A. S. HALLIDIE.

Improvement in Endless Wire Rope-Ways.

No. 115,310. Patented May 30, 1871.

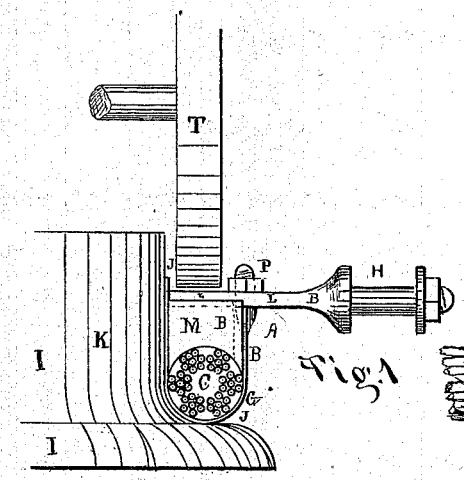

Fig. 1

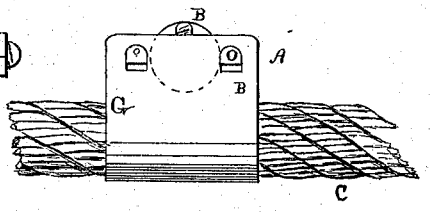

Fig. 2

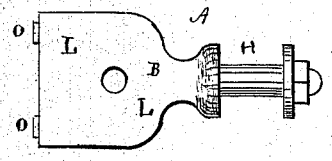

Fig. 3

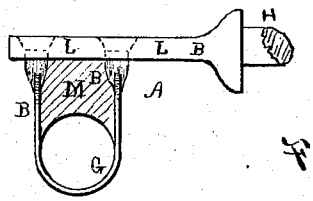

Fig. 4

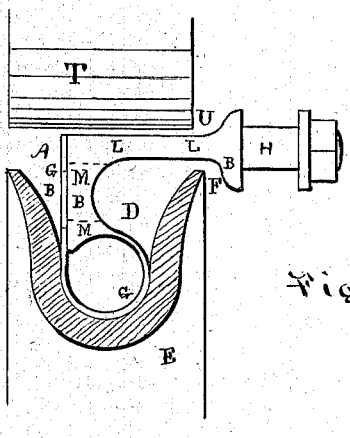

Fig. 5

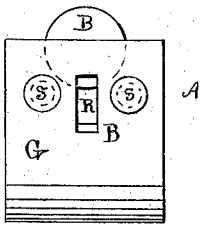

Fig. 6

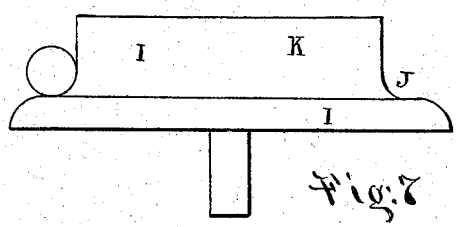

Fig. 7

Witnesses

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UNITED STATES PATENT OFFICE.

ANDREW SMITH HALLIDIE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN ENDLESS WIRE-ROPE WAYS.

Specification forming part of Letters Patent No. 115,310, dated May 30, 1871.

To all whom it may concern:

Be it known that I, ANDREW SMITH HALLIDIE, of San Francisco, in the county of San Francisco and in the State of California, have invented an Improved Endless Wire-Rope Way, of which the following is a specification, reference being had to the accompanying drawing.

This invention relates to that class of endless wire-rope ways or wire tram-ways in which the cars or buckets are secured by means of suspension-rods to hangers or carriers permanently attached to the rope, said hangers or carriers consisting essentially of a projecting arm fastened to the rope by a thin steel clasp or other suitable device in such a manner as not to interfere with the guides or pulleys over or around which the rope may pass. The object of this invention is to so improve the details of construction that bearing-pulleys with deep grooves may be used along the line for sustaining the rope. This I accomplish by the employment of a hanger or carrier, consisting of an arm secured by a thin steel band or other suitable device to the upper part of the rope, and proceeding from the rope upward so as to clear the sides or faces of the groove, and projecting over the upper and outer edge of the groove and terminating in a suitable horizontal wrist or joint to which the suspension-rods are attached. In order that a carrier or hanger constructed in this manner may pass freely around the horizontal pulleys used at the ends of the line, the upper face of the grooves of said pulleys must be made to flare as much as is necessary to clear the hanger and its fasteners, much more, of course, than when a hanger is used which proceeds from the upper and outer quarter of the rope, and the upper face of which is horizontal, or nearly so, and on a tangent to the top of the rope, and with which the depth of the grooves in the bearing-pulleys used does not greatly exceed half the diameter of the rope.

In the accompanying drawing Figures 1 to 6 represent forms of my improved hanger. Fig. 7 represents a form of end pulley suitable for the forms of hanger shown in the drawing.

Each part is distinguished by the same letter whenever it appears in the drawing.

A is the hanger, consisting, essentially, of an arm, B, secured to the upper part of the rope C by the thin steel band G, and proceeding from the rope upward so as to clear the sides or faces of the groove D of the bearing-pulley E, and projecting over the upper and outer edge F of the groove, and terminating in a horizontal wrist or joint, H, to which the suspension-rods are attached. I is the end-pulley. J is the groove, the upper face of which is vertical, forming a drum or cylinder, K, in order to clear the vertical inner faces of the hangers of the forms shown in the drawing. In each of the forms shown the hanger consists of a horizontal plate, L, a vertical part, M, and the thin iron or steel band G. In Figs. 1, 2, and 3 one end of the steel band is secured to hooks O on the end of plate L. The other end of the band terminates in a screw that passes through a hole in L, the vertical part M being a block fitting snugly between the plate L and the rope. The whole is secured firmly together by screwing down the nut P. With this construction of hanger the cylindrical part of the end pulley may be as high as desired, to prevent the possibility of the escape of the rope over the upper edge. The parts may be secured together by riveting, as shown in Fig. 4, or, instead of rivets, both ends of the band N may be provided with a nut and screw, and the form of the faces of the pulleys may be modified accordingly. In Figs. 5 and 6 the plate L, the vertical part M, and the band G are all forged in one piece. The band G is tightened around the rope by means of a key driven through the key-way R, and is secured by rivets S. To prevent the escape of the rope from the groove D, pulleys T may be placed immediately over the bearing-pulleys E. When the distance of the edge F from the edge U is less than the diameter of the rope it will be impossible for the rope to escape.

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

1. The hanger A, consisting, essentially, of an arm, B, secured to the upper part of the rope C, and proceeding from the rope upward so as to clear the sides of faces of the groove D of the bearing-pulley E, and projecting over the upper and outer edge F of the groove, sub-

stantially as herein described, and for the purposes herein set forth.

2. Constructing the hanger A with a horizontal plate, L, a vertical part, M, and a thin band, G, substantially as and for the purposes set forth.

3. Securing the parts together by means of the hook O and nut P, substantially as and for the purposes set forth.

4. Hanger A, in combination with the pulley I, substantially as described, and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 7th day of February, A. D. 1871.

ANDREW SMITH HALLIDIE.

Witnesses:

EDWD. CHATTIN,

E. FITZ GERALD.