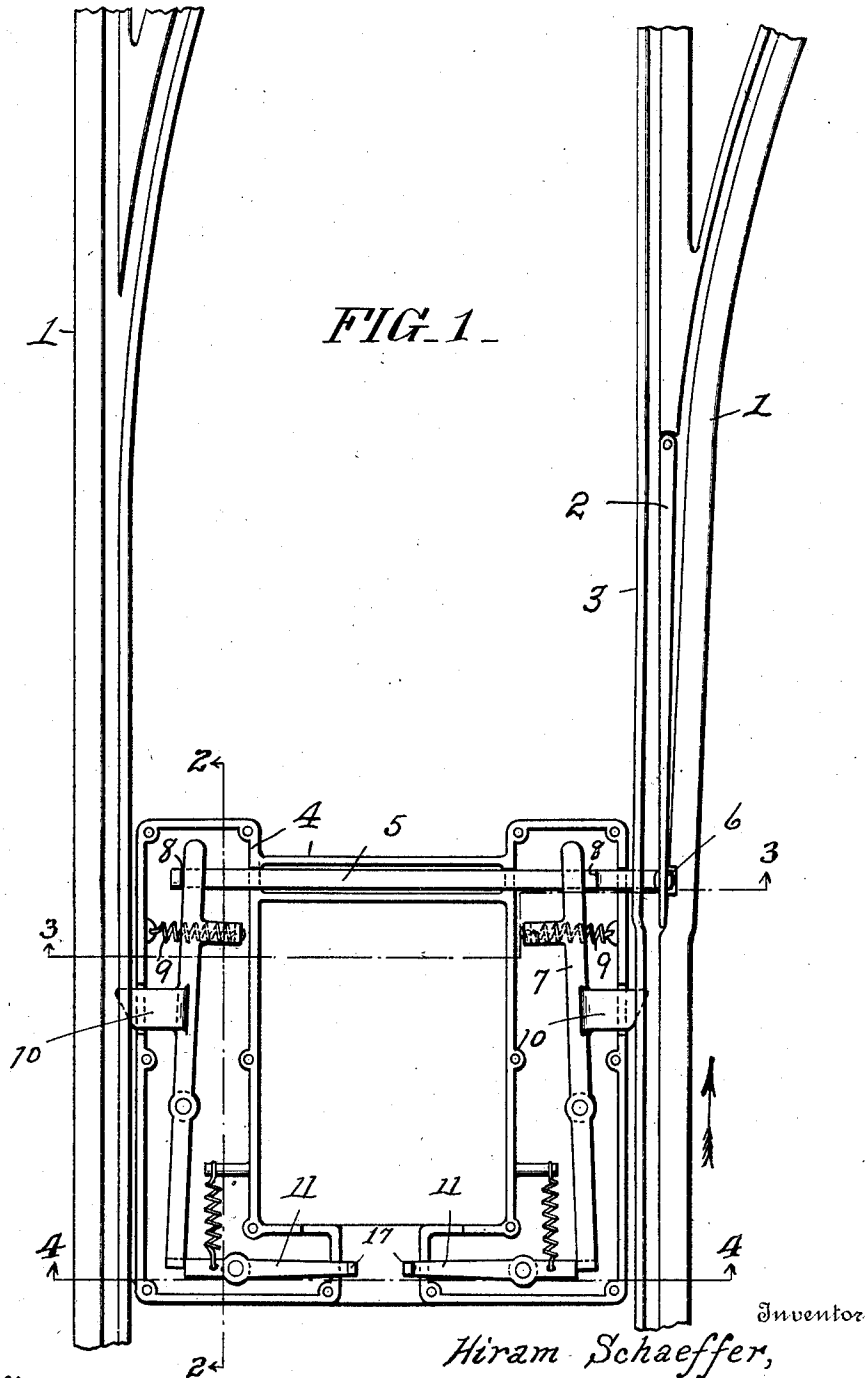


H. SCHAEFFER.
 SWITCH THROWING MECHANISM.
 APPLICATION FILED MAY 17, 1910.

967,981.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



Witnesses

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FIG. 2.

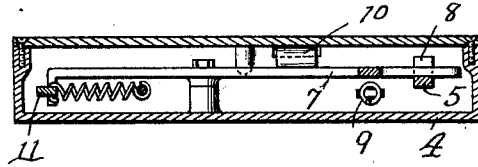


FIG. 5.

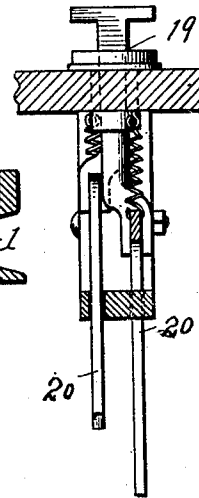


FIG. 3.

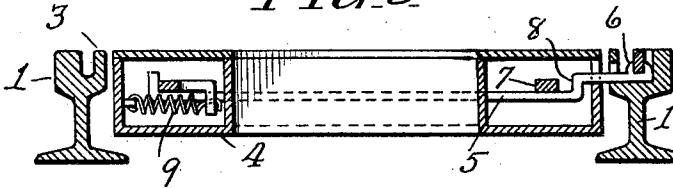
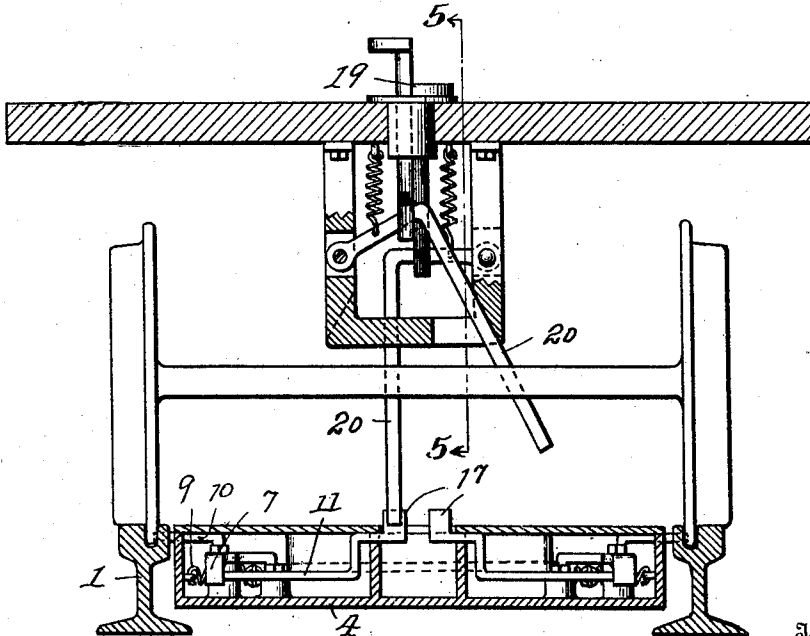


FIG. 4.



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UNITED STATES PATENT OFFICE.

HIRAM SCHAEFFER, OF READING, PENNSYLVANIA.

SWITCH-THROWING MECHANISM.

967,981.

Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed May 17, 1910. Serial No. 561,815.

To all whom it may concern:

Be it known that I, HIRAM SCHAEFFER, citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Switch-Throwing Mechanism, of which the following is a specification.

This invention relates to improvements in switch throwing mechanism and it is adapted more particularly for use on street railways.

The object is to provide means for operating the switch from the car by means of a foot operated device.

The invention consists of a shifting bar for moving the switch, so arranged that it may be thrown in either direction by the motorman on the car.

The construction is such that the switch will be free to be operated by means of the usual hand bar if desired, as the switch itself may be moved without interfering with any of the operating parts of the construction.

The entire device is preferably incased in a receptacle and thus protected from the elements.

My invention is more fully described in the following specification and clearly illustrated in the accompanying drawing, in which:—

Figure 1 is a plan view of a railway switch with my invention in position, the casing being uncovered. Fig. 2 is a sectional view through 2—2 of Fig. 1. Fig. 3 is a section through 3—3 of Fig. 1. Fig. 4 is a section through 4—4 of Fig. 1 and showing also the operating attachment on the car. Fig. 5 is a section on line 5—5 of Fig. 4.

The numeral 1 designates the tracks and 2 the switch. 3 designates the usual guard. Between the tracks I place a casing 4 in which the device is located.

The numeral 5 designates the shifting bar; this bar is formed with lugs 6 thereon for engaging the switch so that its movement in either direction will insure the movement of the switch.

The numeral 7 designates pivoted arms secured in the casing, one at either side and the forward ends of these arms are adapted to engage offsets 8 on the shifting bar 5 when moved to either right or left. These arms are provided at their forward ends with springs 9 by means of which they are held normally against said offsets. They are

each provided with a tongue 10 projecting at right angles thereto, having rounded or tapered extremities and adapted to lie in the path of the wheel flange of the passing car, when the arm is in normal position. (Fig. 1 shows the arms in inner position, as would be the case had a car just passed.)

The inner ends of the arms are engaged by trigger arms 11 which arms are also pivoted in the casing and provided with springs adapted to keep them in engagement with the said arms. When these ends are in engagement, as shown in Fig. 1, the springs 9 on the arms 7 are in tension, and remain so until the trigger arms are operated, releasing the engagement of their respective ends, when the springs 9 will throw the arms 7 toward the track and shift the bar and switch.

The inner ends of the trigger arms 11 are formed with upwardly projecting portions 17 which are adapted to be engaged by a suitable trip carried by the car. This operating device is shown in Figs. 4 and 5 and it comprises a foot piece 19, divided centrally, so that either half of it may be depressed, and each half is provided with a depending spring backed trigger operating arm 20.

Assuming that the switch were in the position shown in Fig. 1, and a car approached in the direction of the arrow: If it were to pass directly forward, neither of the switch throwing arms would be operated; if, however it were to turn to the right, the foot lever connecting the arm for the left trigger would be pressed by the motorman; this would trip the trigger and release the inner end of the arm 7, and when so released, the spring 9 would draw it to the left and with it the shifting bar 5 and the switch 2; when the car wheels come in contact with the tongue on the arm 7, the arm is again forced to its back or inner position, that is, to the position of the arms as now shown in Fig. 1.

It is evident that when cars move in both directions, the outer ends of the tongues will be rounded or tapered on both sides.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a switch throwing device, the combination of a switch; a shifting bar; spring backed arms adapted to move said bar laterally, said arms having projecting tongues adapted to lie in the path of and be moved

by the car wheels; trigger arms adapted to
engage the inner ends of said bar shifting
arms, with foot operated means carried by
a car for operating said trigger arms to
5 throw the switch.

2. In a switch throwing device the combi-
nation of a switch, a shifting bar adapted
to move said switch, spring backed arms
adapted to move said bar laterally, said
10 arms having tongues projecting therefrom
adapted to lie in the path of and be moved
by the car wheels, trigger arms adapted to
engage the inner ends of said bar shifting

arms, springs for holding said trigger arms
in engagement with said bar shifting arms, 15
in combination with a car carrying a two
part foot operating device, adapted to con-
tact with either of the trigger arms to throw
either of the bar shifting arms.

In testimony whereof I affix my signa- 20
ture, in presence of two witnesses.

HIRAM SCHAEFFER.

Witnesses:

ED. A. KELLY,
M. C. KREIDER.