

(No Model.)

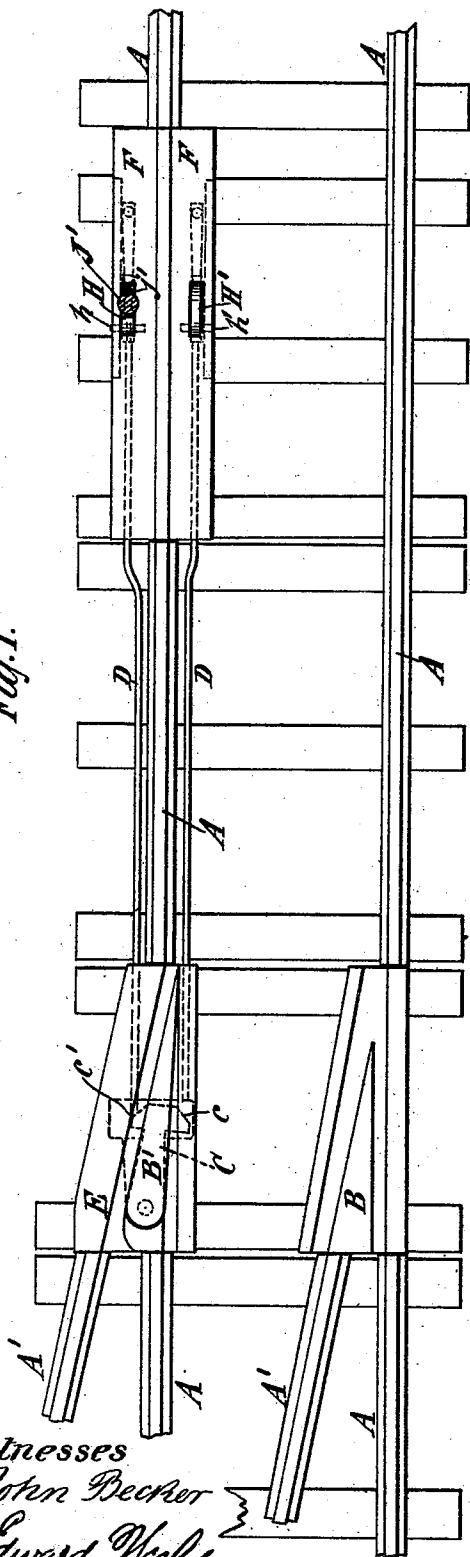
2 Sheets—Sheet 1.

D. B. HART.
AUTOMATIC RAILWAY SWITCH.

No. 513,781.

Patented Jan. 30, 1894.

Fig. 1.



Witnesses
John Becker
J. Edward Weld

Fig. 2.

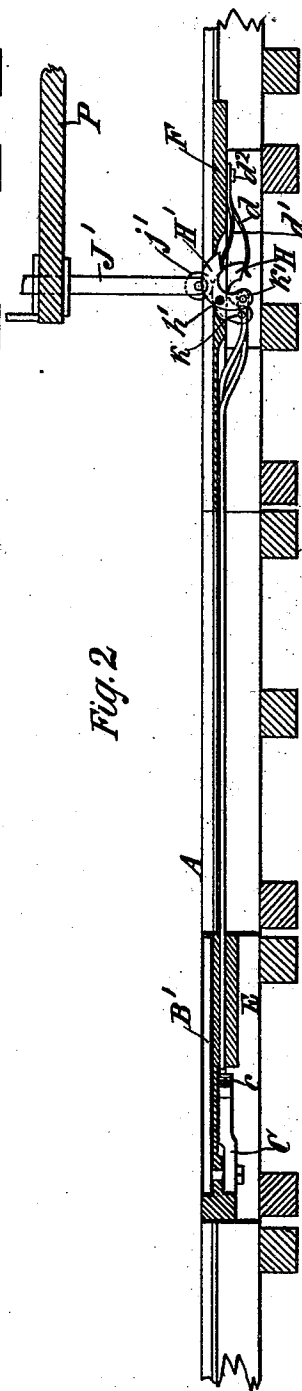
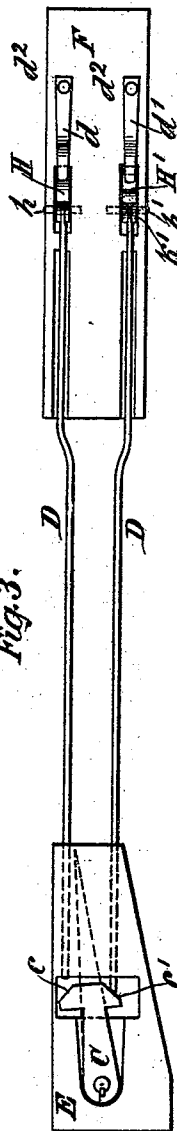


Fig. 3.



Inventor:

Daniel B. Hart,
by his attorney
Heinrich W. Grindel

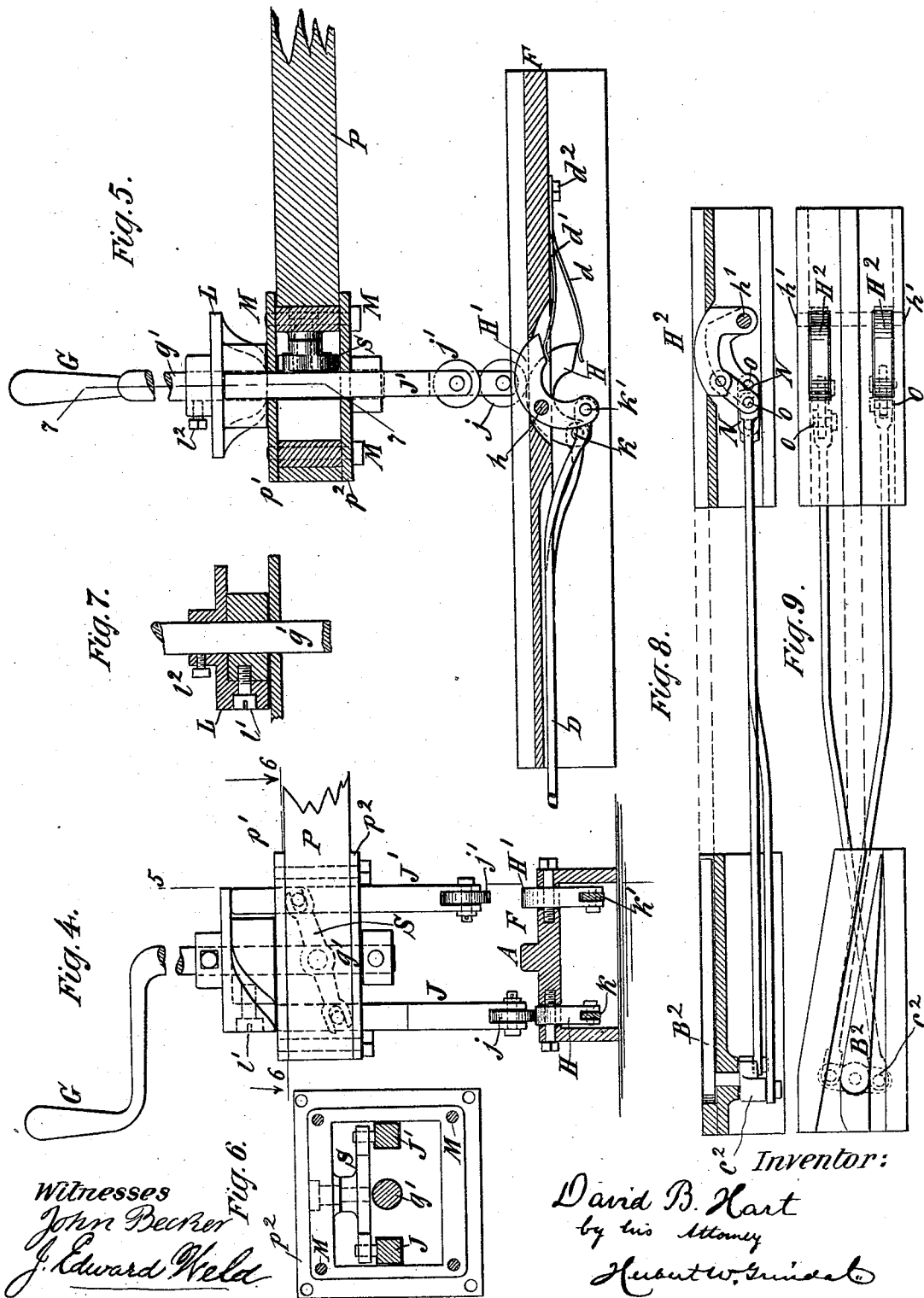
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UNITED STATES PATENT OFFICE.

DAVID B. HART, OF NEW YORK, N. Y.

AUTOMATIC RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 513,781, dated January 30, 1894.

Application filed October 7, 1893. Serial No. 487,407. (No model.)

To all whom it may concern:

Be it known that I, DAVID B. HART, of the city and county of New York, and State of New York, have invented a new and useful
5 Improvement in Automatic Railway-Switches, of which the following is a full, clear, and exact specification.

My invention relates to that class of street railway switches which are operated by means
10 of devices actuated from a moving car.

My device is intended more particularly for cable and electric roads, but it can be adapted to roads directly operated by steam.

I am aware that automatic switch operating
15 devices for street railways are old and well known and I do not claim broadly to have conceived the idea of so operating a switch; but, besides the novelty of my device, its simplicity, certainty of operation, ease in working, and cheapness combine to render it a
20 valuable improvement upon any hitherto devised.

For the better understanding of my invention, I have prepared the accompanying drawings to which reference is hereinafter made.

In the drawings similar letters represent like parts.

Figure 1 is a plan view, showing the rails, switch and operating device. Fig. 2 is a vertical longitudinal section of the same. Fig. 3
30 is a plan view of the under side of the operating device, showing the switch point in dotted lines. Fig. 4 is front view of that portion of the mechanism which is placed on the platform of the car and a vertical cross section of
35 the switch operating mechanism vertically in line with the car mechanism. Fig. 5 is a vertical cross section of the car device and of the point actuating mechanism which is directly
40 beneath it at the time of operation. Fig. 6 is a horizontal section of Fig. 4 taken through the line 6—6 of Fig. 4. Fig. 7 is a vertical section on the line of 7—7 of Fig. 5. Figs. 8 and 9 show an alternative form.

As will be seen, my device consists as hereinafter described and claimed of a switch point operating device set in the ground and so arranged that rods carried on the front
45 platform of a car may be brought to bear upon curved thrusting levers adapted to receive

them, whereby the switch point is moved to the right or left as may be desired.

In the drawings, A A are the rails of the main track; A' A' of the turn-out.

B is the solid frog or plate which is firmly
55 fixed on the side opposite the direction of the turn-out.

B' is the movable switch point which opens or closes the siding.

C is the solid cam which is rigidly united
60 with the point B' and lies directly beneath it. This cam C is provided with the inclined faces c and c' which are acted upon by the push rod D. D.

E is the bed plate on which B' and C are
65 pivoted and the outer side of which serves as the rail for the siding when opened.

H H' are the curved thrusting levers which actuate the rods D D. These levers are so
70 curved that their upper portion projects above the level of the bed plate F. The pivots h h' support these levers in the bed plate F, and the pins k k' connect them with the rods D D. The springs d d', which are fastened to the
75 bed plate F by the bolts d² d², return the levers H H' to their position in contact with the plate F after they have been depressed by the rods J or J'.

The rods J J' are secured in the platform P of the car between the plates p' and p² which
80 are united by the bolts M M. They are united by the double armed lever S so that the depression of either rod by the cam L will cause the other to be raised correspondingly.

G is the handle which is rigidly fastened
85 to the vertical shaft g', to which the cam L is fastened. This cam is so arranged that its bearing surfaces act against the ends of the depressing rods J J' and project them downward. The rollers j j' lessen the friction of
90 the contact with the curved levers. In the alternative form, I substitute a cross yoke c² or lever in the place of C and pivot the curved levers H² at h' so that when depressed they thrust out the rods D through the intervention of the link N. In this case, to make the
95 point B² move to the side on which the thrusting lever is pressed it is necessary that the push rods be crossed.

The operation of my device is as follows: 100

As the car approaches the siding, the person in charge moves the handle so that the cam L shall depress the rod desired. When the car reaches the curved levers H and H' the roller *j* or *j'* will come in contact with the lever intended. The resulting depression of the lever will cause the free end of the rod connected to it to act against the inclined face *c* or *c'* and thereby force the cam C and with it the point B' to the right or left as may be desired. If the next car following desires to take the same direction, nothing need be done to the switch. If it is to go on the other track, the alternate lever must be depressed and the switch point moved accordingly.

I have given two forms of construction of my device, but other slight changes in the details might be made without departing from the spirit of my invention.

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

1. The combination with a movable switch point of a subjacent lever rigidly united thereto, and provided with inclined faces, curved thrust levers projecting above the plane of the bed plate in which they are pivoted, and suitable rods connected with the same and adapted to operate against the said inclined faces, substantially as described.

2. The combination with tracks for street

cars of a movable switch point, a lever rigidly united to said point and provided with inclined faces, wedge acting rods adapted to act against said faces and means whereby such rods may be operated from the platform of a car located upon said tracks, substantially as described.

3. The combination with a movable switch point of a lever rigidly united thereto and provided with inclined faces, curved thrust levers projecting above the plane of the bed plate in which they are pivoted and wedge acting rods connected at one end with such levers and adapted at their other ends to operate against the said inclined faces, substantially as described.

4. The combination with a movable switch point provided with a subjacent lever rigidly united thereto and provided with inclined faces of wedge acting thrust rods adapted to operate against said faces, thrust levers connected with said rods, operating rods arranged upon a car platform and adapted to operate said thrust levers, and mechanism for operating said rods, substantially as described.

DAVID B. HART.

Witnesses:

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SALMER COVHIP.