

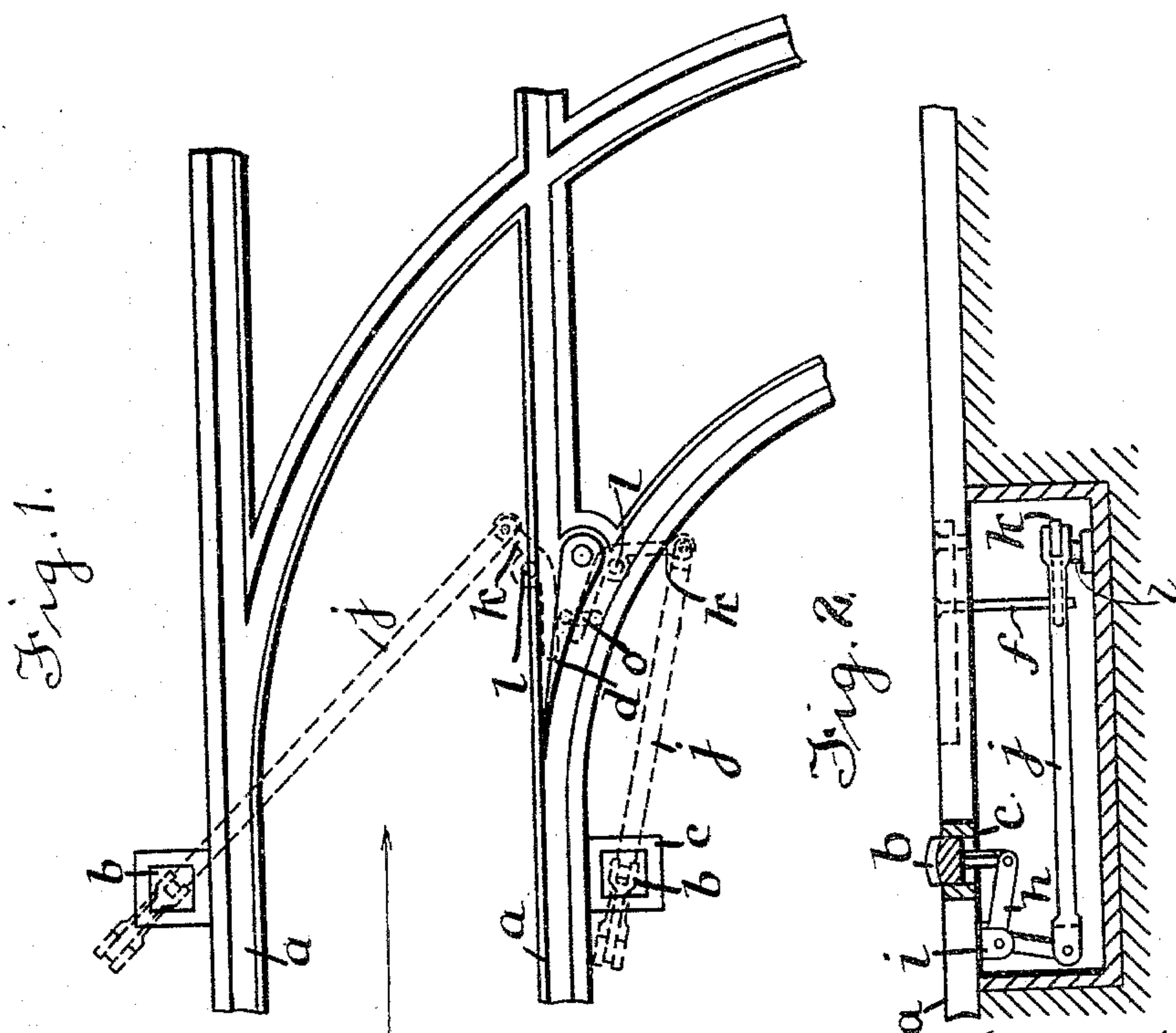
(No Model.)

G. T. JANVRIN & F. J. CONLON.

AUTOMATIC SWITCH FOR ELECTRIC OR CABLE RAILWAYS.

No. 545,230.

Patented Aug. 27, 1895.



Witnesses.
Chas. Morgan
Chas. Morgan.

Inventors:
Geo. T. Janvrin
Frank J. Conlon
By A. P. Thayer atty

UNITED STATES PATENT OFFICE.

GEORGE T. JANVRIN AND FRANK J. CONLON, OF BROOKLYN, NEW YORK.

AUTOMATIC SWITCH FOR ELECTRIC OR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 545,230, dated August 27, 1895.

Application filed December 12, 1894. Serial No. 531,564. (No model.)

To all whom it may concern:

Be it known that we, GEORGE T. JANVRIN and FRANK J. CONLON, citizens of the United States, and residents of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automatic Switches for Electric or Cable Railways, of which the following is a specification.

Our invention comprises improved means for automatically operating the switch by means on the car subject to the control of the engineer, whereby it is designed to provide more efficient, simple, and cheaper switch apparatus of this kind, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a plan view of part of a track having a branch with a switch arranged in accordance with the invention. Fig. 2 is a side view of the apparatus of Fig. 1 and a section of the walls of the pit below the rails, in which some of the apparatus is arranged.

On each side of the main track *a*, and preferably outside of the rails, but in close proximity to them, is a vertical push-stud *b*, suitably arranged in a vertical guideway *c* for vertical movement of about an inch, more or less, and so that the head will be level with the top of the rails when at the limit of the down movement and will otherwise project above the rails, so as to be thrust down by rolls carried on the car and adapted to be let down on the rails by the engineer when the switch is to be shifted, the car being provided with such a roll on each side, adapted to be operated independently of each other. In the space below the rails these push-studs connect with rock-levers, through which and suitable rods the switch-points, as *d*, having studs, as *f*, pendent in the space, are to be shifted by thrusts imparted to said pendants.

The stem of the push-stud *b* is connected with one arm of the elbow rock-lever *h*, pivoted at *i* and having its other arm coupled with the connecting-rod *j*, which is also coupled with one arm of an elbow rock-lever *k*, pivoted at *l* and having its other arm bearing against the pendent stud *f* of the switch-point, so as to shift the point in one direction when the push-stud *b* is thrust down, each push-stud *b* being similarly connected with the pendent stud *f* of the switch-point, but on opposite sides, respectively, so as to shift the

point in opposite directions and so that when one push-stud is thrust down to shift the point one way the other push-stud will be thrust up by the reverse action of the point pendent on it, ready for reversing the point when required.

The pendent stud *f* of the switch-point swings with the point and a short slot *o* has to be made in the base, on which the point rests to allow such movement.

We are aware that push-studs to be actuated by rolls carried on the car are not new as a means of automatically actuating such switches, and we do not claim them, broadly, the novelty of our invention being in the apparatus employed in connection with them and the switch-points.

It will be seen that the arrangement of rock-levers and the convergent connecting-rods is such that, while the push-studs are on opposite sides of the track and the switch-point at one side, the connections are effected with very simple and inexpensive, but effective, apparatus.

We claim—

The combination with the switch point having a rigid pendent stud *f* projecting into the space below the rails, and with a push stud *b* located at each side of the main track and adapted to be thrust down independently by rolls on the car subject to the control of the engineer, of an elbow lever *h* connected to each push stud, a connecting rod *j* coupled with each rock lever, and a rock lever *k*, coupled with each rod respectively, and respectively located on opposite sides of the pendent stud and bearing on it, suitably to push the switch point either way according as one or the other of the push studs is actuated, the said rods connecting the rock levers of the push-studs with the point actuating levers, being suitably convergent to connect directly with the push stud levers at the opposite sides of the track and with the point actuating rock levers located relatively thereto all substantially as described.

Signed at New York city, in the county and State of New York, this 21st day of November, A. D. 1894.

GEORGE T. JANVRIN.
FRANK J. CONLON.

Witnesses:

W. J. MORGAN,
S. H. MORGAN.