

(No Model.)

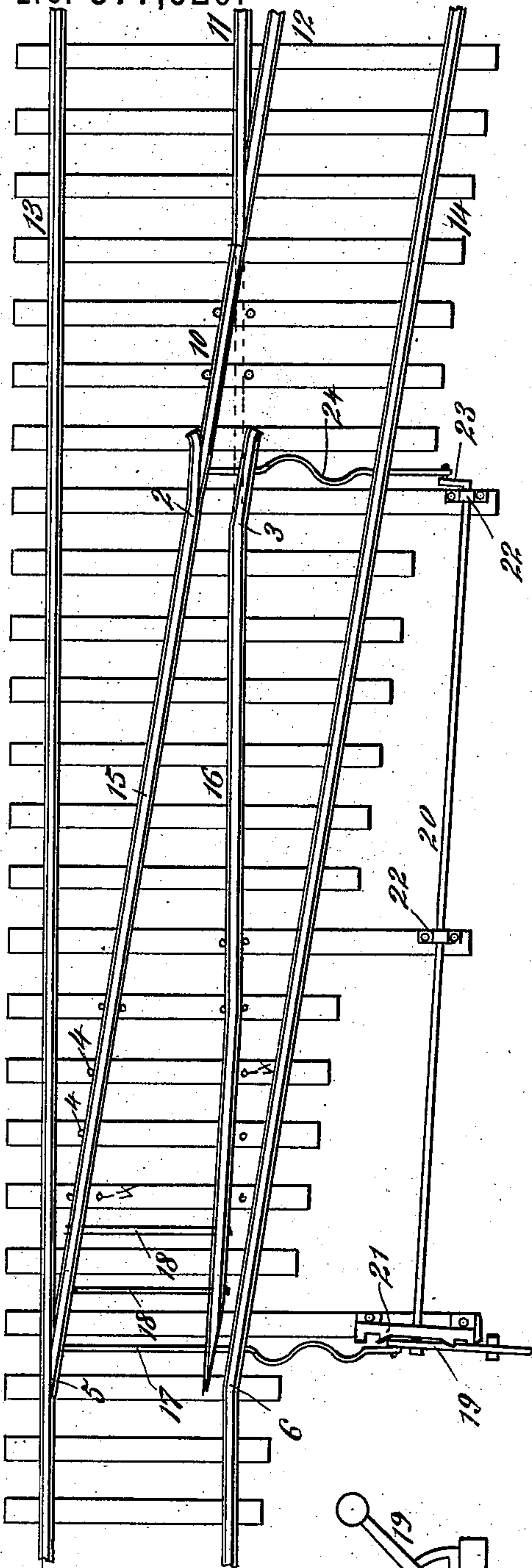
F. NEMACHECK.

FROGLESS SWITCH.

No. 377,529.

Patented Feb. 7, 1888.

Fig. 1.



WITNESSES:

Donn Twitchell
Bedgwick

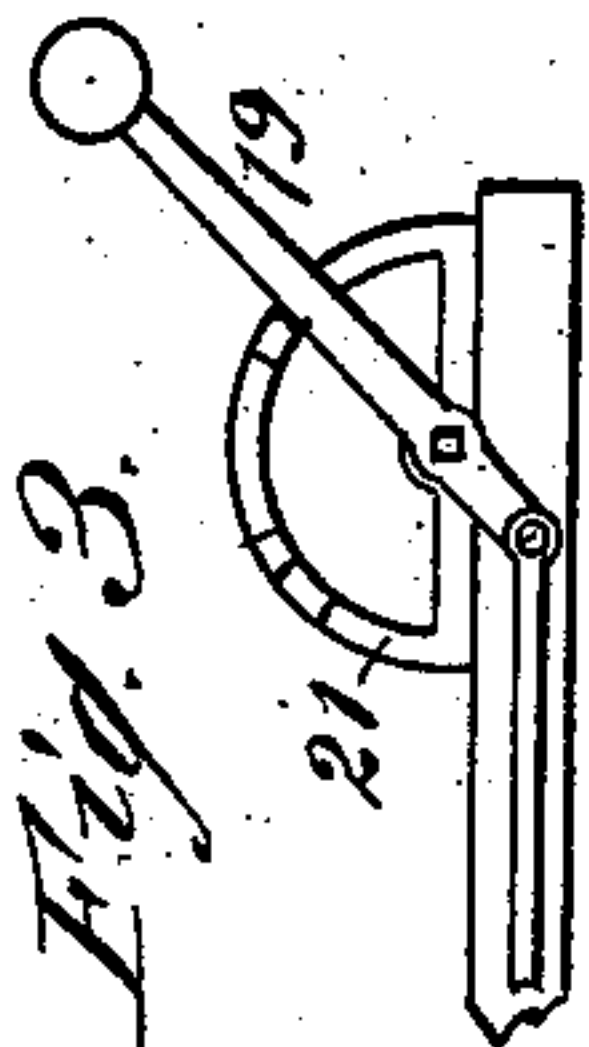
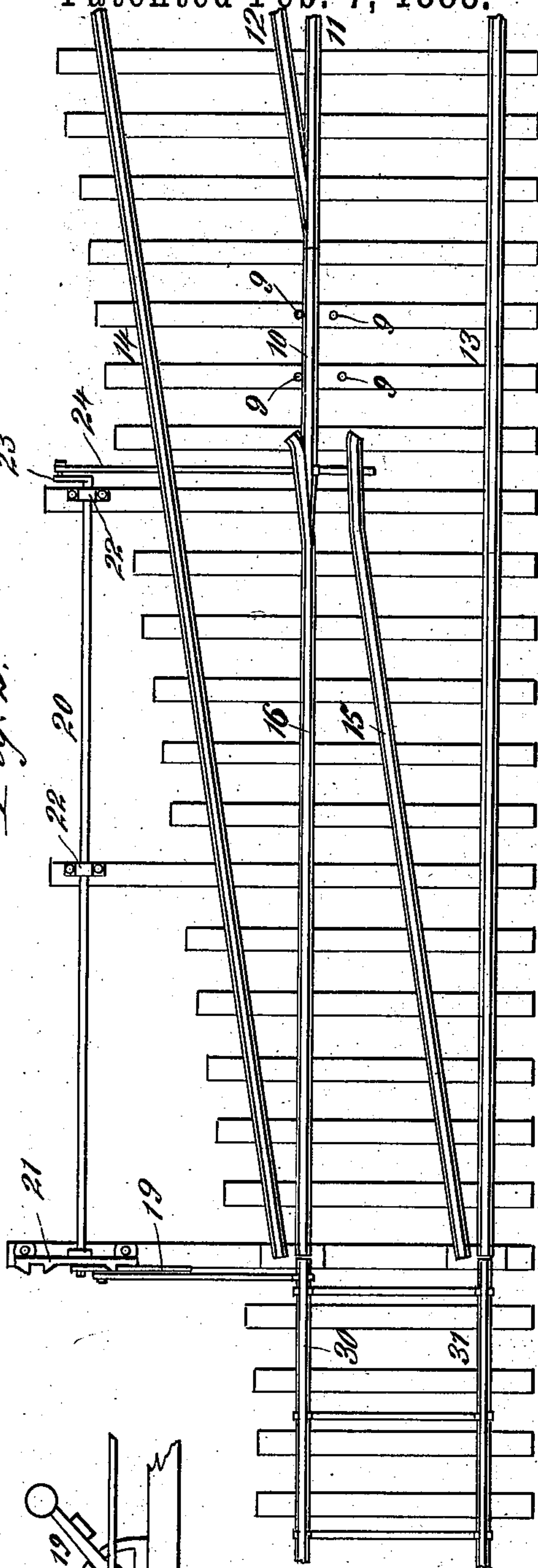


Fig. 2.



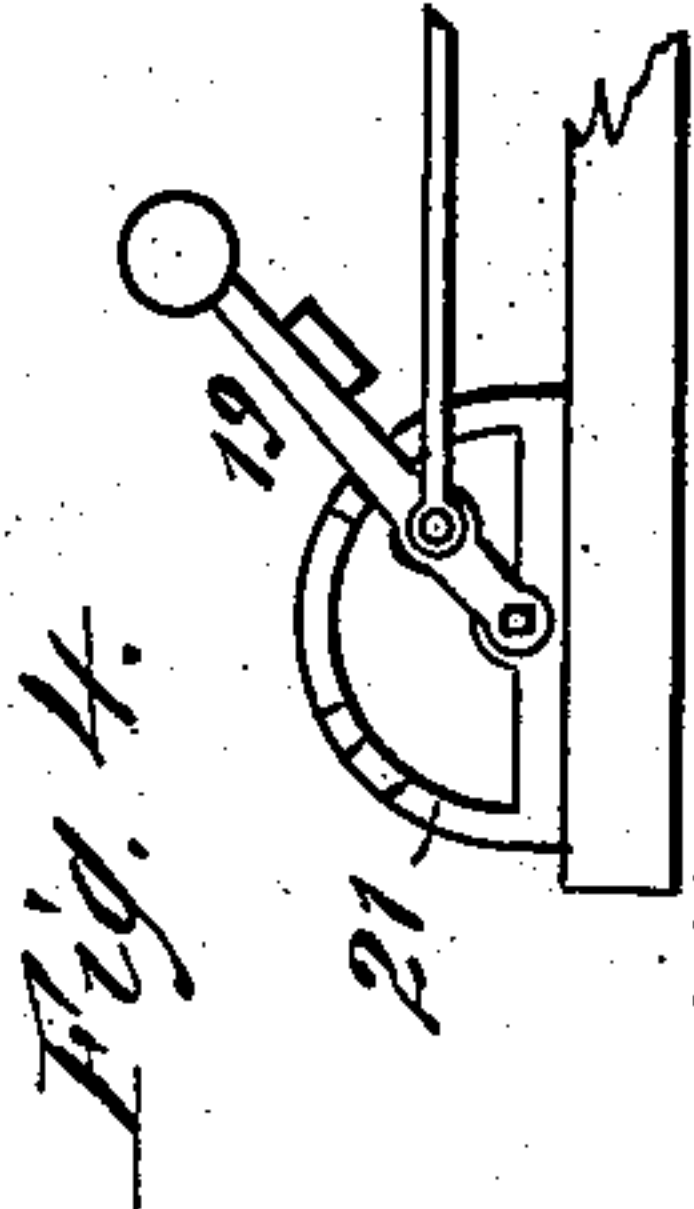
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UNITED STATES PATENT OFFICE.

FRANK. NEMACHECK, OF APPLETON, ASSIGNOR OF ONE-HALF TO FRED C. PESLIN, OF VAN DYNE, WISCONSIN.

FROGLESS SWITCH.

SPECIFICATION forming part of Letters Patent No. 377,529, dated February 7, 1888.

Application filed April 8, 1887. Serial No. 234,146. (No model.)

To all whom it may concern:

Be it known that I, FRANK. NEMACHECK, of Appleton, in the county of Outagamie and State of Wisconsin, have invented a new and Improved Frogless Switch, of which the following is a full, clear, and exact description.

This invention relates to railway-switches, the object of the invention being to dispense with the use of the ordinary form of frog.

The invention consists of the combination of parts, including their construction, substantially as will be hereinafter more fully explained, and specifically pointed out in the claim.

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

Figure 1 is a plan view of my improved form of switch, representing the same as arranged for use in connection with what is technically known as a "split" switch, the parts in this case being represented as they appear when the switching-rails are moved to a position to open the way to the side track. Fig. 2 is a plan view of my improved form of switch, representing the parts as arranged for use in connection with what is known as a "stub" switch, the switching-rails in this case being set to open the main line for travel. Fig. 3 is a view of the switch-stand employed in connection with the construction illustrated in Fig. 1, and Fig. 4 is a view of the stand as arranged for use in connection with the construction illustrated in Fig. 2.

In constructing such a switch as the one illustrated in the drawings above referred to, I provide an auxiliary switching-rail, 10, that is arranged so that it will abut against the ends of the rails 11 and 12, the rail 10 being held to the rails 11 and 12 by side straps. The rails 11 and 12 form portions of the main and side tracks, the outer rail of the main track being shown at 13, while the outer rail of the side track is shown at 14.

In a line that is in advance of and parallel with the line of the rail 12, I mount a cross-rail, 15, the end of which is bent at the point 2, so as to extend in a line about parallel with the rail 13, and in a line that is in advance of

and parallel with that occupied by the rail 11, I mount a rail, 16, which constitutes a portion of the main-line track, the end of this rail 16 being bent at 3, so as to extend in a line about parallel with the main portion of the rail 15 and the rail 12. The bent ends of the rails 15 and 16 are securely spiked to the cross-ties, and the other ends of said rails are mounted to slide between limit-spikes 4, that are driven into the cross-ties, the rails themselves being connected by cross-rods 18. The point of the rail 15 is beveled off, as shown at 5, in order that it may fit against the rail 13, while the point of the rail 16 is beveled off so that it may be drawn against the rail 14, which rail 14 is bent at the point, against which the point of the rail 16 strikes, this bend being shown at 6.

The rails 15 and 16 are connected with a switching-lever, 19, by a rod, 17, in which there is formed an S-curve, and this lever is carried by a horizontal rod, 20, which is mounted in bearings formed in the switch-stand 21, the connection between the lever 19 and the rod 20 being a rigid connection, so that as the lever 19 is thrown the rod 20 will be turned. This rod 20 is mounted in proper bearings, 22, and carries upon its end a crank-arm, 23, that is connected to the rail 10 by means of a connecting-rod, 24, having an S-shaped curve, the arrangement being such that when the upper end of the lever 19 is thrown toward the track the rails 15 and 16 will be drawn to a position to open the main-line track, and the rail 10 will also be moved to a position against the bent end of the rail 16, so as to clear the way for the passage of the trains up the main track. If trains are passing down the main track when the parts are in the position in which they are shown in Fig. 1, the flanges of the wheels striking against the rails 10, 15, and 16 will throw said rails to a position so that the train may pass over the switch in safety, the S-shaped curves in the rods 17 and 24 permitting this movement.

When it is desired that the train should be run upon a siding, the upper end of the lever 19 is thrown from the track, the point of the rail 15 is thrown against the rail 13, and the point of the rail 10 will be carried by the same movement against the bent end of the rail 15.

In Fig. 2 the construction is the same as that illustrated in Fig. 1, except that the rails 15 and 16 are spiked to place throughout their end, the switching-rails in this case being 5 shown at 30 and 31, and being connected in the usual well-known manner. In this case, however, the rod leading to the switching-lever 19 is connected to the lever above its fulcrum, this being necessary in order to impart a re- 10 verse throw to the switching-rail 10, as will be readily understood.

In order that the rail 10 may be held in alignment and prevented from spreading, I arrange limit spikes or stops 9, as illustrated.

15 In practice I prefer to weight the lever 19, so that it will be held to place without locking.

It is to be understood that the S-shaped portions of the rods 17 and 24 constitute springs of sufficient strength to hold the rails normally

to place and to insure their operation by the 20 switch-lever.

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

The railway-switch consisting of the com- 25 bination, with the main-line track or rails, the intermediate main-line rail-section, and the intermediate siding rail-section, of the auxiliary rail connecting with either of said intermediate rail-sections, the operating-lever connected 30 to a rod, and the S-shaped crank-connections connected to the said intermediate rail-sections, substantially as and for the purpose set forth.

FRANK. NEMACHECK.

Witnesses:

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WM. E. HOEHLE.