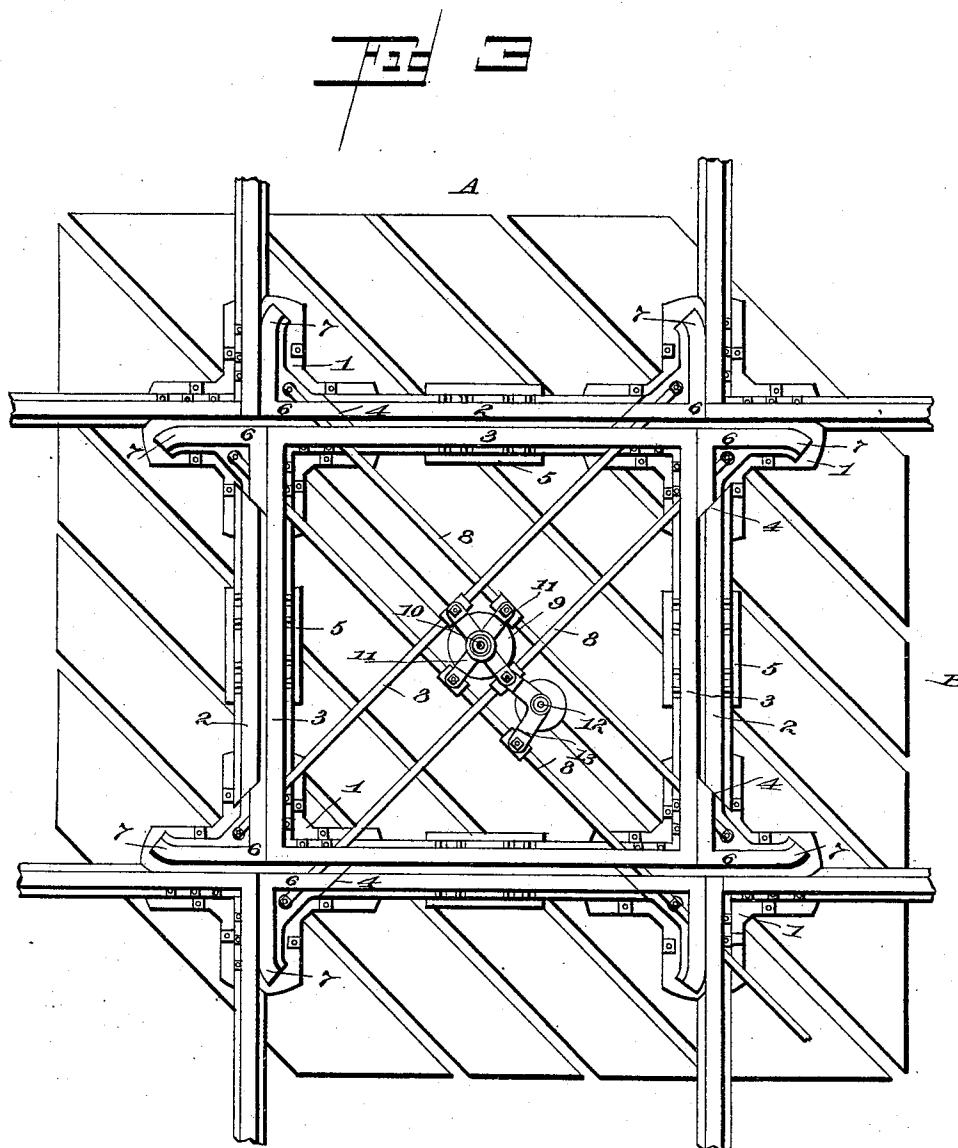
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UNITED STATES PATENT OFFICE.

THOMAS SMITH, OF PHILADELPHIA, PENNSYLVANIA.

RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 479,027, dated July 19, 1892.

Application filed September 18, 1891. Serial No. 406,061. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SMITH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Crossings, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in railroad-crossings, and has for its objects the provision of a crossing for railroads which will be simple in its construction, easy of operation, and which will permit trains to pass thereover safely at a high speed without jarring. This object I accomplish by the use of the mechanism illustrated in the annexed drawings; and the invention consists in certain novel features of the same, which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings referred to, Figure 1 is a plan view of my improved crossing set for the main track. Fig. 2 is a similar view showing it set for the intersecting track, and Fig. 3 is a vertical section on the line *x x* of Fig. 1.

For convenience of description I will refer to the track as the "main" track which I have marked A on the drawings, and the track which I have marked B, I will refer to as the "cross" or "intersecting" track. The main and cross tracks are constructed in the usual manner, and the ends of the rails are brought closely together, so as to present an unbroken surface over which the car-wheels may pass.

The ends of the rails of the tracks are supported on bed-plates 1, which are secured on the ties at the corners of the crossing and also serve to support the ends of the inner rail-sections 2 and the corners of the guard-rails 3. The inner-rail-sections 2 are arranged in alignment with their respective tracks and have their ends beveled, as shown at 4, for a purpose which will be hereinafter set forth. The guard-rails form an unbroken parallelogram having its corners secured on the bed-plates 1 and its sides connected with the inner rail-sections by the check-plates 5, which maintain it at the proper distance from the rail-sections.

At each corner of the crossing I provide a pair of angular movable rail-sections 6, which are

adapted to slide on the bed-plates 1 to and away from the track-rails, and thereby present a continuous rail or track on one road and simultaneously break and close the track on the other road. The end of one arm of each of these movable rail-sections is beveled, so as to engage the beveled end of the inner fixed rail-section and be thereby guided into its proper position when the crossing is operated. The end of the other arm of each one is turned slightly outward, as shown at 7, so that the said section will serve as a guard-rail. The members of each pair of movable rail-sections move in opposite directions, so that when one of said sections is moved into position to form a part of its track its mate will be moved against the guard-rail, so as to close, the intersecting track, and thereby prevent travel thereover, as well as to form a continuous guard-rail for the track which has been opened.

The movable rail-sections that are moved in the same direction are connected by rods 8, which have their ends secured to the bases or flanges of the said sections and extend diagonally across the crossing, one of said rods being extended beyond the crossing and connected to a target and signal to permit a switchman to operate the crossing and properly signal the state of the crossing to approaching trains. At the center of the crossing I provide a plate 9, on which I secure a pivot bolt or pin 10, upon the upper end of which I pivot the links 11, which have their ends pivoted to the rods 8, thus connecting the said rods, so that the rods which are parallel will move in opposite directions. At one side of the center of the crossing and the pivot-bolt 10 I provide a pivot-bolt 12, on the upper end of which I mount an angle-lever 13, the ends of which are pivoted to the adjacent rods 8, as shown. These rods are thus connected so that the operation of the target (not shown) will operate all the rods simultaneously.

The operation of the switch is thought to be apparent from the foregoing description, taken in connection with the accompanying drawings. As shown in Fig. 1 the crossing is arranged to permit trains to travel over the main track A and to prevent travel over the cross-track. It will be observed that the movable rail-sections lying between the rails of the cross-track are abutting against the said rails

and that their inner arms form a part of the main track, while the movable rail-sections lying between the rails of the main track have been moved up against the inner guard-rail 5 and form extensions or continuations of the same. If it be desired to permit the passage of a train over the cross-track, the target is operated so as to draw the rod 8 to which it is attached outward. The movable rail-sections 10 to which the said rod is attached will be thus moved away from the guard-rail and against the track-rails, while the parallel rod will be set in motion by the connecting-link 11 to move the corresponding movable rail-sections 15 away from the track-rails and against the guard-rail, as will be readily understood upon reference to Fig. 2. At the same time the angle-lever will impart motion to the other pair of parallel rods and the movable rail-sections at the remaining corners of the crossing 20 will be adjusted.

It will be seen from the foregoing description that I have provided a railroad-crossing which is very simple in its construction and 25 which will be easily operated to permit the passage of trains on one track, while preventing travel on the intersecting track. Inasmuch as the movable rail-sections are connected through intermediate devices and are 30 operated simultaneously, it is impossible for both tracks to be left open at once. Consequently all danger of collisions is overcome. Furthermore, as the movable rail-sections are moved close against the guard-rail and the

track-rails a continuous unbroken track and 35 guard rail is provided along the track that is open, and trains can therefore pass over the crossing at a high rate of speed without any liability of jumping the track and without any jarring. 40

The operating mechanism is very simple in its construction, and is consequently not liable to get out of order, and is positive in its action, so that there can be no misapprehension of the state of the crossing at any time. 45

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

1. The combination of the track-rails, the guard-rail, the fixed rail-sections, and the 50 movable rail-sections adapted to move from the guard-rail to the track-rails between the track-rails and the fixed rail-sections.

2. In a railroad-crossing of the character described, the movable rail-sections having one 55 end turned slightly outward, substantially as and for the purposes set forth.

3. The combination of the movable rail-sections, the rods connecting the same in pairs, links connecting the rods in pairs, an angle- 60 lever connecting the pairs of rods, and means for operating the said lever.

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

THOMAS SMITH.

Witnesses:

EDW. HAUGH,
WALTER W. CALMORE.