(No Model.)

S. F. CLOUSER & E. C. SEWARD.

RAILWAY SWITCH.

No. 522,781. Patented July 10, 1894.

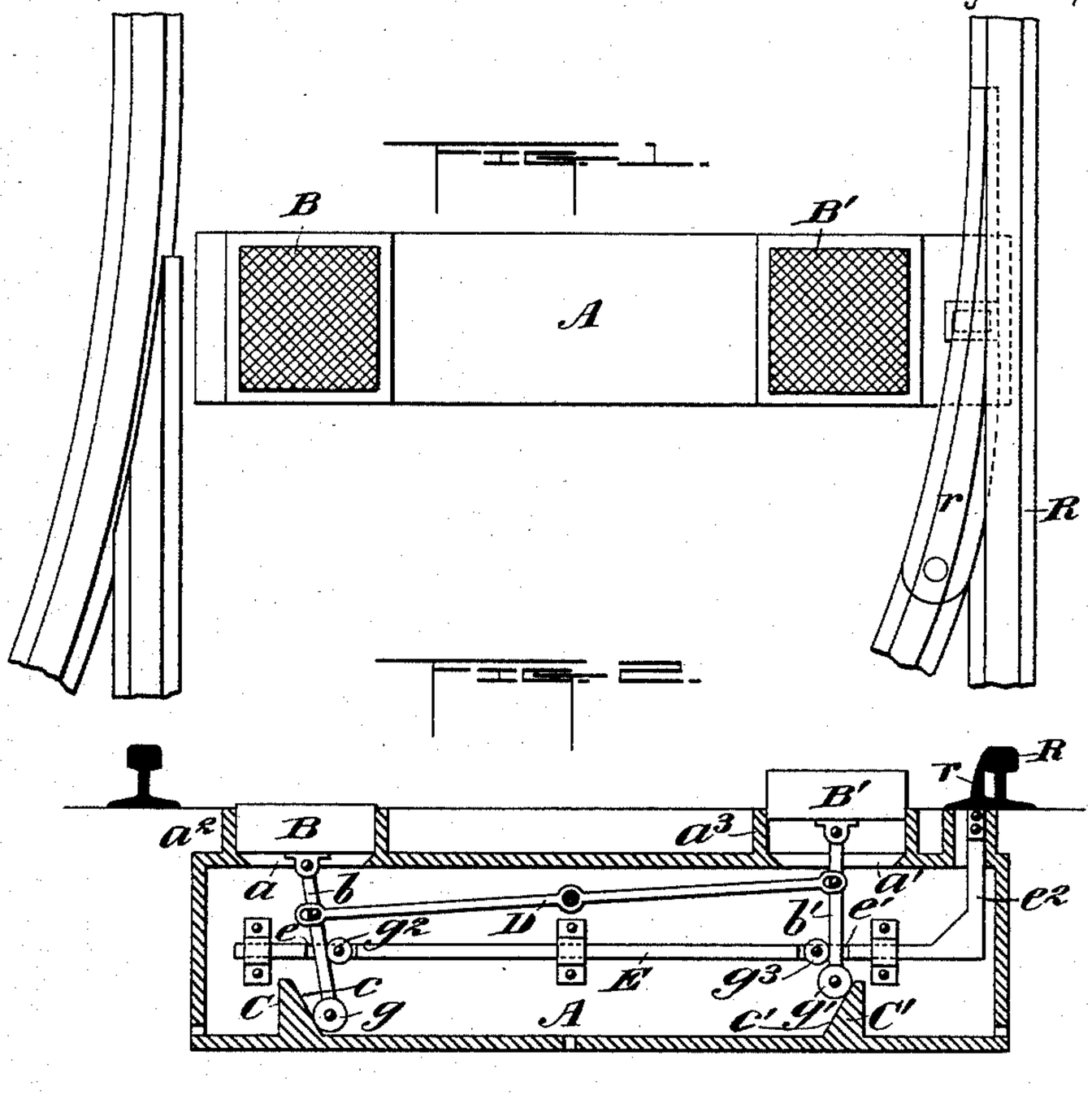

FIG. 3.

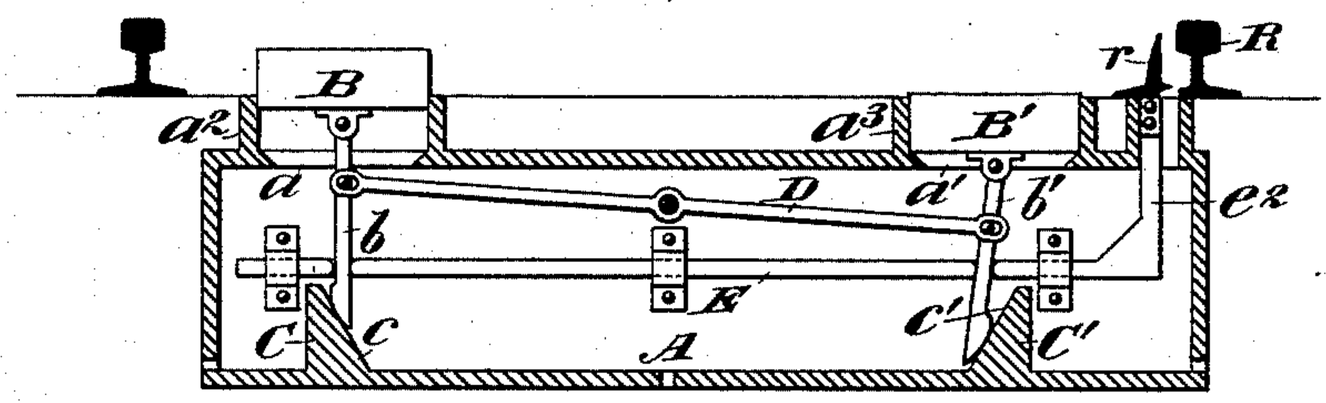

FIG. 4.

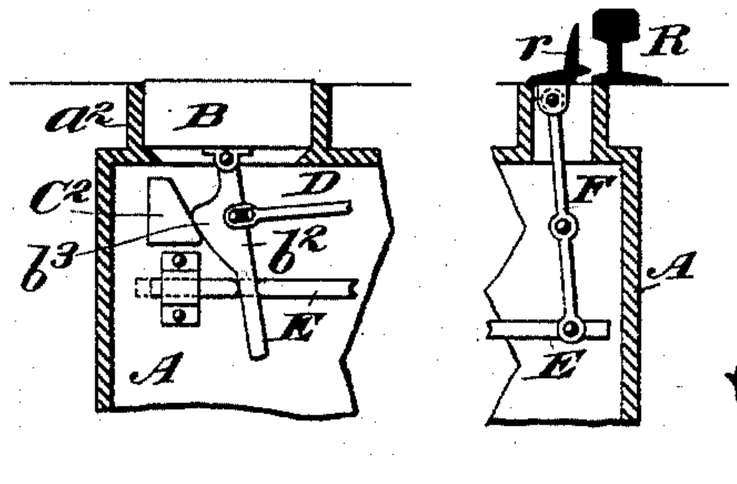

FIG. 5.

Witnesses.
F. B. Edmund
George Barry.

Inventors.
Samuel F. Clouser and
Edward C. Seward,
by attorneys.
Brown & Seward

UNITED STATES PATENT OFFICE.

SAMUEL F. CLOUSER, OF BROOKLYN, NEW YORK, AND EDWARD C. SEWARD, OF MONTCLAIR, NEW JERSEY, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE NEW YORK CAR SWITCH COMPANY, OF NEW YORK, N. Y.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 522,781, dated July 10, 1894.

Application filed February 13, 1894. Serial No. 500,037. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL F. CLOUSER, of Brooklyn, in the county of Kings and State of New York, and EDWARD C. SEWARD, of Montclair, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Railway-Switches, of which the following is a specification.

Our invention relates to an improvement in railway switches in which a movable switch rail is forced toward and away from one of the main tracks by means of reciprocating treadles under the control of a suitable operating device adapted to exert downward pressure upon the one or the other, as may be desired.

A practical embodiment of our invention is represented in the accompanying drawings, in which—

Figure 1 is a top plan view of a portion of a track at a point where the switch is located. Fig. 2 is a vertical longitudinal section through the casing which supports the switch operating mechanism, the plane of the section being transverse to the track. Fig. 3 is a similar view, showing a modified form, and Figs. 4 and 5 are partial sectional views, showing additional modifications of certain parts.

The casing or supporting frame which we have shown for the purpose of mounting the several movable parts is denoted by A and is of oblong, rectangular form and of such depth, width and length as may best suit it for the purpose in hand. At its top it is provided with openings a, a' surrounded by rims a^2, a^3 which serve as guides for the vertically reciprocating treadles B, B'. The treadles B, B' fit with an easy, sliding motion within said rims and have attached thereto depending operating arms or bars b, b', the lower ends of which are adapted to ride along the inclined faces c, c' of heavy lugs C, C', preferably cast integral with the side of the casing A. The arms b, b' are connected together by a vibrating lever D, so that as one of the treadles is depressed, the other will rise. The inclined faces c and c' are so arranged that when the arm b is depressed, by the lowering of the treadle B, the lower end of the arm b will be forced in one direction, in the present instance toward the right, while the arm b', in engagement with the inclined surface c', as the treadle B' is depressed, will be forced in the opposite direction, in the present instance toward the left. A longitudinally sliding bar E is mounted in suitable bearings attached to the box and is provided with recesses e and e' for the reception of the arms b and b'. The bar E is either connected directly with the movable switch rail r, as shown in Figs. 2 and 3, by means of an upturned portion e^2, or it may be connected—as shown in Fig. 5—with an arm of a vibrating lever F, the opposite arm of said lever being connected to the movable switch rail r.

The relations of the arms b and b' to the bearing ends of the recesses e, e' in the bar E are such that when the arm b is depressed, it will force the bar E to the right and thereby close the movable switch rail r into contact with the main track rail R and when the arm b' is depressed, it will force the bar E toward the left and thereby open the switch rail r from the main rail R.

To prevent frictional wear, we have shown—in Fig. 2—the free ends of the arms b, b' provided with anti-friction rollers g, g' and the recesses e, e' with anti-friction rollers g^2, g^3.

In the form shown in Fig. 3, we have omitted the anti-friction rollers and have arranged the ends of the arms to contact directly with the inclined faces of the lugs, while the arms themselves contact directly with the ends of the recesses in the bar E.

In Fig. 4, we have located the inclined faced lugs above the sliding bar E, the lug shown in that figure being denoted by C^2 and we have provided the depending arms, the one shown being denoted by b^2, with heels b^3, adapted to bear against the inclined faces of the lugs C^2.

By the arrangement shown in Fig. 4, the bar E may be given a greater length of longitudinal thrust in proportion to the distance to which the treadles are depressed than in the structures shown in Figs. 2 and 3, but at the expense of loss of purchase.

By the introduction of the lever F, shown

in Fig. 5, a very slight longitudinal movement of the bar E may be made to give the movable switch rail *r* the necessary swing away from and toward the track rail by varying the relative lengths of its two arms.

It will be observed that the movable switch rail is essentially located in its positions against and away from the main track rail, so far as any disturbing elements operating upon the movable rail are concerned, while at the same time it is free to be moved with great ease by weight upon the elevated treadle.

It is obvious that numerous slight changes might be resorted to in the form and arrangement of the several parts without departing from the spirit and scope of our invention, hence we do not wish to limit ourselves strictly to the structure herein set forth, but

What we claim is—

1. Switch operating mechanism, comprising a suitable box or support, a longitudinally sliding bar adapted to be connected with the movable switch rail, reciprocating treadles connected to move simultaneously in opposite directions and arms depending from the treadles and engaged with the sliding bar, the support or box and the depending arms being provided, the one with inclined surfaces and the other with bearings for engaging the inclined surfaces to operate the longitudinally sliding bar, substantially as set forth.

2. The switch operating mechanism, comprising a longitudinally sliding bar adapted to be connected with a movable switch rail, reciprocating treadles connected to move simultaneously in opposite directions, arms depending from the treadles and adapted to engage the longitudinally sliding bar, inclines located in the path of the depending arms and anti-friction rollers secured to the arms at the point where they travel along the inclines and to the sliding bar at the points where the depending arms engage it, substantially as set forth.

SAMUEL F. CLOUSER.
EDWARD C. SEWARD.

Witnesses:
FREDK. HAYNES,
GEORGE BARRY.