(No Model.)

A. N. WOODARD.

TILTING PARCEL AND CASH CARRIER APPARATUS.

No. 524,627. Patented Aug. 14, 1894.

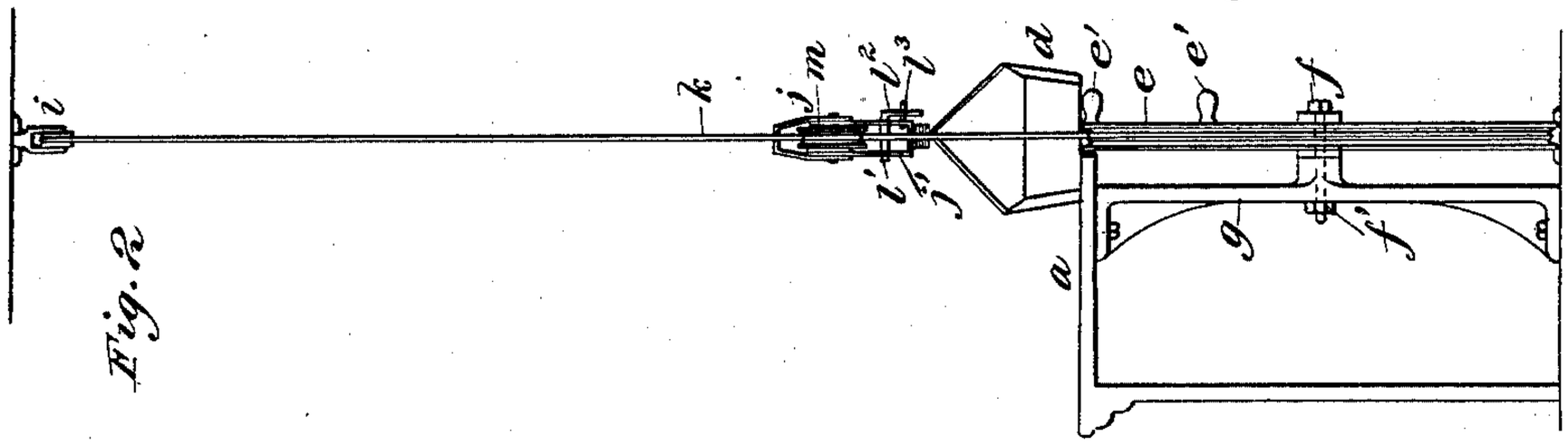
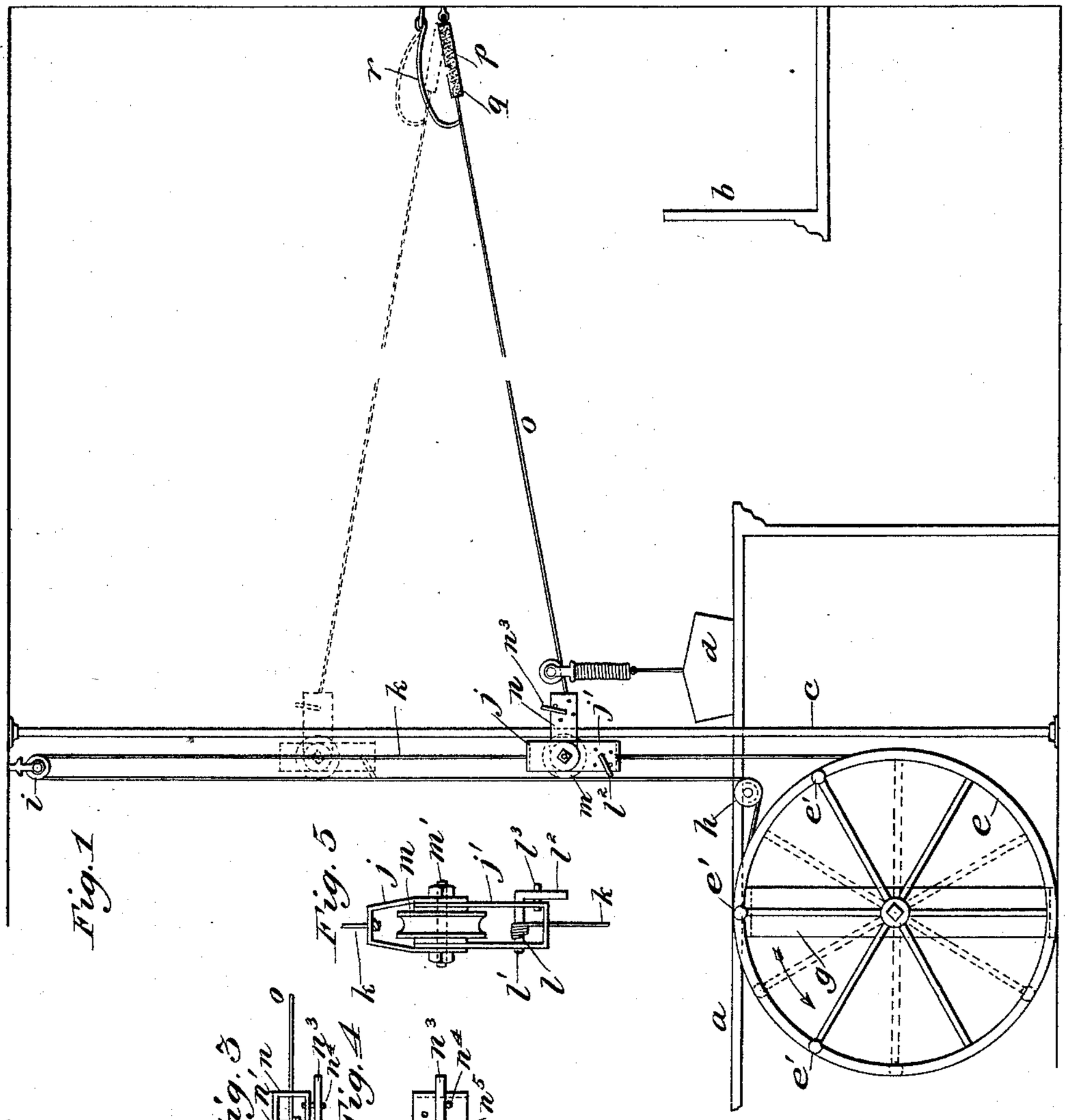


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALVIN N. WOODARD, OF MANSFIELD, OHIO.

TILTING PARCEL AND CASH CARRIER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 524,627, dated August 14, 1894.

Application filed May 5, 1894. Serial No. 510,179. (No model.)

To all whom it may concern:

Be it known that I, ALVIN N. WOODARD, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented a certain new and useful Improvement in Tilting Parcel and Cash Carrier Apparatus, of which the following is a full, clear, and exact description.

The object of this invention is to simplify the construction and operation of the single wire, gravity or inclined plane parcel and cash carrier apparatuses, used principally in stores for conveying such articles from a sales-counter to a wrapping stand or cashier and back again. In attainment of this object, I use a single hand-operated motor wheel, of large diameter, arranged beneath the sales-counter and connected with a tilting, single conveying wire, by means of a vertical cord or band which is wound one or more times completely about the said wheel so as to adhere thereto sufficiently to enable the operator to hold the conveying wire at any inclination or height, and thereby perfectly control the direction of movement of the carrier at any point along the length of the conveying wire.

The invention comprises also a tightener for the wire and its operating cord, and also a spring buffer.

In the accompanying drawings illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is an elevation showing my apparatus installed. Fig. 2 is an end elevation. Fig. 3 is a plan view; Fig. 4, a side elevation, and Fig. 5, a rear elevation of the combined guide-piece and tightener.

a may represent a sales-counter of a store, and *b*, a wrapping stand or cashier's apartment or office.

c is a vertical post, of metal tubing or other material, and *d*, a parcel or cash carrier, of ordinary construction.

e is a wheel of large diameter and having a grooved periphery, as shown in Fig. 2. This wheel is mounted to turn upon a stud-bolt or other journal *f*, which is supported in a stand *g*, erected beneath the counter *a*, and made as a casting, or of other material adequate to sustain the wheel. The stud-bolt *f* may be tapped in the stand and be secured therein additionally or alone by a check or jam-nut *f'*. The wheel is provided with laterally extended knobs or projections *e'*, by which to rotate it upon its journal. The wheel may be built up like a buggy wheel or otherwise produced, but, in any event, its periphery must be grooved, like a grooved pulley. A grooved guide pulley *h* is arranged on the counter tangentially with relation to the wheel *e*, and a similar grooved pulley *i* is suspended from the ceiling.

A guide-piece *j* has rigidly connected to its upper end one end of a cord or band *k*, which extends thence over pulley *i*, thence under pulley *h*, thence once or oftener around the wheel *e*, and its other end is threaded through a hole *l* in a winding arbor or shaft *l'*, which has bearings in a loop *j'* of the guide-piece. This winding device *l'* is provided with a crank or hand-wheel l^2, by which it may be rotated to wind the cord or band *k* about itself and thus take up slack in the said cord or band and keep it sufficiently taut to insure its adhesion to the wheel *e* in such manner and to such extent that the rotation of the wheel will effect a longitudinal movement of the cord or band, and the holding or retention of such cord or band in any given position, without the necessity for employing gearing, detents or other stopping or retaining devices. The winding device *l'*, l^2 is provided with any suitable detent or stopping medium, such as a pin l^3, adapted to be set in holes or sockets l^4 in the loop *j'* of the guide-piece.

m is a grooved guide-roller mounted to turn freely on the axle *m'*, which is supported in the guide-piece *j*, and adapted to run up and down the post *c*. The guide-piece is provided with a loop *n* which, with the loops *j* and *j'*, may be jointed together by the axle *m'*. This loop *n* straddles the post *c*, and is provided with a winding arbor or shaft *n'*, having a transverse hole n^2, to receive the end of the wire or tramway *o*, which is wound about said shaft *n'* to keep it taut and straight. The shaft *n'* is provided with a hand crank or wheel n^3, by which it may be rotated to wind up the wire *o*, and said operating device n^3 is provided with a detent, such as a pin n^4, set in holes or sockets n^5 in the loop *n* to secure any desired adjustment. The other end of the wire or tramway is secured to a spring

p which is fixed to an immovable object, such as a wall, and said spring acts as a compensating device to keep the wire taut as it is moved up and down, and said spring is inclosed in a rubber or other yielding tube *q*, which serves as a buffer for the approaching carrier.

r is a carrier detainer of any suitable construction, such as a hook, which is automatically lifted by the carrier trolley to receive it, and which is released by hand.

The operation is apparent. The parts being in the position shown in Fig. 1, and it being desired to send the carrier to the other end of the line, the wheel *e* is turned in the direction of the arrow for a distance about equal to the distance between two adjacent knobs, and thereby the guide-piece is raised and carries up the wire into the dotted line position, or other elevation, so as to reverse the inclination thereof, and immediately the carrier begins its descent. The carrier may be instantly reversed or stopped by the sender by simply reversing the movement of the wheel, and hence the sender has the carrier wholly under his control until it is caught by the detent. The wheel *e* thus serves as a motor and also as a friction controller for the wire or tramway.

It is to be noted that the wheel *e* is connected directly with the apparatus by which the wire or tramway is raised and lowered, and the parcel or cash carrier operated, and thus the mechanism of a parcel and cash carrier is simplified to a very great extent; and the apparatus may be produced and installed at such small cost as to render it available for small establishments as well as large.

What I claim is—

1. A carrier apparatus of the character described, comprising the hand-wheel *e* provided with the grooved periphery, the stand *g* on which said hand-wheel is mounted to revolve, designed to be arranged beneath the sales-counter, the band or cork *k* passed about said hand-wheel one or more times and supported above the same, a guide-piece with which one of the ends of the cord is fixedly connected, and the other end adjustably connected, and the wire or tramway also adjustably connected with said guide-piece at another point and movable therewith and fixed at its other end, the said hand-wheel being of such large diameter as to require but slight movement, ordinarily only about a sixth of a revolution, to effect the complete movement of the band or cord necessary to raise or lower the tramway, the adhesion of the band or cord to the said wheel being sufficient to admit of the stopping and holding of the tramway at any desired elevation, substantially as described.

2. In a carrier of the character described, comprising a hand-wheel motor, a tramway or wire and a motor cord or band fixedly connected to the said guide-piece at one end and adjustably connected to it at the other end, and the tramway or wire being adjustably connected with the said guide-piece at another point, substantially as described.

3. A guide-piece for a movable wire or tramway, of a gravity or inclined plane carrier apparatus comprising a guide wheel, loops projecting therefrom, winding arbors applied in two of said loops and adapted to receive, respectively, one end of the wire or tramway and one end of the motor cord or band, substantially as described.

4. A carrier apparatus of the character described, comprising a tramway or wire, means to change the angle of inclination of the said wire or tramway at one end and the fixed support for the other end of said wire or tramway comprising a tension spring and a surrounding rubber buffer, substantially as described.

In testimony whereof I have hereunto set my hand this 1st day of May, A. D. 1894.

ALVIN N. WOODARD.

Witnesses:

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