

I. V. BILYEU.
RAILROAD CROSSING SWITCH.
APPLICATION FILED DEC. 27, 1911.

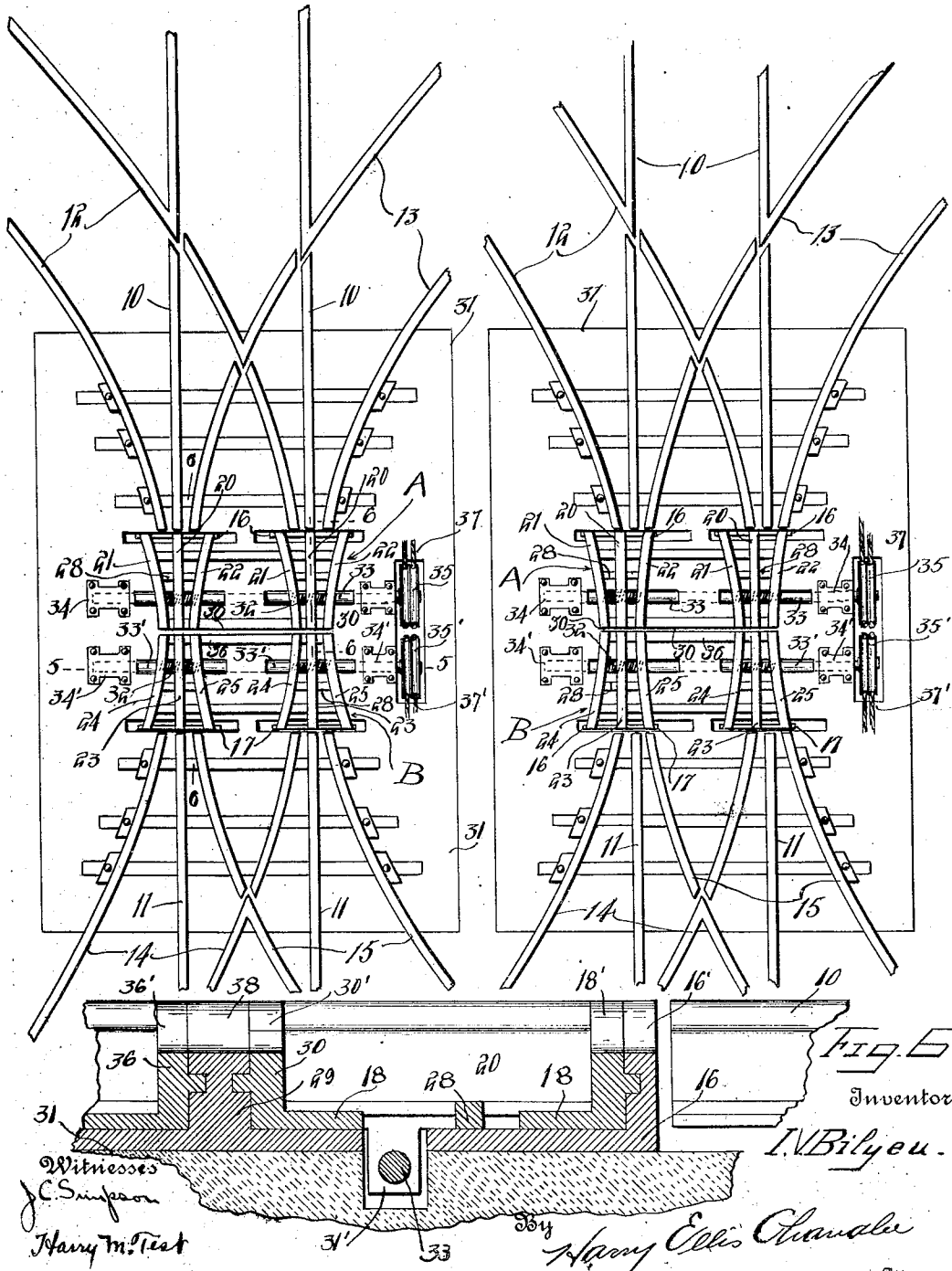
1,050,421.

Patented Jan. 14, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

Fig. 2.

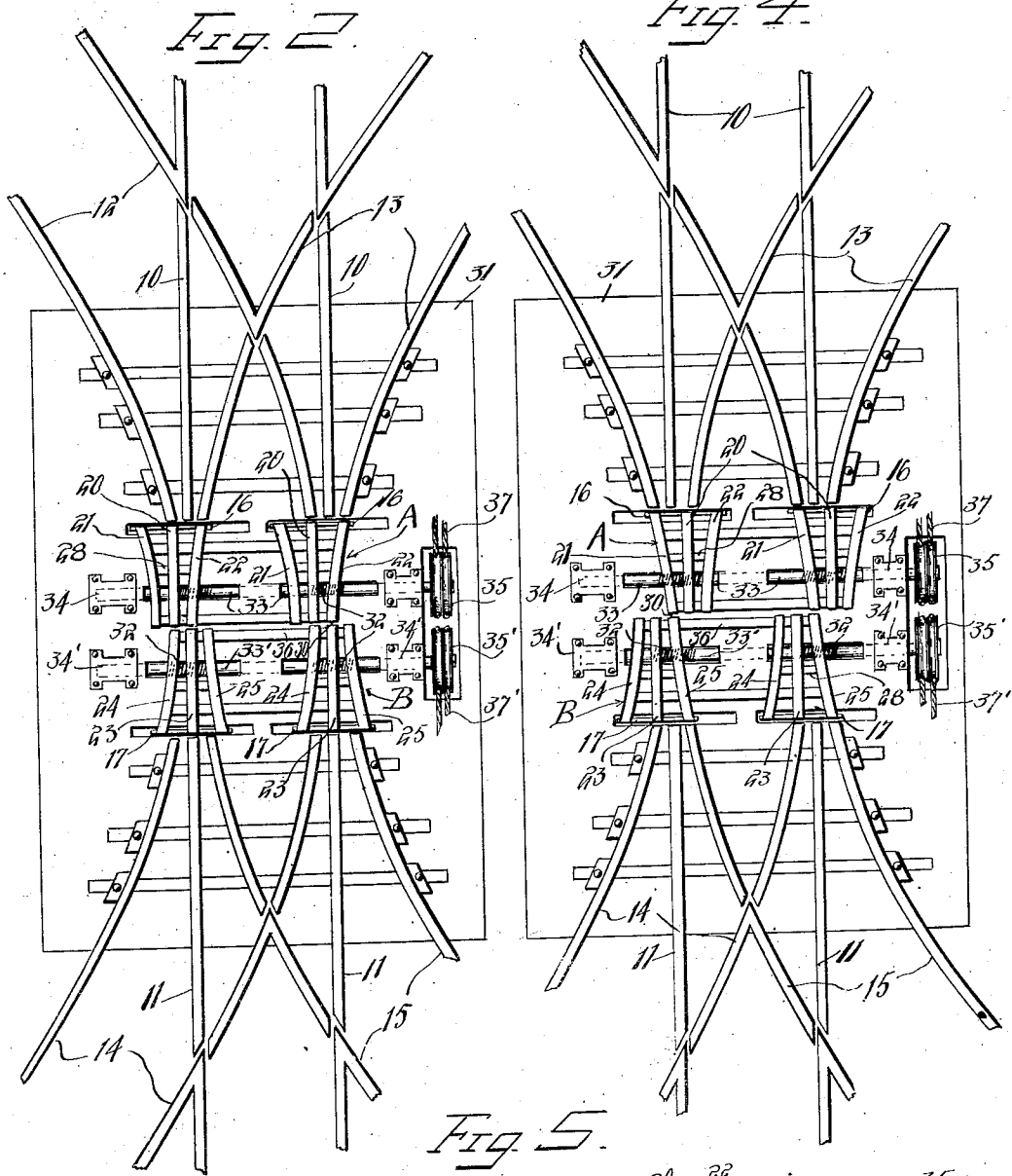


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Witnesses
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UNITED STATES PATENT OFFICE.

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RAILROAD-CROSSING SWITCH.

1,050,421.

Specification of Letters Patent.

Patented Jan. 14, 1913.

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To all whom it may concern:

Be it known that I, ISAAC V. BILYEU, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Railroad-Crossing Switches, of which the following is a specification.

This invention relates to improvements in crossing switches.

The principal object of the invention is to provide movable frog plates each carrying sections of straight rails and curved rails, the former of which are adapted to connect with the main straight lines, while the latter of which are adapted to register with curves leading to the right or to the left coming from either direction.

The invention consists of two transversely slidable plate members, carrying a straight section and two curved sections of rail on each end, said plate being adapted for slidable movement in opposite directions, so as to get the following combinations: The train may move straight along the main track; the train may pass from the main track to the right or to the left coming in either direction; the train may be coming around one of the curves from either the right or the left from either direction, and either continue around the curve in the same direction, or cross the main track and continue around the curve in the opposite direction.

In the accompanying drawings: Figure 1 is a plan view of a railroad track showing my invention applied and in position to permit a train to pass along the main track, Fig. 2 is a similar view showing the parts in position to permit the train to pass along the main track to turn to the right, Fig. 3 is a plan view showing the parts in position to permit the train coming around a curve from the right to continue along and turn to the right, Fig. 4 is a similar view showing the parts in position to permit the train coming around the curve from the right to cross the main track and turn to the left, Fig. 5 is a vertical transverse section partly in elevation on the line 5-5 of Fig. 1, Fig. 6 is an elevation partly in section on the line 6-6 of Fig. 1.

Referring particularly to the drawings, 10-10 and 11-11 represent the portions of the main straight track, the ends of the former terminating at a suitable distance

from the ends of the latter to provide a space for my switch mechanism, to be later described. Extending from the right and left respectively of the tracks 10 and 11, in one direction are the curves 12 and 13, while extending in the opposite direction from the first curves but to the right and left, are the curves 14 and 15, the inner ends of the curves being in line with one end of the straight tracks, on either side of the space before mentioned. A concrete base 31 is formed under the space between the ends of the rails and extending to a suitable distance at each side and end thereof. Secured in said base under the ends of said rails are the grooved plates 16 and 17, arranged on opposite sides of said space. Adapted to slide in these grooved plates are the tongue carrying plates 18, to which are secured the straight sections of rails 20 and the curved rail sections 21 and 22. These short sections of rails have one end in line with the main rails 10 and the curves 12 and 13, while their opposite ends terminate at a point about mid-way across the said space between the ends of the main rails, 10 and 11. At the opposite side of the space is a second set of straight and curved rail sections 23, 24 and 25, having their inner ends arranged in line with the inner ends of the first-named straight and curved rail sections, and supported by the tongue carrying sliding plates 18 which slide on the grooved plates 17. The sets of curved and straight rail sections are suitably held and spaced apart by the spacing bars 28, so that they may move together transversely of the track. For convenience in describing, these sets are marked A and B. Transversely in the center of the space between the ends of the main rails is a double grooved plate 29, on which are adapted to slide the tongue carrying plates 30 and 36 at the inner ends of the rail sections of A and B. This upper portion of this plate lies flush with the treads of the rails, and is formed with the notches 33, to permit the flanges of the car wheels to pass thereover. The plates 16, 18, 30 and 36 are also formed with the notches 16', 18', 30' and 36' for the same purpose.

Mounted below the member A and on either end thereof are the perforated and internally threaded lugs 31' through which the threaded portion 32 of the operating rod or shaft 33 passes. On either side of the

track are the stands 34, in which are journaled the ends of the shaft 33. On one end of the rod or shaft 33 is a pulley 35 around which passes the wire cable 37. These
 5 cables lead to a switch lever in the signal tower. The other device B has mounted thereon the shaft 33' journaled in the supports or standards 34', the shaft being also provided with a pulley 35' and the wire
 10 cable 37', also leading to the signal tower. Upon rotation of either of the shafts 33 or 33', in either direction the groups of rail sections A and B may be moved to the right or left to bring their rail sections in register
 15 with the ends of each other, and with the main tracks and curves.

As clearly seen in Fig. 1 the straight sections are in register with each other and with the main rails 10 and 11 so that the
 20 train may pass along the main track. In Fig. 2 the straight sections of B are in register with the tracks 11, while A is moved to the left so that its curved sections 21 and 22 register with the straight sections
 25 of B and the curves 12, thus permitting a northbound train to leave the main track and pass around the curve to the right. A reverse movement of the members A and B will register so that the train will leave the
 30 main track and pass around the curve 12 to the left. Upon moving both A and B to the extreme left position, as shown in Fig. 3, their curved sections 25 will register with the curves 13 and 15 so that a train which
 35 may be coming from the south around the curves 15 may continue north and east around the curve 13. A movement of the members A and B to the extreme right will permit a train to pass from the
 40 curve 14 around the curve 12. Should a train going north desire to pass from the curve 15 and around the curve 12, A would be thrown to its extreme right position, while B would be thrown to its extreme
 45 left position, thus bringing the curved sections 21 into register with the curve sections 23, of the member A, and the curved mem-

bers 25 of the member B into register with the curves 15.

By means of this switch it is possible for 50 a train going north or south to be switched east or west, the screw threads of the rods 33 and 33' holding the parts in different adjusted positions. It will be seen that a multitude of combinations may be had by mov- 55 ing the members A and B to various positions with respect to the track and with each other.

What is claimed is:

1. In a railroad switch, a combination 60 with a main track and curves extending to the right and left in both directions, of transversely slidable members between the ends of said rails, straight and curved plate sections on these slidable members, and 65 means for moving the said members transversely of the track independently whereby said sections are capable of registering with the straight tracks and curved tracks.

2. In a railroad switch, a combination 70 with a main track and curves extending to the right and left in both directions, the ends of said straight and curved tracks terminating at a suitable distance from each other, grooved plates mounted transversely under 75 the ends of said tracks, tongued members slidable in the grooved members, straight and curved rail sections mounted on the tongued members, internally threaded lugs 80 mounted on the tongued members, a threaded shaft in the lugs, supports for the shaft, and means for rotating the shaft, whereby said tongued members are movable 85 to the right and left to bring their straight and curved sections into alinement with each other and with the straight tracks and curved tracks.

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

ISAAC V. BILYEU.

Witnesses:

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