

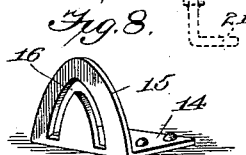
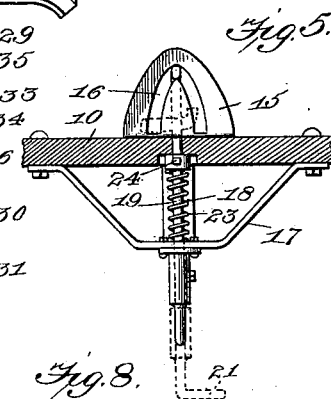
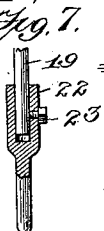
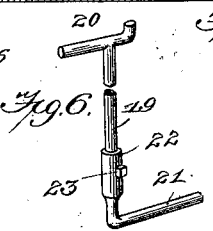
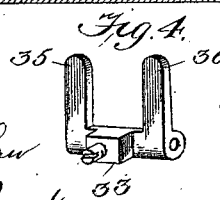
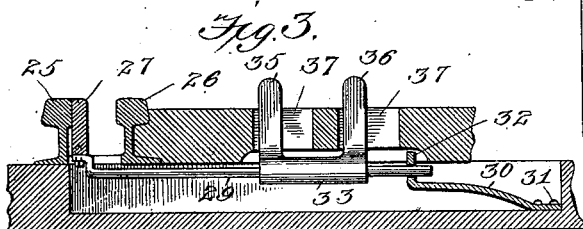
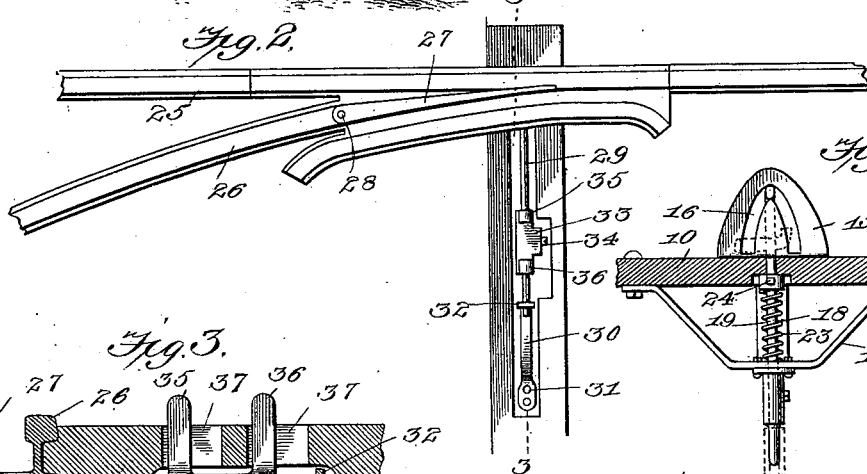
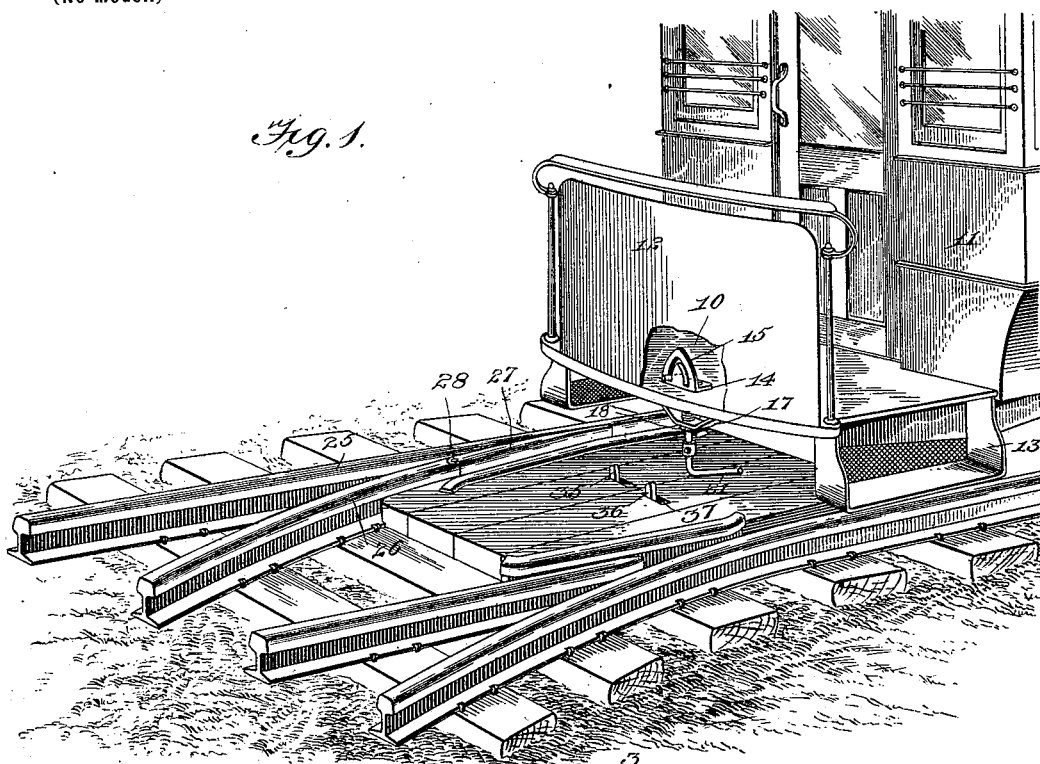
No. 646,116.

Patented Mar. 27, 1900.

F. WRIGHT.  
SWITCH OPERATING DEVICE

(Application filed Nov. 11, 1899.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRANK WRIGHT, OF HENDERSON, KENTUCKY.

## SWITCH-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 646,116, dated March 27, 1900.

Application filed November 11, 1899. Serial No. 736,667. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK WRIGHT, a citizen of the United States, residing at Henderson, in the county of Henderson and State of Kentucky, have invented a new and useful Switch-Operating Device, of which the following is a specification.

My invention relates to devices for operating the switches of railways, and has for its primary object to provide a switch-operating device of improved construction whereby the motorman may open or close a switch by pressure of his foot without the necessity of looking for the switch; getting off the car, stopping the car, or slackening the speed thereof.

A further object of the invention is to provide means whereby the switch-operating bar, having points projecting above the roadway, will be yieldingly supported, so as to be readily depressed by a horse or vehicle passing over it and return to its normal raised position automatically.

With these objects in view the invention consists in the improved construction, arrangement, and combination of parts herein-after fully described and afterward specifically pointed out in the appended claims.

In the drawings forming a part of this specification, Figure 1 is a perspective view illustrating the practical application of my invention to a car and roadway, part of the dashboard being broken away to show the operative parts. Fig. 2 is a plan view of part of the switch, the cover-plate being removed. Fig. 3 is a detail sectional view, on an enlarged scale, on the plane indicated by the broken lines 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the switch-bar-operating arms, which normally project from the roadway, detached from the switch-operating rod. Fig. 5 is a detail sectional view on a plane cutting vertically through the central portion of the platform of the car, the vertical bar being shown in one position in full lines and in another in dotted lines. Fig. 6 is a detail perspective view of the upright operating-bar of the car detached. Fig. 7 is a detail view showing part of its construction. Fig. 8 is a detail perspective view of the plate and flange with inverted-V-shaped slot.

Like parts are indicated by the same nu-

merals wherever they appear in the several figures of the drawings.

Referring to the drawings by numerals, 10 indicates the platform-floor of a motor-car, 11 the dashboard, and 12 and 13 the usual steps at the sides. Upon the platform-floor is secured a plate 14, having an opening registering with a similar opening through the floor, said plate having an upturned flange 15 at the front edge adjacent to and parallel with the dashboard and having an inverted-V-shaped slot 16. Beneath the platform is a bracket 17, having an opening in line with those of the platform and plate 14, and connecting the bracket with the bottom of the car is a brace 18.

19 indicates an upright bar passing through the openings of plate 14, the platform, and bracket 17. At its upper end the bar 19 is T-shaped, as at 20, the outer end of the top arm or head of the T passing into the V-shaped slot and the inner end being turned slightly upward and adapted to serve as a treadle for the motorman. At the lower end of the upright bar is a rearwardly-projecting horizontal arm 21, adjustably secured to the bar by passing the socketed upper end 22 upon the lower end of the bar 19 and securing it in any adjustment by a set-screw 23.

23 indicates a spring coiled around upright bar 19 between bracket 17 and a collar 24, secured on the bar, said spring normally holding the bar in its upright position.

25 and 26 indicate the rails of the roadway, and 27 a switch-tongue pivoted at 28 and provided with a horizontal operating-rod 29, loosely pivoted thereto and yieldingly supported normally in its raised position by means of a spring 30, secured at 31 and provided with an upturned end 32, in a hole in which the rod 29 is loosely seated.

Upon the rod 29 is adjustably secured a block 33 by means of a set-screw 34, said block being provided with arms 35 36, which when the rod 29 is in its normal raised position project up through slots 37 in the roadway in the path of the arm 21 of bar 19.

To operate the switch, the motorman forces the bar 19 downward by foot-power on the top of the T-head 20. This carries the arm 21 down to a position below the upper ends of arms 35 36, and according as the bar 19 is

pressed the outer end of the top arm or T-head will travel down one or the other of the legs of the V-shaped slot 16. When it travels down the right-hand leg of the slot, the upright will be rotated and the arm 21 inclined to the left, so that when in the movement of the car the arm 21 passes into the space between the arms 35 and 36 it will act upon arm 35 and slide the switch-rod to the left, causing the tongue to move in the same direction and open or close the switch, as the case may be.

All of the switch mechanism is between the ties except the arms 35 and 36, which, as before stated, normally project above the surface, and their yielding support, as before described, will permit them to yield and pass downward to a level with the surface when any heavy weight is passed over them.

By means of this invention the motorman has simply to force the upright down and slightly to the right or left, when the switch will be either opened or closed, as the case may be, and this can be done in the dark as well as in the light. He is not compelled to stop the car, get off to operate the switch, not endanger his life by leaning over the dashboard to find the switch, and he need not even slacken the ordinary speed of his car,

thereby avoiding danger and saving time and expense.

The arms on the switch-rod are always in position to be operated, but all breakage thereof is avoided by mounting the rod yieldingly, as described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with the switch-tongue pivoted at one end, of the operating-rod loosely secured to the tongue at one end and yielding and slidingly supported at the other end, and vertical arms secured to the rod and normally projected upward through slots in the roadway, substantially as described.

2. The combination with the switch-tongue of its operating-rod loosely secured at one end to the tongue, a pair of vertical arms, adjustably secured to the rod, and a spring secured at its outer end and provided with an inner upturned end having a hole in which the opposite end of the operating-rod is slidingly supported and normally held raised substantially as described.

FRANK WRIGHT.

Witnesses:

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