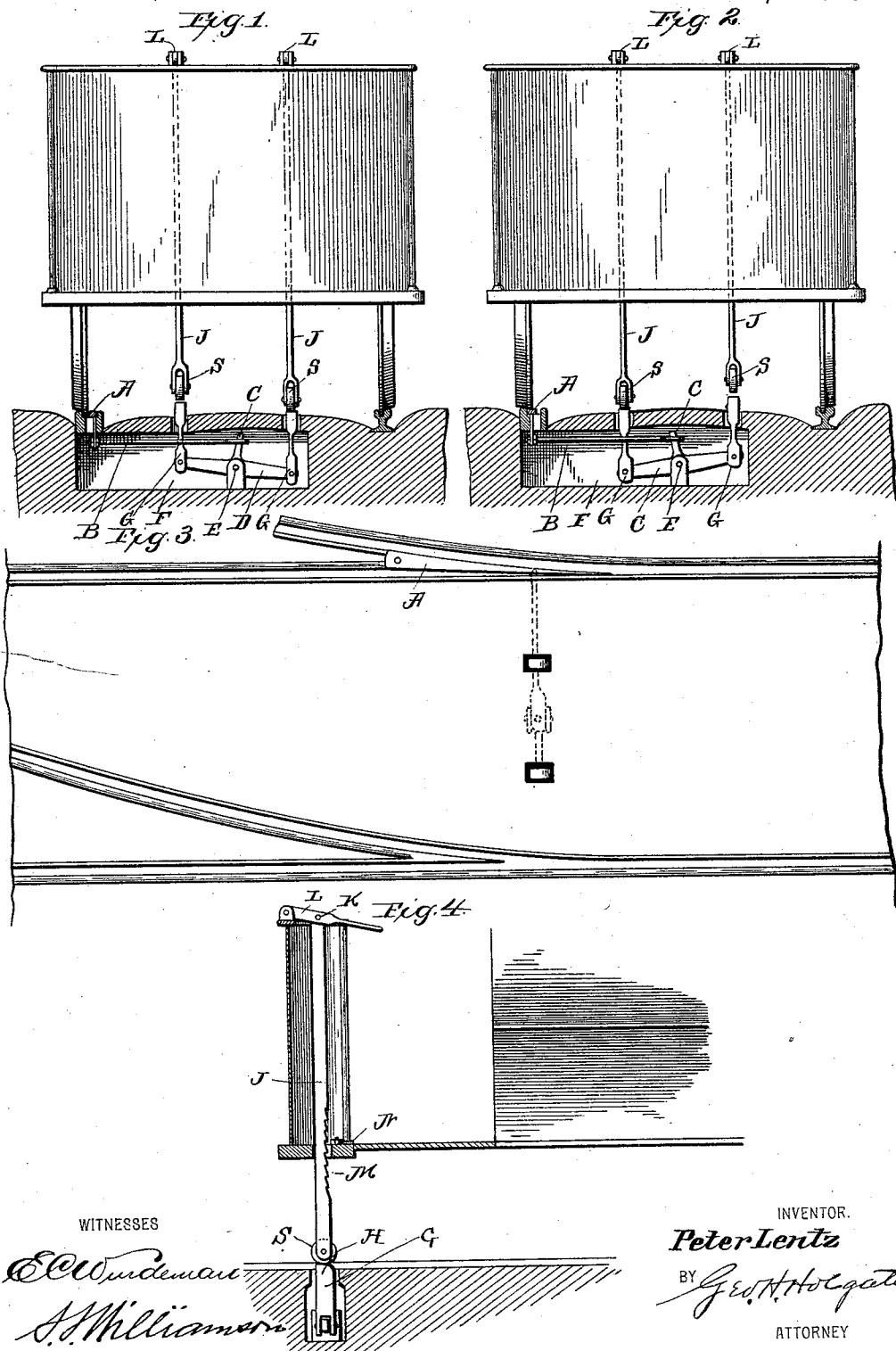


(No Model.)

P. LENTZ.
AUTOMATIC SWITCH.

No. 579,881.

Patented Mar. 30, 1897.



UNITED STATES PATENT OFFICE.

PETER LENTZ, OF STEELTON, PENNSYLVANIA.

AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 579,881, dated March 30, 1897.

Application filed November 24, 1896. Serial No. 613,351. (No model.)

To all whom it may concern:

Be it known that I, PETER LENTZ, a citizen of the United States, residing at Steelton, in the county of Dauphin and State of Pennsylvania, have invented a certain new and useful Improvement in Automatic Switches, of which the following is a specification.

My invention relates to a new and useful improvement in automatic switches and means for operating the same, and has for its object to so arrange a switch and switch mechanism relative to mechanism carried by a car as to put the switch under the control of the motorman while the car is in motion, thereby obviating the necessity of having to stop the car to change the switch.

With this end in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front view of a portion of a car having my improvement applied thereto and a section of the road-bed, illustrating the switch mechanism placed therein; Fig. 2, a similar view showing the switch mechanism in the opposite position to that shown in Fig. 1; Fig. 3, a plan view of the railway-track, the switch mechanism being illustrated in dotted lines; and Fig. 4, a section of the car-platform, illustrating the application of my improvement thereto and also a section of the road-bed lengthwise of the track, showing the relative position of one of the strikers to the switching-block when operating the latter.

In carrying out my invention as here embodied the frog A of an ordinary switch for street-railway service has attached thereto the rod B, which is arranged beneath the road-bed, as clearly shown, and this rod in turn is connected to the arm C of the rock-lever D, the last-named lever being pivoted at E to a suitable lug secured within the recess F. The lever D has pivoted at each of its ends a switching-block G, which projects

upward through an opening in the road-bed and has its upper end inclined, as indicated at H, from which it will be seen that should one of these switching-blocks be depressed to approximately the level of the road-bed the rock-lever would be so swung upon its pivot as to operate the frog in one direction or the other, as the case may be, through the medium of the connecting-rod B, and when the opposite switching-block is depressed the first-named block would be elevated, while the frog would be forced in an opposite direction. To bring about these operations of the switching-blocks from the car while said car is in motion, strikers I are carried by the bars J, which latter pass upward through the floor of the platform of the car and are pivoted at K to the levers L, which levers are provided with handles in easy reach of the motorman for his control.

A series of ratchet-teeth M are formed upon each of the bars J, and a pawl N is arranged for engagement with these teeth, so that the bars may be held in any desired adjustment, as will be readily understood. From this it will be seen that when a car is approaching a switch the motorman may operate the frog of said switch so as to permit the car to continue upon the main line or turn therefrom to the branch line by simply depressing the striker for bringing about the proper movements of the switch mechanism to throw the frog to the desired position, and as this depressed striker comes in contact with the elevated switching-block it will ride down the same, thereby swinging the rock-lever D, which in turn will impart the desired movement to the frog. Now should the next car following desire to change the switch to the opposite direction this will be accomplished by depressing the opposite striker, but should this car also desire to pass in the same direction as the one preceding both of the strikers will be retained in their elevated position and the switch left undisturbed, from which it is obvious that the motorman will have perfect control over the switch and the direction in which his car shall pass without the necessity of either stopping the car or manipulating the switch by a hand implement. It is also clear that since one or the other of the switching-blocks will project considerably above the

surface of the road-bed, while the other remains substantially upon a level therewith, the motorman may determine the position of the switch before reaching the same, thereby
5 enabling him to depress the proper striker for bringing about the direction of his car without reducing the speed of said car. This will gain considerable time over the method now in use, as by the old method a car must not only be
10 brought to a standstill, but time is consumed in the motorman manipulating the switch by a hand implement.

If desired, rolls S may be carried by the strikers for reducing the friction therebetween and the switch-blocks.
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Having thus fully described my invention, what I claim as new and useful is—

1. In combination with a pivoted frog, a rock-lever pivoted below the road-bed, blocks
20 carried on each end of the lever, an arm operated by the lever, a connection between the

arm and frog, bars having ratchet-teeth depending from the car-platform, pawls for engaging the teeth, and a lever for operating the bars, substantially as described. 25

2. In combination with a frog, a rock-lever pivoted below the road-bed, blocks carried by the lever and adapted to protrude through the road-bed, bars depending from the car-platform in position to pass over the blocks,
30 said bars having ratchet-teeth formed thereon, pawls for engaging the teeth, levers pivoted to the dashboard and operating the bars, said pawls protruding to be engaged by the foot, substantially as described. 35

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

PETER LENTZ.

Witnesses:

S. S. WILLIAMSON,
MARK BUFORD.