

No. 812,205.

PATENTED FEB. 13, 1906.

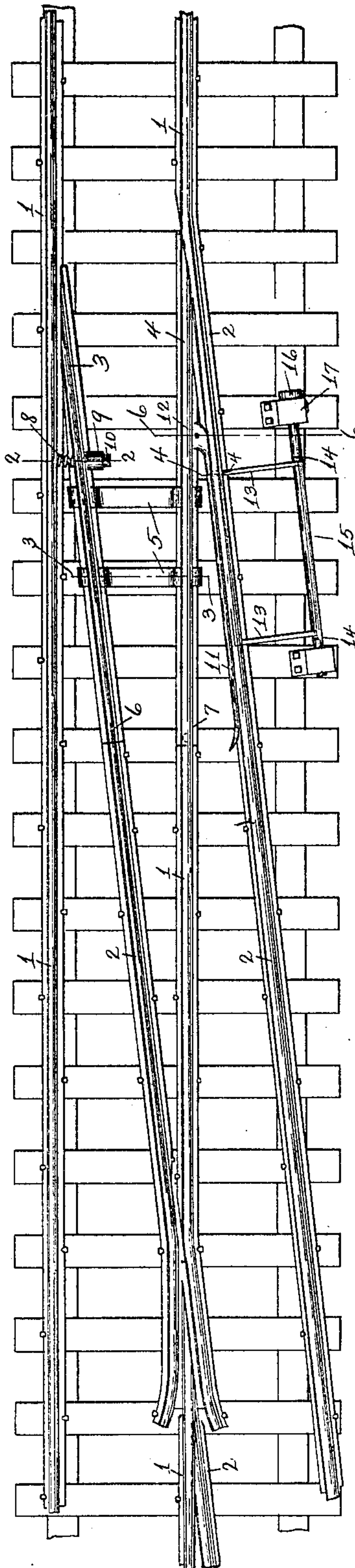
F. A. HOWARTH & J. J. MCKINLAY.

RAILWAY SWITCH.

APPLICATION FILED SEPT. 7, 1905.

2 SHEETS—SHEET 1.

FIG 1



WITNESSES
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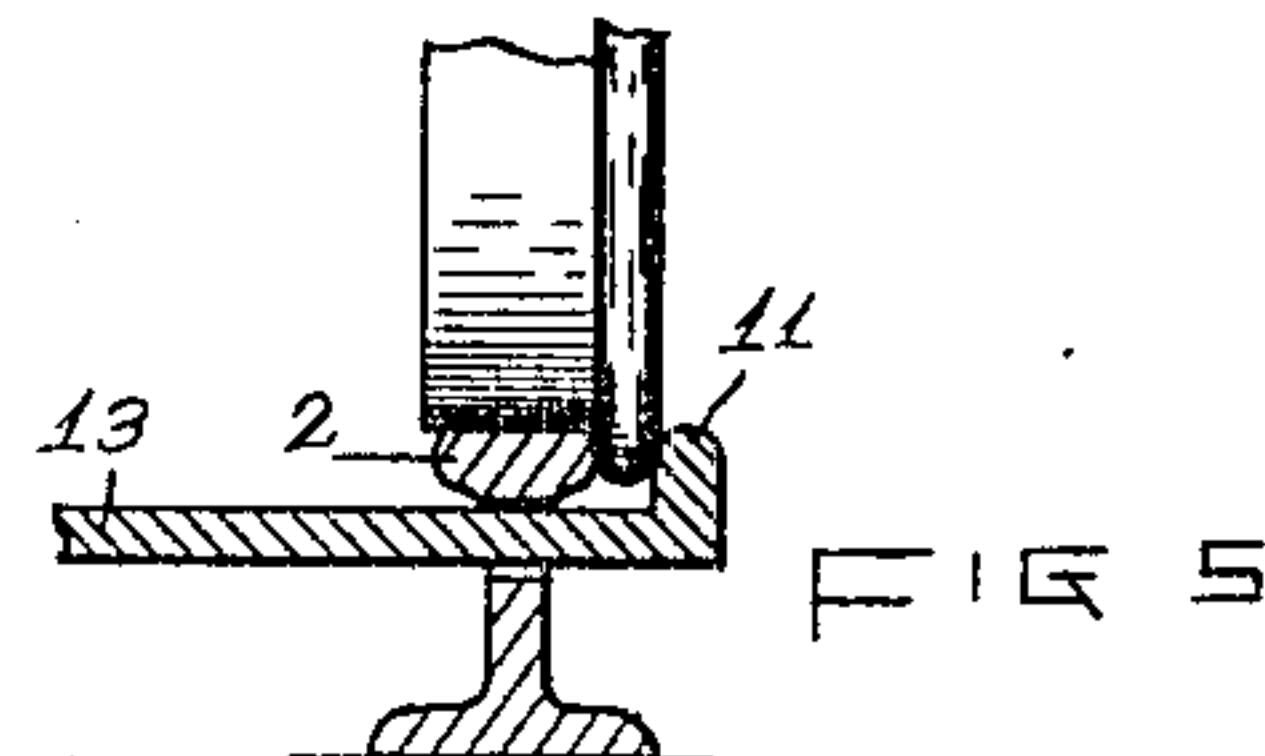
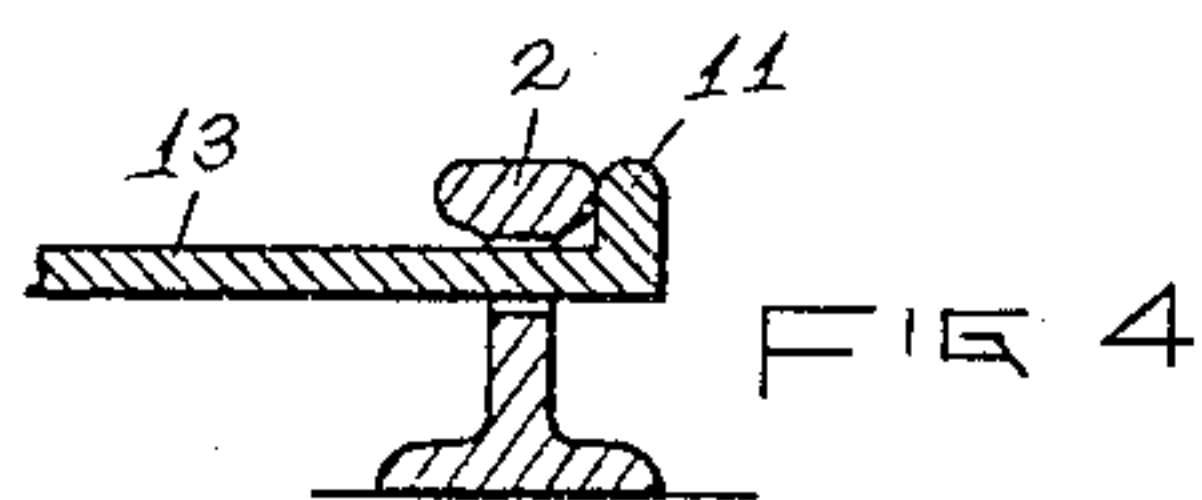
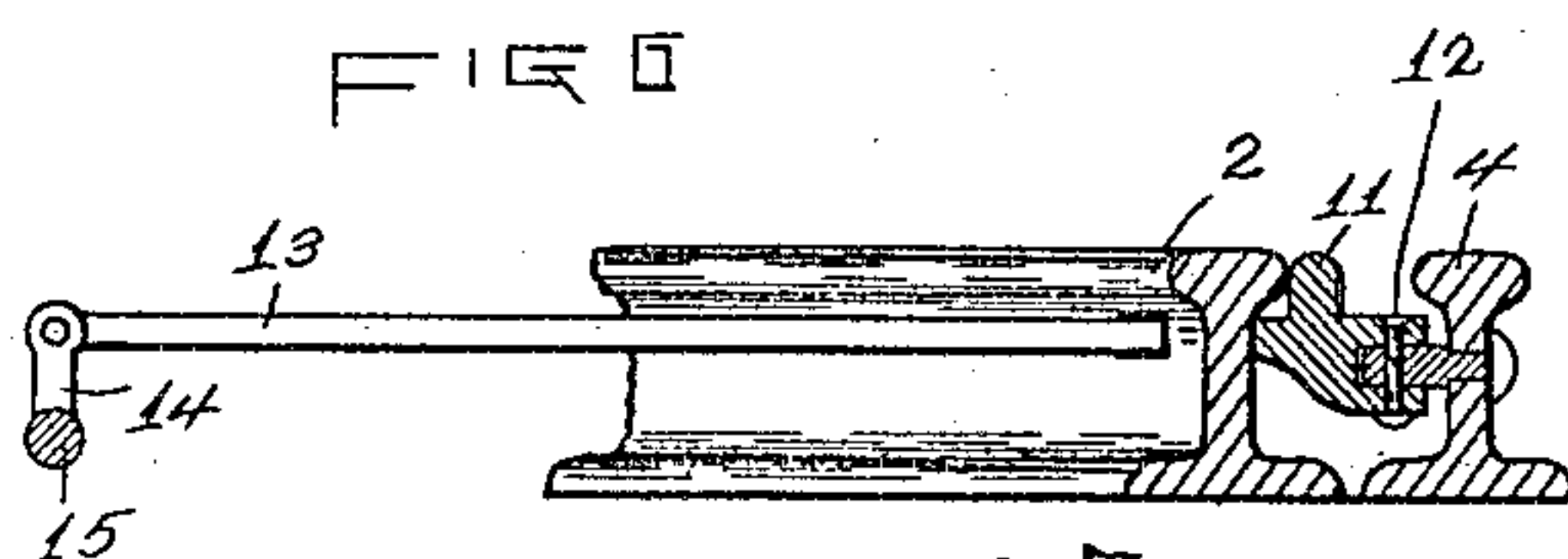
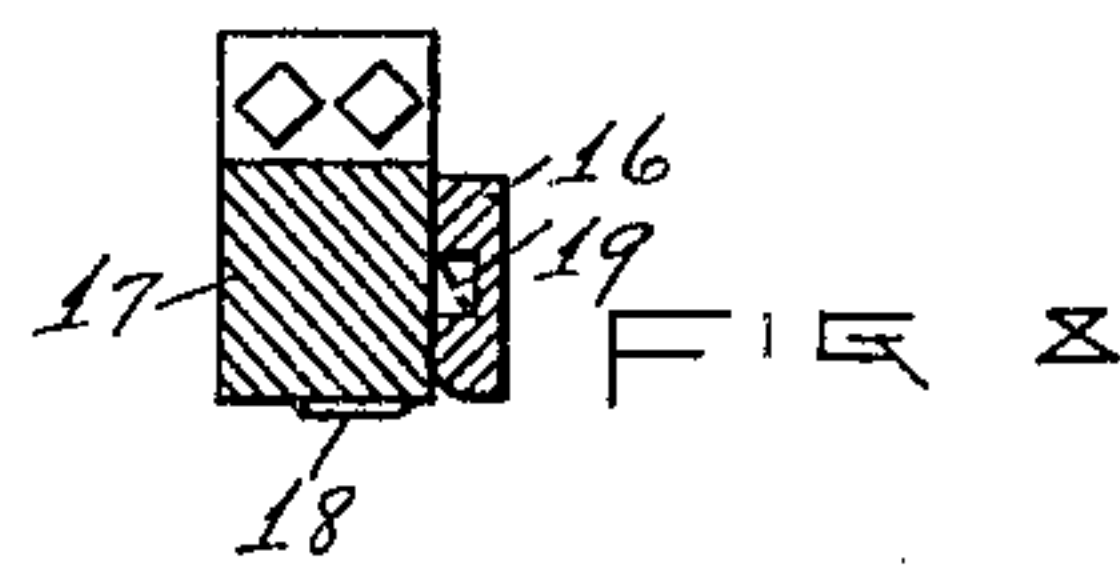
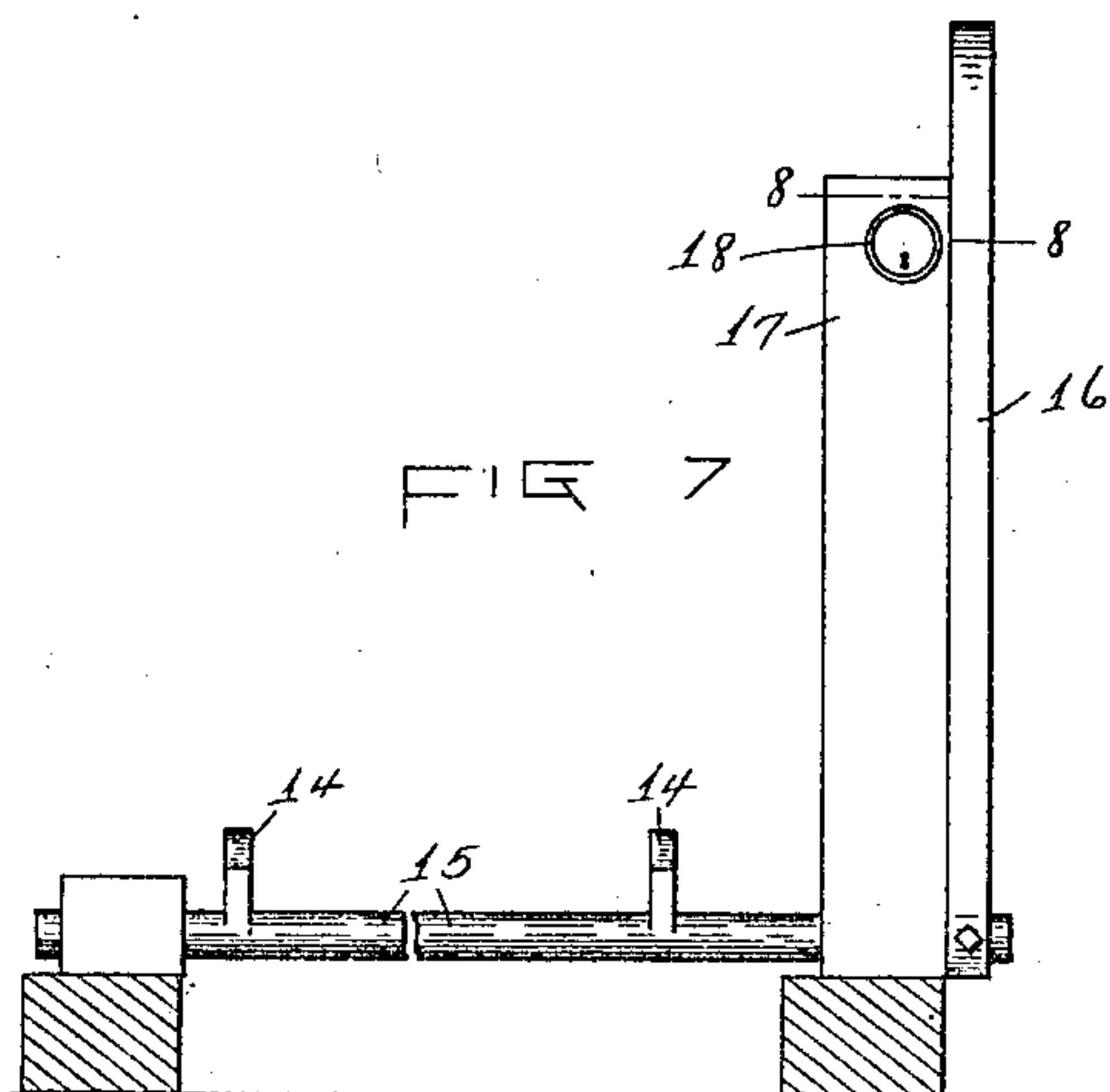
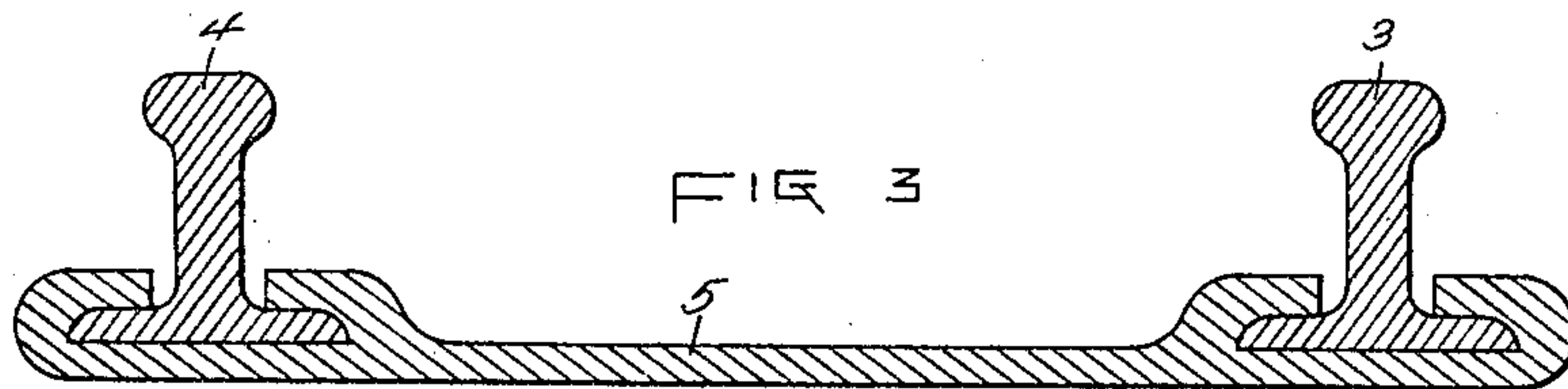
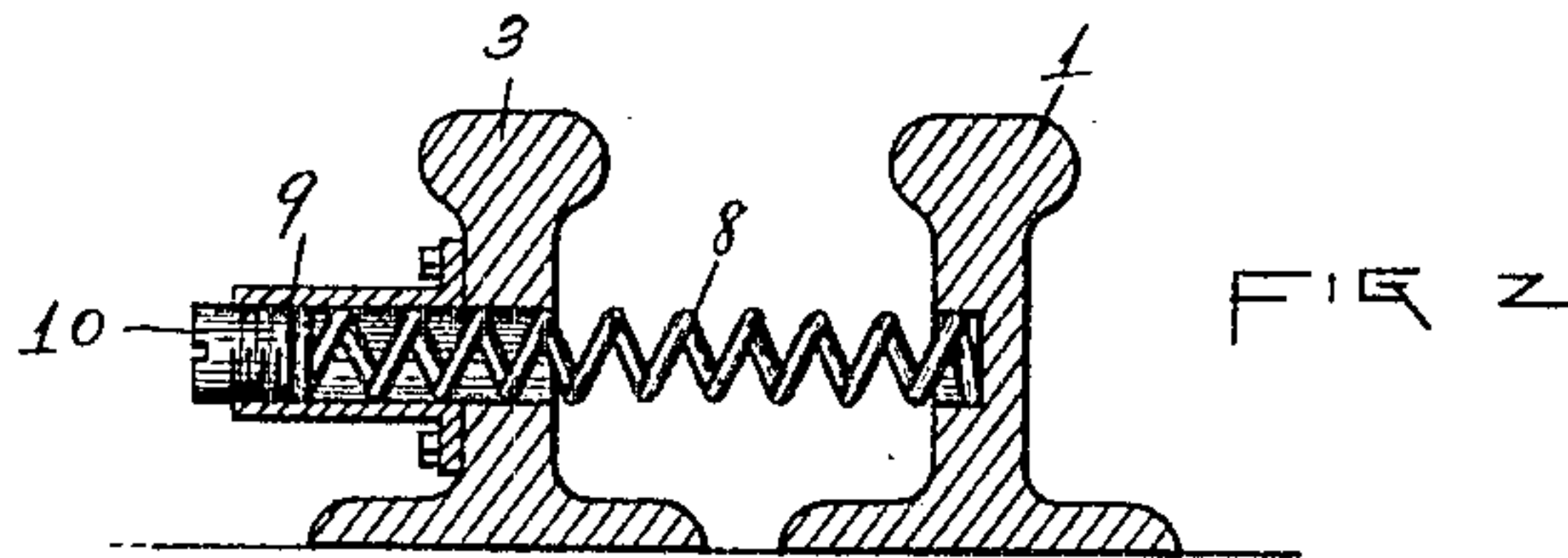
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRED A. HOWARTH, OF JOHNSTOWN, AND JOHN J. McKINLAY, OF AMSTERDAM, NEW YORK, ASSIGNORS OF ONE-FOURTH TO SAID McKINLAY, ONE-FOURTH TO FRANK D. OLIVER, ONE-FOURTH TO LOUIS K. MAYLENDER, AND ONE-FOURTH TO ELLA HOWARTH, OF JOHNSTOWN, NEW YORK.

RAILWAY-SWITCH.

No. 812,205.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed September 7, 1905. Serial No. 277,332.

To all whom it may concern:

Be it known that we, FRED A. HOWARTH, residing at Johnstown, Fulton county, and JOHN J. McKINLAY, residing at Amsterdam, Montgomery county, State of New York, citizens of the United States, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

10 The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

15 Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

20 Figure 1 of the drawings is a top plan view of a section of railway provided with our improved switch. Fig. 2 is a vertical cross-section of the same, taken on the broken line 2 2 in Fig. 1. Fig. 3 is a vertical cross-section of the same, taken on the broken line 3 3 in Fig. 1. Fig. 4 is a vertical cross-section taken on the broken line 4 4 in Fig. 1, showing the switch closed. Fig. 5 is a similar view showing the switch held open by the car-wheel flange. Fig. 6 is a vertical cross-section of the same, taken on the broken line 6 6 in Fig. 1. Fig. 7 is an edge view of the switch-operating lever, showing its supporting-post in side elevation. Fig. 8 is a cross-section taken on the broken line 8 8 in Fig. 7 through the switch-operating lever and its supporting-post just above the spring-lock for the lever.

35 The principal object of the invention is to insure the automatic closing of a switch leading from a main to a side track immediately after the passage of the last truck of the car or train from the main to the side track.

Other objects will appear in connection with the following description:

45 Referring to the drawings, wherein the invention is shown in preferred form, 1 represents the main track, and 2 the side track adapted to be connected with the main track by means of the movable rail-section 3, forming an extension of the side track and connected by yoke-plates 5 with a movable rail-

section 4 of the main track, one end of which is movable out of line with one of the stationary main-track rails simultaneously with the moving of the movable side-track rail-section 3 into engagement with the other main-track rail. The rail-section 3 is pivoted at 6 and the rail-section 4 at 7.

The parts thus far referred to are substantially the same in construction and manner of operation as those of the ordinary split-switch construction.

The rail-sections 3 and 4 being connected together by the yoke-plates 5 are caused to move in unison with each other and are yieldingly held in closed position by a coil-spring 8, interposed between the movable side-track rail-section 3 and the neighboring main-track rail, one end of said spring being inclosed in a box 9, in the outer end of which is inserted a screw 10, bearing upon said spring, whereby the force of the spring can be varied as desired.

Located just inside of and extending parallel with the stationary side-track rail 2 is a switch-operating plate 11, pivotally connected at one end, as at 12, with the movable main-track rail-section 4. The length of this plate 11, which is located as near the junction of the main and side tracks as possible, is greater than the distance between any two neighboring wheels of a car or train of cars, and the plate is connected at widely-separated points by rods 13 with rocker-arms 14, fixed upon a rock-shaft 15, parallel with the side track on the outer side of the same. The rock-shaft 15 is mounted in suitable bearings and is provided with an operating-handle 16. The handle 16 is located in close proximity to a post 17, upon which is fixed an automatic spring-lock 18, the bolt of which is adapted to be automatically forced back by engagement with the handle 16 on its return movement and to enter a recess 19 in said handle upon the completion of its return movement, serving to lock the handle in position to hold the switch closed until the lock is opened by means of a key in the usual manner. Any known form of automatic spring-lock may be employed.

The operation of the apparatus is as follows: When it is desired to transfer a car or

train from the main to the side track, the switchman or operator, having a key to the lock, unlocks the same and by means of the handle 16 throws the switch to open position 5 and holds it open until the first wheel of the car or train has entered between the stationary side-track rail 2 and plate 11, which plate has been by the operation of opening the switch moved a sufficient distance away 10 from the rail 2 to permit the flange of the car-wheel to enter therebetween. As soon as the first wheel of the car or train has entered between the rail 2 and the plate 11 the operator can leave the switch to attend to his other 15 duties and the switch will be held open until the last wheel of the car or train has entirely passed the plate 11, because the length of said plate is greater than the distance between any two neighboring wheels of the car 20 or train, and so long as the flange of a wheel is interposed between the plate 11 and rail 2 the switch cannot be closed. As soon, however, as the last wheel has passed the plate 11 the switch will be automatically closed by 25 the action of the spring 8, and the closing movement of the switch is accompanied by a return movement of the handle 16, which automatically locks the same in closed position, as above described. It is thus unnecessary 30 for the switchman or attendant to remain at the switch until the car or cars have passed or to return to the switch after they have passed, as the closing of the switch is not dependent in any manner upon the attendant 35 or switchman.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a railway-switch having main and side tracks with movable members whereby 40 the switch can be opened, the combination with the movable track members; and spring mechanism for automatically closing the switch; of a switch-operating plate adjacent to the inner side of a stationary side-track 45 rail and of a length greater than the distance between any two neighboring wheels of a car or train; a connection between said plate and a neighboring movable switch member; and means for operating said plate to open the 50 switch.

2. In a railway-switch having main and side tracks with movable members whereby

the switch can be opened, the combination with the movable track members; and spring mechanism for automatically closing the 55 switch; of a switch-operating plate adjacent to the inner side of a stationary side-track rail and of a length greater than the distance between any two neighboring wheels of a car or train; a connection between said plate and 60 a neighboring movable switch member; an operating-handle connected with said plate; and an automatic spring-lock for said handle.

3. In a railway-switch having main and side tracks with movable members whereby 65 the switch can be opened, the combination with the movable track members; and spring mechanism for automatically closing the switch; of a switch-operating plate adjacent to the inner side of a stationary side-track 70 rail and of a length greater than the distance between any two neighboring wheels of a car or train; a connection between said plate and a neighboring movable switch member; a rock-shaft parallel with said plate and side 75 track; a plurality of rocker-arms on said rock-shaft; connections between the respective rocker-arms and said plate; and means for rocking said rock-shaft.

4. In a railway-switch having main and 80 side tracks with movable members whereby the switch can be opened, the combination with the movable track members; and spring mechanism for automatically closing the switch; of a switch-operating plate adjacent 85 to the inner side of a stationary side-track rail and of a length greater than the distance between any two neighboring wheels of a car or train; a connection between said plate and a neighboring movable switch member; a 90 rock-shaft parallel with said plate and side track; a plurality of rocker-arms on said rock-shaft; connections between the respective rocker-arms and said plate; a handle for rocking said shaft; and an automatic spring-lock 95 for said handle.

In testimony whereof we have hereunto set our hands this 16th day of August, 1905.

FRED A. HOWARTH.
JOHN J. McKINLAY.

Witnesses:

F. D. OLIVER,
EDITH MOORE.