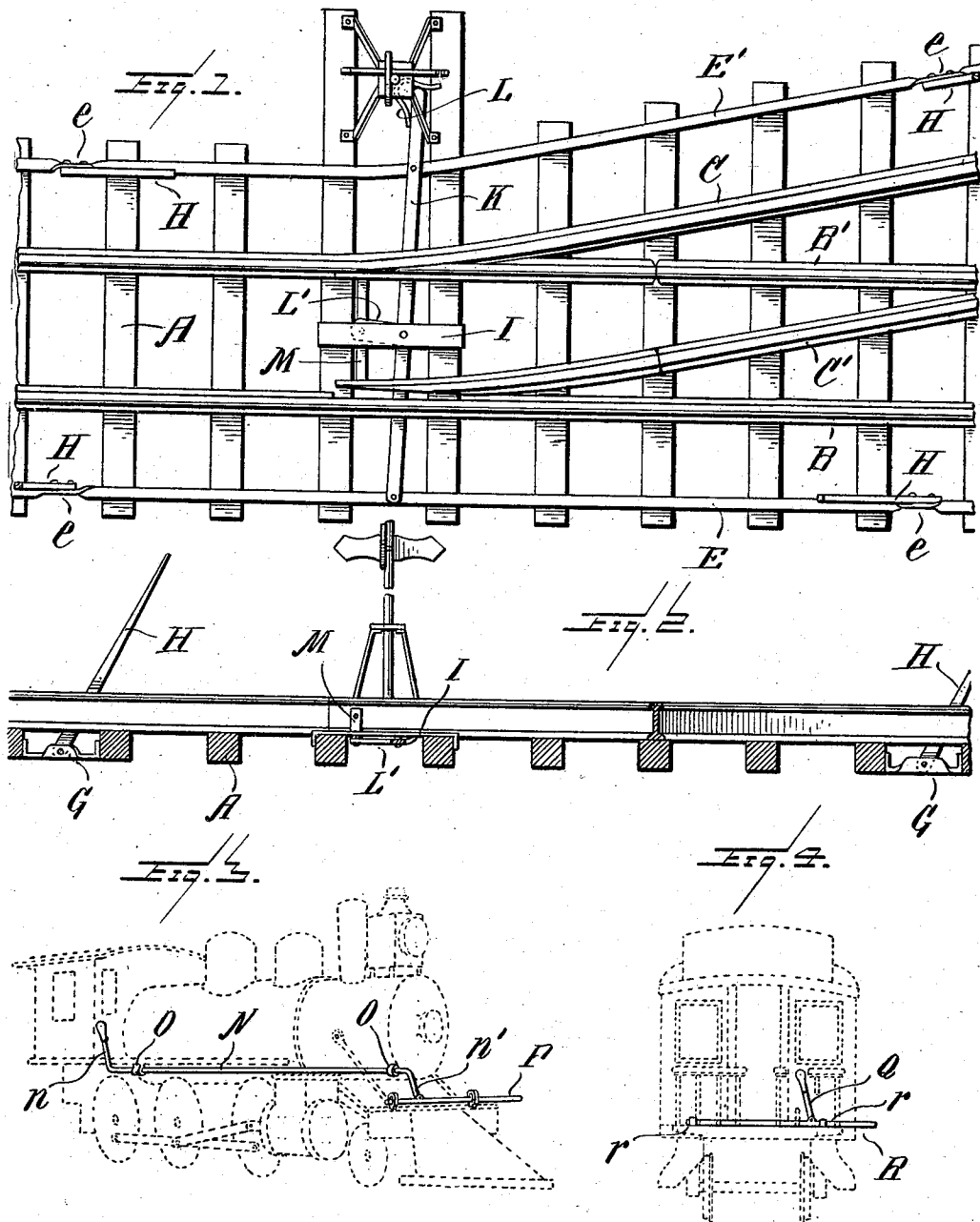


No. 867,346.

PATENTED OCT. 1, 1907.

C. C. CHANCEY.
AUTOMATIC RAILWAY SWITCH.
APPLICATION FILED JUNE 8, 1907.



WITNESSES

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AUTOMATIC RAILWAY-SWITCH.

No. 867,346.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHRISTOPHER C. CHANCEY, a citizen of the United States, residing at Hartford, in the county of Geneva and State of Alabama, have invented certain new and useful Improvements in Automatic Railway-Switches, of which the following is a specification.

My invention relates to improvements in automatically and manually operated railway switches, and is so arranged that it can be operated at any speed of the moving engine; and the further object of the invention is to provide a switch that will be simple in construction and unfailing in its character for the purposes intended.

To this end the invention consists in the novel construction and arrangement of parts as will be hereinafter more in detail described and specifically claimed.

I have fully and clearly illustrated my invention in the accompanying drawing, in which:

Figure 1 is a top or plan view of the same. Fig. 2 is a vertical longitudinal sectional view thereof, and Figs. 3 and 4 are detail views, showing the automatic switch operating mechanism applied thereto.

Similar letters of reference denote corresponding parts in the several figures.

Referring to the drawing: A designates one or more railway cross ties located in the road bed.

B designates the main rail secured to the cross ties A, and B' designates the main and switch rail-sections also secured to the cross ties, the main section being stationary and the switch section movable in the usual manner with switch rails.

C designates a stationary side track rail slightly curved, and C' designates a side track and switch rail, the side track portion being stationary and the switch portion being movable in the usual manner with switch rails.

D designates a system of levers composed of two long outside horizontal movable levers E and E', the lever E being parallel with the rail B and the lever E' being at an angle and parallel with the side track rail C. The ends of these levers are twisted in such a manner as to present vertical portions thereof as shown at e e e e and are perforated to receive pivots f f f f.

G G G G designate short pieces of metal having their ends "struck up" and secured to the ties A near their ends, as more clearly shown in Fig. 2 of the drawing.

H H H H designate upright levers having their lower ends pivotally secured to the short pieces of metal G G G G and having a short distance above said pivotal points oblong slots formed in the upright levers to receive pivots in the horizontal levers E and E'.

I designates a metallic plate or cross piece secured to the cross ties and located between the tracks and parallel to which a long transverse lever K is pivotally and nearly centrally secured, and to one and the ex-

treme outer end of this lever K is pivotally secured the free end of horizontal lever E, and at a point nearly to the opposite end of the lever K is pivotally secured the horizontal lever E', the extreme free end of this lever engaging a substantially bell crank lever L secured to the lower end of a loosely pivoted signal rod and it being so arranged as to be operated by the free end of the lever K. To this lever K, which is located between the switch rails, is centrally pivoted, and formed integrally with said lever K, a short lever L' for the purpose of shifting the switch rails from the main to the side tracks, and also shifting the same back to the main rails when desired.

M designates a short brace transversely located below the plate I for securing the switch rails near their points, motion being communicated to the switch rails by the end of the short lever L', the free end of which is pivotally secured to the transversely located plate I.

In Figs. 3 and 4 of the drawings I have shown an automatic operating switch mechanism applied to a locomotive, a coach and caboose, consisting of a rod N formed with right angular levers n n' at its ends and passed loosely through eyes O O secured to the footway of a boiler. The angles of the levers n n' extend in opposite directions, the angle of n extending upwardly in the front part of the cab for the purpose of operating it right and left by the engineer which in turn operates the rod and the forward angular portion n' of the same, this angular portion n' being attached to a horizontal arm P extending across the top of the pilot which rides up a short distance to escape the tops of the upright levers and to drop down in order to contact the approaching position for the purpose of contacting with one at a time of the levers H H H H which changes the track by means of the switch rails in the direction desired by the engineer, as clearly shown in Fig. 3 of the drawings. Fig. 4 shows another attachment applied to a coach or caboose for operating the switch by the moving of the train, which attachment being operated by the conductor at the rear of the coach or caboose by moving lever Q to the right or left, as occasion requires, for operating the horizontal transverse arm R loosely passed through eyes r r secured to the rear of the coach or caboose near the corners thereof. The rod R operates to contact with the levers H H H H one at a time the same as the operation of the arm P secured to the top of the pilot, as shown in Fig. 3, which operation changes the switch after the train has passed over it in a forward direction and it also changes the switch in backing the train.

By my construction of mechanism it will be possible to avoid running into an open switch at full speed, which is the cause of many wrecks, and also it will be possible to operate the switch with pleasure from the moving train at any speed.

From the foregoing description taken in connection

with the accompanying drawings the operation of my device will be obvious.

Having thus described my invention, what I claim is:

- 5 1. The combination with the ties, and main and switch rails; of a system of levers comprising two outer movable horizontal levers movably secured to the ties, one of which lies parallel with the main rail, and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank-shaped projection secured to the lower end of a signal rod, substantially as described.
- 10 2. The combination with the ties and main and switch rails; a system of levers comprising two outer movable horizontal levers movably secured to the ties one of which lies parallel with the main rail and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank-shaped projection secured to the lower end of a signal rod; of a plate secured to the ties and centrally located between the switch rails which serves as a fulcrum for the transverse operating lever, a connecting angular ended brace located transversely below the fulcrum plate and connecting the two ends of the switch rails, a short lever formed integrally on the transverse operating lever for positively operating the switch rails, short metallic pieces secured to the ties near their ends, upright levers pivotally secured to said short metallic pieces at their lower ends and pivotally secured to the outside straight and angular levers.
- 15 3. The combination with the ties, main and switch rails, a system of levers comprising two outer movable horizontal levers movably secured to the ties, one of which lies parallel with the main rail and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank
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shaped projection secured to the lower end of a signal rod, a plate secured to the ties and centrally located between the switch rails which serves as a fulcrum for the transverse operating lever, a connecting angular ended brace located transversely below the fulcrum plate and connecting the two ends of the switch rails, a short lever formed integrally with the transverse operating lever for positively operating the switch rails, short metallic pieces secured to the ties near their ends, upright levers pivotally secured to said short metallic pieces at their lower ends and pivotally secured to the outside straight and angular levers, the said last named levers being adapted to be actuated by trips on moving vehicles.

4. The combination with the ties, main and switch rails, a system of levers comprising two outer movable horizontal levers movably secured to the ties one of which lies parallel with the main rail and the other outside lever located at an angle and parallel with the side track rail, a transversely arranged lever pivotally connected to said levers at one end and near the opposite end of the transverse lever, one end of which engages a substantially bell-crank shaped projection secured to the lower end of a signal rod, a plate secured to the ties and centrally located between the switch rails which serve as a fulcrum for the transverse operating lever, a connecting angular brace located transversely below the fulcrum plate and connecting the two ends of the switch rails, a short lever formed integrally with the transverse operating lever for positively operating the switch rails, short metallic pieces secured to the ties near their ends, upright levers pivotally secured to said short metallic pieces at their lower ends and pivotally secured to the outside straight and angular levers; of the longitudinal rod having angular lever ends secured to the footway of the locomotive the forward angular end being secured to the horizontal arm contacting with the upright levers for operating the switch.

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

CHRISTOPHER C. CHANCEY.

Witnesses:

BENNETT S. JONES,
WM. H. BATES.