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APPARATUS FOR DELIVERING GOODS IN EXCHANGE FOR COIN.

Patented Feb. 19, 1889.



Inventor,
Edward Powell.
By his atty.
Baldwin Davidson & Wright

(No Model.)

3 Sheets—Sheet 2.

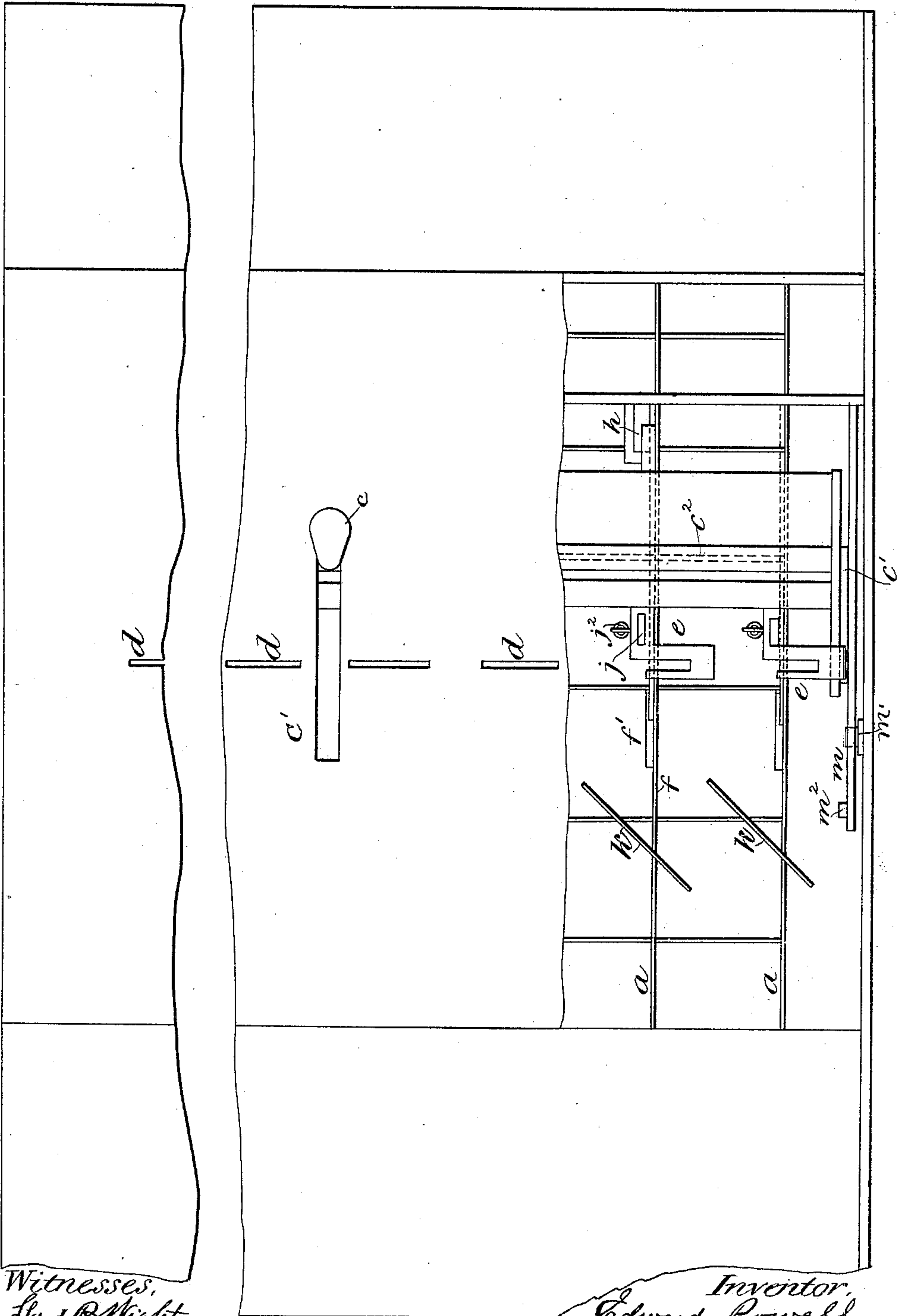
E. POWELL.

APPARATUS FOR DELIVERING GOODS IN EXCHANGE FOR COIN.

No. 398,279.

Patented Feb. 19, 1889.

Fig. 2.



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(No Model.)

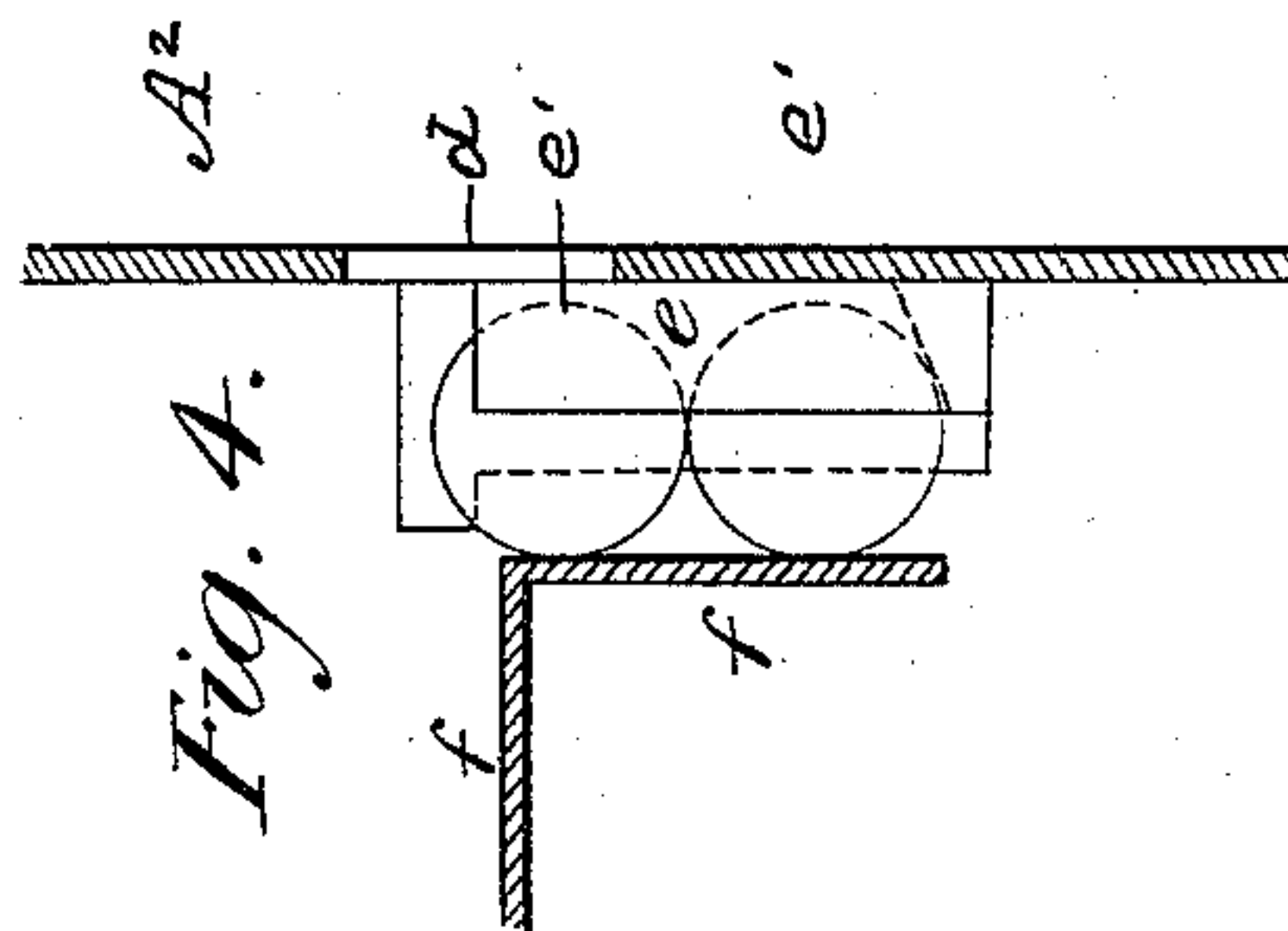
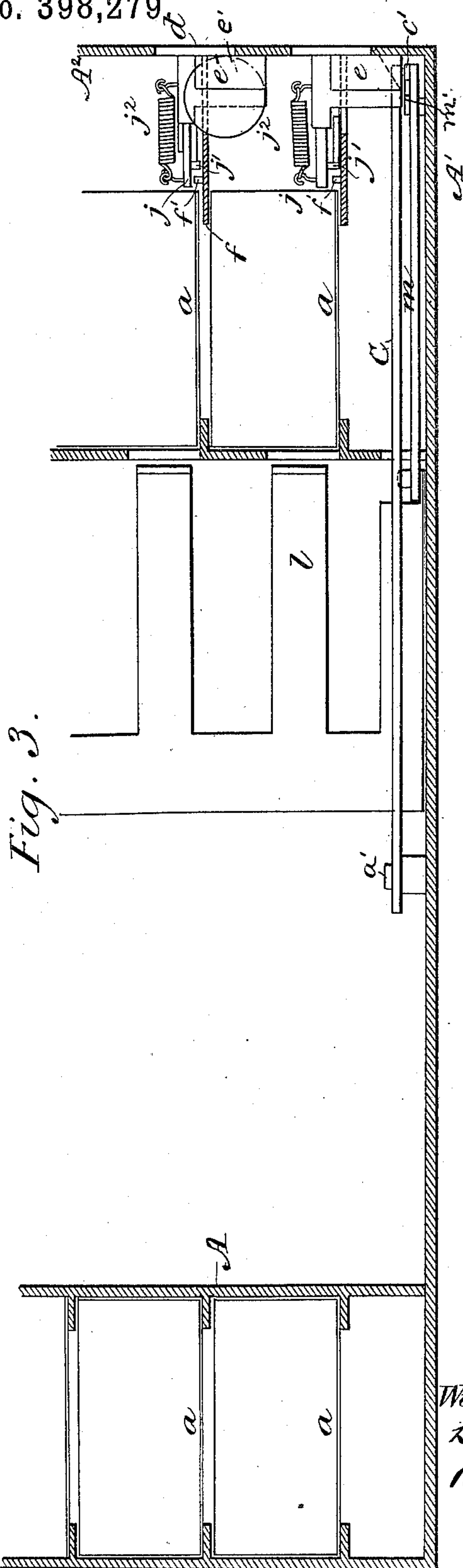
3 Sheets—Sheet 3.

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APPARATUS FOR DELIVERING GOODS IN EXCHANGE FOR COIN.

No. 398,279

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Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD POWELL, OF NEWTOWN, COUNTY OF MONTGOMERY, ENGLAND.

APPARATUS FOR DELIVERING GOODS IN EXCHANGE FOR COIN.

SPECIFICATION forming part of Letters Patent No. 398,279, dated February 19, 1889.

Application filed September 8, 1888. Serial No. 284,921. (No model.)

To all whom it may concern:

Be it known that I, EDWARD POWELL, solicitor, a subject of the Queen of Great Britain, residing at 44 Broad Street, Newtown, in the county of Montgomery, England, have invented certain new and useful Improvements in Apparatus for Delivering Goods in Exchange for Coin, of which the following is a specification.

10 I place the articles to be delivered in radial compartments or cells arranged around the circumference of a horizontal disk or ring, constituting a good carrier, to which a step-by-step motion of rotation is given, so as to
15 bring each compartment in turn opposite to a hole in a casing of the apparatus. The articles to be delivered always rest on the horizontal disk, and are not liable to be damaged by its rotation, whether they fit the compartments or not. The step-by-step movement is
20 given to the horizontal disk by an operating-arm capable of turning about the same vertical axis as the disk. This operating-arm is not rigidly fixed to the disk; but a coin dropped into the apparatus forms a key connecting the two together. The disk can then
25 be moved one step, when the coin falls away, severing the connection, so that the disk cannot be moved the next step until another coin has been inserted. The mechanism for effecting this is as follows: The division-plates between the compartments form stops, a radial
30 spring-bolt entering between one pair of them, so that normally the disk cannot be turned. The coin enters the apparatus by a vertical slot and remains in a vertical position when inside,
35 being carried by a hook or coin-holder on the handle, and being prevented from moving forward or backward by the hook and by a circular guide concentric with the casing. When the operating-arm is now turned, the
40 coin comes against and forces back a curved lever, which operates the bolt, withdrawing it, leaving the horizontal disk free to be turned, and at the same time protruding another bolt. As the operating-arm continues to be turned, the last-named bolt comes against the next stop, and the movement of the operating-arm now causes the horizontal disk to revolve. The
50 coin shortly after this clears the lever, actuating the first-named bolt, and the latter, being

forced outward by its spring, enters the next space between the stops, and thereby prevents the disk from being turned more than one step. When the operating-arm has been
55 turned so that the mouth of the compartment is opposite to the opening, the coin comes to the end of the circular guide, and, being no longer supported by it, drops out of the hook or holder on the handle and falls into a receptacle. The handle may then be turned back to its original position. If a coin of too small size is put into the apparatus, it drops, not being retained as above described.

The apparatus can also be arranged so that
65 the horizontal disk can only be turned by the operating-arm when two or other fixed number of coins are inserted. In this case the hook on the handle is extended downward, so as to allow all the coins inserted except the
70 last to fall below the lever operating the bolts. The concentric guide is also extended downward, so that the coins are all held by same and the hook, the first coin being held in the
75 hook and it and the subsequently-inserted coins supporting those coming after, and the last coin being opposite the lever operating the bolts, as in the case of a single coin. The apparatus works and the coins fall as before.

It is evident that the apparatus may be
80 made in the form of a column having a number of horizontal plates with receptacles.

In order that my said invention may be more fully understood and readily carried into effect, I will proceed to describe the drawings
85 hereunto annexed.

The drawings show an apparatus having several horizontal plates with receptacles.

Figure 1 is a horizontal section. Fig. 2 is a front elevation with part of the casing removed. Fig. 3 is a section of the same on the
90 line *x*, Fig. 1. Fig. 4 shows a modification in which the apparatus is actuated by means of two or more coins.

The casing A is preferably cylindrical, as
95 shown, the outer and inner sides being separated to constitute the annular passage-way for the goods-carrier. The goods-carrier is formed of an annular plate or bottom piece, *a*, carrying division plates or partitions *b' b''*,
100 &c., which divide the goods-carrier into a series of compartments. The goods-carrier is

mounted on a frame, A' , which is pivoted at a' and adapted to revolve thereon. The casing A is provided with an offset, A^2 , within which the mechanism for revolving the goods-carrier is located.

An operating-arm, C , pivoted at a' and extending through the goods-carrier, is provided with a handle, c , which projects through a slot, C' , in the offset A^2 . The handle c is pivoted at c^2 to the outer end of the operating-arm C for a purpose hereinafter described. To the outer end of the operating-arm C is secured a hooked plate or coin-holder, e , arranged within the offset A^2 and normally opposite slots d in the casing, through which coins are delivered. A plate, f , rigidly secured to the casing between the coin-holder and the goods-carrier, is adapted, in conjunction with the coin-holder e , to support the coin and forms a gage determining the size of the opening between the hooked holder and the plate, so that coin smaller than the predetermined size will not lodge in the coin-holder and the apparatus will not be operated. A locking-lever, g , pivoted at g' to the operating-arm C , engages at one end with a sliding bolt, h , normally held in engagement with one of the partitions b' b^2 , or whichever one happens to be near it, and prevents the rotation or movement of the goods-carrier. The opposite end of the lever g is provided with an inclined projection, g^2 , with which the coin e' in the coin-holder engages when it is positively moved to operate the apparatus. A sliding bolt, j , carried by the operating-arm C , is normally held away from the goods-carrier by a coiled spring, j^2 . This bolt is provided on its under sides with a stud or pin, j' , which engages with the flange or short rail f' on the plate f , when the operating-arm is moved to bring the stud j into contact with the rail. A spring-acting pawl or dog, o , engages with the partition b' , &c., on the goods-carrier, and prevents backward movement thereof, but readily yields to the forward movement of the apparatus. When the operating-arm C is moved in the direction indicated by the arrow, if a coin, e' , has been inserted in the coin-holder, as indicated in Fig. 1, the coin will come in contact with the end g^2 of the locking-lever g and will turn it on its pivot g' , thereby withdrawing the bolt h from engagement with the goods-carrier. At the same time the bolt j will be pushed forward, the lever g being arranged to engage with the bolt, as indicated. By the continued movement of the operating-arm the bolt j will engage with the partition or division plate of the goods-carrier and will move it forward. As soon as the bolt j has reached the flange or rail f' on the plate f and the coin has passed the end of the lever g the pin j' engages with the flange f' , so that the return of the bolt is prevented until the operating-arm has been brought back. After the coin has been deposited from its holder the locking-arm g is freed and the bolt h shoots

forward and engages with a partition of the goods-carrier to prevent further movement. Preferably, however, the bolt j and flange f' are so arranged that at the extreme end of the forward movement of the operating-arm the pin j' passes over the end of the flange f' , and the bolt j is returned to its original position by the spring j^2 . At the end of the forward movement of the operating-arm and coin-carrier the coin is delivered to an inclined plate, k , which permits it to pass to a suitable receptacle.

The above-described apparatus may be duplicated, as indicated.

In order to expel the article from the receptacle in the goods-carrier, I employ a pusher, l , arranged within the casing A and opposite the delivering-opening A^3 of the case. The pusher l is normally held withdrawn from the goods-carrier by a spring, n , secured to the casing. A lever, m , pivoted to the casing at m' , engages at its inner end, m^3 , with the pusher. Its short bent outer end, m^4 , carries a pin, m^2 , which engages with the forked arm c' , rigidly connected with the handle c of the operating-lever C .

The handle c and its forked arm c' are pivoted to the operating-arm at c^2 , and are free to turn thereon when not locked by the stud v , located on the casing opposite the opening C' , and by a stud secured to the lever m at its pivot m' . When the handle is freed, it is turned relative to the operating-arm C after engagement with the stud m^2 on the end of the lever m , thereby turning the lever m on its pivot m' , and causing the pusher l to enter the compartment of the goods-carrier in line with the opening A^3 , thus expelling the article contained within said compartment. When the handle c' is released, the spring n withdraws the pusher from the compartment, returns the lever m to its original position, and the operating-arm C is returned by the spring g , secured to the casing and operating-arm, as indicated in Fig. 1.

It will be understood that a single operating-arm may be used, as shown in the drawings, for all the disks, in which case a single casing running from top to bottom of the apparatus contains all the hooks and bolts j , which revolve with it and the operating-arm; but the mechanism corresponding to those disks only which have received coins will be actuated, and those disks alone will be turned, for where no coin has been introduced there is nothing to actuate the levers g , and therefore the bolts h will not be withdrawn nor the bolt j protruded.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that I wish it to be understood that I do not claim generally automatic delivery-boxes, in which the articles to be delivered are placed in compartments or cells arranged around the circumference of a horizontal disk or ring; but

What I claim is—

1. The combination, substantially as here-
inbefore set forth, of the casing, the goods-
carrier having partitions or dividing plates,
5 the operating-arm, the coin-holder carried
thereby, and the locking mechanism operated
by a coin in the coin-holder to engage with
the goods-carrier and move it forward with
the operating-arm.

10 2. The combination, substantially as here-
inbefore set forth, of the casing, the goods-
carrier having partitions dividing it into com-
partments, the operating-arm, the locking-le-
ver carried thereby, the bolts operated by said
15 lever and engaging at times to prevent the
forward movement of the goods-carrier and at
times to move it forward, and the coin-holder
carried by the operating-arm and bringing the
coin into engagement with the locking-lever
20 to operate it.

3. The combination, substantially as here-
inbefore set forth, of the casing, the goods-
carrier contained therein and having the parti-
tions or plates dividing it into a series of com-
25 partments, the operating-arm, the locking-le-
ver carried by said arm, the coin-holder se-
cured to the operating-arm, and the guide-
plate secured to the casing opposite the coin-
holder.

30 4. The combination, substantially as here-

inbefore set forth, of the casing, the goods-
carrier contained therein and having parti-
tions or plates dividing it into a series of com-
partments, the operating-arm, the locking-le-
ver carried by said arm, a coin-holder secured 35
to the operating-arm, the guide-plate secured
to the casing opposite the coin-holder, the pawl
or dog engaging with the goods-carrier to pre-
vent its backward movement, and the spring
for drawing back the operating-arm to its 40
original position.

5. The combination, substantially as here-
inbefore set forth, of the casing, the goods-
carrier having partitions dividing it into a se-
ries of compartments, the pusher, the operat- 45
ing-arm, and connections between the pusher
and the operating-arm, whereby the pusher is
forced into a compartment for the delivery of
goods from the carrier.

6. The combination, substantially as here- 50
inbefore set forth, of the casing, the goods-
carrier, the operating-arm, the lever *m*, en-
gaging with the pusher, and the forked arm
on the handle *c*, pivoted to the operating-arm
and engaging with the lever *m*.

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