(No Model.)

J. F. PENROD.

RAILROAD SWITCH.

No. 353,708. Patented Dec. 7, 1886.

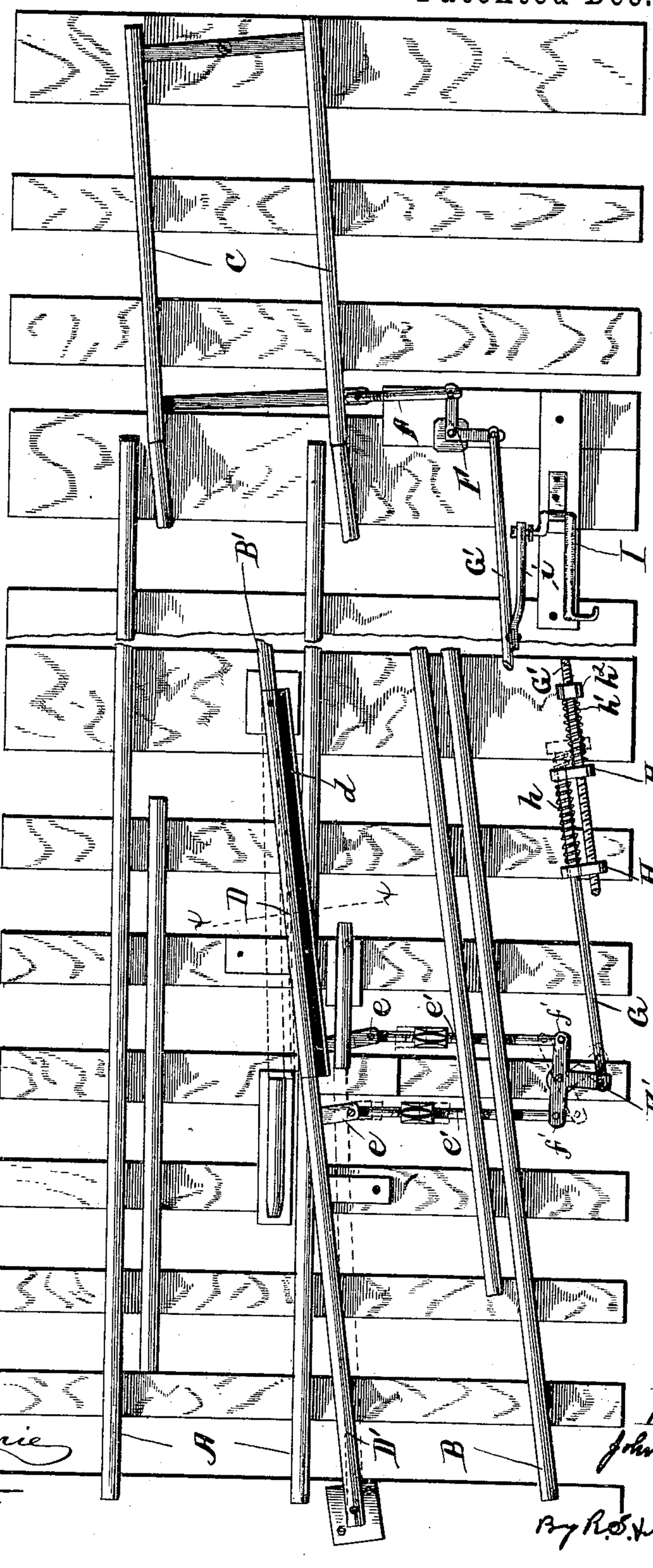

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN F. PENROD, OF BLAIRSVILLE INTERSECTION, PENNSYLVANIA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 353,708, dated December 7, 1886.

Application filed August 5, 1886. Serial No. 210,121. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. PENROD, a citizen of the United States, residing at Blairsville Intersection, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches, (Frog;) 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 railroad switches or frogs, and has for its object to improve the construction of the same and preserve a continuous rail on the main line when the siding or branch track is so that the cars may pass therefrom onto the siding while the engine remains on the main track, or vice versa, as when "roping" the cars.

This improvement relates particularly to that class of tracks in which the rail of the siding intersected by the main track is halved at its ends, so as to overlap the main rail, and has a portion on each side of the point of intersection pivoted and movable to and from the main rail by a system of levers.

The improvement consists in widening and channeling the pivoted portions or frog rail or rails, so as to provide a bearing for the side of the wheel, and a track or way for the flange, and in the peculiar construction of the connecting-rods, whereby, in case the siding be left open, an engine passing on the main track will push the frog-rails apart by the flange of the wheels wedging between the side of one of said frog-rails and the side of the main rail, thus freeing the main track and preventing derailment of the cars.

The invention further consists in details of construction, more particularly hereinafter set forth and claimed, and shown in the annexed drawings, in which—

Figure 1 is a plan view, parts broken away, and Fig. 2 is a sectional view of the widened and channeled switch-rail on the line *x x* of Fig. 1.

The main track A and siding B are adapted to register with and be made or broken by the switch-section C. The intersected rail B′ of the siding has the portions D D′ on each side of the main rail pivoted and their proximate ends halved on opposite sides, so as to overlap the rail in the usual manner. One of these portions or frog-rails, D, is widened and provided with the channel *d*. The widened portion may be an integral portion or not, as found most convenient and economical, combined with strength.

While I have shown and described only one switch-rail as being widened and channeled, manifestly the other switch-rail may be similarly constructed without departing from the spirit of my invention.

A T-lever, F′, pivoted to one of the ties opposite the proximate ends of the switch-rails, has its arms *f′* connected with the ends of the rails by the projections *e* and adjacent rods *e′*. A bell-crank lever, F, located on the same side as the T-lever and opposite the switch-section C, is connected therewith by the rod *f*. The rods attached to the free arms of the two levers E and F are united by yokes H, adjustably secured upon the ends of the rods, which extend past one another. One rod passes loosely through the yoke secured to the end of the other rod, as shown, and coil-spring *h*, surrounding one of the rods G, and located between the two yokes, forces them apart, and a second coil-spring, *h′*, located on one of the rods, preferably the other rod, G′, is confined between the yoke and a nut, h^2, by which the tension of the spring is regulated. By this construction a yielding joint is formed between the two rods, which will permit the frog-rails giving, if perchance they should be left open for the siding when a car is passing over the main track, as will be readily understood from the foregoing.

The switch rails and section are operated by a crank-lever, I, connected with the rod G′ by the link *i*. The crank-lever is weighted and so disposed that it swings from side to side, or through an arc of one hundred and eighty degrees. At the end of each movement the section and rails are in their relative adjusted positions, and will be held in such position till changed by reversing the lever, excepting the frog-rails, which will give under the conditions previously set forth.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the main track, the siding, and the rails constructed to overlap the main rail at their proximate ends, and having one of such rails widened and channeled, the T-lever connected with the frog-rails, and the two-part operating-rod connected by a yielding joint, substantially as and for the purpose set forth.

2. The combination of the main track, the siding, the frog-rails, the T-lever connected with the frog-rails, the two-part operating-rod, the yokes secured to the ends of the two rods, and having said ends passed loosely through the opposite yokes, and the coil-springs, one located on one rod between the yokes, and the other spring mounted on the other rod between the yoke and a nut, substantially as shown.

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

JOHN F. PENROD.

Witnesses:
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