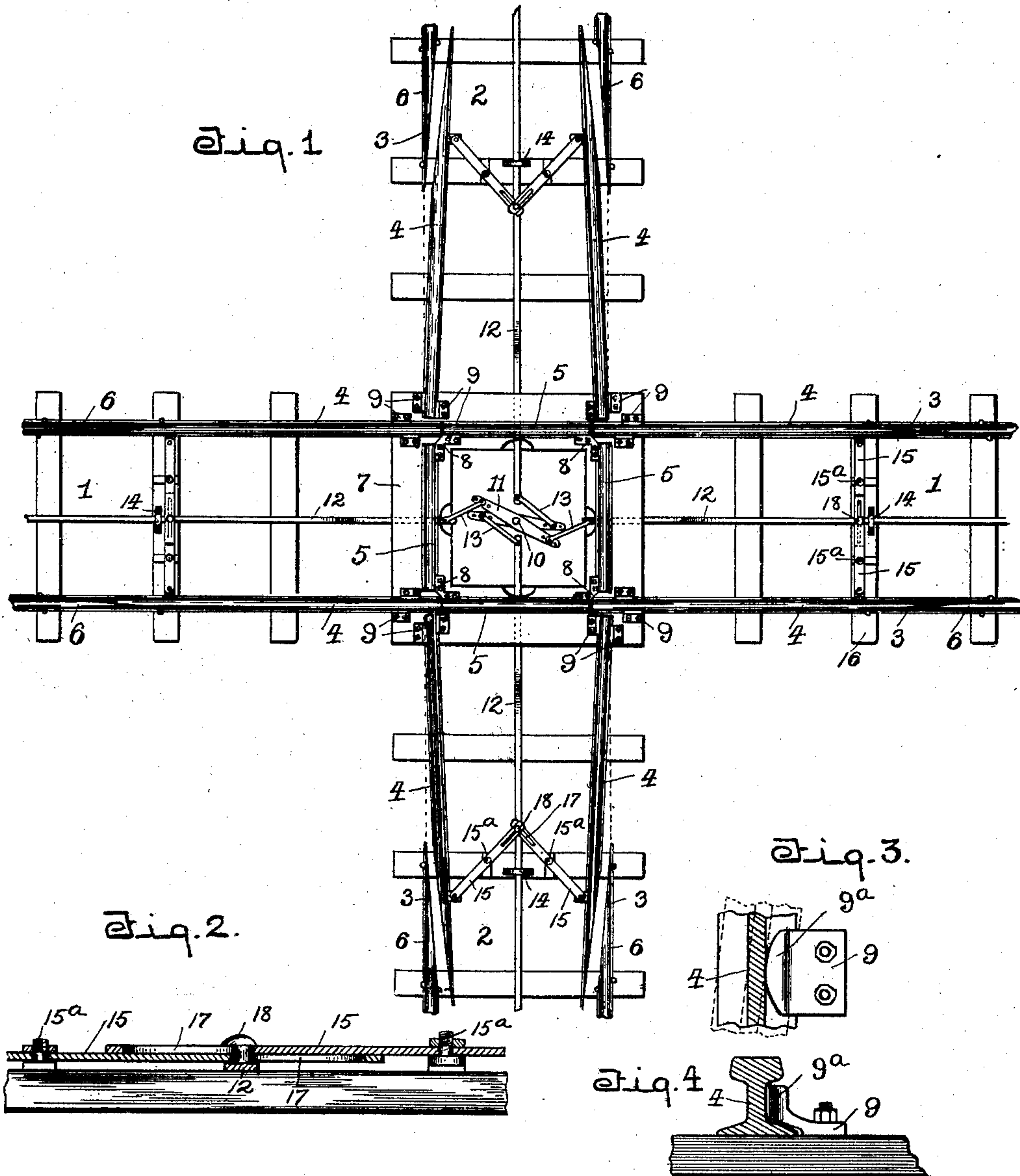


No. 737,759.

PATENTED SEPT. 1, 1903.

W. F. MILLS.
RAILWAY CROSSING.
APPLICATION FILED NOV. 26, 1902.

NO MODEL,



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM F. MILLS, OF SOUTH BEND, INDIANA.

RAILWAY-CROSSING.

SPECIFICATION forming part of Letters Patent No. 737,759, dated September 1, 1903.

Application filed November 26, 1902. Serial No. 132,941. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. MILLS, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, 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 improvements in railway-crossings.

The object of the invention is to provide a crossing in which the rails are made continuous and the usual slots or recesses at the joints dispensed with, so that derailment and jolting of the rolling-stock is obviated and the wear and tear on the car-wheels reduced to a minimum.

A further object is to provide a construction by which the rails of one track are caused to be moved to engage the permanent rails at the crossing simultaneously with the receding of the rails of the other track, and thereby facilitate the operation and make a safe and positive connection and disconnection.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a plan view of my improved crossing with the rails of one of the tracks in a position to form a continuous track. Fig. 2 is a detail in longitudinal section showing the toggle-joint of the levers that operate the movable rail-section. Fig. 3 is a plan of the guide-plate engaged with a portion of the movable rail-section. Fig. 4 is a transverse section of Fig. 3.

In Fig. 1 two intersection-tracks 1 and 2 are shown, each of which have their rails spliced, as at 3, to form movable rail-sections 4 4, which are adapted to be retracted longitudinally from the permanent cross-rails 5 and drawn inwardly at their outer ends to break the splice-joint in the main rails 6, and when the movable rail-sections of one track are so moved the movable rail-sections of the intersecting track are simultaneously forced longitudinally forward in engagement with the permanent cross-rail 5 and outwardly at their outer ends to engage the spliced ends of

the main rails, which latter action provides a continuous unbroken track.

At the intersection of the tracks is a bed-plate 7, to which are attached the permanent cross-rails 5, secured together at their ends by corner stay-plates 8, arranged in the angle formed by the cross-rails. This bed-plate is also provided with guide-plates 9, which are secured to the corners of the bed-plate and arranged in pairs, one slightly in advance of the other, and each provided with an offset flange 9^a, having rounded corners adapted to fit over the bases of the movable rail-sections and engage the web of the rail, as shown in Figs. 3 and 4. A movable rail-section is fitted between each pair of guide-plates, and as the plates on the inner side of the rails are slightly in advance of those on the outer side and as the flanges of each have rounded corners the outer ends of the movable rail-sections are permitted to be drawn inwardly when retracted from the permanent rails, the guide-plates acting in a measure as a fulcrum.

To the center of the bed-plate is secured a pin 10, on which is pivoted a double-armed lever 11, having an adjustable jointed connection with each pull-rod 12 by means of links 13. The pull-rods 12 are arranged to extend in opposite directions between each pair of movable rail-sections and pass beneath the permanent cross-rails and through guides 14, secured to one of the ties of the track. These guides also serve as stops for the toggle-levers presently to be described. The toggle-levers 15 are fulcrumed at 15^a to the ties 16, and their outer ends are pivoted to the inner sides of the movable rail-sections, while their inner ends are connected by a pin 18, secured to the push-rods 12, the said pin sliding in longitudinal slots 17, formed in the inner ends of the levers.

The push-rods 12 are operated by the usual switch-throwing levers, (not shown,) and when any one of these push-rods is reciprocated it will, through the medium of the link connection 13, turn the double-armed lever 11 on its pin 10, draw the push-rods of one track inwardly to break the joint of the toggle-levers of that track, and at the same time push the rods of the intersecting track out-

wardly to throw the slotted ends of the toggle-levers of such track against the stop and guide 14. This action will cause the inner ends of the movable rail-sections of one track
 5 to engage the permanent cross-rail 5 and form a continuous track, while the movable rail-sections of the intersecting track are simultaneously retracted and drawn together
 10 at their spliced ends to break the joint in such track. Thus it will be seen that all the push-rods and movable rail-sections move synchronously, so that one track is always open and the other closed for the passage of a train.

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

1. In a railway-crossing, the combination with a bed-plate having fixed cross-rails thereon; of the intersecting tracks, each having a
 20 movable portion fulcrumed to the bed-plate adjacent the ends of the cross-rail, the fulcrum for the movable sections consisting of guide-plates arranged on opposite sides of the rails one in advance of the other and
 25 provided with curved bearing-faces, and means for moving the movable portions longitudinally in their fulcrums simultaneously with their swinging movement.

2. In a railway-crossing, a bed-plate having immovable cross-rails secured thereto, a
 30 shifting device mounted to rotate on the bed-plate, movable rail-sections for each track adapted to engage the cross-rails, toggle-levers secured to the movable rail-sections,
 35 push-rods connecting the toggle-levers with

the shifting device, and means for shifting the movable rail-sections of each track synchronously.

3. In a railway-crossing, a bed-plate having immovable cross-rails secured thereto, 40 movable rail-sections for each track arranged opposite each side of the bed-plate and adapted to be shifted to engage or disengage the ends of the cross-rails, guide-plates for the movable rail-section, and means mounted on 45 the bed-plate for moving the movable rail-sections of one track into engagement with the cross-rails synchronously with the disengagement of the movable rail-sections of the intersecting track. 50

4. In a railway-crossing, a bed-plate having permanent cross-rails secured thereto, movable rail-sections on each track adapted to engage and disengage the cross-rails, a
 55 shifting device consisting of a two-armed lever pivoted to the bed-plate, guide-plates for the movable rail-sections secured to the bed-plate and having flanges provided with curved edges which act as fulcrums for the movable rail-sections, toggle-levers pivoted to the 60 movable rail-sections and jointedly connected at their adjoining ends, push-rods connecting the toggle-levers and the two-armed lever, and stops for the toggle-levers.

In testimony whereof I affix my signature 65 in presence of two witnesses.

WILLIAM F. MILLS.

Witnesses:

GEORGE OLTSCH,
 MAGGIE OLTSCH.