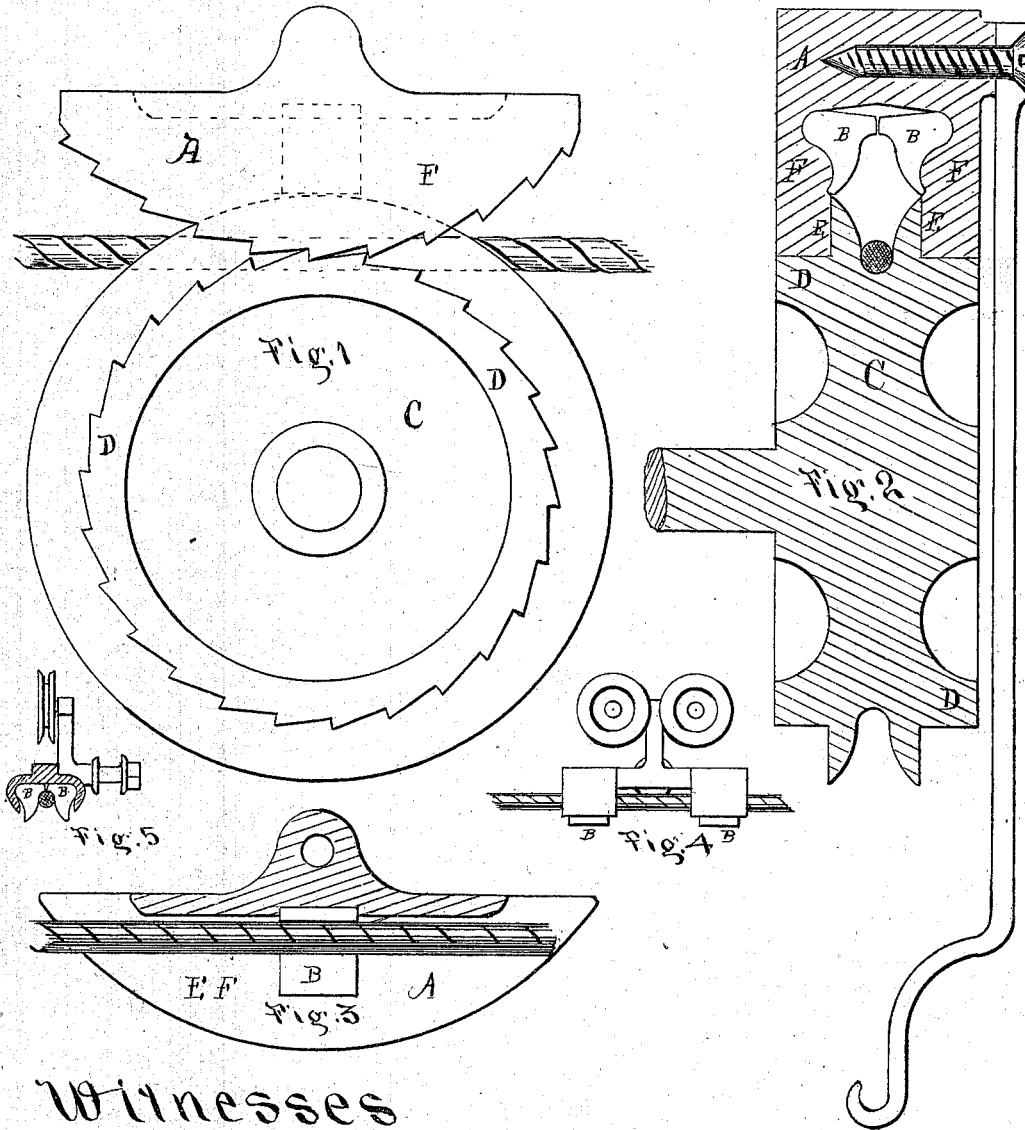


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Improvement in Endless Wire Rope-Ways.

No. 115,309.

Patented May 30, 1871.



Witnesses
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ANDREW SMITH HALLIDIE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN ENDLESS WIRE-ROPE WAYS.

Specification-forming part of Letters Patent No. 115,309, 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 buckets or cars are secured by means of suspension-rods to hangers or carriers that rest like a saddle upon the rope, and are lifted from the rope by some suitable device when passing the bearing-pulleys. Heretofore the hanger or saddle has generally been provided with wheels and carried by the momentum of the moving parts over tracks placed at the bearing-pulleys in such a manner as to lift the saddle clear in passing; but when the bearing-pulleys are placed at considerable distances apart, or when the rope is slack the part nearest the pulleys is so much inclined or forms so great an angle with the horizontal that the momentum is sometimes insufficient to carry the saddle over. Another difficulty is encountered in the slipping of the saddle along the rope when approaching or receding from the bearing-pulleys, or whenever the rope is greatly inclined from the horizontal. The object of my invention is, first, to provide a more positive and reliable method of carrying the saddle over the bearing-pulleys; second, to so improve the saddle or hanger that it will firmly hold the rope when the ordinary saddle would slip and be easily lifted off when passing the pulleys. The first I accomplish by bringing the saddle or hanger into contact with the bearing-pulley in such a manner that the latter, revolving continually by the motion of the rope, lifts the former, carries it over, and deposits it without check or delay upon the moving rope on the other side. The second object I accomplish by the employment of clips similar to those employed in clip or gripe pulleys, inserted in the saddle or hanger in such a way that the entire or the greater part of the weight of the hanger and its load rests upon the clips, the said clips being thereby caused to firmly grasp the rope when so weighted, and to freely release the same when the weight is removed.

In the drawing, Figure 1 is a side elevation of a bearing-pulley and saddle having my improvements, showing the rope resting in the groove of the bearing-pulley and the saddle in the act of passing over the top of the pulley. Fig. 2 is a transverse section through the center of Fig. 1. Fig. 3 is a longitudinal section through the center of saddle, shown in Fig. 1, resting upon the rope, showing one clip in position. Figs. 4 and 5 represent a saddle in which two pairs of clips are employed.

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

A is the saddle, provided with a single pair of clips, B, placed in the center of its length and immediately below the point at which the suspension-rods are attached. With a single pair of clips the saddle must be sufficiently long to prevent the possibility of turning end over end, or the suspension-rods must be attached below the level of the rope instead of above it, as shown in the drawing. When two pairs of clips are used they must be placed sufficiently far apart to avoid the same danger. C is the bearing-pulley, having projecting cylinders D upon each side, about equal in diameter to twice the distance from the center of the rope to the center of the wheel. The inner faces E of the side plates F of the saddle are vertical, and fit the sides of that part of the pulley embraced by them, and thereby act as guides in passing over. The lower faces of the side plates F are curved in such a manner that when the saddle approaches the pulley they will come in contact with the cylinders D, and, being carried by the friction of that contact or by suitable teeth or projections over the pulley, they will raise the clips or V-shaped part of the saddle clear of the top of the pulley in passing. When two saddles, A, are employed, linked or fastened together at such a distance from each other that one pair of clips would always rest upon the rope while the other is passing over, no teeth would be required either upon the faces of the cylinder D or upon the lower faces of the side plates F. When wheels are attached to the saddles for running over rails placed in such a position as to raise the saddle over the pulleys, the clips may be incased, as shown in Figs. 4 and 5.

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

1. Propelling or carrying the saddle or hanger over the bearing-pulley by means of teeth or projections on the bearing-pulley, substantially as described, and for the purposes set forth.

2. The curved side plates F of the saddle, in combination with the projecting cylinders D for raising the saddle off the rope and carrying it over the bearing-pulley, substantially as and for the purposes set forth.

3. The saddle or hanger A, substantially as described, and for the purposes set forth.

4. The employment of clips B, or their equivalent, in the saddle or hanger of an endless wire-rope way, substantially as herein described, and for the purposes herein set forth.

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

ANDREW SMITH HALLIDIE.

Witnesses:

EDWD. CHATTEN,

E. FITZ GERALD.