(No Model.)

W. HECKERT.

MEANS FOR SUPPORTING TRACTION CABLES ON CURVES.

No. 318,621. Patented May 26, 1885.

FIG. 1.

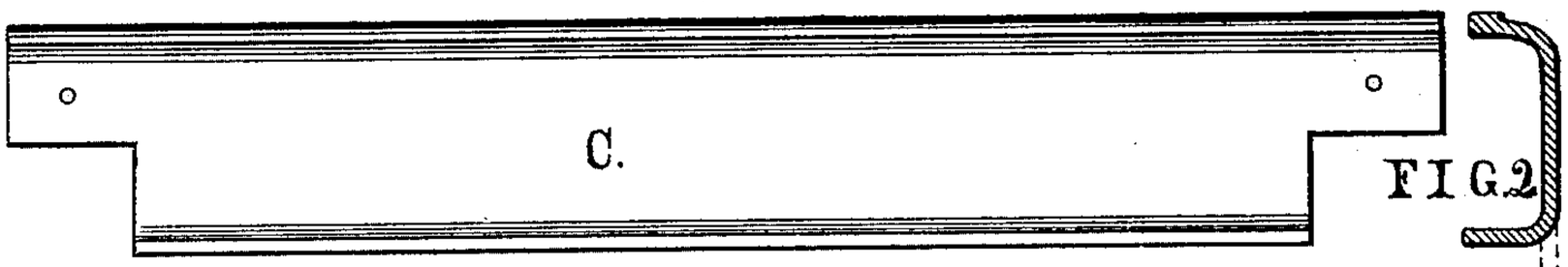


FIG. 2

FIG. 3

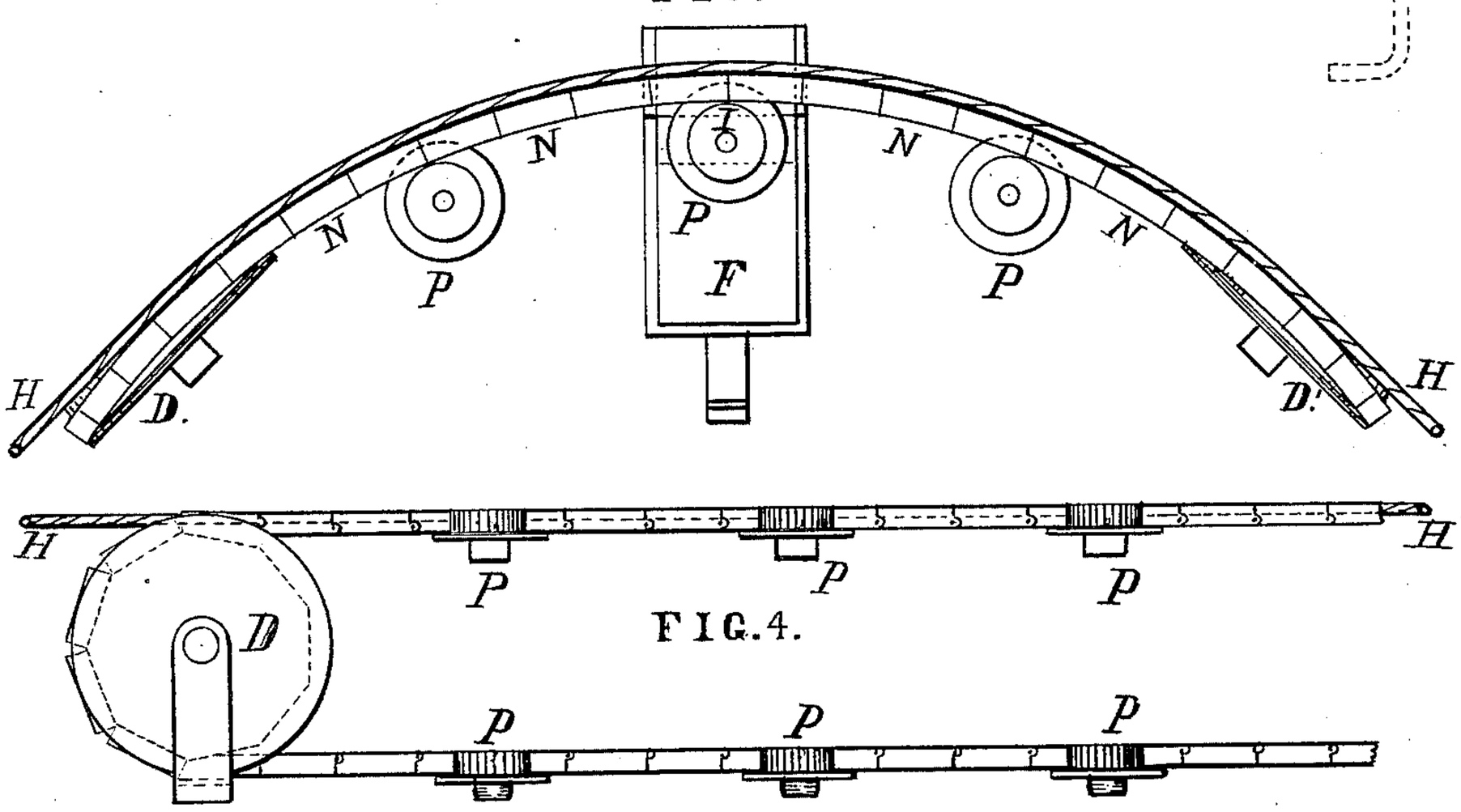


FIG. 4.

FIG. 7.

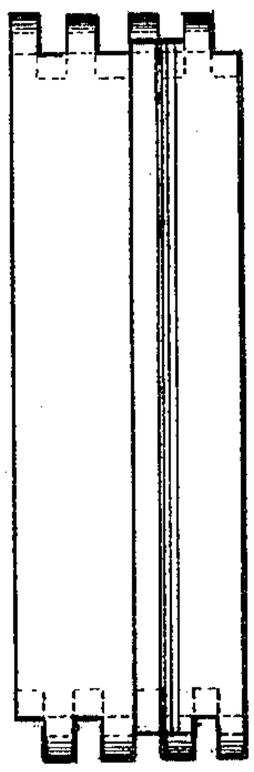


FIG. 8.

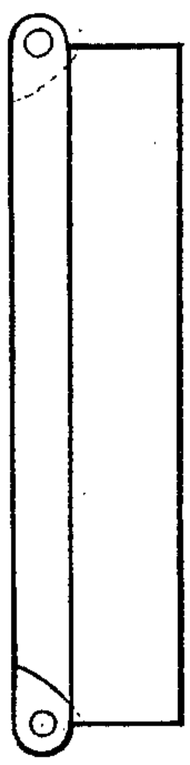


FIG. 5

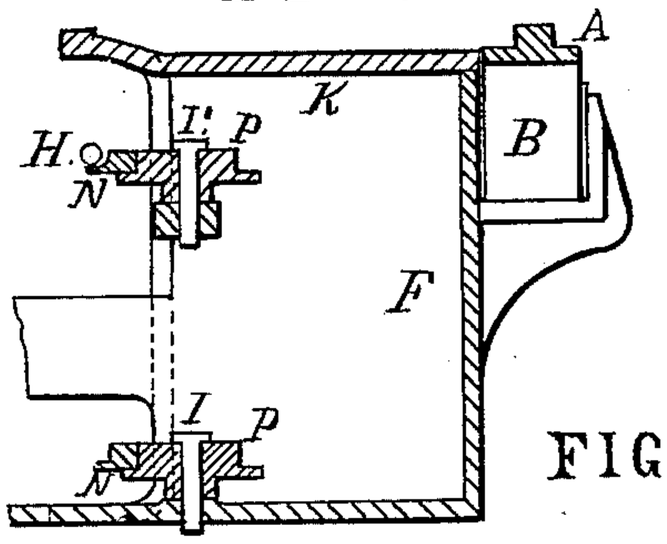
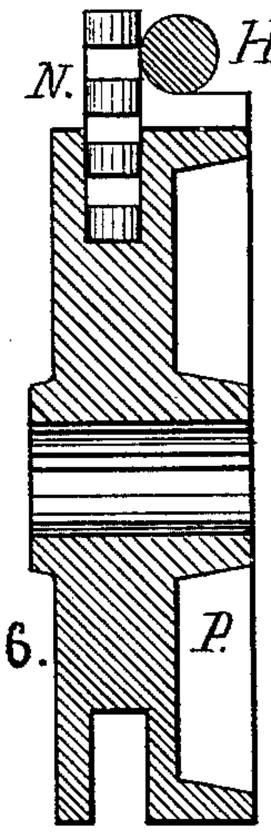


FIG. 6.



Witnesses
L. A. Heckert
Wm. S. Carr

Inventor
Wm Heckert

UNITED STATES PATENT OFFICE.

WILLIAM HECKERT, OF YONKERS, NEW YORK, ASSIGNOR TO G. HILTON SCRIBNER, OF SAME PLACE.

MEANS FOR SUPPORTING TRACTION CABLES ON CURVES.

SPECIFICATION forming part of Letters Patent No. 318,621, dated May 26, 1885.

Application filed March 27, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HECKERT, of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Devices for Supporting Traction-Cables while Passing Around Curves and Turns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 represents one of my cable-tube sections in which the cables are inclosed where the road runs in a direct line, and Fig. 2 is an end section of Fig. 1, and the dotted lines at C′ represent a vertical enlargement of the same as used in my improved method of supporting cables around curves. Fig. 3 represents a plan view of a portion of my improvement for supporting cables around curves, and Fig. 4 represents a side elevation of Fig. 3 with the tie F removed. Fig. 5 represents a vertical section through one of the cross-ties of one-half of the road on said curve. Fig. 6 is an enlarged sectional view of a modification of one of the pulleys on which the hinged block-chain N N N, &c., Fig. 3, is supported, showing the end of one of said links N and the cable H^2 in relative positions. Figs. 7 and 8 are top and side views of said links.

Similar letters in the various figures represent like parts.

This invention relates to railroads in which the motive power is stationary and located at convenient points along the road and connected with an endless traction-cable or series of cables located either above or under the ground, and to which the cars may be connected and operated by various grips well known and used for such purpose.

The object of my invention is the construction of substantial, practical, and economical means of supporting cables in the true arc of a circle or curve of any radius whatever conforming with the tracks of a road correctly laid, and obviating the rapid destruction of cables heretofore experienced by passing the cable around a series of small pulleys set in the arc of a circle, the cable passing from the periphery of one pulley in direct line to that of the next pulley, thereby giving a short bend to the cable as it passes each of said pulleys, thereby destroying the cable in a short time and consuming a large amount of power. The cable also moving around curves in a series of straight lines prevents the cars from moving correctly and with ease over the road or curves or turns. In other places large wheels have been introduced, over which the cable passes. This latter is very expensive, and in many places impractical and impossible to secure the room required for such wheels.

In Fig. 3, H H represent a wire cable, and N N N N a chain formed of blocks of proper length and width, having their edges cut in the arc of a circle or from a radius conforming to that of the road, the ends of said blocks being hinged together close to one side, as seen in Fig. 4, allowing said hinged joints to bend or move in one direction from a straight line only. Figs. 7 and 8 represent a side and edge view, and N, Fig. 6, an end view of said links, drawn on an enlarged scale, and showing one of the various shapes in which the separate links may be constructed from either rolled or cast stock, making the chain light and sufficiently strong, H^2 representing the cable and P, Fig. 6, the corresponding pulleys shown in Figs. 3, 4, and 5, over which the chain N N N and cable H H pass, the pulleys P P being supported in a box-tie or other frame, F, Figs. 3 and 5, revolving freely on studs I I′, placed one above the other. The said block-chain N N moves in a horizontal plane, resting on the flanges of the upper set of pulleys P P, which have their axes in a vertical line; thence over and under the pulleys D D′, which have their axes in horizontal plane; thence over the lower set of pulleys P P to the place of beginning, the ends of the chain being connected together, forming an endless chain. The cable H H, resting against the outer edge of the said chain on a flange or groove, passes along the upper set of pulleys, P P in the true arc of a circle; thence in a direct line over the pulleys of any of the cable roads as now constructed. All of the pulleys P P and D D′ are held in proper position on suitable bearings or in box-ties inclosed with

a lid or door, K, as shown in Fig. 5, admitting of ready access for oiling and repairing the various parts the spaces between each of said ties being inclosed with one of my improved cable-tube sections shown in Figs. 1 and 2, or by any other suitable means not shown or described.

I do not limit myself to any particular design or construction of the curved chain-links N N N, as they may be curved to suit any radius and jointed together in various well-known ways, and the sides or edges shaped to receive a cable or belt supported by flanges or in a groove. It is also evident that the pulleys P P, over which the chain moves, may be varied in construction to fit the chain-links; or they may be dispensed with entirely and a curved track placed between the end pulleys, D D′, on which track the links may slide or run on rollers. I, however, prefer supporting the chain on pulleys as shown in the drawings.

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

1. A chain formed of hinged curved links, with the joints working in but one direction from direct line and having the sides or edges of links curved to the arc of a circle and provided with flange or groove in which a cable may move, as and for purposes specified.

2. The hinged block-chain N N, with curved links formed to move over pulleys set in the arc of a circle, rotating in vertical or horizontal planes, and provided with flange or groove in which a cable or cables may ride, in combination with pulleys P P and D D′, constructed as and for the purposes specified.

3. The box-tie F, provided with pulleys P P, for supporting chain N N and cable H, as and for the purposes specified.

4. A section of a movable guide to carry a cable or belt around a curve, consisting of a block or plate formed to a section of said curve.

5. A movable guide for carrying cables or belts around curves, consisting of a number of curved sections hinged together, forming a continuous chain.

Witness my hand this 30th day of June, 1884.

WM. HECKERT.

Witnesses:
JAMES S. FITCH,
L. A. HECKERT.