

P. D. HIBNER.
RAILWAY SWITCH.
APPLICATION FILED SEPT. 30, 1908.

993,683.

Patented May 30, 1911.

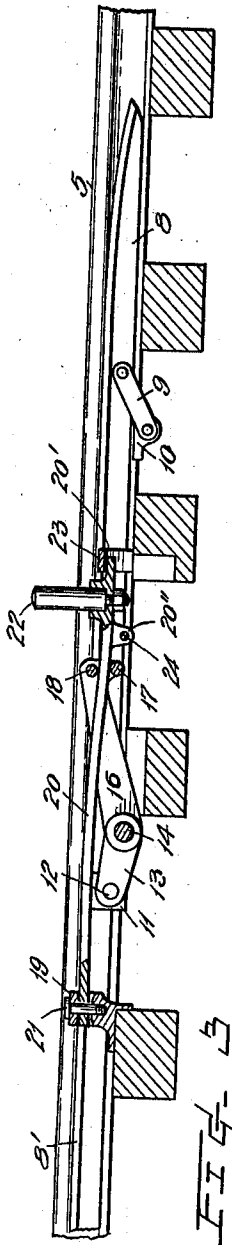


FIG. 1

WITNESSES:

W. D. Hopper
Horace Barnes

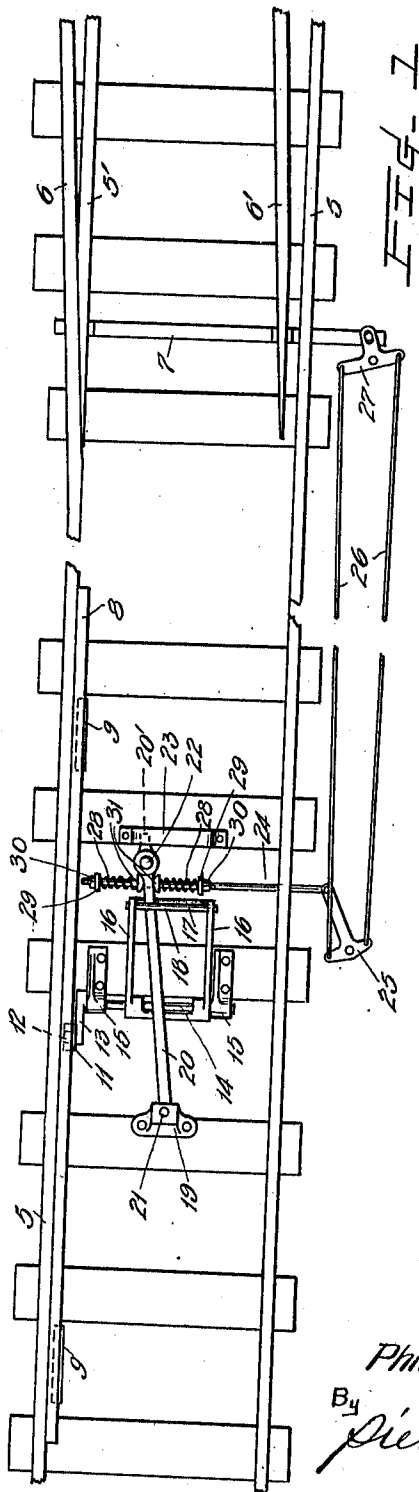


FIG. 2

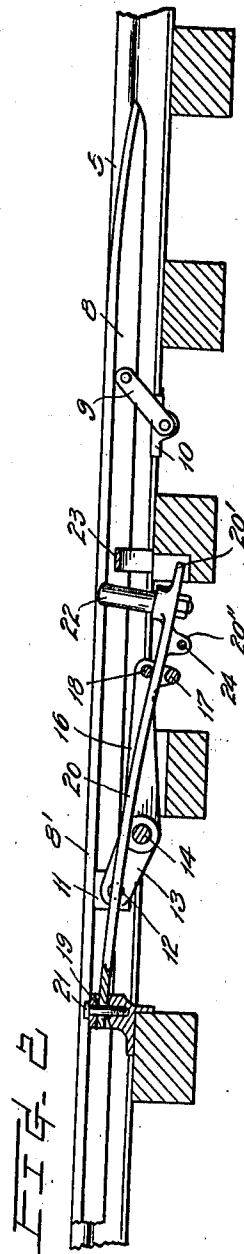


FIG. 3

INVENTOR.

Philip D. Hibner

By

Pierre Barnes
ATTORNEY.

UNITED STATES PATENT OFFICE.

PHILIP D. HIBNER, OF SEATTLE, WASHINGTON.

RAILWAY-SWITCH.

993,683.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed September 30, 1908. Serial No. 455,443.

To all whom it may concern:

Be it known that I, PHILIP D. HIBNER, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

This invention is designed to provide a new and improved means for operating railway switches and is arranged to be controlled by that type of appliances provided upon a car such as illustrated and described in United States Patent No. 842,460 granted to me January 29th, 1907.

The invention consists in the novel construction, adaptation and arrangement of parts, which I will now describe with reference to the accompanying drawings, in which—

Figure 1 is a plan view of mechanism embodying the invention, shown applied to a railway track. Fig. 2 is a longitudinal vertical section of a portion of the same with the switch controlling parts in depressed or inoperative condition. Fig. 3 is a view similar to Fig. 2 with such controlling parts in elevated or operative condition.

The reference numerals 5 and 6 respectively designate the fixed rails of the main and branch lines of a railway track, and 5' and 6' the corresponding movable rails or switch points which are connected by a tie-rod 7, as ordinary. At some distance from the switch and in proximity to the inner face of one of the rails 5 is a rail 8 adapted to be depressed by the passing thereover of the flanges of the car wheels upon that side of the track. The rail 8 may be and desirably is connected by parallel motion links 9 which are pivotally connected with this rail and with attachments 10 which are fixedly secured to the adjacent rail 5. The rail 8 may advantageously be formed of an angle-bar to afford at the top an inwardly projecting flange 8' to serve as a support for a block 11 mounted upon the pin 12 of a crank 13 which is fixedly secured to a transversely arranged shaft 14 which is journaled for oscillation in bearings 15 secured to one of the track ties. Rigidly secured to the shaft 14 is a prop-frame comprised of side arms 16 which are connected by and made integral with a cross-piece 17 at the ends of the arms opposite to their connection with said shaft.

18 is a rod positioned above the cross-pin and also connected with the side arms.

19 is a chambered support which is rigidly secured to a tie in advance of the prop-frame and furnishes a receptacle for the end of a lever 20 which is pivotally connected with the support by a vertically arranged pin 21. The lever is loosely mounted upon the pin so as to afford a limited amount of vertical oscillation to the lever. Said lever extends through the opening between the cross-piece 17 and the rod 18 of the prop-frame to some distance beyond the latter and is provided with an upwardly extending stud 22 near the end opposite to its fulcrum.

23 represents a plate disposed above the extremity 20' of the lever for limiting the upward movement of the same. A transversely arranged rod 24 extends through a depending apertured lug 20'' of the lever, and as illustrated, is connected to a T-lever 25 which is connected by lines 26 with another T-lever 27 which, in turn, is connected with the tie-rod 7 of the switch-points.

The rod 24 passes loosely through the aperture of the aforesaid lever-lug 20'' and operative connection is had between the lever and the rod by springs 28 disposed upon opposite sides of the lever and confined by washers 29 which are adjustably held by nuts 30 engaging screw-threads provided upon the rod. Washers 31 may be interposed between the respective springs and the lever.

The operation of my improved switch controlling devices is as follows: When a car approaches or departs from the switch, the car wheels upon one side of the track will pass over and depress the rail 8 together with the subjacent block 11 which, through the offices of the crank 13 and shaft 14, will tilt the prop-frame upwardly to correspondingly affect the lever 20. Such parts of the apparatus will then occupy the positions in which they are represented in Fig. 3 with the stud 22 in exposed position suitable for being engaged by appropriate devices upon the car for swinging the lever and thereby actuating the connections with the switch-points for changing the condition of the latter, if desired.

When the rail 8 is relieved of the car wheels the weight of the lever and prop-frame will act to restore the rail 8 to its most elevated position and to themselves occupy their lowermost positions, as represented in Fig. 2. The springs 28 serve to

reduce the shock from a car when the stud 22 is encountered and transmits the motion thus derived with little likelihood of deranging the associated parts to actuate the switch.

Although the invention is shown as combined with track rails provided with pairs of switch-points, it is equally applicable to switches employing a single tongue.

10 What I claim, is—

1. In a switch operating mechanism, the combination with a switch, of a switch throwing bar connected therewith for shifting the switch, a depressible rail disposed in proximity with respect to one of the track rails and below the tread of the rail, a spring controlled operating rod, operative connections between said rod and said bar for shifting the latter when the rod is actuated, a swinging prop frame, a pivoted lever extending through said prop frame and engaging with said bar and provided with means engaged by devices carried by the car for swinging the lever to actuate the rod thereby moving the bar to shift the switch, a crank arm actuated by said depressible rail, and a shaft connected with the crank arm and to said frame for swinging the frame to elevate the lever when the depressible rail is actuated thereby position-

ing the means carried by the lever for engagement by devices carried by the car.

2. In a switch operating mechanism, the combination with a switch, of a switch throwing bar connected therewith for shifting the switch, a depressible rail disposed in proximity with respect to one of the track rails and below the tread of the rail, a spring controlled operating rod, operative connections between said rod and said bar for shifting the latter when the rod is actuated, a swinging prop frame, a pivoted lever extending through said prop frame and engaging with said bar and provided with means engaged by devices carried by the car for swinging the lever to actuate the rod thereby moving the bar to shift the switch, a crank arm actuated by said depressible rail, a shaft connected with the crank arm and to said frame for swinging the frame to elevate the lever when the depressible rail is actuated thereby positioning the means carried by the lever for engagement by devices carried by the car, and means for arresting the elevating movement of the lever.

PHILIP D. HIBNER.

Witnesses:

HORACE BARNES,
A. H. SHOEMAKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."