

(No Model.)

T. M. KENNEY.  
CASH CARRYING APPARATUS.

No. 365,751.

Patented June 28, 1887.

Fig. 1

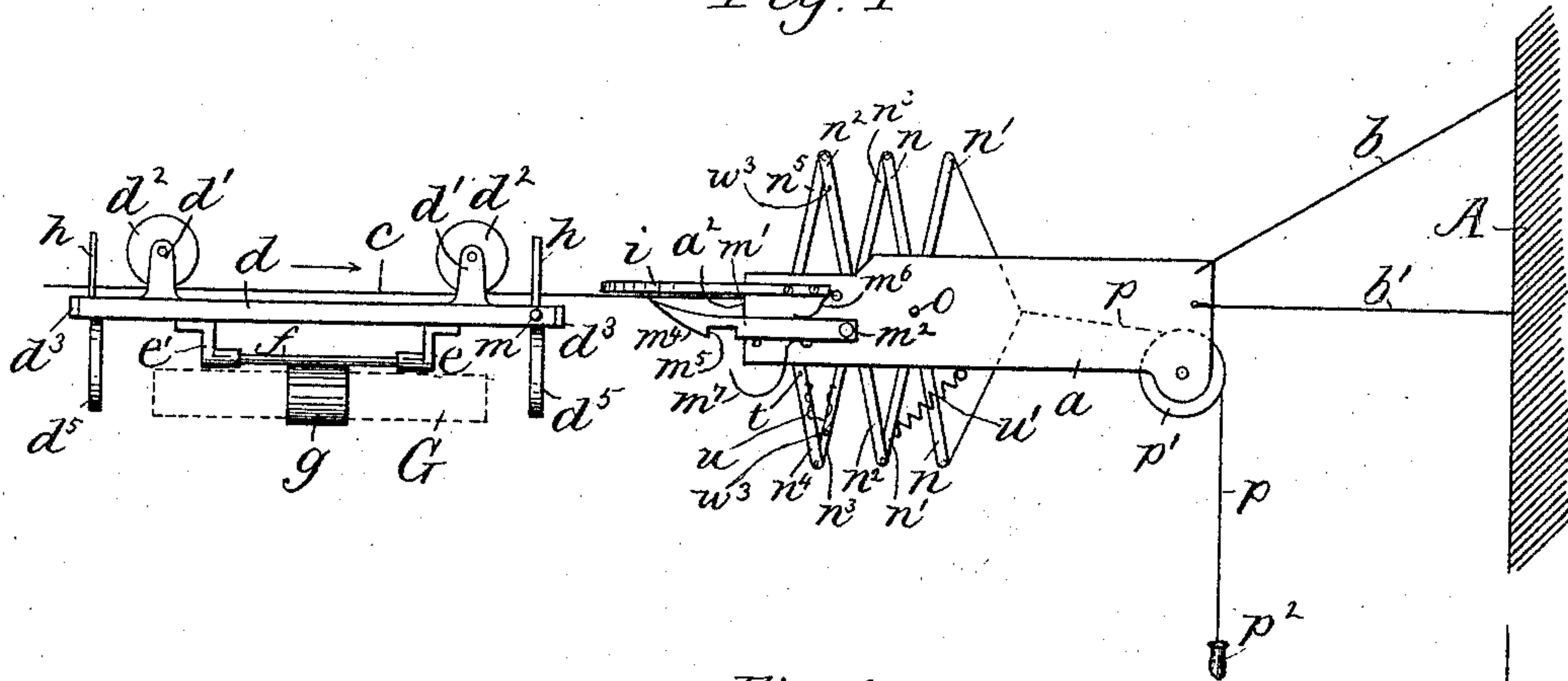


Fig. 2,

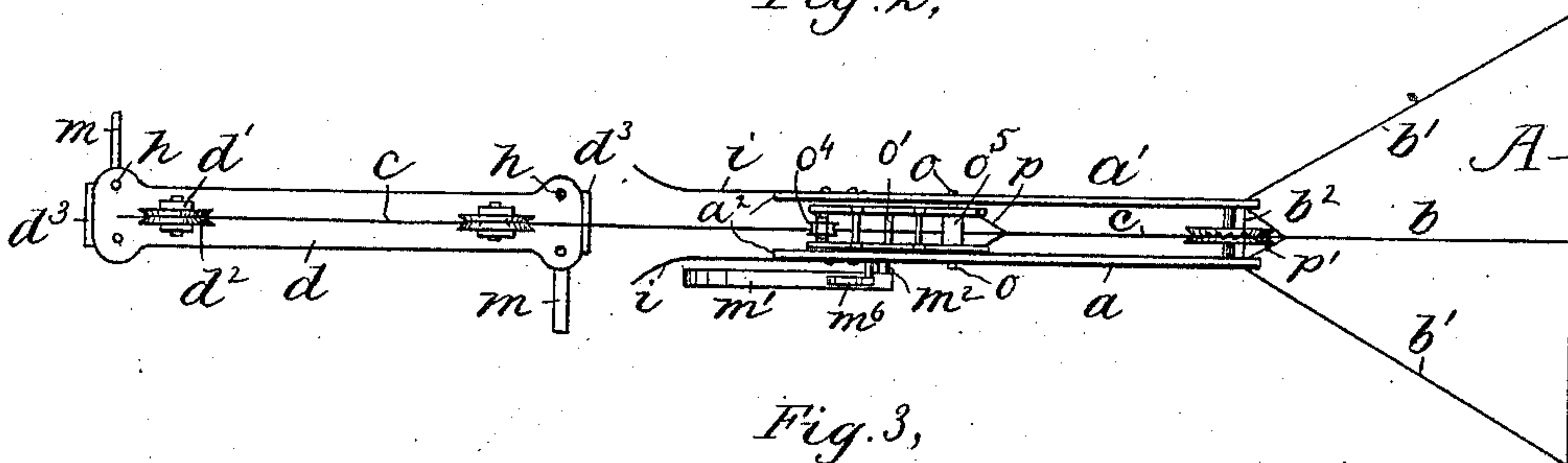


Fig. 3,

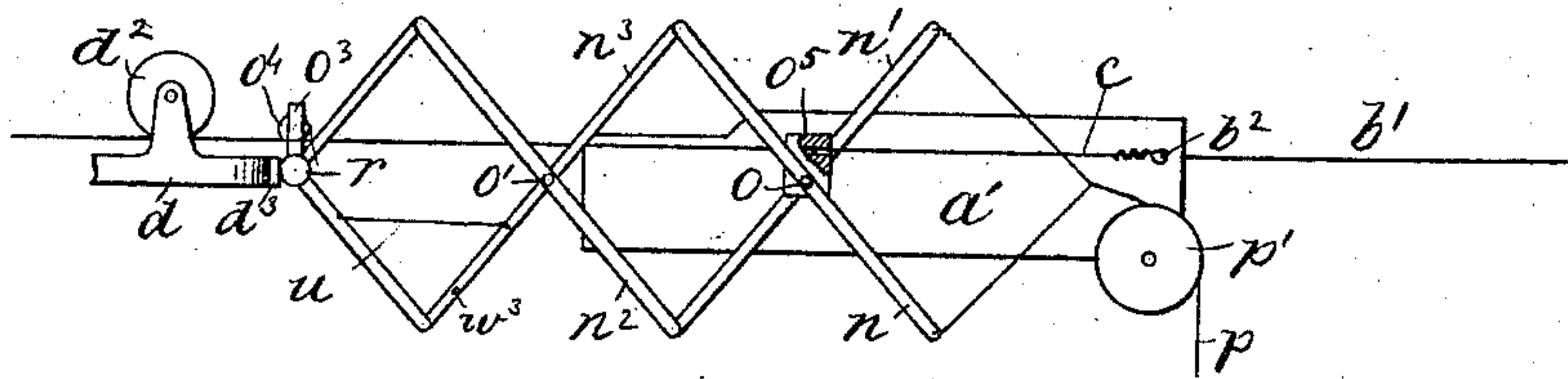
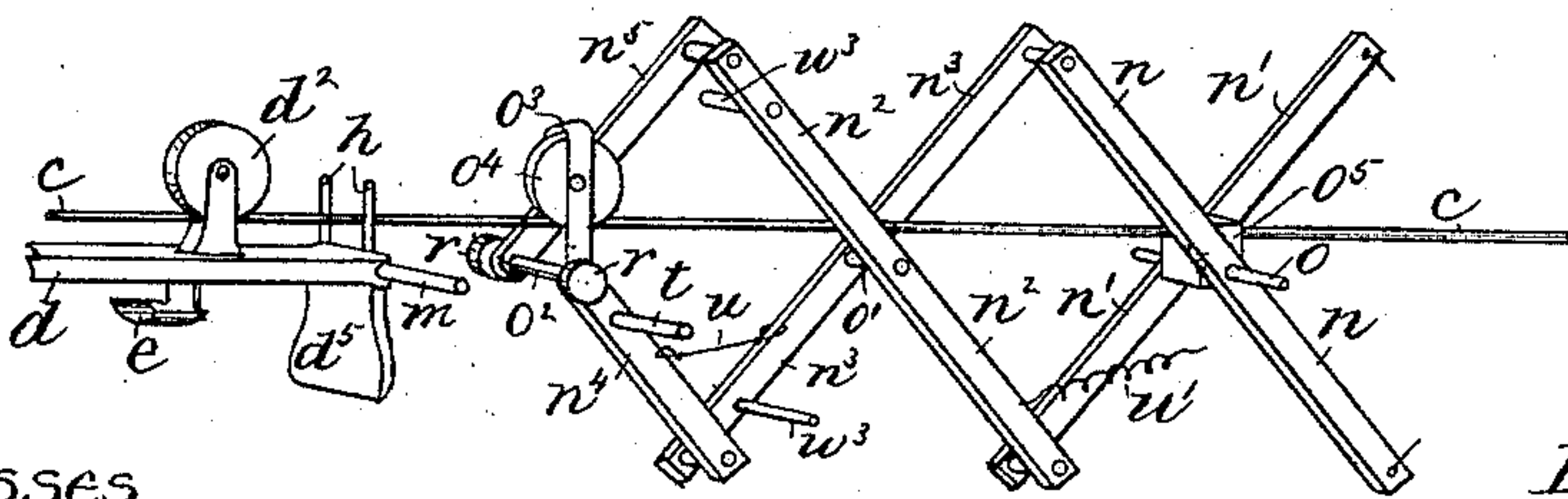


Fig. 4,



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# UNITED STATES PATENT OFFICE.

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## CASH-CARRYING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 365,751, dated June 28, 1887.

Application filed July 31, 1886. Serial No. 209,663. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS M. KENNEY, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Carrying Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a conveying apparatus intended for use in buildings—such as stores, banks, and similar places—for conveying cash, papers, or small parcels back and forth between persons situated in different parts of the building.

The invention is shown embodied in an apparatus of that kind in which a single track connects two points or stations, and a carrier is caused to travel back and forth upon such track, which consists of a wire stretched tightly between the points or stations to be connected.

The invention consists, mainly, in a novel propelling device for sending a car or carrier from one station to another, and also in the devices for receiving and arresting the carrier when it arrives at the end of the track, and also in details of construction of the carrier itself, which is shown as especially intended for use in banks for sending rolls of papers or bills between different points.

The invention is not limited to the special construction shown for all the elements, as the propelling device may be used in connection with tracks and carriers of different construction intended for various purposes.

The propelling device is a mechanism by which the actuating power derived from the arm of the operator and acting over a short space acts upon the carrier over a much greater space and with a greatly-increased rapidity, giving a sudden impulse that throws the carrier along the track with sufficient speed and momentum to traverse the same and reach the station at the other end. The said mechanism is shown as composed of a series of crossed levers having the arrangement commonly known as "lazy-tongs."

Figure 1 is a side elevation of appliances at one station of a conveying apparatus embodying this invention, the carrier being shown as

just arriving at the station, but not yet arrested; Fig. 2, a plan view of said devices; Fig. 3, a detail showing the propelling device as having just acted to propel a carrier; Fig. 4, a perspective view on a somewhat larger scale of a portion of the propelling device, track, and carrier, showing more clearly the construction of the former.

The apparatus at the station at the end of the track is supported on two frame-plates, *a a'*, which when the track consists of a stretched wire, as shown in this instance, may be itself supported from the wall *A* or other permanent part of the building by stout wires *b b'*, the former being inclined upward, as shown in Fig. 1, and the latter diverging from the frame *a a'* in a substantially horizontal plane, as shown in Fig. 2. The track *c* also consists of a stout wire, which may be attached to the portion of the wire *b b'*, that passes between the plates, as shown at *b<sup>2</sup>*, Fig. 2, and its tension, with that of the wires *b b'*, holds the said plates *a a'* securely.

The forward end, *a<sup>2</sup>*, of the said plates forms an abutment, against which the carrier strikes, and by which the carriers are arrested on arriving. The said carriers are shown as consisting of a body, *d*, provided with lugs *d'*, forming bearings for the axles of wheels *d<sup>2</sup>*, that run upon the track or wire *c*, and the said body is provided at its ends with bunters *d<sup>3</sup>*, which may be of yielding material—such as rubber or leather—so as to stop the car without injury.

It is to be understood that the apparatus at the other end of the track or wire *c* is a counterpart of that shown, and that the carrier is alike at both ends, as shown in Figs. 1 and 2.

The body *d* of the carrier may have connected with it any suitable receptacle for the articles to be carried. As shown in Fig. 1, it is provided with lugs *e e'*, which receive the ends of a rod, *f*, provided with a ring, *g*, to receive a roll of papers (indicated at *G*, Fig. 1) after the manner of a napkin-ring, the papers being inserted in the ring when the latter is removed from the carrier, and the ring and papers then being connected with the carrier by hanging the rod *f* in the lugs *e e'*, as shown in Fig. 1.



The body  $d$  of the carrier is provided with projecting end plates,  $d^5$ , which may be used as handles to facilitate its movement along the track otherwise than by the propelling device, to be described, and which also extend across the end of the roll  $G$ , as shown in Fig. 1, and thus prevent the same from being accidentally removed from the ring while the carrier is in motion.

In order to receive the carrier in upright position and insure its proper starting from the station, it is provided at its ends with guiding projections, shown as pins  $h$ , which cooperate with yielding guide-strips  $i$ , connected with and projecting from the end of the frame  $a$   $a'$ , the said guide-strips  $i$  flaring outward, as best shown in Fig. 2, so as to catch the pins  $h$  between them even if the carrier is oscillating laterally on the track, and thus bring the carrier to an upright position. The strips  $i$  bear with some friction on the pins  $h$  as the car comes to rest, and thus reduce the shock of stopping the car.

In order to prevent the car from rebounding after it strikes and is arrested by the abutment, a locking device is provided, one member of which consists of a pin,  $m$ , projecting from the side of the car, and the other member of which consists of a latch,  $m'$ , pivoted at  $m^2$  on the frame-plate  $a$ , and having an inclined end,  $m^4$ , upon which the pin  $m$  strikes, thus raising the latch on its pivot until the said pin has passed the shoulder  $m^5$  just before the bunter  $d^3$  reaches the abutment  $a^2$ , when the latch is pressed down by a spring,  $m^6$ , so that the shoulder  $m^5$  engages the pin  $m$  and prevents backward movement or recoil of the carrier from the abutment.

The propelling device for sending the carrier out from the station or terminus of the track with a sufficient impetus to carry it to the other terminus consists of a series of crossed levers, two of which,  $n$   $n'$ , are pivoted at  $o$  between the frame-plates  $a$   $a'$ , and are connected with an actuating-cord,  $p$ , passing over a pulley,  $p'$ , in the said frame-plates, and provided with a handle,  $p^2$ , by which it may be acted upon to move the crossed levers from the more upright position shown in Fig. 1 toward the horizontal position, as shown in Figs. 3 and 4.

The opposite ends of the levers  $n$   $n'$  are pivotally connected with another pair of crossed levers,  $n^2$   $n^3$ , pivoted together at  $o'$ , and having their opposite ends pivoted to a pair of arms,  $n^4$   $n^5$ , pivoted together at  $o^2$  at a point nearly in line with the track  $c$ , the said joint  $o^2$  being connected by a strap,  $o^3$ , with a roller or wheel,  $o^4$ , that runs along the track  $c$ . Thus when the series of pivoted levers is acted upon by the cord  $p$  the joint  $o'$  moves away from joint  $o$  and joint  $o^2$  moves away at an increased speed, and the advance of the joint  $o^2$  is much greater and more rapid than the movement of the cord  $p$ , and the increase in the speed and the distance of the movement of the joint  $o^2$ , relative to that of the cord  $p$ , may be made any desired amount

by varying the number of pairs of crossed levers or by varying the distance of the point of attachment of the actuating-cord  $p$  with the levers  $n$   $n'$  from the fulcrum  $o$  of the said levers.

The two levers of each pair are placed on opposite sides of the track  $c$ , as best shown in Fig. 4, the studs by which they are pivoted together being lengthened, as shown, so that the levers receive the track between them. The arms  $n^4$   $n^5$  are provided at their joints  $o^2$  with bearing-disks  $r$ , that engage the ends of the carrier, as best shown in Fig. 3, thus pushing the same forward when the levers are actuated by the cord  $b$ . The carrier is released by the locking device  $m$   $m'$  just before the propelling device acts upon it, as follows: The propelling device is provided with a projection,  $t$ , that engages a cam projection,  $m^7$ , on the member  $m'$  of the locking device, thus raising the same so as to disengage the pin  $m$  at the moment when the propelling device engages and begins to move the carrier.

The extent of the forward movement of the propelling device is shown as limited by a stop consisting of a flexible connector,  $u$ , between two of the levers, and the said propelling-lever is brought back to its normal position, as shown in Fig. 1, by a spring,  $u'$ , when the handle  $p^2$  is released. The backward movement of the propelling device produced by the spring  $u'$  is limited by stops shown as projections  $w^3$  from levers  $n^2$   $n^3$ , that engage the arms  $n^4$   $n^5$  and prevent them from coming in line between the joints at the ends of the levers  $n^2$   $n^3$ , and thus preventing the same from working.

A propelling device constructed as herein shown may be properly proportioned with relation to the weight of the carrier, so that a pull on the actuating-cord that is sufficient to move the carrier at all naturally imparts a sufficient speed to the said carrier to cause it to traverse the length of the track, and is more positive and certain in its operation than spring or other motors, such as have been used in conveying apparatus of this kind, and it also propels the carrier much more steadily and with more nearly uniform velocity than when the carrier is propelled by the direct action of the hand of the operator.

The pivot or stationary fulcrum  $o$  of the propelling device passes through a block,  $o^6$ , which also receives the wire  $c$  of the track, as shown in Fig. 3, and thus affords a proper support for the forward portion of the frame  $a$   $a'$ .

The claim in the present case is limited to the specific form of propelling device herein shown, and to the combinations in which this specific device occurs, and to the form of carrier-holder represented in Fig. 1. The other devices for locking and releasing the carrier, in combination with a propelling device of any suitable construction, will form the subject of another application for Letters Patent.

I claim—

1. The combination of a track, with a carrier supported thereon provided with lugs, and a



holder consisting of an open ring provided with a bar adapted to be engaged with the said lugs, substantially as described.

2. The combination of a track having an  
5 abutment at its end, with a carrier movable on said track, and a locking device that engages the carrier when arrested, and a propelling device composed of a series of crossed levers co-  
operating with the locking device and carrier,  
10 as described, whereby the carrier is first unlocked and then propelled by the propelling device, substantially as described.

3. The herein-described propelling device for a carrier, consisting of a series of crossed  
15 levers, two of which have a stationary fulcrum, and are connected with an actuating handle, and one joint of which is adapted to engage and propel the carrier, substantially as described.

20 4. The combination of a track and carrier supported thereon, with a propelling device

consisting of a series of crossed levers terminating in a pair of arms pivoted together and provided with washers adapted to engage the carrier and propel the same, substantially as  
25 described.

5. The combination of the track and carrier movable thereon, with a propelling device consisting of a series of crossed levers having one joint pivoted on a stationary fulcrum and terminating in a pair of arms pivotally connected  
30 together, and a supporting roller running on the said track connected with the pivot-joint of said arms, substantially as described.

In testimony whereof I have signed my name  
35 to this specification in the presence of two subscribing witnesses.

THOMAS M. KENNEY.

Witnesses:

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JAS. J. MALONEY.