

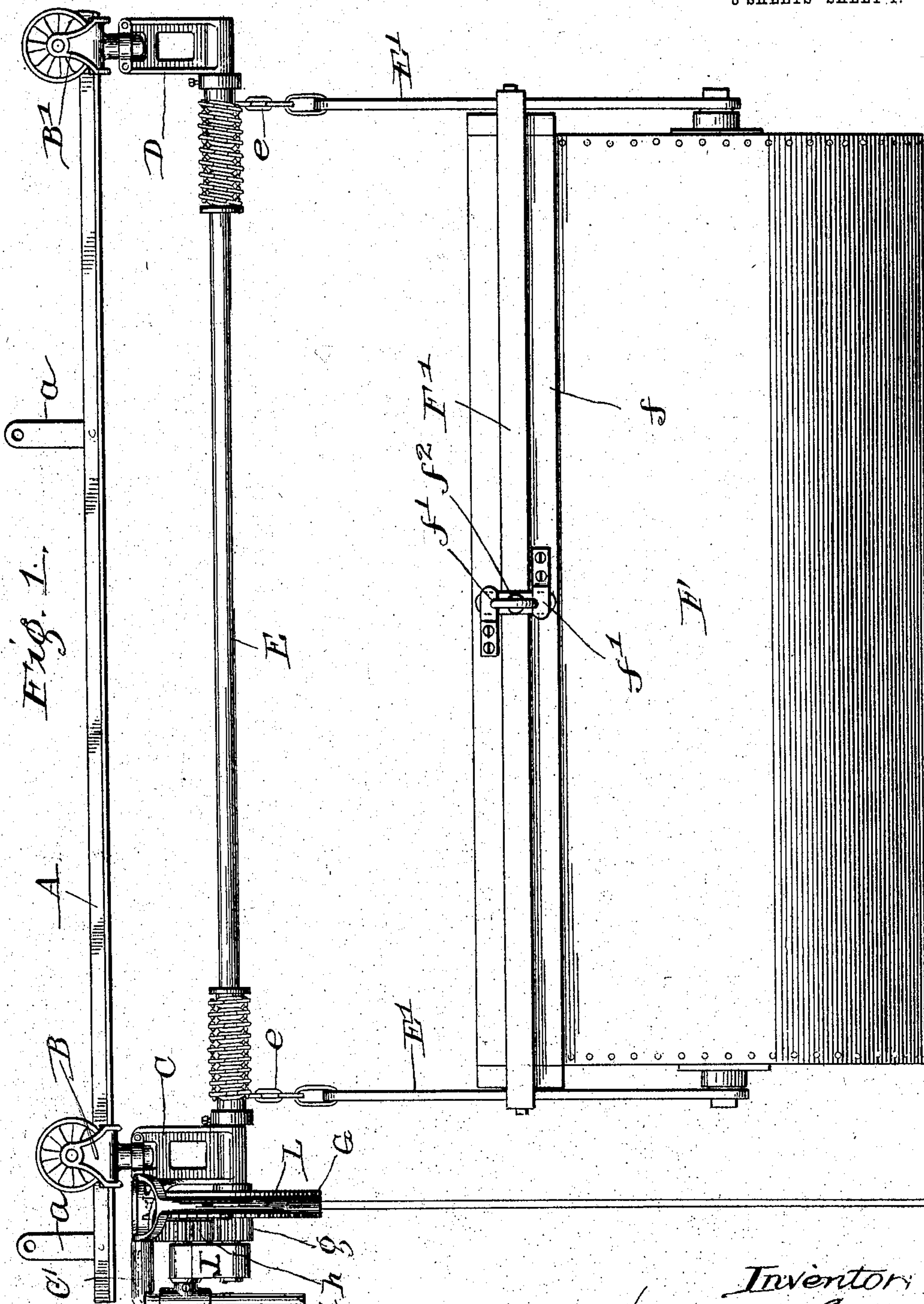
No. 815,521.

PATENTED MAR. 20, 1906.

H. L. FERRIS.
FEED AND LITTER CARRIER.

APPLICATION FILED APR. 12, 1905.

3 SHEETS—SHEET 1.



Witnesses:
K. M. Corinnall
J. E. Sherry.

Inventor:
Henry L. Ferris
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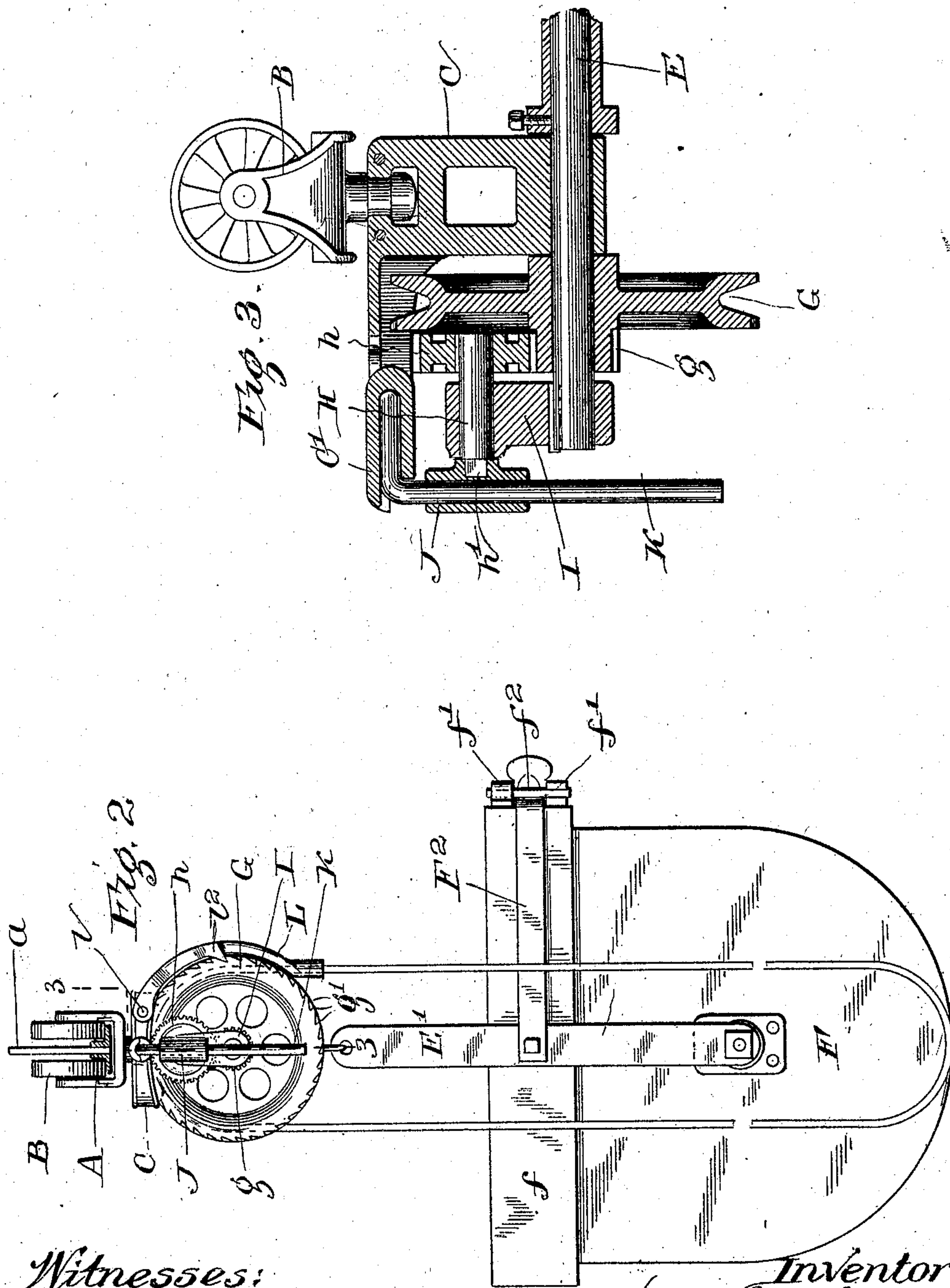
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3 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM,
FERRIS & COMPANY, OF HARVARD, ILLINOIS, A CORPORATION OF
ILLINOIS.

FEED AND LITTER CARRIER.

No. 815,521.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed April 12, 1905. Serial No. 255,180.

To all whom it may concern:

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Feed and Litter Carriers, of which the following is a specification.

My invention relates to certain new and useful improvements in feed and litter carriers; and its object is to produce a device of this class which shall have certain advantages which will appear more fully and at large in the course of this specification.

To this end my invention consists in certain novel features which are shown in the accompanying drawings as embodied in my preferred form of construction.

In the aforesaid drawings, Figure 1 is an elevation of my improved device. Fig. 2 is an end view of the same. Fig. 3 is a section in the line 3 3 of Fig. 2. Fig. 4 is an enlarged view of the parts shown in the upper portion of Fig. 2, the gearing being shown in a different position. Fig. 5 is a horizontal section in the line 5 5 of Fig. 4 looking downward, and Fig. 6 is a section in the line 6 6 of Fig. 5 looking in the direction of the arrow.

Referring to the drawings, A is a suitable track supported by brackets *a*. Upon the track A run hangers B B', which are pivotally connected to and support frames C D, respectively. In the frames C D is journaled a longitudinal shaft E, upon which are wound chains *e*, the free ends of said chains being secured to vertical bars E', to the lower ends of which is pivoted a carrier F. The carrier F is preferably provided with a curved bottom, as illustrated, and has a rectangular open top surrounded by a strengthening-frame *f*. On the forward side of this frame *f* are two ears *f'*, which are adapted to be engaged by a catch *f*², mounted on a bar F', secured to the vertical bars E' by means of transverse straps F². It will be evident that by releasing the catch *f*² the carrier can be swung backward to dump its contents, after which it can be swung back to place and again secured by means of the catch. The transverse bar F' limits forward movement of the carrier. It will also be evident that by rotating the shaft E the carrier can be raised and lowered and that the entire structure can be moved

along the track, as described, the swiveled connection between the hangers and shaft-supporting frames permitting the device to accommodate itself to any slight inequality in the track. The mechanism by which the shaft is rotated will now be set forth.

On the end of the shaft E is rotatably mounted a grooved pulley G, bearing a pinion *g*. This pinion meshes with a pinion *h*, keyed against rotation on a shaft H, which extends through and is journaled in the free end of a crank I, keyed on the end of the shaft E. The opposite end *h'* of the shaft H from the pinion *h* is squared, Fig. 6, and extends into a correspondingly-shaped socket in a sleeve J, slidable on a crank K, the upper end of which extends into a socket in an arm C' on the frame C. As the pulley G and pinion *g* are rotated the pinion *h* being held against complete rotation is caused to travel around the pinion *g*. This movement swings the crank K like a pendulum and causes the crank I to rotate the shaft E.

In order to hold the carrier in its raised position during the travel of the device along the track, one of the flanges of the grooved pulley G is formed with a plurality of ratchet-teeth *g'*. The driving-rope of the device is passed through a rope-guide L, pivoted at *l* to the frame C. This rope-guide L is provided with a tooth *l*², which is adapted to engage the teeth *g'* at any point to prevent reverse rotation of the pulley G. The rope-guide and its locking-tooth can be swung out of engagement with the pulley by manual manipulation of the elevating-rope.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit myself to the specific form herein shown and described.

I claim as new and desire to secure by Letters Patent—

1. In a device of the class described, the combination with a track and rolling supports thereon, of suitable winding devices arranged to receive a flexible connection, vertical bars connected with said winding means by a flexible connection, a carrier journaled between said vertical bars, transverse straps secured to and extending forward from said vertical bars and a longitudinal member con-

necting the ends of said transverse straps and arranged to limit its swing in one direction.

2. In a device of the class described, the
5 combination with a track and rolling supports thereon, of suitable winding devices arranged to receive a flexible connection, vertical bars connected with said winding means by a flexible connection, a carrier journaled between
10 said vertical bars, transverse straps secured to and extending forward from said vertical bars, a longitudinal member connecting the ends of said transverse straps and lying substantially in the plane of the upper portion of
15 said carrier and arranged to limit its swing in one direction.

3. In a device of the class described, the combination with a track and rolling supports thereon, of suitable winding devices arranged
20 to receive a flexible connection, vertical bars connected with said winding means by a flexible connection, a carrier journaled between said vertical bars, transverse straps extending forward from said vertical bars, a longitudinal member connecting the ends of said
25 transverse straps and lying substantially in the plane of the upper portion of said carrier and arranged to limit its swing in one direction, and mutually-engaging devices on the
30 carrier and said longitudinal member for locking the carrier in place.

4. In a device of the class described, the combination with a track and suitable rolling supports, of a shaft secured to the supports, a
35 carrier connected to the shaft, a pulley loose on the shaft, a pinion secured to the pulley, a crank secured to the shaft and bearing a pinion secured against rotation and in mesh with said first pinion.

5. In a device of the class described, the 40 combination with a track and suitable rolling supports, of a shaft carried by said supports, a carrier carried by the shaft, a pulley running loose on said shaft, a pinion secured to said pulley, a crank secured to said shaft, a second shaft passed through the end of said 45 crank and bearing a pinion in mesh with said first pinion, a second crank pivoted to the rolling support, and a sliding sleeve on said second crank engaging the end of said second 50 shaft to prevent its rotation.

6. In a device of the class described, the combination with a carrier, shaft and means of connection between the shaft and carrier, of a grooved pulley, a rope running over the 55 pulley, means of connection between the pulley and shaft, ratchet-teeth cut in one flange of the pulley, a rope-guide through which the rope passes pivoted eccentrically with respect to the journal of said pulley and a locking- 60 tooth on said guide adapted to engage said ratchet-teeth.

7. In a device of the class described, the combination with a carrier, a shaft, and means of connection between the shaft and carrier, 65 of a grooved pulley arranged to rotate the shaft, a rope running over the pulley, and means operated by the rope for locking the carrier in any position.

In witness whereof I have signed the above 70 application for Letters Patent, at Harvard, in the county of McHenry and State of Illinois, this 5th day of April, A. D. 1905.

HENRY L. FERRIS.

Witnesses:

BLAKE B. BELL,
C. F. REYNOLDS.