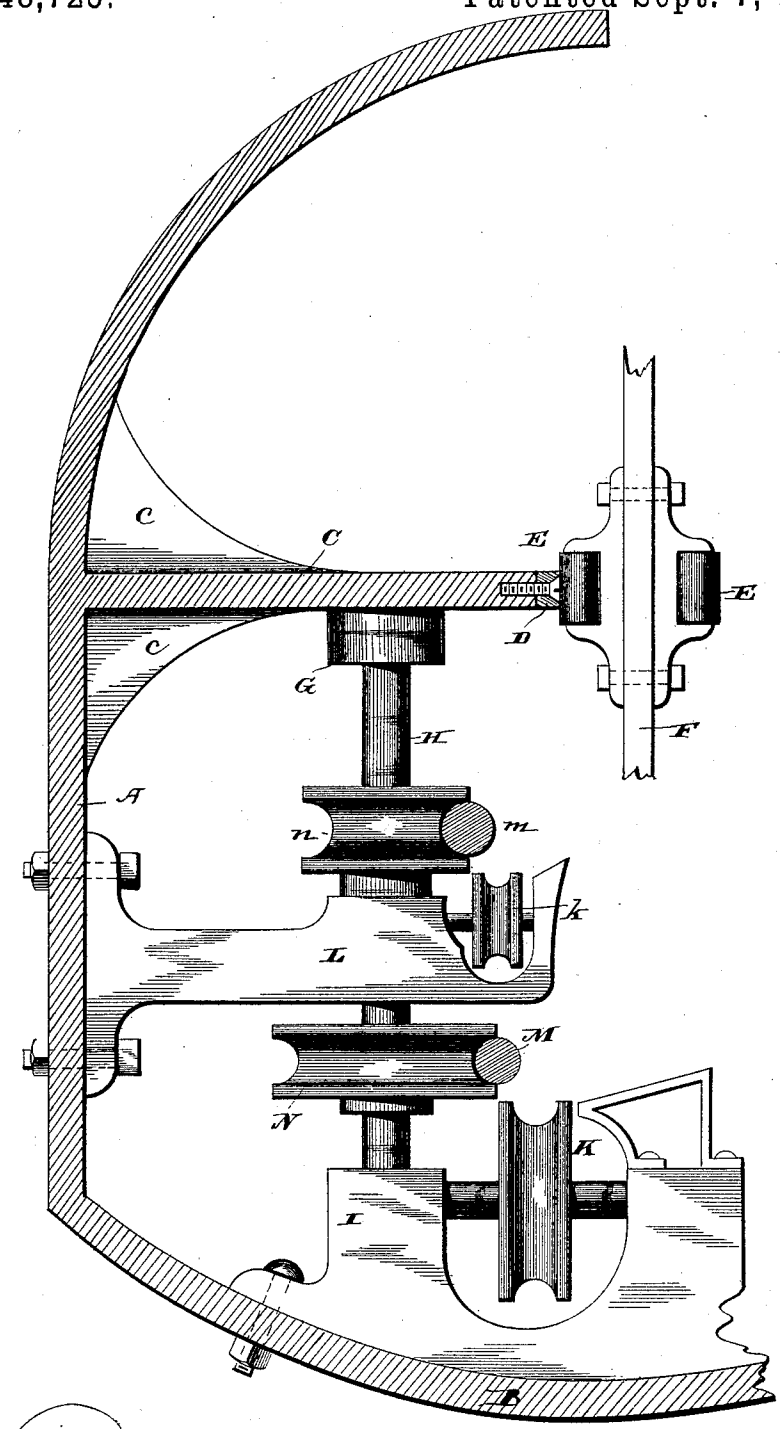
(No Model.)

E. D. DOUGHERTY.

DEVICE FOR TURNING CURVES IN CABLE RAILWAYS.

No. 348,725. Patented Sept. 7, 1886.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD DYER DOUGHERTY, OF PHILADELPHIA, PENNSYLVANIA.

DEVICE FOR TURNING CURVES IN CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 348,725, dated September 7, 1886.

Application filed March 30, 1886. Serial No. 197,180. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DYER DOUGHERTY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Turning Curves in Cable Railways; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in devices for turning curves in cable railways.

The object is to provide a guide-rail for holding the grip at the proper position beneath the slot, against the side strain of the cable, and to furnish the rail with a removable wearing-face and firm support.

A further object is to combine with the guide-rail and its supports bearings for the end of a guide-pulley shaft, which, in connection with a central bracket-bearing and lower end bearing, forms a convenient, effective, and steady support for the horizontal guide-pulleys.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

The accompanying drawing is a view in transverse section of a portion of a cable-conduit embodying my invention.

A represents the side wall of a cable-conduit, and B the bottom of same. The section or sections here represented are of curved form, such as are used in turning a corner. At a point about where the arch and upright portions of the side wall unite is a rail, C, preferably cast integral with the side and extending horizontally therefrom out to a point near where the side of the grip would naturally travel. The perpendicular face of the rail C is curved to conform to the curve of the conduit, and is provided with a removable shoe or wearing plate, D, secured thereto, against which the anti-friction roller E on the side of the grip F bears as the car travels around the curve. The rail C is firmly supported in its position by one or more sets of diagonal web-braces, *c*, preferably cast integral with the rail and side of the conduit.

On the under side of the rail C are formed one or more bearings, G, either cast integral with the rail or firmly secured thereto, in which bearings are rigidly secured the upper ends of one or more guide-pulley shafts, H. The lower end or ends of the shaft or shafts H are stepped in suitable bearings in the foot-bracket I or bracket carrying the cable supporting pulley K. A second cable-supporting pulley, *k*, is mounted in the end of a laterally-extending bracket, L, secured to the side of the conduit. The shaft H extends through the said bracket L and has a middle bearing therein.

M represents the main cable, and *m* an auxiliary cable located above and slightly to one side of the cable M, to be used when, on account of breakage or need of repairs, the main cable M is not run. A pair of guide-pulleys, N *n*, are loosely secured on the shaft H at points on a level with the tops of the pulleys K *k*, respectively, their edges approaching close to the edges of the latter, so that when the cables are strained sufficiently to lift them out of the face-grooves in the supporting-pulleys they will engage the face-grooves in the guide-pulleys. The position of the auxiliary cable *m* above and slightly to one side of the cable M is such as to require a shorter and slightly-bent grip.

The above construction is quite simple, the guide-rail is effectually braced, its face protected, and the shaft carrying guide-pulleys is held firmly in place by its bearing on the rail.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In devices for turning corners in cable railways, the combination, with the side of the conduit, of a curved guide-rail secured thereto and provided with diagonal braces, substantially as set forth.

2. The combination, with the curved guide-rail braced firmly in its position, of a removable wearing-plate secured to its face and adapted to engage the grip, substantially as set forth.

3. The combination, with the curved guide-rail provided with a bearing on its under side, of the guide-pulley shaft having its upper end secured in said bearing, substantially as set forth.

4. The combination, with the curved guide-rail and foot-bracket, of a guide-pulley shaft secured at its lower end in the foot-bracket, at its upper end in a bearing on the guide-rail, and carrying two cable-guide pulleys, substantially as set forth.

5. The combination, with the curved guide-rail, the foot-bracket, and a middle bracket, of a guide-pulley shaft secured in the foot-bracket, middle bracket, and guide-rail, guide-pulleys mounted on the shaft, and cable-support pulleys mounted in the foot and middle bracket, substantially as set forth.

6. In devices for turning curves in cable railways, a curved guide-rail cast integral with the side of the conduit and braced substantially as shown, the said rail having a shaft-bearing on its lower side for the purpose, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWARD DYER DOUGHERTY.

Witnesses:
ELLWOOD BONSALL,
WILLIAM T. GABELL.