

Jan. 18, 1927.

F. H. MEYER

1,615,027

CONVEYER

Filed Feb. 3, 1926

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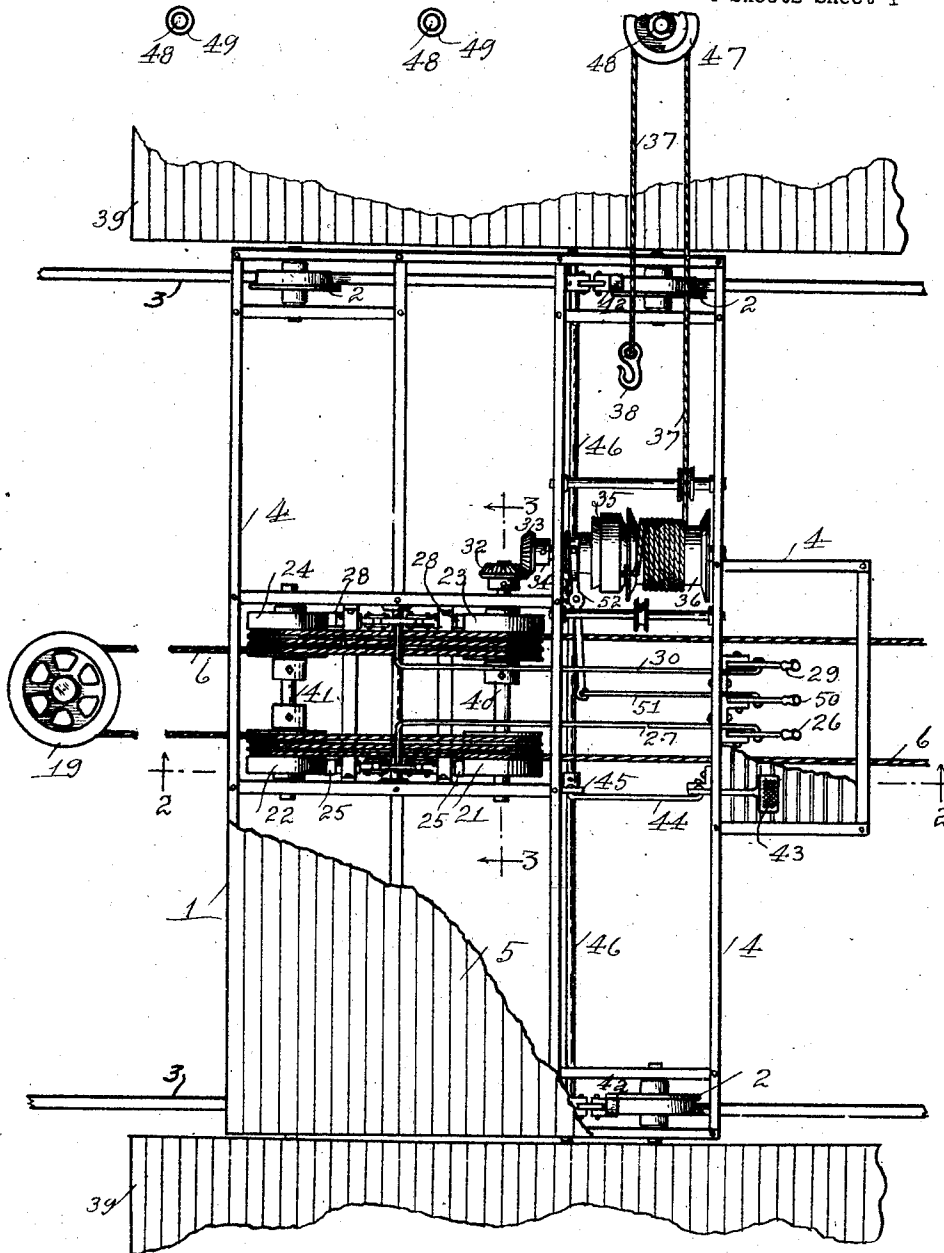


Fig. 1.

Witness:

E. E. Bolding

INVENTOR.

Frederick H. Meyer

BY

Cyrus W. Rice

ATTORNEY.

Jan. 18, 1927.

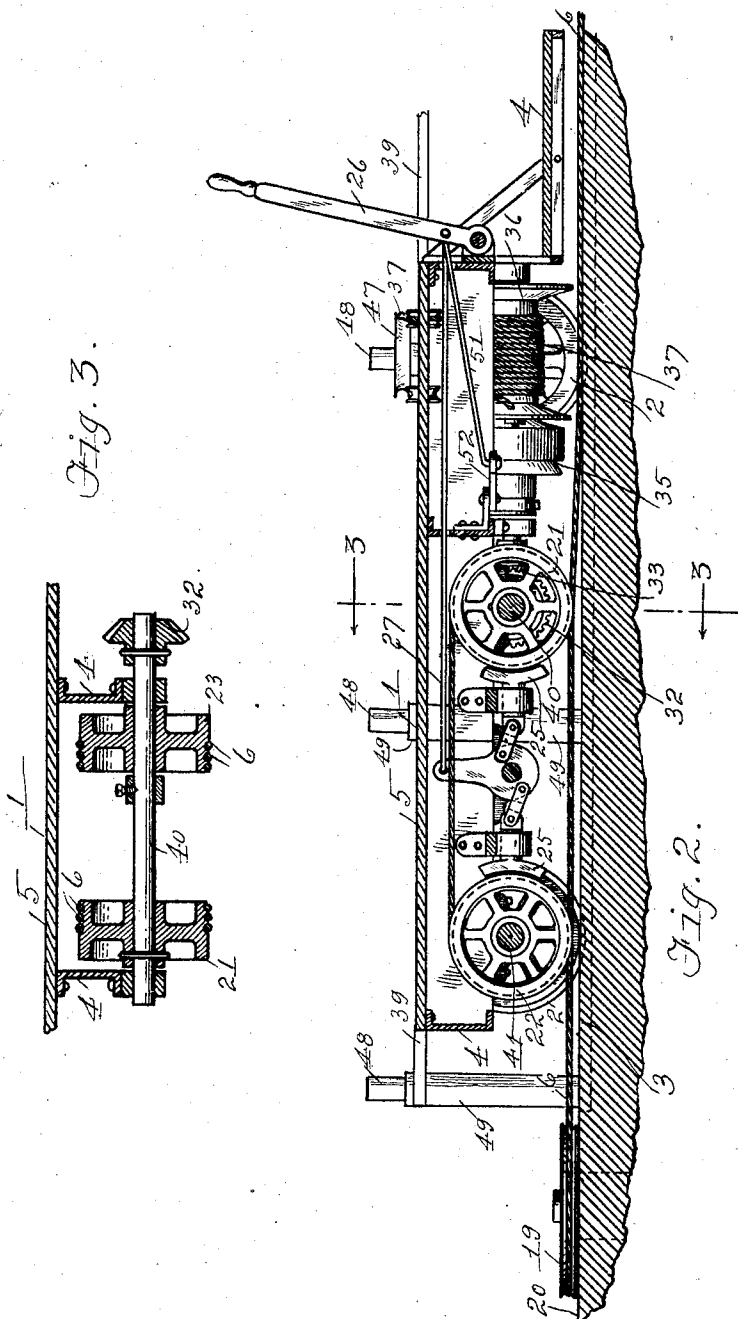
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4 Sheets-Sheet 2



Witness:
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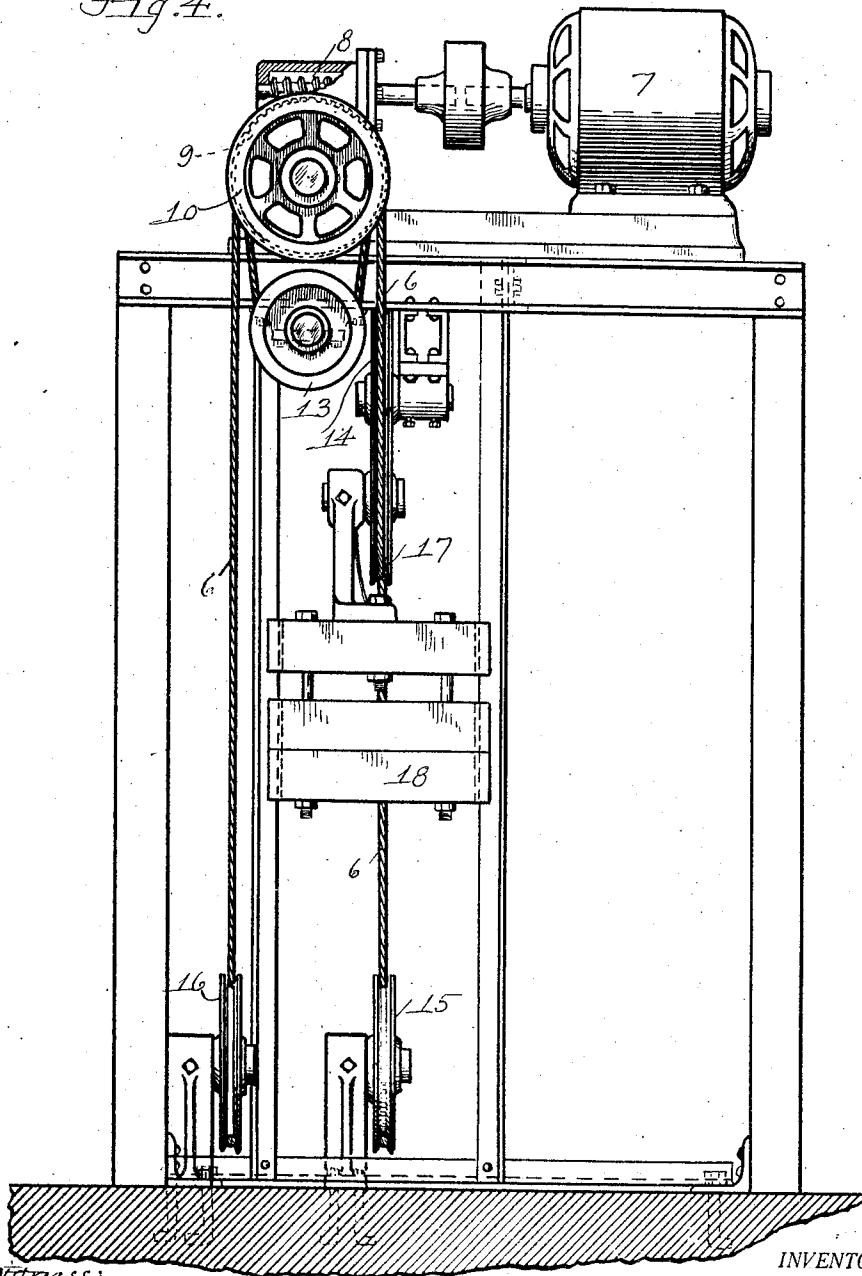
1,615,027

CONVEYER

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Fig. 4.



Witness:
G. E. Harding

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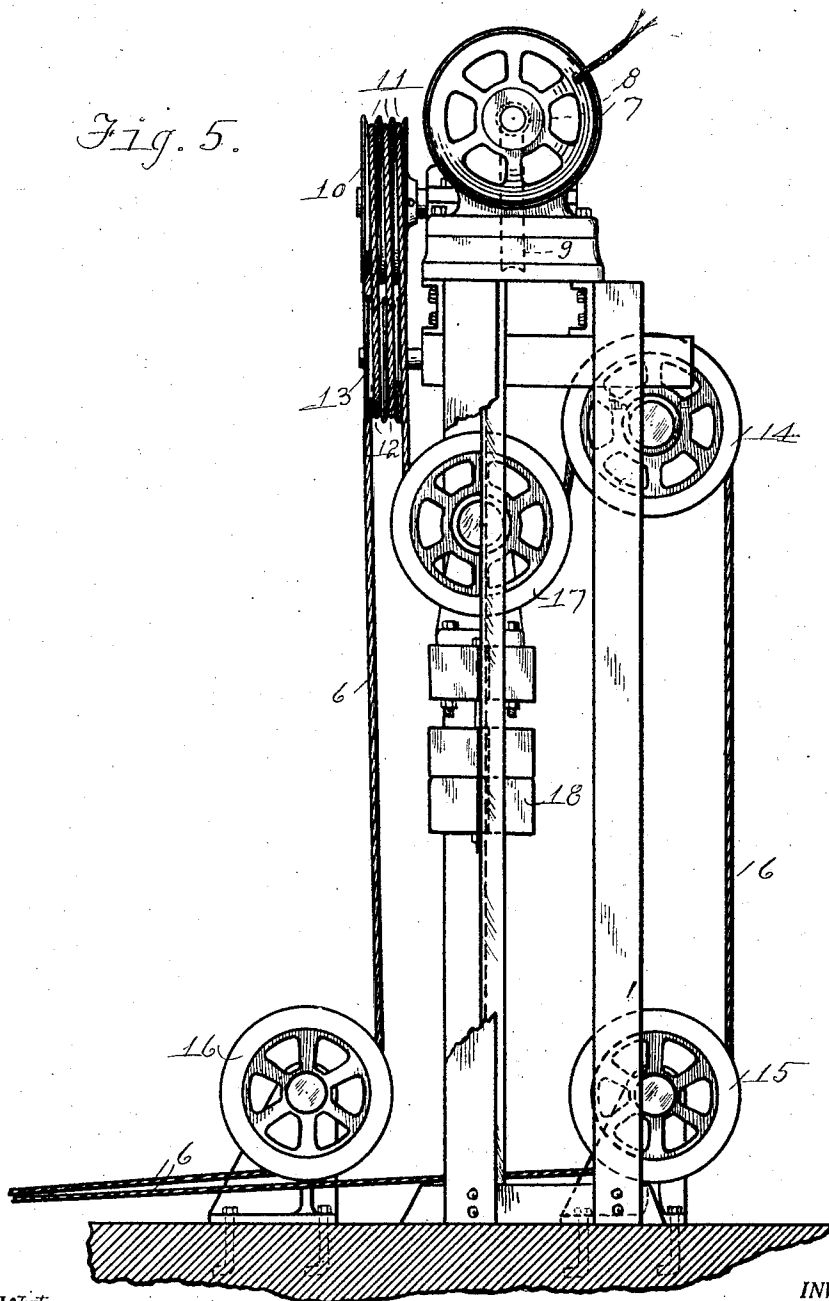
1,615,027

CONVEYER

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4 Sheets-Sheet 4

Fig. 5.



Witness:

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UNITED STATES PATENT OFFICE.

FREDERICK H. MEYER, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO LEITELT IRON WORKS, OF GRAND RAPIDS, MICHIGAN, A CORPORATION OF MICHIGAN.

CONVEYER.

Application filed February 3, 1926. Serial No. 85,665

The present invention relates to conveyers, particularly such as the trucks employed in factories for carrying loads thereabout and discharging the same at intervals in their travel; and the object of the invention is, generally, to provide a vehicle of that character improved in various respects hereinafter appearing; and more particularly, to provide such a vehicle having means for travelling and for loading and unloading the same, operated from a single source of power.

This and any other objects hereinafter appearing are attained by, and the invention finds preferable embodiment in, the organization hereinafter particularly described in the body of this specification and illustrated by the accompanying drawings, in which:—

Figure 1 is a top plan view of a load-carrying vehicle, the platform thereof being broken away to disclose the working parts thereunder;

Figure 2 is a longitudinal sectional view thereof taken on a vertical plane corresponding to line 2—2 of Figure 1;

Figure 3 is a transverse sectional view of certain parts of the same taken on a vertical plane corresponding to line 3—3 of Figures 1 and 2;

Figure 4 is a front elevation of driving means for operating said vehicle and connections therebetween; and

Figure 5 is a side elevation of the same.

In the embodiment of the invention illustrated by the drawings, a load-conveyer, the vehicle 1, travels on its wheels 2 along a track 3, and comprises frame work 4 supporting a platform 5 on which is carried the load. The vehicle is moved along the track by an endless cable 6 which is travelled by suitable means or power, as the electric motor indicated at 7 whose shaft has a worm 8 meshing with a worm wheel 9 whose shaft carries a drum 10. As shown, this endless cable is carried in the grooves 11 of the drum 10, the grooves 12 of the rotatable idler drum 13, and by the sheaves 14, 15, 16, the cable-tightening sheave 17 (having the weight 18), and the sheave 19 mounted on the floor 20 at a suitable distance beyond that end of the vehicle which is opposite to the motor. This cable is wound on a pair of rotatable elements, the drums 21, 22 mounted adjacent one side of the vehicle, the opposite side of the cable being wound on

a pair of rotatable elements, the drums 23, 24 mounted adjacent the vehicle's opposite side. When the brakes 25 are applied, through their operating lever 26 and connecting rod 27, to the elements or drums 21, 22 the frictional engagement of the moving cable therewith moves the vehicle in one direction; while the cable moving in the same direction moves the vehicle in its opposite direction when the brakes 28 are applied, through their operating lever 29 and connecting rod 30 to the elements or drums 23, 24. These drums or elements 22, 23 and 24 freely rotate on their carrying shafts 40, 41 but the element or drum 21 is keyed to its shaft 40 which carries a gear 32 meshing with the gear 33 on the short shaft 34 adapted to be coupled as by the conical clutch 35 with a rotatable element, the drum 36 mounted on the vehicle, on which drum a cable 37 is wound. When the brakes 25, 28 are released, the moving cable 6 rotates the element or drum 21 and thereby the drum or element 36 so that the cable 37 is drawn to move a load, to which it is attached as by its hook 38, to or from the vehicle and from or to a stationary platform 39 on either side of the vehicle, the vehicle itself being held against movement on its track by brakes 42 applied to its wheels 2 by a pedal lever 43 having the connecting rod 44 extending therefrom to the crank arm 45 of the brake-operating shaft 46.

A sheave 47, around which the cable 37 may be passed when used to draw the load from the vehicle, may be applied to any one of the spindles 48 on the posts 49 located adjacent the vehicle's sides and spaced at convenient distances apart.

It will be seen that the provision of the pairs of drums or elements 21, 22 and 23, 24, instead of the single elements or drums 21 and 23, serves to increase the friction of the cable 6 when said elements or drums are braked to move the vehicle along its track.

The clutch 35 is operated by the lever 50, connecting rod 51 and clutch-fork 52.

It will be seen that the vehicle may be moved slowly or started from a stationary position slowly by applying the brake 25 or the brake 28 with slight force, although the cable is travelling at constant speed; and that the speed of the vehicle may be increased by applying the brake with greater force; and that when the brake is applied

with sufficient force to hold the rotatable element engaged thereby against rotation, the vehicle moves at the same speed at which the cable is travelling.

5 The invention being intended to be pointed out in the claims, is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings or hereinbefore described.

10 What is claimed is:

1. In an organization of the character described: a load-carrying vehicle; a rotatable element mounted thereon; a second rotatable
15 element mounted on the vehicle; releasable means for rotating said second element by said first-mentioned element; means for holding said first-mentioned element against rotation; a cable wound on said first-mentioned
20 element; means for travelling the cable; means actuated by the rotation of said second-mentioned element for moving a load relatively to the vehicle.

2. In an organization of the character described: a load-carrying vehicle; a rotatable element mounted thereon; a second rotatable
25 element mounted on the vehicle; releasable means for rotating said second element by said first-mentioned element; means for holding said first-mentioned element against rotation; a cable wound on said first-mentioned
30 element; means for travelling the cable; means actuated by the rotation of said second-mentioned element for moving a load relatively to the vehicle; means for
35 holding the vehicle against movement.

3. In an organization of the character described: a load-carrying vehicle; a rotatable element mounted thereon; a second rotatable
40 element mounted on the vehicle; releasable means for rotating said second element by said first-mentioned element; means for holding said first-mentioned element against rotation; a cable wound on said first-mentioned
45 element; means for travelling the cable; a cable wound on said second-mentioned element for drawing a load relatively to the vehicle.

4. In an organization of the character described: a load-carrying vehicle; a rotatable
50 element mounted thereon; a second rotatable element mounted on the vehicle; releasable means for rotating said second element by said first-mentioned element; means for
55 holding said first-mentioned element against rotation; a cable wound on said first-mentioned element; means for travelling the cable; a cable wound on said second-mentioned element for drawing a load relatively

to the vehicle; a sheave rotatably mounted
60 extraneously the vehicle and adapted to carry the second-mentioned cable.

5. In an organization of the character described: a load-carrying vehicle; a rotatable
65 element mounted thereon; a second rotatable element mounted on the vehicle; releasable means for rotating said second element by said first-mentioned element; means for
70 holding said first-mentioned element against rotation; a cable wound on said first-mentioned element; means for travelling the cable; a cable wound on said second-mentioned
75 element for drawing a load relatively to the vehicle; a sheave adapted to be mounted extraneously the vehicle and at opposite sides thereof to carry the second-mentioned cable.

6. In an organization of the character described: a load-carrying vehicle; a rotatable
80 element mounted thereon; a second rotatable element mounted on the vehicle; releasable means for rotating said second element by said first-mentioned element; a third rotatable
85 element mounted on the vehicle; a sheave mounted extraneously the vehicle; a cable passing around the sheave and having its opposite sides wound on said first-mentioned
90 and third-mentioned elements; means for holding said first-mentioned element against rotation; means for travelling the cable; means actuated by the rotation of said second-mentioned element for moving a load
95 relatively to the vehicle.

7. In an organization of the character described: a load-carrying vehicle; a rotatable
95 element mounted thereon; a second rotatable element mounted on the vehicle; a sheave mounted extraneously the vehicle; a cable passing around the sheave and having
100 its opposite sides wound on said elements; means for holding said elements respectively against rotation; means for travelling the cable.

8. In an organization of the character described: a load-carrying vehicle; a rotatable
105 element mounted thereon; a second rotatable element mounted on the vehicle; a sheave mounted extraneously the vehicle; a cable passing around the sheave and having
110 its opposite sides wound on said elements; means for braking and for holding said elements respectively against rotation; means for travelling the cable.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this
115 29th day of January, 1926.

FREDERICK H. MEYER.