(No Model.)

# J. J. ENDRES.

## CABLE ROAD RAIL.

No. 347,782. Patented Aug. 24, 1886.

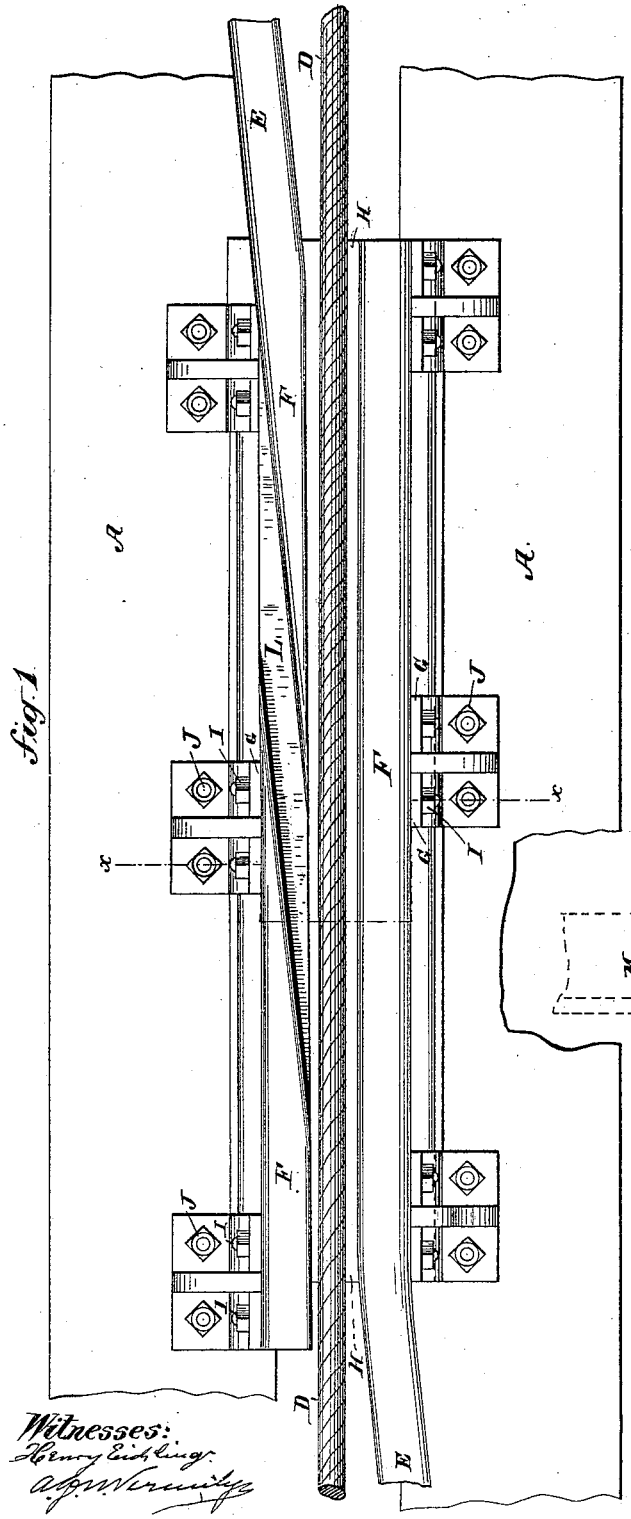

Fig. 1.

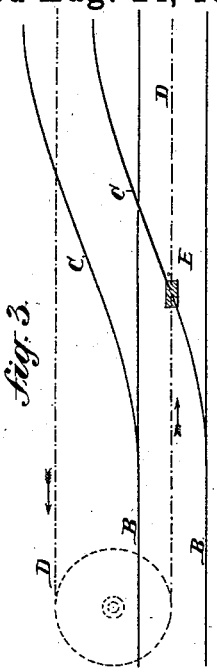

Fig. 3.

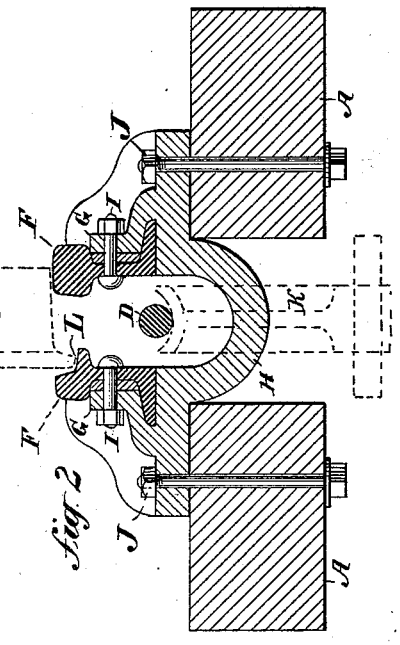

Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOHN J. ENDRES, OF NEW YORK, N. Y.

## CABLE-ROAD RAIL.

SPECIFICATION forming part of Letters Patent No. 347,732, dated August 24, 1886.

Application filed January 25, 1886. Serial No. 189,599. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. ENDRES, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Cable-Road Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The invention relates to a new and novel form of rail for cable roads, which is adapted to be used where a cable is crossed, as in the case of cross or branch tracks. Wherever this arrangement of tracks occurs, it is obvious that the rail crossing the path of the cable must in some way be arranged so as not to interfere with the cable being lifted from its carrying-pulleys for the purpose of attaching it to a car, and to this end it becomes necessary to cut the crossing rail in two parts and arrange such parts so as to leave a cut or slot in the rail, and such slot will produce jolting or chucking of the cars as their wheels pass over it, and such jolting particularly makes uncomfortable riding in the cars, and also weakens and wears the cars and rail-supporting structure.

The present invention, therefore, has for its object the construction of a cable-crossing rail which shall be practically continuous where it crosses the cable, and so prevent the jolting of the cars as they pass the cable slot in the rail; and the invention consists, first, in continuing the rail on each side of the cable for a short distance along its path, thereby making a long cable-slot, and in grooving one rail for the passage of the flange of a car-wheel, so that the wheel in crossing the cable begins to run on its flange just before the cable-slot is reached, and continues so to do until its tread has reached across the cable-slot and bears upon the rail on the opposite side thereof; and the invention consists, also, in connecting the parts of the crossing rail lying on the opposite sides of the cable by a bracket or bridge extending below the normal position of the cable.

In the drawings accompanying this description, Figure 1 is a detail plan view of a cable-crossing rail constructed in accordance with the invention. Fig. 2 is a cross-section of the same on plane *x x*, looking toward the right of Fig. 1; and Fig. 3 is a skeleton plan view of two branching tracks, showing a cable-crossing rail in place.

In these views, A represents the timbers supporting the rails. In the present case they are the timbers of an elevated structure.

B represents the rails of the right hand outgoing track, and C the rails of the incoming or return track, the arrangement here shown being that of an elevated cable road where the cars are started from and return to the same track.

D is the cable, and E (in Fig. 3) is that portion of the crossing rail of the return-track where it crosses the path of the cable. The crossing portion of this rail consists of two parts, F F, running for a short distance side by side, and separated sufficiently to permit the cable to be lifted up between them. These parts of the crossing rail are supported in chairs G G, which form part of the bracket or bridge H, extending under the cable and between the parts F F of the rail, thereby making the rail continuous as to strength and rigidity. Bolts I secure the rails to the chairs, and bolts J fasten the bracket to the timbers A.

K shows in dotted lines the position of one of the carrying-pulleys of the cable.

That one of the parts F of the crossing rail which is on the flange side is cut away or grooved, as seen at L, and this groove lies along the direction of the inside rail C. The depth of this slot is the same as the height of the flange on the car-wheels, as seen at M, where a portion of a wheel is shown in dotted lines.

The operation is this: As a car-wheel passes upon the grooved part F of the crossing rail, the flange of the wheel runs upon the bottom of the groove L, and before reaching the cable-slot the tread of the wheel has passed over the cable and bears upon that part F of the rail on the opposite side, and the weight is now removed from the flange of the wheel to the tread. With these means the wheels of the car are caused to reach across the cable-slot and bear upon the opposite part of the rail before they leave the point L upon one side, and hence no dip or depression in the rail is made which will produce jarring or jolting of the cars. At the same time the work-

ing of the cable is in no way interfered with, and the whole rail structure is rendered stronger and more durable.

What is claimed as new is—

1. A cable-crossing rail for cable roads, consisting of a rail slotted for the passage of the cable, and extending along both sides of the cable-slot and grooved for the passage of the flange of a car-wheel, whereby the wheel in crossing the cable runs upon its flange until its tread passes upon the rail on the opposite side of the cable-slot, substantially as and for the purpose set forth.

2. A cable-crossing rail for cable roads, consisting of a divided rail extending along both sides of a cable-slot and connected beneath the cable, and having one of its parts grooved for the passage of the flange of the car-wheel, whereby the wheel in crossing the cable runs upon its flange until its tread passes upon the rail on the opposite side of the cable slot, substantially as and for the purpose set forth

3. The rail C, slotted for the passage of the cable, and having its parts F F arranged on opposite sides of such slot, one of said parts being grooved at L, as and for the purpose herein set forth.

4. The rail C, composed of the parts F F, arranged on opposite sides of the cable, and connected beneath the cable by the bridge H, one of said parts being grooved at L, as and for the purpose herein set forth.

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