

(No Model.)

2 Sheets—Sheet 1.

R. ROWE.
RAILWAY SWITCH.

No. 365,704.

Patented June 28, 1887.

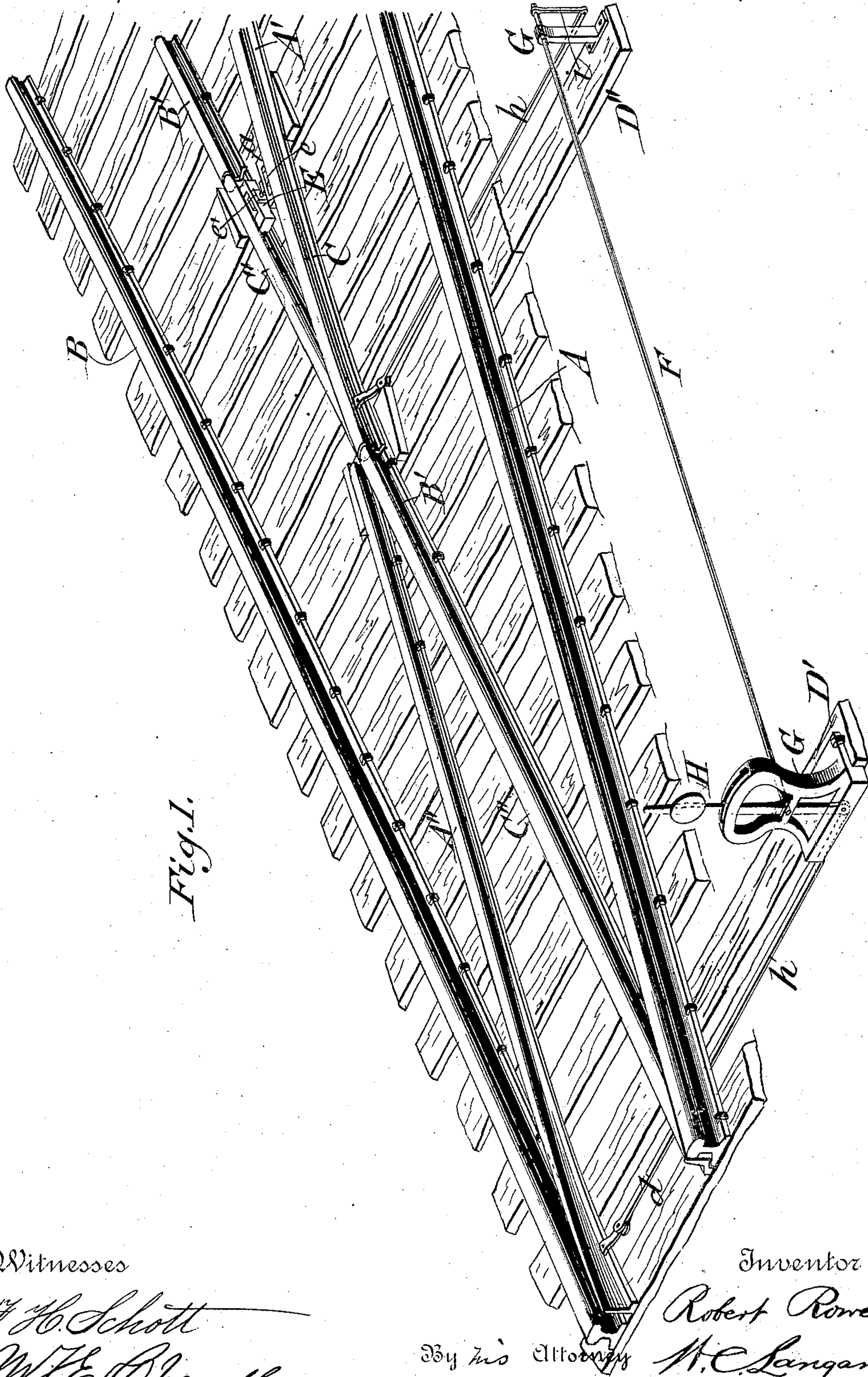


Fig. 1.

Witnesses

J. H. Schott
W. E. Chandler

Inventor

Robert Rowe
H. C. Langan

By his Attorney

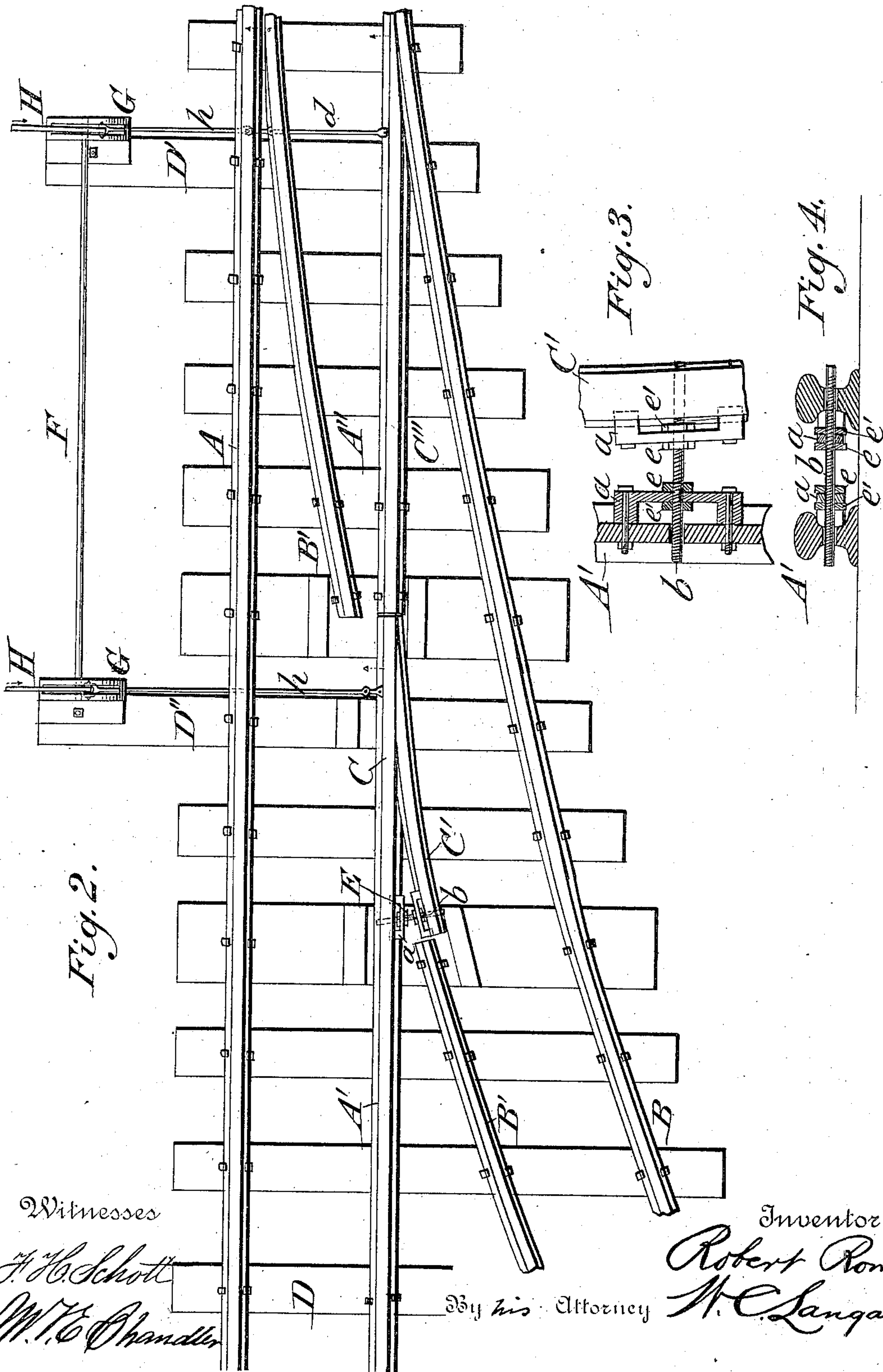
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UNITED STATES PATENT OFFICE.

ROBERT ROWE, OF MADISONVILLE, KENTUCKY.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 365,704, dated June 28, 1887.

Application filed April 29, 1887. Serial No. 236,565. (No model.)

To all whom it may concern:

Be it known that I, ROBERT ROWE, a citizen of the United States, residing at Madisonville, in the county of Hopkins and State of Kentucky, have invented certain new and useful Improvements in Railway-Switches; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that class of railway-switches especially designed to dispense with the frog ordinarily used, and which are commonly known as "frogless switches," the special object being to construct a switch which shall be cheap, easily put down, and may be readily adapted to curves of different radius.

Heretofore these switches have been constructed by providing the shifting-rail in the main line with a hinge section, by the shifting of which connection was made with the siding or branch track. In this improved switch, however, the point of the shifting-rail in the main line is simply the end of an ordinary rail secured to the ties for a portion of its length, and the diagonal part which connects this rail with the rails of the siding is solidly welded thereto and made adjustable at its rear end by means of a suitable adjusting device, in such a manner that the angle between the shifting-rail and the diagonal arm may be increased or diminished to suit the curve upon which the switch is made. The shifting-rails of the siding or branch track are also secured at one end to the ties, their free ends being connected to a suitable shifting device, by which they may be forced into the desired position with relation to the main track, and the same shifting devices changing the position with relation to the main shifting-rail simultaneously, so that all the movable parts of the switch move in unison.

The invention therefore consists in the construction and arrangement of the shifting-rails in such a manner that they may be made to connect with the main line or with the siding,

as may be desirable, without the use of the ordinary frog, and, further, in the adjustable arm to the main shifting-rail and the devices for producing such adjustment, all as hereinafter fully described.

In the accompanying drawings, Figure 1 is a perspective view of a portion of main line and siding, including the switch, with the switch open to the siding. Fig. 2 is a plan view showing the parts in the position they occupy when the main line is left unobstructed. Figs. 3 and 4 are sections of the adjusting device used to regulate the distance between the extremity of the arm of the shifting-rail and the rail itself.

In these several figures A represents the outer rail of the main line; A', the inner rail of the same.

B is the outer rail of the siding, and B' the inner rail.

C is the shifting-rail in the main line, which may be a part of one of the main rails A', fastened securely to the ties D for a portion of its length, but leaving a sufficient length free from the fastenings to allow it to spring sufficiently when acted upon by the switch-lever to throw its free end from alignment with the main rail A' to the siding-rail B'. Firmly welded to the extremity of the free end of this rail C and forming an acute angle therewith is an extension-piece, C', the rear end of which piece is placed at such a distance from the rail C that when the switch is shifted to allow a car to go upon the siding the short section of rail C' shall be in line with the rail B' of said siding. As the angle between the short section C' and the shifting-rail C increases or diminishes in proportion to the curve upon which the switch is laid, and as it is necessary to support the free end of this short section C', I place between the main shifting-rail C and the end of the short section the adjusting device E. This device consists of two short bars, a a, which are bolted at each end, respectively, to the rail C and section C', an opening being provided in the middle of each bar and through the rail opposite said opening for the passage of the screw-threaded bolt b, upon which are placed the adjusting-nuts e and e', the nuts e being placed upon the bolts b between the bars a a, and the nuts e' in a recess, a', formed

in said bars *a*. It will therefore be apparent that by turning the nuts *e* and *e'* upon the screw-bolt *b* the diverging extremity of the short section of rail *C'* may be caused to approach or be forced farther from the rail *C*, as may be desired, and that when placed in the proper position to suit the curve of the switch it may be firmly secured in such position by setting the nuts *e e'* up firmly against the opposite sides of the bars *a a*. The shifting-rails *A''* and *C''*, which connect the ends of the siding or branch track with the main line, are secured to the ties for a part of their length in the same manner as the ordinary rails, their free ends being connected to each other by a tie-bar, *d*, so that they move together, and when in one position will leave the main line unobstructed, but when shifted to another will connect said line with the siding or branch track.

In order to operate this switch, a rock-shaft, *F*, is placed in journal-boxes in the standards *G*, secured upon the ends of the ties *D'* and *D''*. To one end of this shaft is attached the upright hand-lever or target *H*, and to the rock-shaft are securely fixed short arms *i i*, extending downward from the shaft, and to which are attached the rods *h h'*, the first of these, the rod *h*, being attached to the shifting-rail *C* near its free end, and the other, the rod *h'*, to the shifting ends of the rails *A''* and *C''* at the point where the side track departs from the main line.

It will be seen that any movement of the hand-lever *H* will operate both the rods *h h'* simultaneously, which rods carry with them the shifting-rails and change the switch.

I am aware that it is not broadly new to construct and operate switches without frogs; but most of those heretofore constructed were provided with an elevation in one rail or in the guard-rail, by which the wheels were carried over the crossings of the rails, which elevation produces a jolt to the passing train that compels a very low speed in passing them.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:

1. As an improvement in railway-switches, the main shifting-rail having a diagonal and adjustable branch secured thereto for connection with the rails of a side track, in combination with an adjusting device placed between said branch and the main rail, as set forth.

2. In a railway-switch, the shifting-rail *C*, with its adjustable branch *C'*, in combination with the rails *A'' C''* and the mechanism for adjusting all the said rails simultaneously, substantially as specified.

3. In a railway-switch, the combination of the blocks *a a*, bolted to the rail *C* and its diagonal branch *C'*, the screw *b*, and nuts *e e'*, arranged, substantially as shown and described, to adjust the angle of said branch to the main rail, as and for the purpose set forth.

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

ROBERT ROWE.

Witnesses:

SAM D. LANGLEY,
JOHN T. ADAMS.