(No Model.)

G. C. HOWARD.

ROPE CARRYING DEVICE.

No. 386,826. Patented July 31, 1888.

Fig. 1.

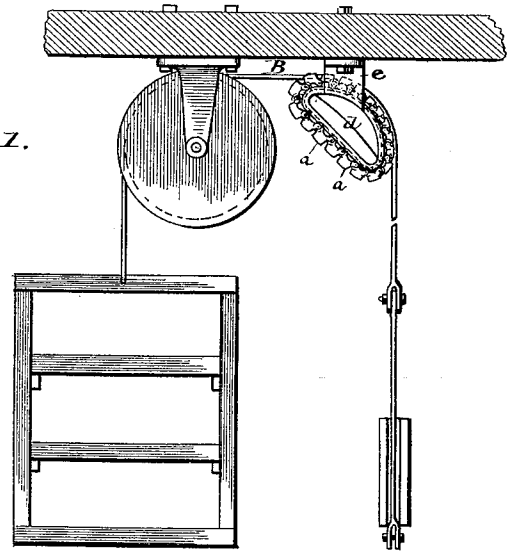


Fig. 2.

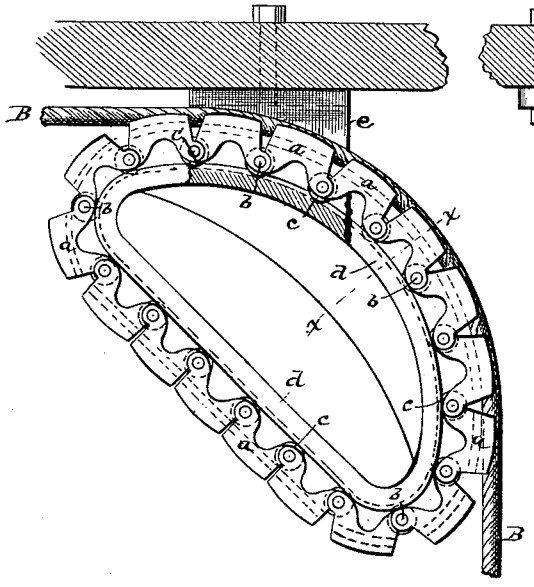


Fig 3

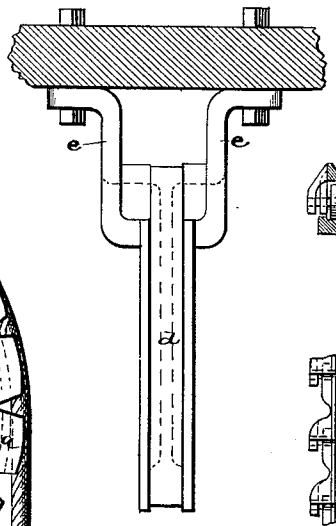


Fig. 4.

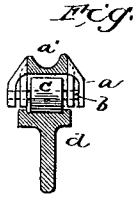
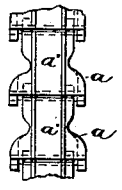


Fig. 5.



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GEORGE C. HOWARD, OF WALLINGFORD, PENNSYLVANIA.

ROPE-CARRYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 386,826, dated July 31, 1888.

Application filed August 15, 1887. Serial No. 247,037. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. HOWARD, of Wallingford, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Rope Carrying and Guiding Devices, of which the following is a full, clear, and exact description.

The aim of my invention is to provide a support for traveling ropes and cables at points where they change their direction of movement, and is intended particularly as a substitute for the guide-pulleys commonly used for this purpose.

In the employment of ropes, and particularly those formed of metal strands, it is desirable that they shall change their course of movement by long and easy curvature, in order to avoid the rapid destruction which results from a sudden or abrupt flexion. For this reason it is customary to use guide-pulleys of large diameter; but it so happens that in many places, particularly in the shafts used for elevators, the space is so limited or so far occupied by other parts that the use of large pulleys is inadmissible.

My invention is directed to the production of a guide which shall present to the rope a convex surface having essentially the same curvature, but which shall at the same time occupy a space much less than that required by the pulley; and to this end it consists, essentially, in an endless chain of rope-carrying blocks provided with supporting-rollers arranged to travel on a suitable track or guide, which may be given any form or outline required, although I commonly give it the form of a segment of a circle.

In the accompanying drawings, Figure 1 represents in side elevation an elevator-car and its weighted sustaining-rope, the latter carried in part by my improved device. Fig. 2 is a side elevation of my guide or carrier, one of its supporting-arms being broken away. Fig. 3 is an edge view of the same. Fig. 4 is a cross-section on the line *x x*, Fig. 2. Fig. 5 is a top plan view of a portion of the moving supporting-chain.

Referring to the drawings, *a a* represent a series of blocks or plates provided in their outer sides with a groove, *a'*, to receive and guide the rope, and connected together, end to end, by pivots *b*, in the form of an endless chain. The connecting-pivots *b*, which pass through ears on the adjacent ends of the blocks, serve also as journals for rollers *c*, which are mounted thereon. The rollers, which are located on the inside of the chain, are arranged to travel in and around a stationary grooved track, *d*, commonly made of a D form, but which may be given any other form required, provided it presents one convex side. This track is cast in one piece with or secured rigidly to arms *e*, which may be bolted to any suitable support for the purpose of holding the track in position.

The rope to be supported (indicated at B in the drawings) is carried around and against those blocks which are for the time being on the outer or convex side of the track. As the rope is moved in either direction, the supporting-chain moving therewith travels around the track, the various blocks or sections of the chain being brought successively into action beneath the rope.

It will be perceived that under my construction the track may be given a form which will present a curve of great radius to carry a rope, while at the same time the entire device may be reduced to a very compact form and placed in corners, angles, and contracted spaces where the use of a large pulley would be impossible.

The essence of the invention consists in the employment, with a suitable curved track, of an endless series of blocks or trolleys mounted on rollers or equivalent anti-friction supports. Manifestly the connecting-joints, the rollers, and the track may be modified in form, as circumstances may require or the fancy of the mechanic dictate, without departing from the limits of my invention.

It is the aim of my invention to provide a carrier by which a rope or cable may be guided and carried with the least possible resistance; and therefore a clear distinction is to be drawn between my carrier and those so-called "cable-grips" in which chains provided with a series of gripping-blocks are arranged to traverse an endless track provided with friction devices to resist their advance; and it is also to be distinguished from those traction devices in which a chain of blocks traversing an endless track is provided with pivoted jaws arranged to close together and firmly grip the cable pass-

ing between them and receiving motion therefrom.

What I claim is—

1. In an anti-friction device for guiding a rope or cable in a curved line, the combination of an endless stationary track and an endless carrying-chain composed of blocks jointed together and provided with sustaining-rollers which travel upon the track, said blocks having their outer faces adapted to receive and loosely carry the rope.

2. An anti-friction guide or carrier for ropes and cables, consisting of an endless chain with blocks grooved in their outer faces to receive and freely support the rope and provided with sustaining-rollers, in combination with a stationary curved track, whereon the rollers freely travel, located within the chain and supporting the rollers opposite or beneath the rope-bearing surfaces.

GEO. C. HOWARD.

Witnesses:
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