

(No Model.)

J. G. DELANEY.
CONVEYING APPARATUS.

No. 561,973.

Patented June 16, 1896.

Fig. 1.

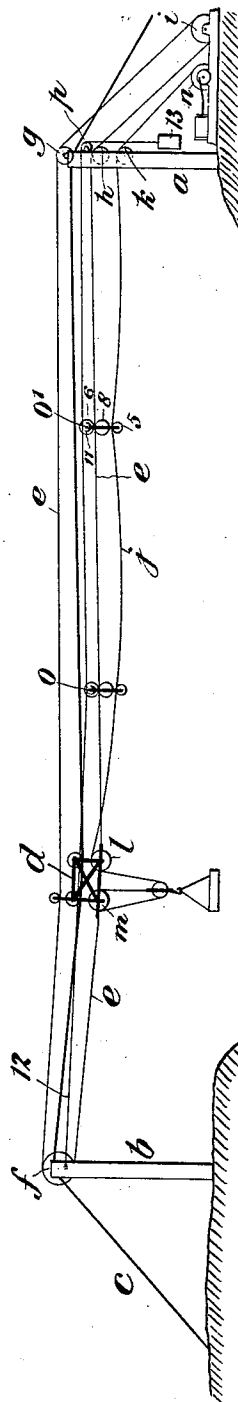


Fig. 2.

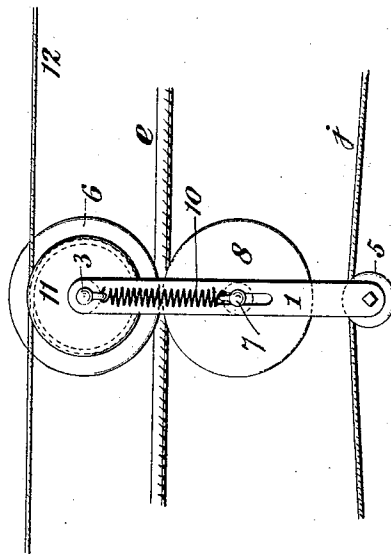
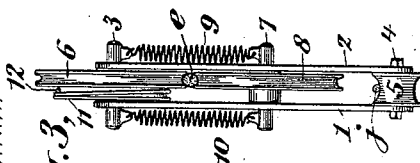


Fig. 3.



WITNESSES:

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CONVEYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 561,973, dated June 16, 1896.

Application filed January 24, 1896. Serial No. 576,655. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. DELANEY, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Conveying Apparatus, of which the following is a specification.

In the patent to the Lidgerwood Manufacturing Company, No. 480,029, dated August 2, 1892, is described a rope-carrier positively driven by mechanism located upon itself, and to this class my present invention relates; and it consists, first, in the nature of the mechanism located on the carrier, and, second, in the nature of the means whereby the movement of said mechanism causes the carrier to travel, and, third, in the combinations and features set forth in the claims.

In the accompanying drawings, Figure 1 is a side view of an apparatus containing my invention. Fig. 2 is a side view of the rope-carrier. Fig. 3 is an end view of the same.

a is the head-support; *b*, the tail-support; *c*, a trackway shown as a cable; *d*, the load-carriage; *e*, the traction-rope; *f*, *g*, and *h*, the sheaves supporting the same; *i*, the drum around which it takes a turn for driving; *j*, the hoisting-rope; *k*, the sheave supporting the same at the head; *l* and *m*, the sheaves supporting it on the load-carriage; *n*, the hoisting-drum. All of these parts are constructed as heretofore.

o and *o'* are rope-carriers constructed alike. Therefore only one of them will be described in detail. 1 and 2 are side frame members connected at top and bottom by the pins 3 and 4.

5 is a hoisting-rope rest shown as a sheave between the side frame members turning on pin 4.

6 is a wheel shown as between the side frame members and as turning on the pin 3.

7 is a pin extending parallel with the pin 3 through a vertical slot in each side frame member so as to be guided thereby to and from the pin 3.

8 is a wheel mounted between the side pieces on pin 7 so as to turn thereon in the same plane with wheel 6.

9 and 10 are spiral springs between pins 3 and 7, pulling them toward each other and causing the wheels 6 and 8 to grip any rope introduced between them.

11 is a sheave concentric with, fast to, and turned by the wheel 6. This sheave is of smaller diameter than the wheel 6, so as to produce differential speed between the rope contact-surfaces of the wheel 6 and sheave 11. The degree of this difference differs as between different rope-carriers. Each rope-carrier in the series contains a greater difference between the diameters of wheel 6 and sheave 11 than the rope-carrier next to it in a direction away from the load-carriage.

12 is a rope extending along the span and substantially fixed—that is to say, it is sufficiently fixed to cause the rope-carriers to travel, but consistently with admitting of sufficient sag or vertical movement to follow the sag of the load-carriage. The rope 12 may therefore be fixed to the tail-support *b* and may extend over the sheave *p* on the head-support, and may be held taut by a take-up device, such as suspended weight 13. The rope 12 is given a turn around the sheave 11 of each rope-carrier.

I do not wish to be understood as limited to the form or mechanical construction of the parts.

As the load-carriage is run out from the head-support by the traction-rope *e*, that rope, being gripped against the wheels 6 of each rope-carrier, will cause each of them to turn and turn its attached sheave 11. As each sheave 11 turns it is compelled to run along the rope 12 by the wrap or turn of the rope around it. Consequently each rope-carrier will follow the load-carriage out from the head-support; but the difference as between different carriers of the differential factor between the peripheral speed of wheel 6 and of sheave 11 will cause the rope-carriers to advance at different speeds, each going slower as it is further away from the load-carriage in the series. Thus the carriers space themselves on the span so as to support the hoisting-rope at the requisite intervals.

Although I have shown the traction-rope *e* as driving the carrier-wheels 6, yet the fall-

rope *j* may itself perform this function for carriers between the head-support and load-carriage, as shown in Fig. 1 of said Patent No. 480,029, without departing from my invention.

5 What I claim is—

1. In a conveying apparatus, in combination, a carrying-trackway, a load-carriage mounted thereon, a fall-rope, a fall-rope carrier, a sheave mounted upon said carrier and two other ropes; one of said other ropes being wrapped around the sheave mounted on said carrier and the other of said ropes being operatively connected with said sheave, substantially as described.

2. In a conveying apparatus, in combination, a carrying-trackway, a load-carriage mounted thereon, a fall-rope, a fall-rope carrier, a sheave mounted upon said carrier, a rope connected with the load-carriage and operatively connected with said sheave and another rope wrapped around said sheave, substantially as described.

3. In a conveying apparatus, in combination, a carrying-trackway, a load-carriage mounted thereon, a fall-rope, a fall-rope carrier, a sheave mounted upon said carrier, a rope connected with the load-carriage and operatively connected with said sheave, and another rope wrapped around said sheave and

a take-up device connected with said last-named rope, substantially as described.

4. In a conveying-apparatus rope-carrier, the combination of a wheel 6, a sheave 11, a connection between the two, a rope wrapped around sheave 11 supports for said rope independent of said sheave whereby it is extended before and behind said rope-carrier and a rope in contact with wheel 6, substantially as described.

5. In a conveying-apparatus rope-carrier, the combination of two wheels 6 and 11 of different diameters secured together concentrically, a driven rope in contact with one wheel and a relatively stationary rope in contact with the other wheel, and supports whereby said stationary rope is extended before and behind said rope-carrier, substantially as described.

6. In a conveying-apparatus rope-carrier, the combination of a wheel 6, a sheave 11 concentrically secured to said wheel, a driven rope, a presser whereby the same is held in contact with said wheel and a relatively stationary rope wrapped around said sheave, substantially as described.

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Witnesses:

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