

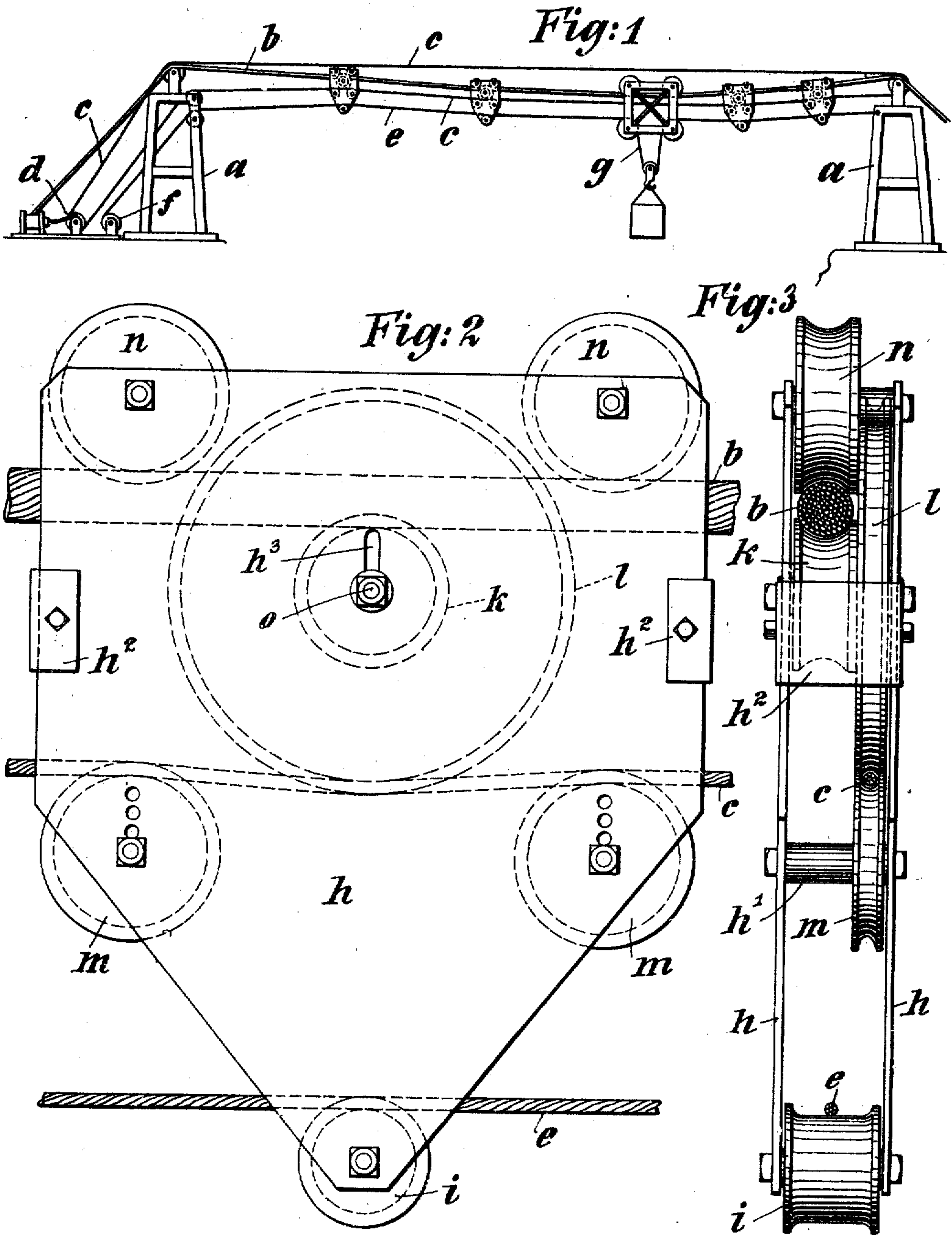
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J. G. DELANEY & A. LAMBERT.

FALL ROPE CARRIER.

APPLICATION FILED MAR. 22, 1906.



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UNITED STATES PATENT OFFICE.

JAMES G. DELANEY AND ASHER LAMBERT, OF NEWARK, NEW JERSEY.

FALL-ROPE CARRIER.

No. 829,513.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Original application filed March 18, 1904, Serial No. 198,769. Divided and this application filed March 22, 1906. Serial No. 307,312.

To all whom it may concern:

Be it known that we, JAMES G. DELANEY and ASHER LAMBERT, citizens of the United States, and residents of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Rope-Carrier for Conveyers or Cableways, of which the following is a full, clear, and exact description.

10 The invention relates to a novel device for supporting the operating rope or ropes of an overhead conveyer.

This application is a division of our application filed March 18, 1904, Serial No. 198,769.

15 The present invention lies in a novel arrangement of the traction-roller by which we are enabled to gear down the speed of the rope-carrier with respect to that of the haul-rope.

20 This specification is a specific description of one form of our invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view showing the general plan of the conveyer system. Fig. 2 is an enlarged side elevation of the rope-carrier, and

30 Fig. 3 is a corresponding end view thereof.

Fig. 1 shows, with the exception of the novel rope-carrier, an ordinary overhead conveyer system embodying the towers or supports *a*, the main cable *b*, the haul-rope *c* and its drum *d*, and the fall-rope *e* with its drum *f*. *g* indicates the load-carrier, supported on the main cable in the usual manner. The rope-carrier has a frame or body which may be of any form desired, but is preferably constructed of two cheek-plates *h*, connected by stay-bolts *h'* and clamps *h''* or by other equivalent means. Said body is supported on the main cable by rollers *n*. The fall-rope *e* runs on a sheave or supporting-roller *i*, mounted in the lower part of the body *h* and is sustained thereby in the usual manner.

40 The traction-roller comprises two faces *k* and *l*. The face *k* engages the under side of the main cable *b*, while the large face *l* lies at one side of the main cable, projecting above and laterally beyond the same in the manner indicated in Fig. 3, and said large face *l* engages the haul-rope *c*. The traction-roller is mounted to be free—that is to say, to move 55 vertically between the cables—for a purpose which will hereinafter appear. As the haul-

rope runs under the large face *l* of the traction-roller it causes said roller to rotate, and the action of the small face *k* on the main cable *b* causes the carrier to be moved bodily 60 along said cable. According to the ratio indicated in the drawings, the rope-carrier will run on the main cable *b* at approximately one-fourth the speed of the haul-cable. It is obvious that by varying this ratio the 65 speed may be varied accordingly.

It is necessary to keep the cables *b* and *c* engaged with their respective roller-faces with sufficient firmness to insure efficient traction, but it is also advisable to make this engagement yielding sufficiently to prevent destructive strains on the parts. We attain this end by means of two sheaves *m*, which are mounted to be vertically adjusted in the framing of the rope-carrier and which bear 75 on the under side of the haul-rope, so as to bow the haul-rope slightly around the large face of the traction-roller, the traction-roller engaging the concave side of the bowed portion of the rope. In this manner the elasticity of the haul-rope, which is usually of steel, is utilized to press the traction-roller 80 yieldingly against the main cable, bringing about the flexible engagement which is necessary between these points rather than a rigid or unyielding engagement, which would prematurely destroy the parts and increase the friction incident to their operation. It will be observed that the rollers *m* and *n* lie one on each side of the vertical center of 90 the axis of the traction-roller. Owing to the bow in the haul-rope the traction-roller will tend naturally to keep this position, but it may be held from horizontal movement by means of a pin *o*, which fits in a vertically-extending slot *h''* in the frame of the rope-carrier. This slot allows the free vertical movement of the traction-roller as it will occur during the working of the apparatus within the limits of the flexibility of the cables *b* and 100 *c*. By this arrangement we cause the cables *b* and *c* to engage the traction-roller with a firm and uniform pressure, which pressure is at the same time sufficiently elastic to give perfect traction and avoid premature destruction of parts. 05

Various changes in the form, proportions, and details of our invention may be resorted to at will without departing from the spirit thereof. Hence we consider ourselves entitled to all such variations as may lie within the intent of our claims. 110

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a conveyer, a rope-carrier comprising
5 a frame, a free traction-roller, having a large and a small diameter, the small diameter being adapted to engage its face with the conveyer main cable and the large diameter being adapted to engage its face with the conveyer haul-rope, and means adapted to engage the said haul-rope at opposite sides of the vertical center of the traction-roller, whereby to bow the haul-rope slightly around the traction-roller and yieldingly press the roller
15 against the main cable.

2. In a conveyer, a rope-carrier comprising a frame, a free traction-roller having two diameters, the small diameter having its face engaged with the main cable and the large diameter lying at one side of the main cable and having the haul-rope engaged therewith, and sheaves engaged with the haul-rope at opposite sides of the vertical center of the traction-roller, whereby to bow the haul-rope yieldingly around the same and yieldingly press the traction-roller against the main cable.
25

3. A rope-carrier for conveyer systems comprising a body, a duplex driving-roller having a large and a small diameter arranged side by side, the small diameter being adapted to engage the conveyer-trackway or main cable and the large diameter being adapted to engage the conveyer haul-rope and said driving-roller being freely movable with respect to the carrier-body transversely of said cables toward and from the same, and means
35 for flexing the haul-rope against the said driving-roller.

4. In a conveyer, a rope-carrier comprising

a frame, a free traction-roller having two peripheral grooves arranged side by side, one adapted to engage with the conveyer main cable, and the other adapted to engage with the conveyer haul-rope, and means adapted to engage the said haul-rope at opposite sides of the vertical center of the traction-roller whereby to bow the haul-rope slightly around the traction-roller and yieldingly press the roller against the main cable.
40 45

5. In a conveyer a rope-carrier comprising a frame, a free traction-roller having two peripheral grooves arranged side by side, one groove engaged with the main cable and the other groove lying at one side of the main cable engaged with the haul-rope, and sheaves engaged with the haul-rope at opposite sides of the vertical center of the axis of the traction-roller, whereby to bow the haul-rope yieldingly around the same and yieldingly press the traction-roller against the
50 55 60 main cable.

6. A rope-carrier for conveyer systems comprising a body, a duplex driving-roller having two peripheral grooves arranged side by side, one adapted to engage with the conveyer main cable and the other adapted to engage with the conveyer haul-rope said driving-roller being freely movable with respect to the carrier-body transversely of said cables toward and from the same, and means
65 70 for flexing the haul-rope against the said driving-roller.

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