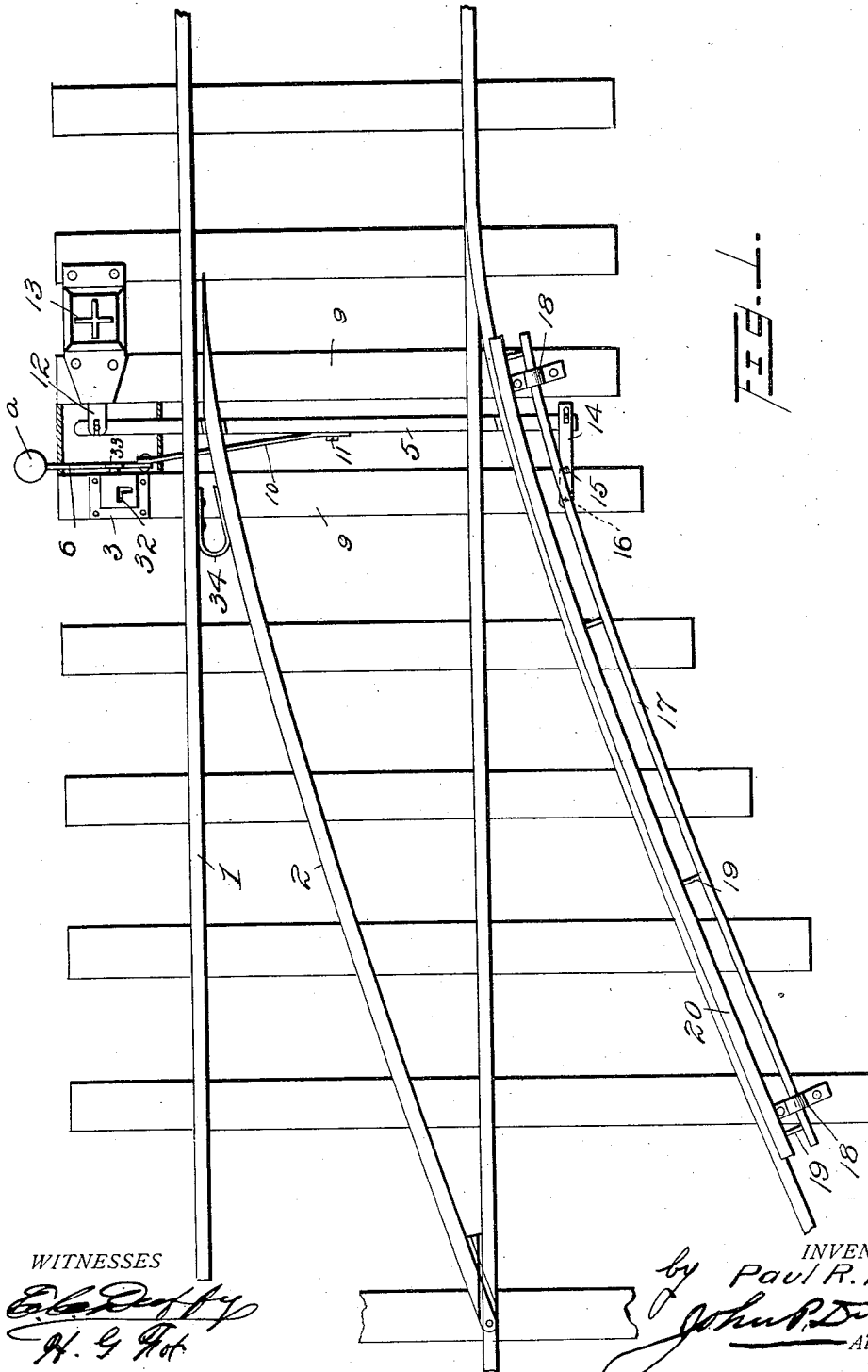


P. R. HART.
SWITCH THROWER.
APPLICATION FILED MAY 9, 1911.

1,069,133.

Patented Aug. 5, 1913.

2 SHEETS—SHEET 1.



WITNESSES

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INVENTOR

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2 SHEETS—SHEET 2.

FIG. 2.

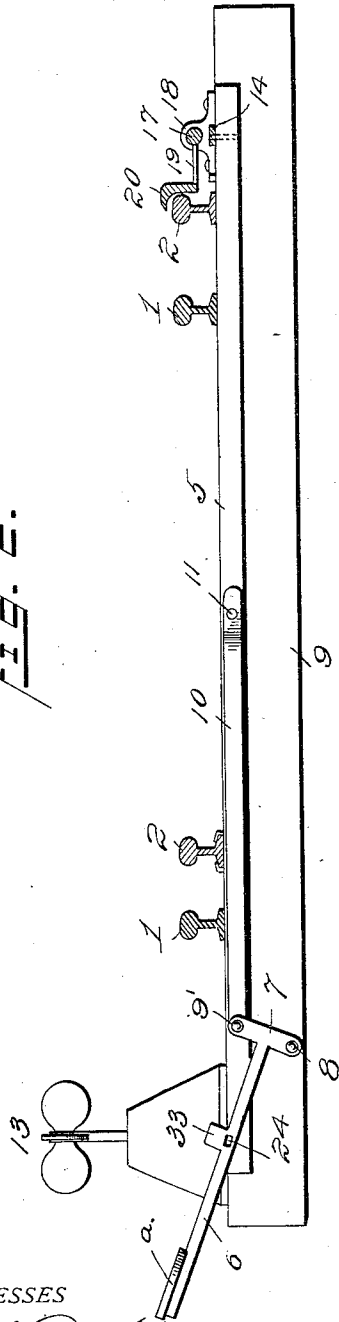


FIG. 4.

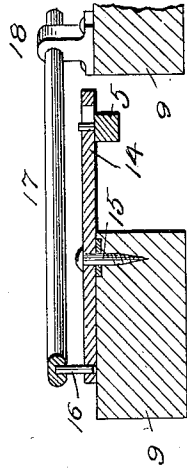
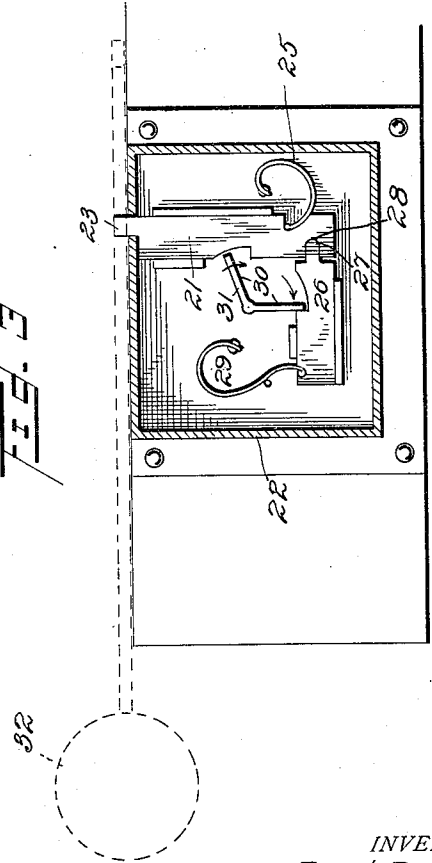


FIG. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

PAUL R. HART, OF BRADFORD, OHIO.

SWITCH-THROWER.

1,069,133.

Specification of Letters Patent.

Patented Aug. 5, 1913.

Application filed May 9, 1911. Serial No. 625,947.

To all whom it may concern:

Be it known that I, PAUL R. HART, a citizen of the United States, residing at Bradford, in the county of Darke and State of Ohio, have invented certain new and useful Improvements in Switch-Throwers, of which the following is a specification.

This invention relates to switch throwers and has for its object to provide means whereby the switch is automatically locked when closed and must be unlocked by the operator.

My invention obviates the liability of open switches when the train is expected to take the main track, thus avoiding accidents.

With the foregoing and other objects in view, the invention consists in the novel features of construction, combination and arrangements of parts illustrated in the drawings and more particularly pointed out in the appended claim.

In the accompanying drawings:—Figure 1 is a plan view of my improved switch. Fig. 2 is a transverse sectional view. Fig. 3 is a detail sectional view of the switch lock and Fig. 4 is a fragmentary sectional view.

Referring to the drawings for a more particular description of the invention, 1 indicates the main track rails, 2 the switch rails and 3 the switch lock of the switch thrower.

The switch thrower comprises a transversely disposed shifting bar 5 which passes under the track rails and carries the switch rails. A trip lever 6, provided at its inner end with the extension 7 is pivoted, as at 8, to one of the cross ties 9 and is connected, as at 9', with the inner end of the metal bar 10, connected at its inner end, as at 11, with the shifting bar 5. The end of the shifting bar 5 adjacent to the trip lever 6 is connected with the signal bar 12 which operates the signal 13. The opposite end of the shifting bar is connected with the lever 14 pivoted, as at 15, to the cross tie 9 and connected at its pivoted end with an extension 16 projecting downwardly from the rock shaft 17. The rock shaft 17 is mounted to turn in the bearings 18 and is arranged approximately in parallel relation with the adjacent switch rail 2. The rock shaft 17 is connected by means of a series of horizontally disposed fingers 19 to the trip rail 20. The switch is normally held closed by the lock 3 comprising a sliding bolt 21 arranged in the casing 22 and provided at its outer end with the tongue 23 adapted to engage a correspond-

ing recess or opening 24 in the trip lever 6. The bolt 21 of the lock is normally held in projected or locking position by the keeper 26 disposed at right angles with the bolt and provided with the tongue or extension 27 normally engaging a recess or socket 28 in the inner end of the sliding bolt. The keeper 26 is normally held in projected position by the metal spring 29 and the sliding bolt moved from retracted to projected position by the spring 25.

To unlock the switch, a key provided with the arms 30 and 31 is passed through the key opening 32 in the top of the casing 22 and is turned in the direction indicated by the arrows, as a result of which the arm 30 first disengages the tongue of the keeper 26 from the sliding bolt 21 and the arm 31 next comes into play by shifting the sliding bolt inwardly to disengage the tongue 23 thereof, with socket 24 of the trip lever 6. To open the switch the operator presses downwardly on the foot piece *a* of the trip lever which moves the shifting bar 5 in a direction toward the lock and signal. As the shifting bar 5 is operated in this manner the rock shaft 17 is turned in its bearings to lower the trip rail 20 down on the adjacent switch rail 2 as will be understood from an examination of Fig. 2 of the drawings. As soon as the wheels of the train come in contact with the trip rail 20 said rail is held securely down and the switch maintained in an open position until the train has entirely passed the switch. To accomplish the foregoing, however, it is necessary that the length of the trip rail be greater than the distance between the trucks of the longest car. As the free end of the trip lever 6 is depressed to open the switch, the sliding bolt 21 is kept in a retracted position by the guard or keeper 33 formed on the upper edge of the lever directly opposite the opening 24. As the train passes, the switch is automatically closed by the spring 34 and is again locked against movement by the tongue 23 engaging the tongue 24 of the trip lever.

From the foregoing description taken in connection with the drawings, it is thought that the construction and advantages of this invention may be readily understood without requiring a more extended explanation.

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

A switch of the class described comprising

a shifting bar connected with the switch
tongues, a trip rail adapted to be lowered
down on one of the switch rails when the
switch is open, a rock shaft journaled in
5 bearings adjacent to the switch rail, a series
of fingers between the rock shaft and trip
rail whereby the latter is depressed when
the rock shaft is turned in one direction, a
pivoted lever between the rock shaft and
10 the shifting bar whereby the former is op-
erated to lower the trip rail when the shift-

ing bar is moved in one direction to open the
switch, manually operated means for throw-
ing the shifting bar of the switch in one
direction and means for automatically clos- 15
ing and locking the switch.

In testimony whereof I affix my signature
in presence of two witnesses.

PAUL R. HART.

Witnesses:

KENNETH LITTLE,
ELIZABETH McCUNE.

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