(No Model.)

# F. W. SNOW.

## RAILWAY SWITCH.

No. 327,115. Patented Sept. 29, 1885.

Fig. 1.

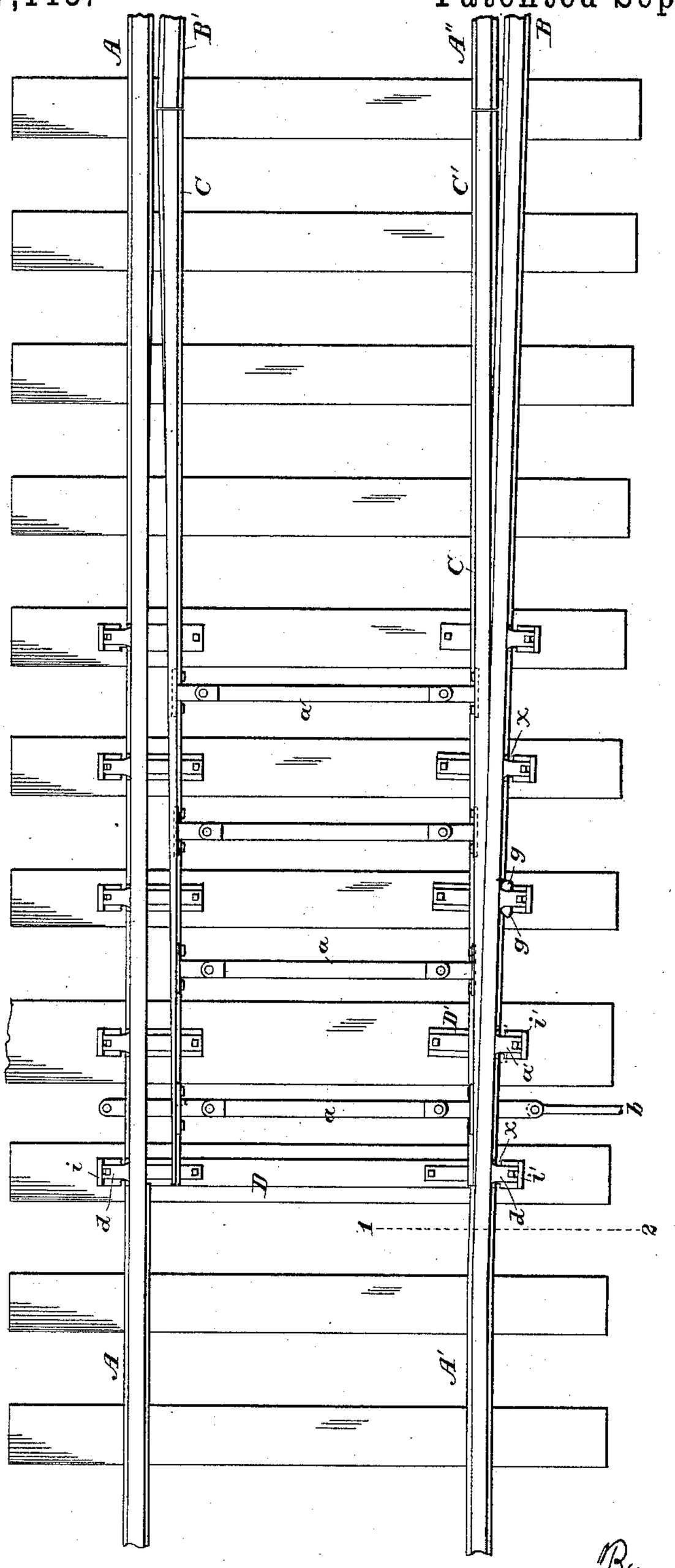
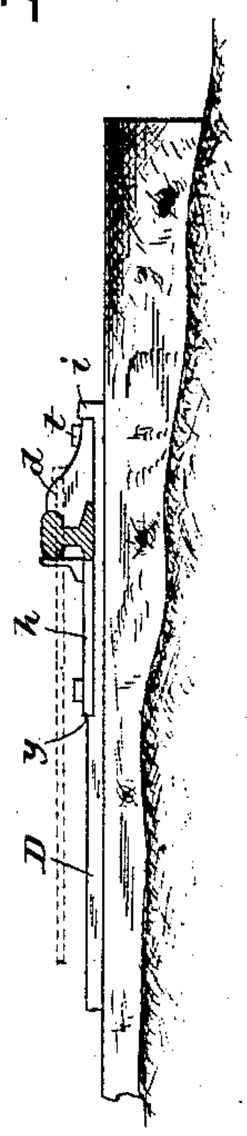



Fig. 2.

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# UNITED STATES PATENT OFFICE.

FRED W. SNOW, OF HILBURN, NEW YORK.

## RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 327,115, dated September 29, 1885.

Application filed December 2, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, FRED W. SNOW, a citizen of the United States, residing at Hilburn, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to that class of railway-switches in which the switch-rails move to and from the main rails under the action of ordinary operating devices; and my invention consists of means, fully set forth hereinafter, whereby to prevent the spreading or tilting of the main rails, without the knowledge of the switchman, by the jamming of objects between the switch-rails and the main rails when the switch is moved.

In the accompanying drawings, Figure 1 is a plan view showing sufficient of a railway track and switch to illustrate my invention. Fig. 2 is a cross-section on the line 1 2, Fig. 1.

A A″ A′ are rails of the main track, the latter merging into the inner rail, B, of the branch track, the opposite rail, B′, of the branch track terminating inside the rail A at a point opposite the end of the rail A″.

One of the switch-rails, C, extends from the end of the rail B′, and the other switch-rail, C′ extends from the end of the rail A″, and connecting bars or rods *a* extend between the switch-rails, which are so arranged that when the rail C is against the rail A the cars will be deflected onto the branch track, and when the rail C′ is against the rail A′, the cars will travel upon the main track.

The switch-rod *b* is connected to the end of one of the bars, *a*, as usual, so that the adjustment of the switch arm or lever will serve to set the switch-rails in the ordinary manner.

In split switches as ordinarily constructed the main rails are bolted, spiked, or otherwise attached to the sleepers in such manner that should a stone or other obstruction be placed between the switch-rail and the main rail the latter will be forced outward when the switch is shifted, either springing between the securing-spikes or displacing the latter to a slight extent, or being tilted by the pressure, this yielding of the main rail and spreading of the track in many cases not being perceptible to the switchman, and sometimes causing serious accidents. To prevent such injurious results I so connect the main rails adjacent to the switch that they cannot be spread apart by any action of the switch-operating devices, so that any obstacle between the switch-rails and the main rails will prevent the throw of the switch to its full extent, and thereby render the presence of such obstacle apparent to the switchman.

In carrying out my invention it is necessary not only to prevent the spreading apart of the main rails, but also to render it impossible for either rail to be tilted, so as to carry the tread or head away from the opposite rail. I therefore place an unyielding block or abutment outside of each main rail and connect the blocks immovably together. Thus I extend a slide-plate, D, beneath the main rails along the sleeper, which is below the points of the switch-rails, and I securely fasten to the ends of such plate, outside of the main rails, blocks *d*, the inner edges of which conform to and bear against the sides of the main rails, and constitute abutments which effectually prevent the tilting of either rail, while the rigid connection of the blocks by means of the slide-plate prevents their separation, so that the main rails are rigidly maintained in their relative positions.

While the blocks *d* may be bolted, forged, or otherwise secured to the slide-plate, I prefer to connect them by turning up the ends of the plate to form lips *i*, which prevent the displacement of the blocks, which are held in position by bolts *t*, or by the more common method of spiking, the bolts or spikes being therefore relieved of the strains and serving merely as connecting means.

Instead of extending the slide-plate beneath the rails, the latter may be slotted or perforated for the passage of a flat or round bar, which extends through the rails and through the abutment-blocks at a point so near to the ends of the switch-rails, as shown in dotted lines, Fig. 2, that the main rails cannot be spread apart by the pressure of the switch-rails against any object between them and the main rails.

Supplemental slide-plates D′ extend be-

neath the rails A B′, and the switch-rails are turned up at the ends to form lips *i′*, for the purpose of retaining supplemental abutment-blocks *a′*, which are slotted and secured by bolts, and all the slide-plates D D′ are provided with side notches, *x*, to receive spikes *g*, which serve to confine the slide-plates to the sleeper and also to prevent lateral movement of the abutment-blocks.

To afford a proper bearing for the switch-rails each slide-plate D D′ may be provided with a bearing-plate, *h*, which is bolted to the face of the slide-plate in such position as to constitute a bearing for the switch-rail. The slide-plate is preferably recessed to form a shoulder, *y*, between which and the side of the main rail the bearing-plate *h* may be inserted, as shown in Fig. 2, so as to aid in retaining the main rail in position.

I am aware of patents No. 234,436 and 202,286, and do not claim anything shown therein.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination, with the main and switch rails, of a slide-plate extending below both the main rails and provided with terminal lips and side notches, and abutment-blocks bearing against the lips and against the sides of the main rails and secured to the slide-plate, substantially as specified.

2. The combination, with the slide-plates having shoulders *y*, of bearing-plates *h*, arranged between said shoulders and the main rails, for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRED W. SNOW.

Witnesses:
A. W. WRIGHT,
R. J. DAVIDSON.