

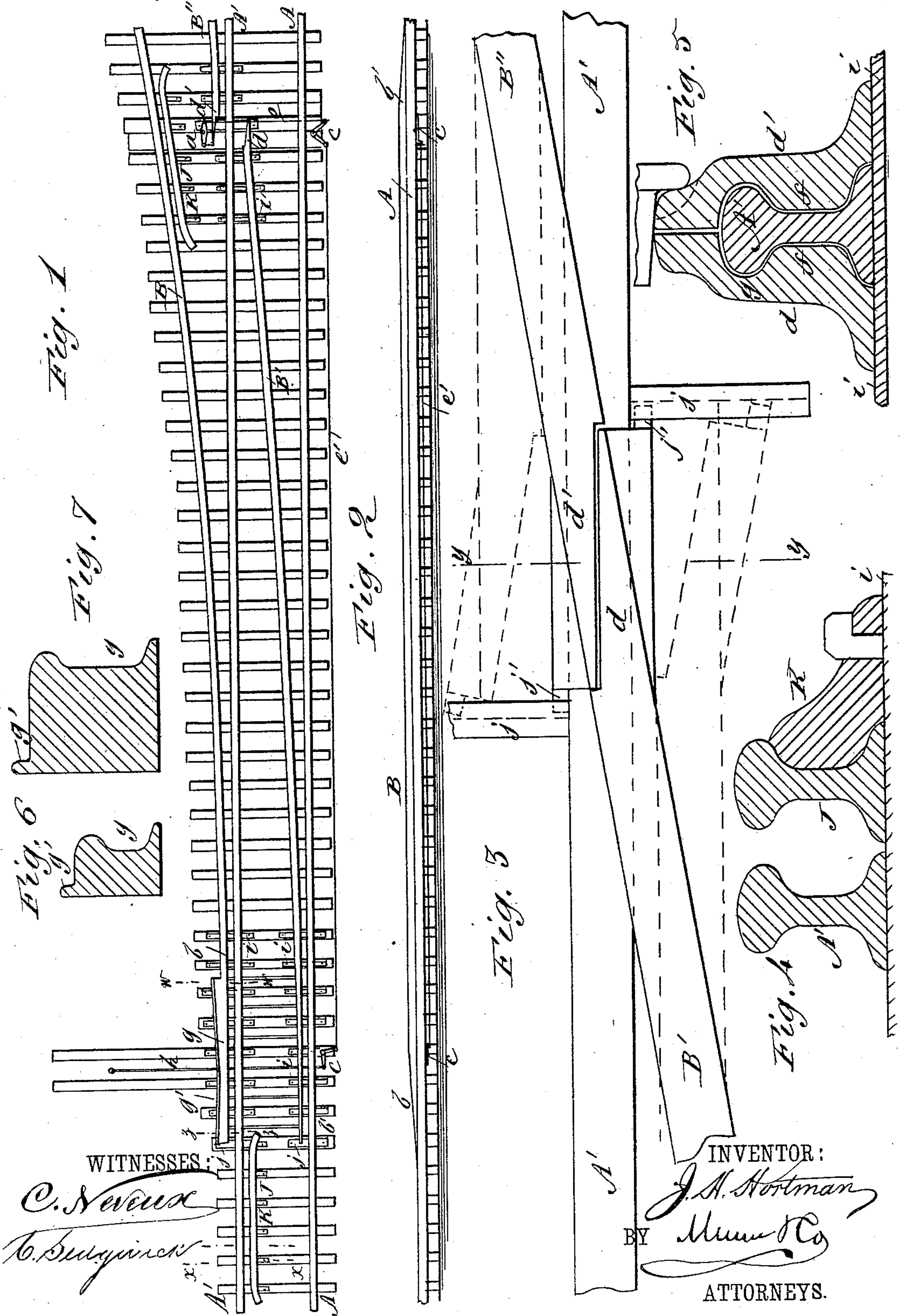
(No Model.)

J. H. HORTMAN.

RAILROAD SWITCH.

No. 257,008.

Patented Apr. 25, 1882.



UNITED STATES PATENT OFFICE.

JOHN H. HORTMAN, OF HOPEWELL, NEW JERSEY.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 257,008, dated April 25, 1882.

Application filed January 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HORTMAN, of Hopewell, in the county of Mercer and State of New Jersey, have invented a new and useful Improvement in Railroad-Switches, of which the following is a full, clear, and exact description.

The object of my invention is the production of a railroad-switch which will be entirely independent of the main track.

The invention consists in a novel construction and arrangement of parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a main track and switch, the switch being open for the main line. Fig. 2 is a side elevation of the main track and switch. Fig. 3 is a plan view, showing the inside or crossing switch-rails closed to the main line. Fig. 4 is a cross-sectional elevation taken on the line *xx* of Fig. 1. Fig. 5 is a similar view taken on the line *yy* of Fig. 3. Fig. 6 is a sectional elevation taken on the line *zz*, and Fig. 7 a similar view on the line *ww* of Fig. 1.

A A' represent the rails of the main track, and B B' B'' represent the rails of the switch. The switch-rails are made higher than the main rails, as shown in Figs. 2, 3, and 5, and the ends *b b'* of the switch-rails are tapered to a wedge-shaped edge or point, and are gradually inclined from the extreme ends (which ends are the same height as the main rails) to the main part or height of the switch-rails, as shown in Fig. 2, and these ends are so formed and arranged that when the switch is open for the siding that portion of the rails which is inclined fits in the concave of and is parallel with the main rails, so that the wheels of the cars in passing upon the switch-rails will be fully elevated, so that the flanges of the wheels will clear the main rails before the wheels are turned away from the main rails by the switch-rails.

The ends *d d'* of the rails B' B'' are of equal height, as shown in Fig. 5, and are diagonally scarfed to fit each other, so that when the switch is open to the siding they will form the continuous tread or rail above the main rail,

as will be clearly understood from Fig. 3 of the drawings. These ends *d d'* in cross-section are of the form shown in Fig. 5, made with the swells or enlargements *ff*, which fit in the concaved sides of the main track, and which give strength to the ends, and with the recesses *g g*, which inclose the tread of the main rail, so as to reach over and come together above the tread of the main rail, as above stated. The thickness of that portion of the said ends above the rails is greater than the depth of the flanges of the wheels of the cars, so that in crossing the flanges will clear the rail of the main track, as indicated in Fig. 5. The ends *d d'* and *b b'* are moved simultaneously for opening and closing the switch by means of the lever *a*, bell-crank levers *c c*, and the connecting-rods *e, e'*, and *h*, the latter connecting with the main switch-lever. (Not shown.)

At the ends of the switch-rails the ties are provided with the plates *i*, as shown, upon which the said rails rest, and upon which they are adapted to move. These plates are let into the ties and reach under the rails of the main track, so that the switch-rails will come properly against the main rails when they are moved to close the switch to the main line.

At that part of the track where the wheels pass over the main rail I shall use the guard-rails J J, which will be braced and supported by the brace-blocks K, as shown in Fig. 4, so that they will resist the force of the cars and tend to move them to that side of the track in proper position for passing upon the switch and over the rails of the main track.

The ends *d d'* and *b b'* of the switch-rails move under suitable guides, as shown at *j j*, Fig. 3, placed upon the plates *i* or upon the ties, so that they will always close properly upon the main rails and will be held from vertical displacement, the ends of the rails being provided with the projections or tongues *j' j'*, which pass under the guides, as shown.

It will be understood that the switch-rails may, if desired, be reduced in height to the height of the ordinary rail in all parts, except near the main rails; or the said switch-rails may be made the same height throughout, if desired.

By this construction it will be seen that the main track, when the switch is set to open the

main track, is entirely uninterrupted by the switch, and the switch presents no obstacles of danger and nothing to impede the speed of trains while passing the switch, as is the case with switches of ordinary construction.

The necessary movement of the ends of the switch-rails for opening and closing the switch in the construction shown in the drawings is accommodated by the natural spring of the rails; but it is obvious that the said rails may be jointed for this purpose.

It will be observed that the rail B' has equal movement at both ends in opposite directions, so that when this rail is of ordinary length it has simply to be swung or moved upon the ties for opening and closing the switch.

The end *b* of the switch-rail B is formed with the side extension, *g*, which is narrow at the end of the rail, but grows gradually wider and higher toward the rear or heel of the extension. Upon the outer edges of this extension is formed the upwardly-projecting flange *g'*, as shown in Figs. 6 and 7. This flange serves as a guide-flange to the wheels of the cars and causes the wheels, as the cars approach the main track from the siding, to be shifted over toward the main track, so that the flanges of the wheels, when the wheels leave the switch-rails, will certainly come inside of the main rails, so that there will be no danger of the cars leaving the track.

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

1. In a railway-switch, the rails B' B'', having their ends diagonally scarfed and provided with the swells or enlargements *f* to fit the sides

of one of the main rails, and with recesses *g* for inclosing the tread of the same, substantially as and for the purpose set forth.

2. In a railway-switch, the rails B' B'', having their ends diagonally scarfed and of a thickness equal to the depth of the flanges of the wheels of the car, and provided with the swells or enlargements *f* to fit the sides of one of the main rails, and with recesses *g* for inclosing the tread of the same, substantially as and for the purpose set forth.

3. In a railway-switch, the combination, with the main rail A' and the guides *j*, of the rails B' B'', having the diagonally-scarfed ends *d d'*, and provided with the swells or enlargements *f*, the recesses *g*, and the projections *j*, substantially as and for the purpose set forth.

4. In a railway-switch, the switch-rail B, provided with the tapering side extension, *g*, having the upwardly-projecting flange *g'*, substantially as and for the purpose set forth.

5. In a railway-switch, the rail B, provided with the tapering side extension, *g*, having upwardly-projecting flange *g'*, and the rails B' B'', having the diagonally-scarfed ends *d d'*, and provided with the swells or enlargements *f* and the recesses *g*, the rail B' having tapering and inclined ends *b*, in combination with rails of the main track and the means for operating the said switch-rails, substantially as and for the purpose set forth.

JOHN H. HORTMAN.

Witnesses:

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JAMES R. VOORHEES.