

(No Model.)

M. F. DELLAC.
RAILWAY SWITCH.

No. 495,025.

Patented Apr. 11, 1893.

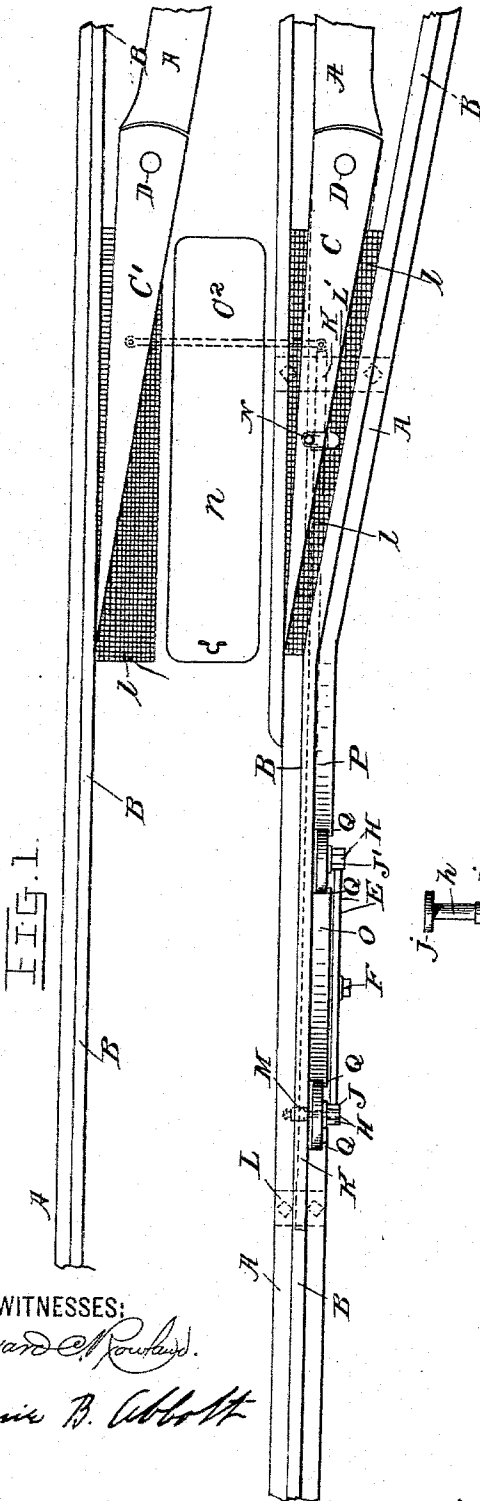
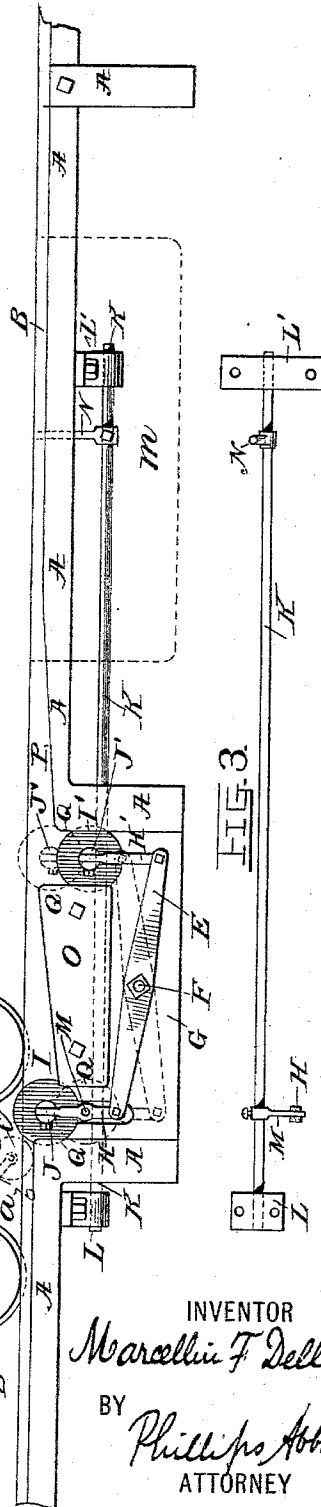
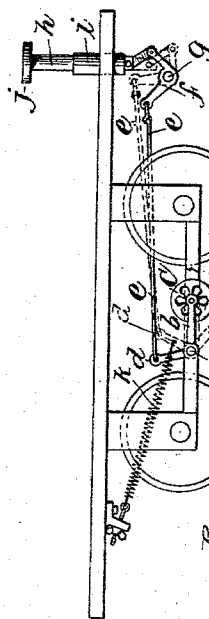


FIG. 2.



WITNESSES:

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MARCELLIN F. DELLAC, OF NEW YORK, N. Y.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 495,025, dated April 11, 1893.

Application filed January 4, 1893. Serial No. 457,279. (No model.)

To all whom it may concern:

Be it known that I, MARCELLIN F. DELLAC, a citizen of France, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention relates to improvements in switches for rail roads which are specially intended for street railways but applicable also to other roads, and the invention includes devices attachable to the cars, whereby the switch may be operated.

In the drawings hereof; Figure 1, illustrates a plan of the invention. Fig. 2, illustrates an elevation showing the two positions of the parts, one in full lines and the other in dotted lines. Fig. 3, illustrates a detail of the connecting rod between the frog of the switch and the rocking lever which actuates the same.

A, represents a suitable frame, preferably of cast iron. It rests on a foundation in the road bed, and supports the track and the operative parts of the switch.

B, B, are the track rails.

C, C' are the frogs. They are pivoted at D, D' to the frog plates, and are connected by a rod C².

E, is a rocking lever pivoted at F to a vertical part G of the frame A.

H, H' are two vertical levers or arms pivoted to the respective ends of the lever E and at their upper ends they each support a wheel I, I' respectively, which turn on axes J, J', respectively, fastened in the upper ends of the arms H, H'. Other means of supporting the wheels on the arms may be employed.

K, (see Figs. 2 and 3,) is a connecting rod, journaled in bearings L, L' and provided with arms or cranks M, N; the crank M enters a slot in the vertical arm H and the crank N engages with the under side of the frog C.

O is a plate of metal bolted to the side of the upright plate G, the upper edge of which inclines down the track as shown. The frame, A, immediately in front of the wheel I' is likewise inclined in the same manner as seen at P. The wheels I and I' are held in place and guided and supported laterally during their up and down movement by ledges Q, Q made on the parts of the frame and on the

plate O as shown in Figs. 1 and 2, which overlap the wheels respectively; any other suitable means of guiding and laterally supporting them may be employed.

Referring now to the appliances on the car whereby the switch may be operated; I show one form only, but those who are familiar with this art, will at once see that many forms of apparatus may be employed to do the work required. I therefore illustrate the devices shown in Fig. 2 and now to be described, as one form only of apparatus in which the switch may be operated.

a is a rock shaft supported on the truck frame of the car or in any other suitable manner.

b is an arm at right angles to the rock shaft a, and rigidly attached to it.

c is a wheel journaled at the end of the arm b.

d is an arm similar to the arm b and likewise rigidly attached to the rock shaft a.

e is a connecting rod which connects the arm d with a bell crank lever f, which is suitably pivoted at g to the frame of the car.

h is a vertically movable bar which slides through a bearing i suitably supported on the car. It has a cap plate, j, upon which the driver of the car may press with his hand when desiring to operate the switch. This device may be made lower near the platform of the car so that the driver may depress it with his foot instead of his hand if desired.

k is a spring which retracts the parts when pressure on the plate j is released.

l is a grating or openwork bottom in the frog castings over which they slide, and beneath these gratings there is a chamber m, see Fig. 2, below the tracks which is accessible through a removable plate n, which is placed between or at one side of the tracks as preferred. The only object of this construction is so that as the frogs move from side to side, all dirt and other matter which might clog them and prevent their proper movements will pass through the gratings and fall into the chamber m beneath, from which it may be periodically removed by lifting the plate n, which covers this chamber as above stated.

The operation is as follows: The car driver when desiring to run over the switch and continue along the straight track, depresses the

rod *h* with his foot or hand as the case may be, as he approaches the switch; thereupon the wheel *c* coming in contact with the wheel *I*, depresses it, thus elevating the wheel *I'* 5 and rocking the connecting rod *K* by reason of the engagement of the arm *M* with the vertical arm *H*. Consequently the frogs are moved over against the branch rail, thus opening the main line; the moment the driver 10 feels through his foot or hand, that the wheel *I* has been depressed, he withdraws the pressure on the plate *j*, and the spring *k* thereupon immediately again elevates the wheel *c*, leaving the parts in their then position with the 15 main line open. If on the other hand, the driver wishes to turn off onto the branch line, he continues the pressure on the plate *j* until the wheel *c* has first passed over and depressed the wheel *I*, then rolled up the inclined edge 20 of the plate *O*, then depressed the second wheel *I'*, thus returning the parts to their original position as shown in full lines so that his car will be turned by the frogs from the main line onto the switch or branch line.

25 The inclined surfaces *P*, and that which is on the upper edge of the plate *O* are provided so that the wheel *c* may pass smoothly and without shock over them and act in the same manner on both wheels *I* and *I'*.

30 It is obvious that any suitable means or agencies may be employed to depress the wheel *c* (or such other device as may be substituted for it) in place of the hand or foot of the driver; and among such agencies are

steam or electricity with suitable appliances, 35 whereby they may be employed to do the work stated.

I claim—

1. The combination of a pivoted frog, a rocking lever, a wheel supported on each end of 40 the said lever, guides and supports for the wheels, a connecting rod connecting the said rocking lever with the frog and means on the car for actuating said devices, substantially as set forth.

2. The combination of a pivoted frog, a rocking lever, a wheel supported on each end of 45 said lever, guides and supports for the wheels, inclined surfaces adjacent to the wheels, a connecting rod connecting the said rocking 50 lever with the frog and means on the car whereby said devices are actuated, substantially as set forth.

3. The combination of a pivoted frog, a rocking lever, a wheel supported on each end of 55 the said lever, guides and supports for the wheels, a connecting rod connecting the said rocking lever with the frog, a grating beneath the frog and means on the car for actuating the said devices, substantially as set forth. 60

Signed at New York, in the county of New York and State of New York, this 2d day of January, A. D. 1893.

MARCELLIN F. DELLAC.

Witnesses:

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