

(No Model.)

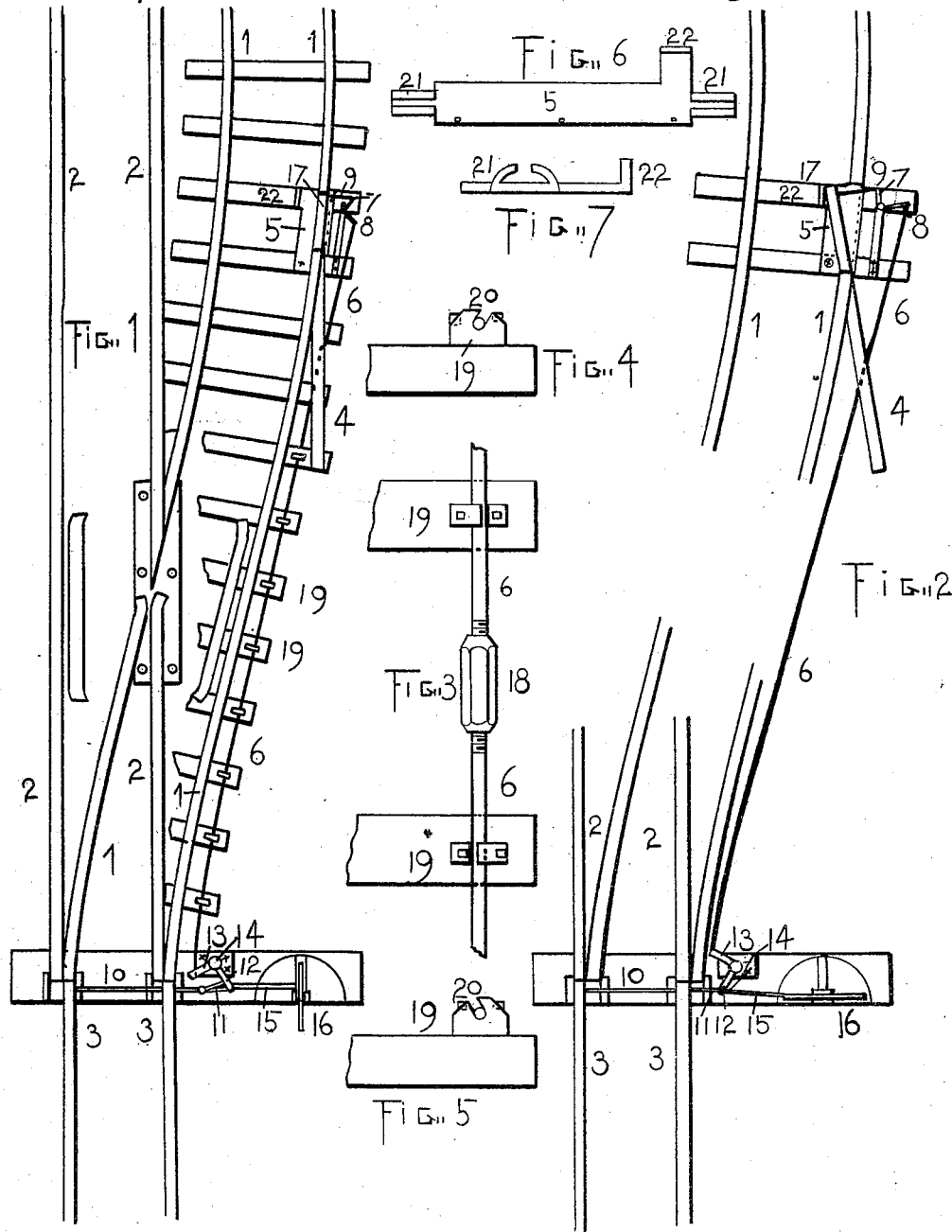
2 Sheets—Sheet 1.

A. G. DAILEY.

CUT-OUT SWITCH.

No. 347,576.

Patented Aug. 17, 1886



WITNESSES

Samuel Campbell

Summer Collins

INVENTOR

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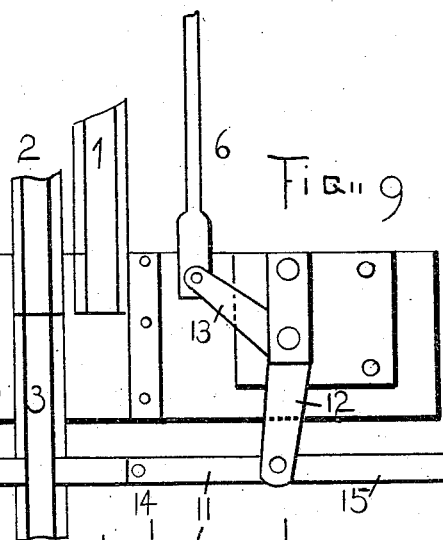
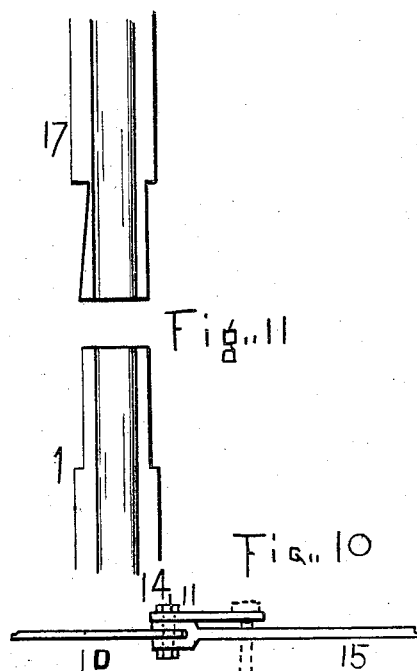
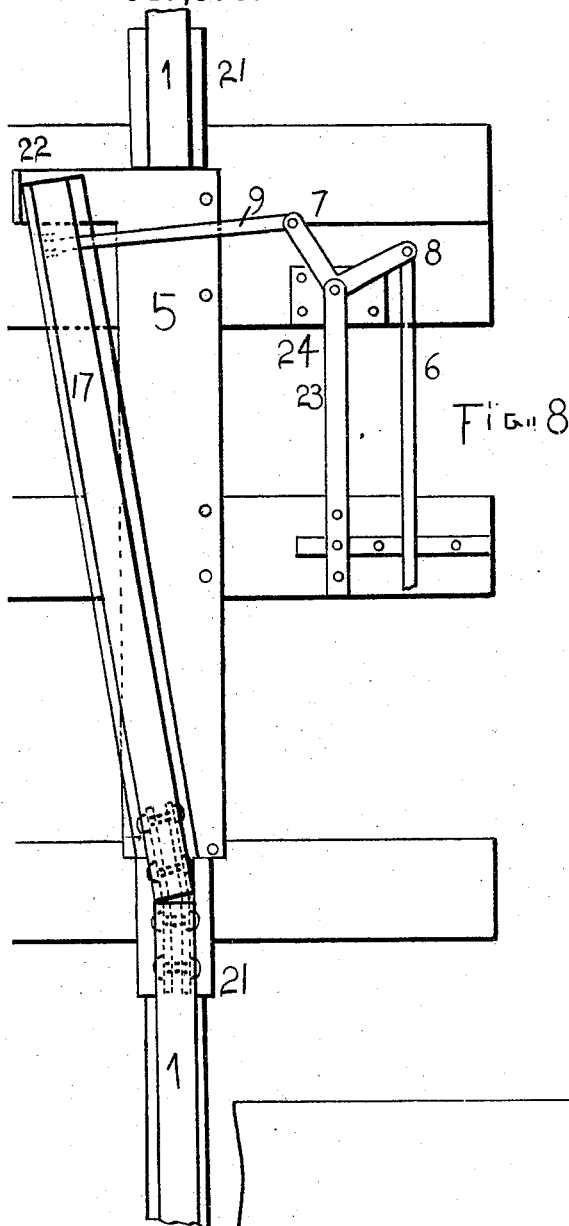
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W I T N E S S E S

H. M. Campbell
Summer Collins.

INVENTOR

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UNITED STATES PATENT OFFICE.

ASA G. DAILEY, OF DETROIT, MICHIGAN.

CUT-OUT SWITCH.

SPECIFICATION forming part of Letters Patent No. 347,576, dated August 17, 1886.

Application filed December 30, 1885. Serial No. 187,159. (No model.)

To all whom it may concern:

Be it known that I, ASA G. DAILEY, of the city of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Cut-Out Switches, of which the following is a specification.

My invention consists in the several novel features of construction and combinations of parts, hereinafter fully described, and definitely pointed out in the claims annexed to this specification.

Figure 1 is a plan view of a portion of the main line and side track, with the side track connected with the main line. Fig. 2 is a similar view, partly broken away, showing the main line continuous. Fig. 3 is a detail of the connecting-rod by which the side track is made or broken. Fig. 4 is an elevation of one of the supports for the connecting-rod. Fig. 5 is a like view. Fig. 6 is a plan view of the plate on which slides a portion of one of the side-track rails. Fig. 7 is a side elevation of said plate. Fig. 8 is a plan view of the movable portion of the side-track rail and operating mechanism. Fig. 9 is a plan view of the attachment of my invention to the switch, and Fig. 10 is a side elevation of a part thereof. Fig. 11 is a plan of the ends of rails 1 and 17.

1 1 represent the two rails of a side track, 2 2 the rails of the main line adjacent to the side track, and 3 3 the rails of the main line, which are connected with a switch-stand, 16, of any known construction, so that they may be brought in line with rails 1 or 2 at will. These rails 3 3 are, as usual, set near their free end in two chairs, and are secured to the bar 10, and the connecting-rod 15 runs from the switch-crank to said bar 10, (see Fig. 10,) to which the rod 15 is connected by the pin 14 in the usual manner.

12 13 represent the arms of a bell-crank, which is pivoted at the side of the connecting-rod 15 to one of the ties or other convenient support; and 11, Figs. 9 and 10, represents a connecting-rod, which is pivoted to the end of arm 12 and to pin 14, which is made long enough to permit this.

6 represents a connecting-rod, which I usually make of gas-pipe, one end of which is pivoted to the end of arm 13, and which extends along the outer rail of the side track to a point

where it is desired to break said rail, and is there pivoted to the end of the arm 8 of a bell-crank similar to bell-crank 12 13, and which is pivoted at the side of the side track. I usually support the connecting-rod 6 in chairs 19, each spiked to a tie, and each having an inclined groove, 20, in the top thereof, and by alternating the direction of the slots 20 the connecting-rod 6 is firmly supported in all directions. 18 represents a turn-buckle, which I usually place at some point in the connecting-rod 6 to adjust the length thereof.

5 represents a plate, preferably of iron, and usually about four feet long, set on the ties which support rails 1 1, and firmly spiked thereto. On each end of plate 5 is formed a chair, 21, somewhat narrower than the base of the rails 1, and the flange of said rails is partly cut away, as shown in Fig. 11, to form shoulders which bear against the ends of chairs 21, so that said rails cannot creep together. Plate 5 is located at the point where bell-crank 7 8 is placed, and has on its end an offset carrying an upturned flange, 22.

17 represents a short piece of rail adapted to lie on plate 5 and to fill the space broken out of rail 1. Its free end slides on plate 5, its range of motion being limited by flange 22, and its other end rests in one of the chairs 21, which supports the end of rail 1, and the flange of rail 17 within said chair is cut away, as shown in Fig. 11, to permit motion of said rail within said chair. Rail 17 is secured also to rail 1 by two fish-plates (shown in dotted lines in Fig. 8) loosely bolted to rails 1 and 17, to permit the necessary motion of rail 17.

9 represents a connecting-rod, one end of which is pivoted to arm 7 of bell-crank 7 8, the other end being pivoted to rail 17.

24 represents a plate to support bell-crank 7 8, and 23 represents a brace to support the pivot of said crank.

4 represents a guard-rail spiked to the ties running from the junction of rails 1 and 17 to the outer end of the ties to conduct a car thrown off from rail 1 to the end of the ties.

The operation of my invention is as follows: When it is desired to run cars on the side track from the main line, or vice versa, the switch-stand 16 is set to bring rails 1 and 3 together, and the motion of connecting-rod 15 in

so doing forces arm 12 of the bell-crank 12 13 to the right, Fig. 9, and swings arm 13 so as to put a tensile strain on connecting-rod 6, and thus swing bell-crank 7 8 so that rail 17 is drawn in line with rail 1, and the sidetrack thus made continuous. As soon as the cars have been placed on the side track switch-stand 16 is thrown in the opposite direction to restore the main line, and the bell-cranks are thrown in opposite directions, the strain on connecting-rod 6 being in this instance a compression strain, and the free end of rail 17 is thrown out of line with rail 1, thus breaking the outer rail of the side track. Whenever the switch 16 is locked in either position, the rail 17 will be locked in its corresponding position. So long as switch 16 remains set for the main line the side track will be broken, and if any of the cars thereon are moved, as by wind, they will run along said side track until they come to the gap made by rail 17, when they will leave the track and will be guided by the inclined face of rail 17 outside the rail 1, and from thence, if their motion still continues, will be led off toward the ditch by guard-

rail 4. It is therefore impossible for any cars left on a side track to blow into the main line, and it is impossible for a brakeman to forget to open the side-track rails after putting cars thereon, for this is done by the act of restoring the main line.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the rails 1, the movable rail 17 and plate 5, having thereon the offset and flange 22, substantially as shown and described.

2. The combination of the rail 1, the movable rail 17, and the chair 21, the flange of said rail 17 being cut away within the chair, substantially as shown and described.

3. In combination with the rails 1 1, having the flange thereon partly cut away, a plate, 5, having at each end the narrow chairs 21, substantially as shown and described.

ASA G. DAILEY.

Witnesses:

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