(No Model.) 2 Sheets—Sheet 1.

D. E. SHEA.

RAILROAD SWITCH.

No. 395,407. Patented Jan. 1, 1889.

Fig. 1.

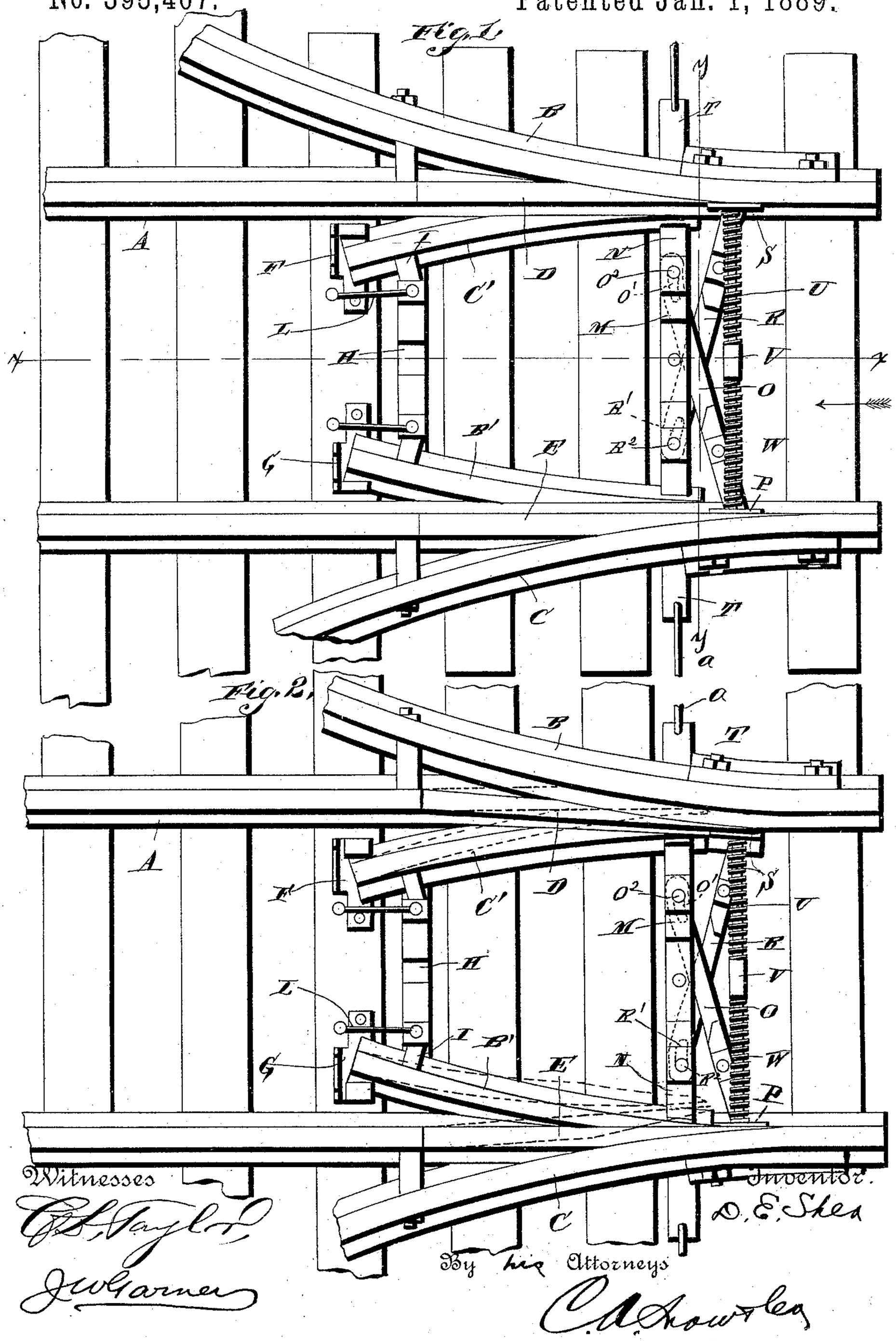

Fig. 2.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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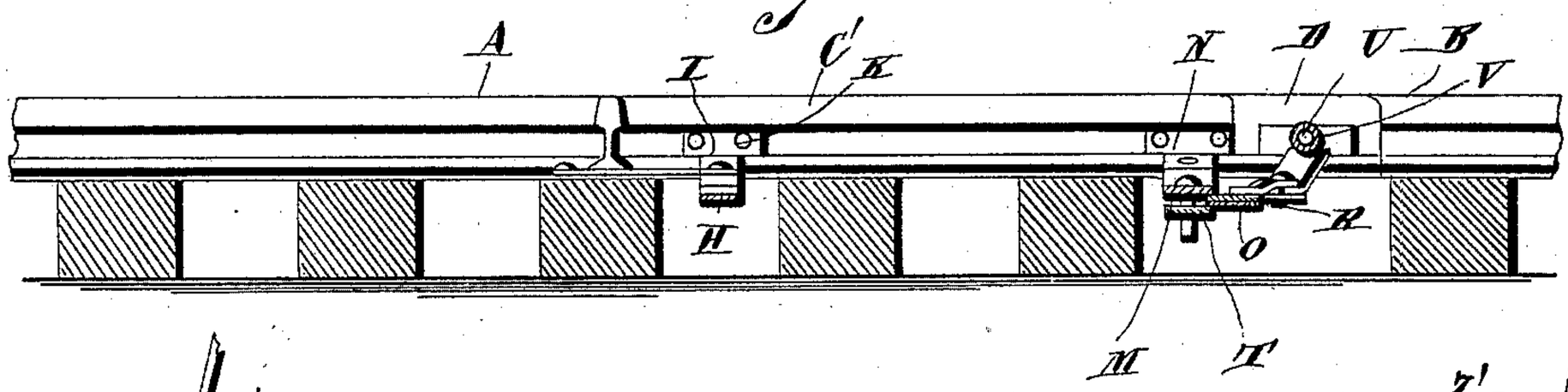
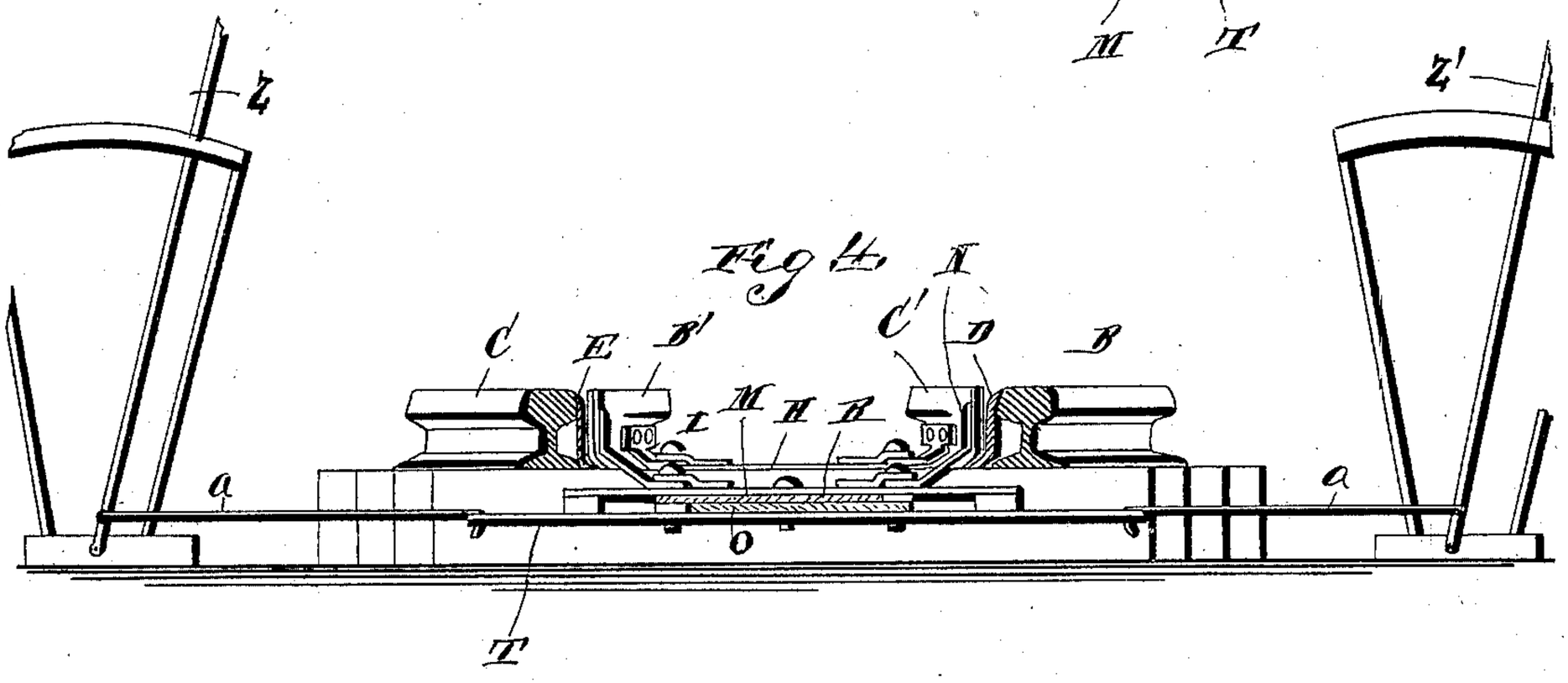
Fig. 3.





Witnesses.
C. L. Taylor
Jos. Schumacher

Inventor,
D. E. Shea
By his Attorneys
C. L. Crowell & Co

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

DANIEL EDWARD SHEA, OF ROCHESTER, NEW YORK.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 395,407, dated January 1, 1889.

Application filed July 14, 1888. Serial No. 279,978. (No model.)

To all whom it may concern:

Be it known that I, DANIEL EDWARD SHEA, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Railroad-Switches, of which the following is a specification.

My invention relates to an improvement in railroad-switches; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of a railway-switch embodying my improvements, showing the same in its normal position with the main track open. Fig. 2 is a similar view of the same, showing the switch set for one of the side tracks and showing in dotted lines the switch set for the opposite side track. Fig. 3 is a vertical longitudinal sectional view taken on the line *x x* of Fig. 1. Fig. 4 is a vertical transverse sectional view taken on the line *y y* of Fig. 1.

A represents the main-track rails. B represents a side-track rail which branches from one side of the main track, and C represents a similar side-track rail which branches from the opposite side of the main track. Arranged in line with the main-track rails are split switch-rails D E, which are of the usual construction and have their free ends cut away on one side and reduced to a point and adapted to bear against the opposing sides of the main-track rails and to normally align therewith. The switch-rail D is adjacent to the side rail B, and the switch-rail E is adjacent to the side rail C.

C′ represents a curved split switch-rail, which extends in the same direction as the rail C, has one end pivoted in a chair, F, which is secured on one of the cross-ties, and has its free end cut away on one side to a point and adapted to bear snugly against the inner side of the switch-rail D.

B′ represents a similar split switch-rail, which extends in the same direction as the rail B, is arranged on the inner side of the switch-rail E, has one end pivoted on a chair, G, on one of the cross-ties, and has its free end cut away on the side to a point to adapt it to bear snugly against the inner side of the switch-rail E.

H represents a cross-bar, which connects the switch-rails B′ and C′ near the pivotal ends thereof. On the upper side of the said cross-bar, near its ends, are pivoted arms I, the outer ends of which are turned upward and caused to bear against the inner sides of the switch-rails B′ and C′ and are rigidly secured to the said switch-rails by a bolt, K.

L represents a pair of stay-rods, which connect the pivotal bolts of the cross-bar H with studs or bolts which are secured in one of the proximate cross-ties, the function of the stay-rods being to prevent the cross-bar H from moving laterally.

M represents a tie-bar, which is arranged transversely under the free ends of the switch-rails B′ and C′, and is provided on its upper side, near its ends, with pivoted arms N, which are similar to the arms I, and are likewise bolted to the switch-rails B′ C′, the tie-bar M thereby serving to connect the free ends of the said switch-rails and cause them to operate in unison.

O represents a tie-bar, which has one end provided with a slot, *o′*, and pivoted to one end of the tie-bar M by a bolt, O^2, which extends through the slot and is normally in the outer end thereof, and the opposite end of bar O is provided with the pivoted arm P, which is bolted to the inner side of the switch-rail E at the free end thereof.

R represents a tie-bar, which has one end provided with a slot, R′, and pivoted to the tie-bar M by a bolt, R^2, which extends through the said slot and is normally in the outer end thereof, and the free end of bar R has a pivoted arm, S, which is bolted to the inner side of the switch-rail D at the free, end thereof. Arranged under the tie-bar M, and secured thereto by the pivotal bolts which serve to connect the pivoted arms N and the tie-bars O R thereto, is an operating-rod, T.

U represents a guide-rod, which has its end secured in transverse openings in the main track, and said guide-rod passes through openings which are made in the switch-rails D E near their free ends. Surrounding the central portion of this guide-rod is a cylindrical hollow collar or sleeve, V, and arranged on the ends of the guide-rod and bearing between the ends of the collar or sleeve and the ends of the switch-rails D E are coiled extensile

springs W, which serve to normally force the said switch-rails into alignment with the main track. On opposite sides of the track are arranged switch stands or targets Z Z′, of the usual construction, the levers of which are connected to the operating-rod T by means of links *a*.

The operation of my invention is as follows: In order to cause the train traveling in the direction indicated by the arrow in Fig. 1 to be switched onto the side track C, the target-lever Z is operated so as to cause the tie-bar T to be drawn endwise, and thereby cause the switch-rail C′ to close against the switch-rail D and the switch-rail E to open from the main-track rail, as shown in dotted lines in Fig. 2. In order to cause the train going in the same direction to be switched onto the side track B, the target-lever Z′ is operated so as to cause the switch-rail D to open from the main-track rail and the switch-rail B′ to close against the switch-rail E, as illustrated in solid lines in Fig. 2.

Having thus described my invention, I claim—

1. The combination of the main track having the switch-rails D E, the side tracks branching in opposite directions from the main track, having the switch-rails C′ B′ on the inner sides of rails D E, respectively, the tie-bar connecting the free ends of the switch-rails C′ B′, and the tie-bars R O, connecting the free ends of the switch-rails D E, respectively, to the switch-rails B′ C′, whereby the switch-rails B′ C′ will operate in unison together with one of the switch-rails D E, substantially as described.

2. The combination of the main switch-rails, the side-track switch-rails on the inner sides thereof, the tie-bar connecting the free ends of the side-track switch-rails to cause the same to move in unison, the tie-bars connecting said tie-bar to the main-track switch-rails, and the springs normally to close the main-track switch-rails, substantially as described.

3. The combination of the side-track switch-rails having their free ends connected and thereby adapted to move in unison, the main-track switch-rails connected loosely with the side-track switch-rails and independently of each other, the guide-bar passing through the free ends of the main-track switch-rails, and the springs on said bar bearing against the inner sides of said switch-rails, for the purpose set forth, substantially as described.

4. The combination of the side-track switch-rails, the tie-bar M, connecting the free ends thereof, the main-track switch-rails, the tie-bars R O, loosely and independently connecting the free ends thereof to the tie-bar M, and the operating-rod attached to the tie-bars M R O, and the operating-levers connected to the said rod, substantially as described.

5. The combination of the main track having the switch-rails D E, the side tracks branching from opposite sides of the main track, having the switch-rails B′ C′, the tie-bar M, the arms N, secured to the free ends of the side-track switch-rails and pivoted to the bar M, the tie-bars R O, loosely connected to the tie-bar M, the arm P, secured to switch-rail E and pivoted to the tie-bar O, and the arm S, secured to switch-rail D and pivoted to tie-bar R, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DANIEL EDWARD SHEA.

Witnesses:

his
JAMES D. × CONEY,
mark

A. S. CLACKNER.