

(No Model.)

F. S. WOOD.
RAILROAD SWITCH.

No. 323,481.

Patented Aug. 4, 1885.

Fig. 1.

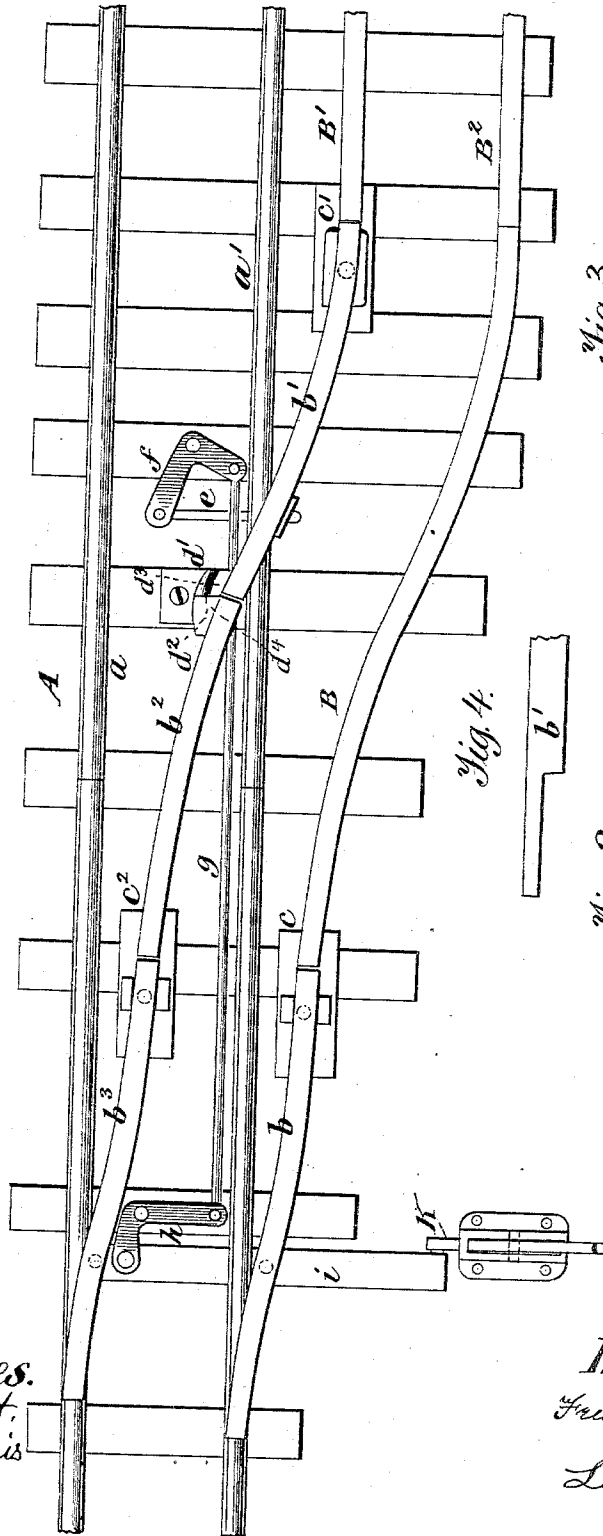


Fig. 3.

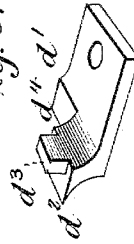
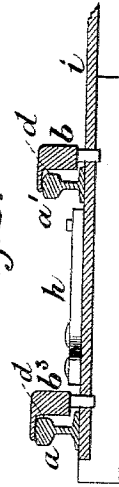


Fig. 4.



Fig. 2.



Witnesses.
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FREDERICK S. WOOD, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO THE NOVELTY TOOL COMPANY, (LIMITED,) OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 323,481, dated August 4, 1885.

Application filed April 11, 1885. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK S. WOOD, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches, of which the following is a full, clear, and exact description.

The objects of my invention are, first, to preserve an unbroken line of rails upon the main track; second, to provide means whereby, in case the switchman shall have left the switch on after the passage of a train upon the siding, the train passing along the main track in the opposite direction will throw off the switch, and thereby obtain a clear track.

The invention consists in the hereinafter-described means for attaining said objects.

In the drawings, Figure 1 represents a plan view of my invention, showing the switch in position for a train to pass onto the side track; Fig. 2, a like view, with the switch open; Fig. 3, a detail view of the connecting-rods, cranks, and levers connecting the movable sections of the switch-rails; and Fig. 4 a detail view of a chair to limit the motion of one of the movable rail-sections.

Similar letters of reference indicate corresponding parts throughout the different views.

A represents the main track, whose rails a a' (the latter the one nearest the siding) form unbroken lines. B is the siding, whose rails B B' (the former next to the main track) are divided into a number of movable and immovable sections, the movable sections connected together and swiveled in the manner about to be described. The fixed portion of the rail B' is curved in the ordinary manner to within a short distance of the rail a' , where its free extremity rests upon one end of a swivel-block, c , secured in any suitable manner to the ties. In juxtaposition to said free extremity is the movable section b . Said movable section is swiveled at one extremity to the block c , and has the inner under portion of its free extremity reduced at d , so that said extremity, when the switch is on, will rest upon the top of rail a' . The main part of rail B' has its extremity resting upon a swivel-block, c' , the latter se-

cured to the ties. Swiveled to said block is one extremity of a movable section, b' , whose free end is reduced in a diagonal line upon its under side, so that it may rest upon and pass beyond the top of rail a' . Beyond rail a' , and affixed to one of the ties, is a chair, d' , one part, d^1 , of which is raised sufficiently to support the reduced extremity of the section b' . Said part d' is also provided with an upwardly-extending flange, d^2 , to limit the movement of the section b' . The other part of said chair is upon a lower level, d^3 , and upon it rests one end of a fixed section, b^2 . The difference in height between the two parts of the chair is equal to the reduction made in the thickness of the rail b' .

The object of the chair is to afford a firm foundation to the meeting ends of rails b' b^2 and insure their alignment. The section b^2 extends to within a short distance of the rail a , where its extremity rests upon a swivel-block, c' . Juxtaposed to said extremity and swiveled to said block is one end of the movable section b^3 . The free extremity of said section is reduced upon its outer under side, so as to rest upon the top of rail a when the switch is on.

Attached to the movable section b' , near its free extremity is a connecting-rod, e , whose other extremity, is secured to one arm of a bell-crank lever, f . Said lever may be pivoted or fulcrumed upon one of the ties. A connecting-rod, g , has one extremity secured to the free arm of lever f , and the other, in like manner, fastened to one arm of a second bell-crank lever, h . The free arm of lever h is pivoted to the switch-bar i . The movable extremity of each of the sections b b^3 is provided with a downwardly-extending pin, which fits into an orifice in the switch-bar i . Said bar is connected in the ordinary manner with a common switch-lever, k . It will be seen that by this construction the movable sections will all be coupled together and must move in unison, so that when the extremity of one section rests upon the top of one of the rails of the main track the extremities of the other two sections must, in like manner, rest upon the tops of their appropriate rails; and, in like manner,

when the extremity of one of the sections is off its proper main rail, the other two must also be off.

The operation of the invention is as follows:

- 5 When it is desired to run a train upon the side track, the switchman throws lever *k* in the direction of the track and, through the medium of the switch-bar *i*, thrusts the extremities of the sections *b b*³ upon the track-rails *a a*¹. At the same time the bell-crank
10 levers and the connecting-rods draw the extremity of the section *b'* over the top of rail *a'* upon the chair *d*, where movement of section *b'* is stopped by the flange upon the chair.
- 15 The train then passes onto the siding. If, now, for any reason, the switch is left on, the front wheel of the locomotive of the train passing in the opposite direction along the main track will strike against the extremity of section *b'*
20 and push it off the top of rail *a'*. The movable sections *b b*³, being coupled together and connected with section *b'*, will be simultaneously forced off the tops of rails *a a*¹, and the track thus cleared for the passage of the train.
- 25 It will thus be seen that whether the switchman be derelict in his duty or whether the

train passing upon the main track fails to give him time to throw the switch off, still no harm to the train can accrue. It will be further seen that the rails of the main track are preserved
30 in their integrity, no frogs and duplicated rails being required. By this construction a very material saving in cost is attained over the ordinary switch.

Having thus described my invention, what I
35 claim is—

1. A railroad-chair, *d'*, constructed with the body or main part *b*⁴, the part *d*² rising therefrom, and the vertical flange *d*³, to adapt it to
40 be used, as described.

2. The combination of the chair *d'*, made
45 fast to sleeper, the fixed rail section *b*², end supporter on said chair, and the end pivoted rail-section *b'*, cut away under its free end, whereby the overlapping end of said rail-section *b'* will abut against the flange *d*³ of the chair, in the manner and for the purpose set forth.

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