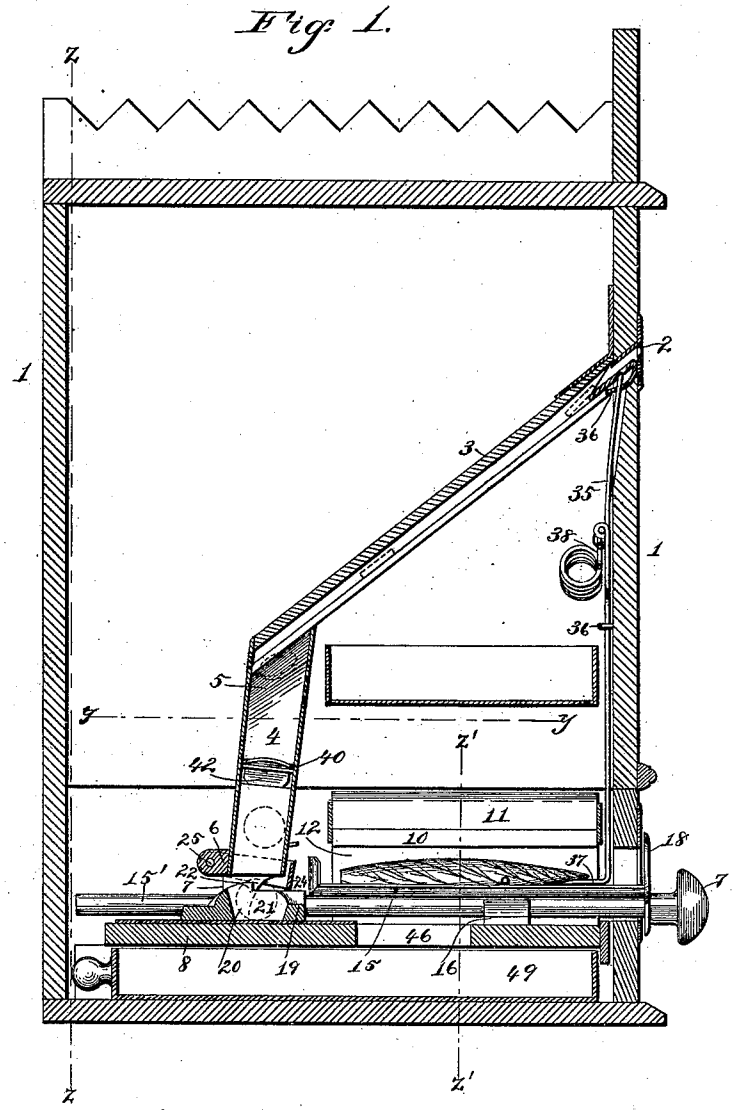
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W. C. DOUBLEDAY.

VENDING APPARATUS.

No. 408,959. Patented Aug. 13, 1889.

Fig. 1.



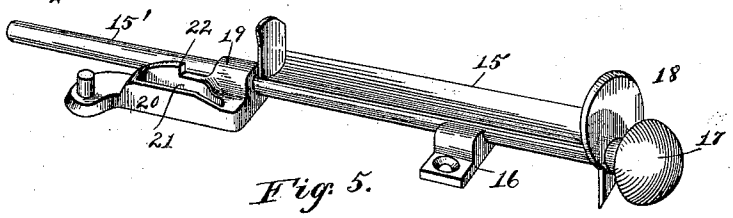


Fig. 5.

WITNESSES:

Percy C. Bowen.

H. F. Burkard

INVENTOR

W. C. Doubleday

By Edmund Bros.

Attorneys.

N. PETERS. Photo-Lithographer. Washington. D. C.

(No Model.) 2 Sheets—Sheet 2.

W. C. DOUBLEDAY.

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Fig. 3.

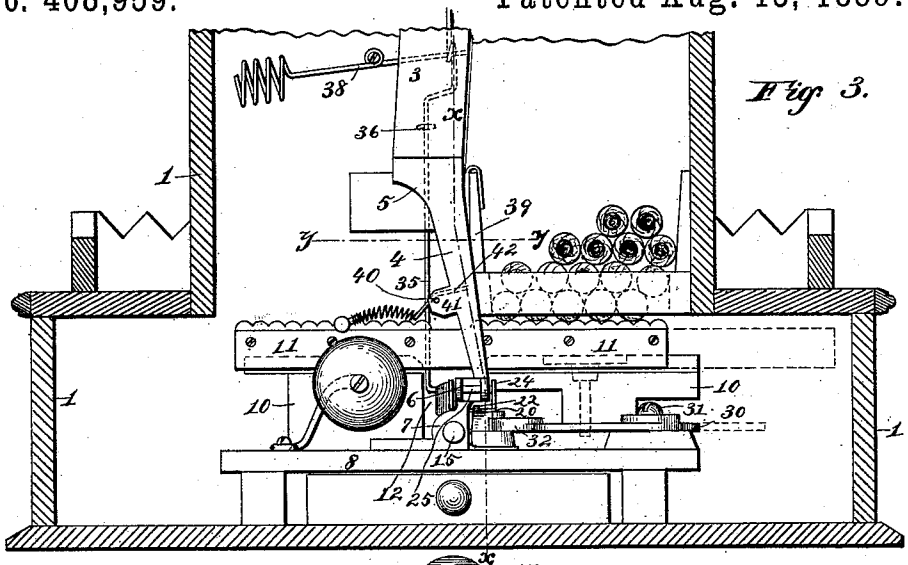


Fig. 2.

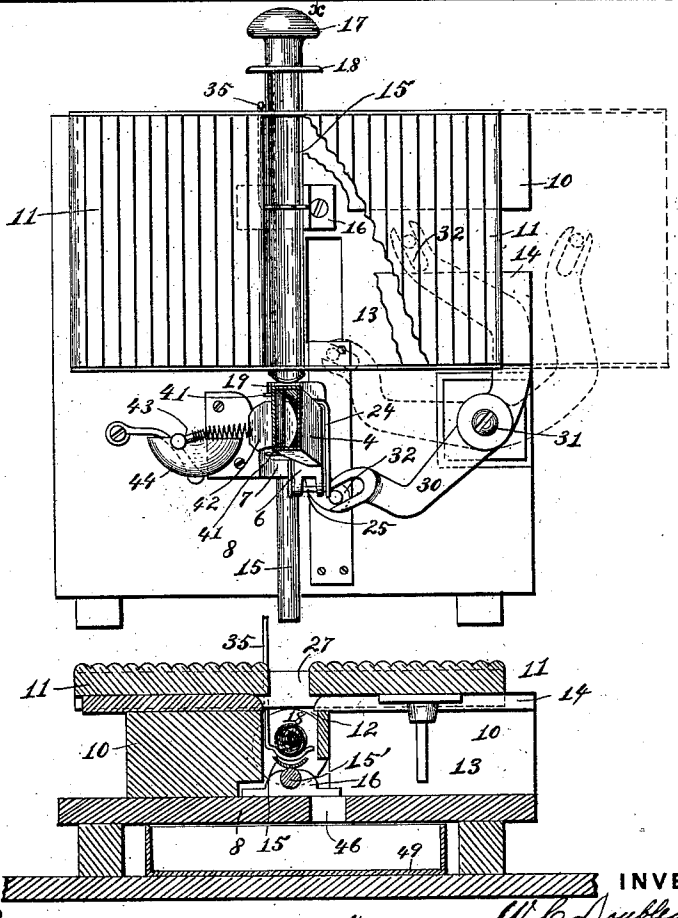


Fig. 4.

WITNESSES:

Percy C Bowen

A. F. Burkhard

INVENTOR

W. C. Doubleday

By Edson Bros.

Attorneys

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM C. DOUBLEDAY, OF LIMA, OHIO, ASSIGNOR TO BERTHA C. DOUBLEDAY, OF SAME PLACE.

VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 408,959, dated August 13, 1889.

Application filed February 16, 1889. Serial No. 300,119. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. DOUBLEDAY, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented certain new and useful Improvements in Vending Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to improvements in that class of vending apparatus shown in a prior application filed by me on the 10th day of September, 1888, Serial No. 285,061; and it has for its object to simplify, cheapen, and render more efficient the mechanism shown, described, and claimed in my prior application, as aforesaid.

In my former device I employ a horizontal shaft, which is geared to the movable carrier and to a counter-shaft, which is in turn geared to a rack on and moved by the endwise movements of a delivery-slide. In this my present invention I dispense with this gearing and the shafts and employ a lever fulcrumed at an intermediate point of its length and arranged out of the path of said delivery-slide and the transversely-movable carrier, said lever being pivotally connected at its ends to the carrier and delivery-slide.

My invention further consists of certain improvements in minor details of construction and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a vertical transverse sectional view on the line *x x* of Fig. 3. Fig. 2 is a horizontal sectional view on the line *y y* of Fig. 1. Fig. 3 is a vertical sectional view on the line Z Z of Fig. 1. Fig. 4 is a vertical sectional view on the line Z′ Z′ of Fig. 1. Fig. 5 is a detail perspective view of the carrier and its rod detached from the machine.

Like numerals of reference denote corresponding parts in all the figures of the drawings.

1 designates the inclosing shell or case, having a coin-receiving slot 2 near its upper end, and 3 the inclined coinway, which receives the coin from the coin-slot and delivers at its lower rear end said coin to a vertical coin-tube 4, which is erected within the case or shell 1 near its rear side. This coin-tube is arranged a little to one side of the inclined coinway and has the upper portion of one side wall curved or inclined, as at 5, to deflect the coin descending the coinway laterally into the coin-tube and cause it to assume a vertical position therein or fall edgewise in the tube. This tube is contracted gradually from its upper toward its lower end, and the lower end of said tube is rigidly and firmly secured to a head 6, cast with a fixed guide 7, which is suitably secured to the platform 8 in position to serve as a guide for the rear end of the delivery-slide.

Between the front of the case or shell and the vertical coin-tube is arranged a horizontal support 10 for the movable carrier 11, and this support has a longitudinal slot 12 extending from front to rear thereof, a recess 13, and a transverse slot 14, which opens into the longitudinal slot and communicates with the recess, as shown.

The delivery-slide 15 is arranged in the longitudinal slot 12 and below the transversely-movable carrier 11, and this slide is secured on an endwise-movable rod or carrier 15′, which extends longitudinally through the case or shell, this carrier-rod being supported and guided in aligned bearings or guides 7 16, which are secured at suitable distances apart on the platform 8, as shown. To the front end of this carrier-rod, which projects through and beyond the front of the case or shell when the delivery-slide is withdrawn within the case, is fixed a knob or handle 17 and a plate 18, which conceals the aperture or slot in the case through which the carrier-rod and slide pass, and near its rear end this carrier-rod is formed with an enlargement or shoulder 19 and a coin-holder 20. This coin-holder is made or cast integral with the carrier-rod and the shoulder thereon, and it is arranged laterally of the carrier-rod and projects rearwardly from the shoulder thereon, whereby the coin-holder is adapted to slide laterally of the fixed guide 7 and beneath the lower open end of the vertical coin-tube when the carrier-rod and delivery-slide are forced rear-

wardly in the case or shell. This coin-holder fits snugly beneath the vertical coin-tube, and it has a vertical slot 21, which aligns with the coin-tube and receives the coin therefrom, said coin-holder having a raised rib or shoulder 22 on its upper side, against which takes a detent 24 when the slide is forced in the case to prevent the slide from being withdrawn entirely from the case unless a coin has been previously deposited in the coin-holder, this detent being raised or elevated out of engagement with the shoulder 22 by the coin within the coin-slot of the holder 20. The detent is preferably made in the form of a bail, and it so proportioned as to fit snugly around the head of the fixed guide 7 for the carrier-rod, the rear free ends of the arms of the bail being pivoted to the guide-head by a transverse shaft or pin 25. The front end of the detent or bail is free to drop or fall by gravity into the path of the raised rib or shoulder 22 on the coin-holder of the carrier-rod and to rest on said rod to prevent the further descent of the detent or bail. The depth of the slot in the coin-holder is less than the diameter of the proper coin, which is designed to raise the detent, so that the upper edge of the coin will project above the coin-holder sufficiently to raise the detent when the slide is drawn outwardly from the case, and thus allow the raised shoulder 22 on the coin-holder to clear the detent before the latter falls back or returns by gravity in the path of the raised rib or shoulder.

The horizontal transversely-movable carrier is arranged on the support above the delivery-slide, and it has a longitudinal slot 27, which is adapted to align with the longitudinal slot of the support when the carrier is in its normal position. This carrier and the delivery-slide are actuated simultaneously and moved in different horizontal planes at right angles to each other when said slide is moved endwise in either direction. In my present apparatus I employ a lever 30, which is arranged laterally of the delivery-slide and the carrier out of the path of both of said parts and connected to the slide and carrier to move the latter simultaneously with the slide. This lever is arranged in a horizontal position at one side of the support and above the platform, and its ends are bent or curved slightly to adapt the lever to fit around the corner or angle of the support. This lever is fulcrumed at an intermediate point of its length on a vertical pivot or shaft 31, and its ends are connected to the slide and the carrier by a pin-and-slot connection, as at 32. The slot is formed in each end of the lever, and the pin or stud is formed with or secured to the slide and the carrier and fits snugly in the slot. In the connection between the slide and lever the pin is cast integral with the extreme rear end of the coin-holder; but in the connection between the carrier and the other arm of the lever the pin is secured to and depends from the carrier and works in the transverse slot formed in the elevated support for the carrier. The carrier normally lies over the delivery-slide in such a position that the slot in the carrier is immediately over the slide, which is forced back within the case or shell, with the detent in engagement with the shoulder or rib of the coin-holder. When a coin of the proper denomination is deposited in the coin-holder and the slide withdrawn from the case or shell, the coin first raises the detent and the slide moves the lever on its fulcrum, so that the latter actuates the carrier transversely of the slide at right angles thereto and simultaneously therewith, thus moving the slide so that the slot therein is brought beneath a receptacle containing the articles to be distributed or vended. The article enters this slot in the carrier, and when the slide is forced back in the apparatus the lever is moved in the reverse direction and the carrier likewise returned to its first position, and as soon as the slot in the carrier arrives over the slide the article in the slot will fall or drop by gravity on the slide.

35 is the vertically-movable coin-detaining rod, which is arranged on the inside of the front of the case or shell and guided in suitable fixed staples or guides 36. This rod has a horizontal arm 37 at its lower end, which is arranged immediately over the delivery-slide in the path of the article to be deposited on the slide by the carrier. The weight of the article serves to depress this arm and the rod, and thus withdraws the upper end of the rod from across the coin-receiving slot 2, so that a coin can be introduced into the machine when an article is on the delivery-slide ready to be delivered; but when the supply has become exhausted the upper end of the rod is projected across the coin-slot to prevent the introduction of a coin therein by a horizontal counterbalancing-arm 38, which is fulcrumed at an intermediate point of its length, one end of said arm being connected to the coin-detaining rod, and the other end of the arm being provided with a weight, which may be of any suitable construction.

As in my former machine, I provide a receptacle-support 39, which is arranged laterally of the delivery-slide and above the carrier, and the carrier itself is corrugated on its upper surface, so as to agitate the contents of the receptacle and insure the proper feeding of the articles to the slot in the carrier.

The vertical coin-tube is provided with a transverse slot 40 in one of its side walls and with laterally-projecting ears 41, which form the supports for a pivoted plate 42, that is arranged in the coin-tube in the path of a coin as it passes through the tube. This oscillating plate carries an arm 43, which constitutes a bell-hammer and is adapted to sound an audible alarm when the coin passes through the tube by striking a bell 44, as is obvious.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the draw-

ings, and need not therefore be referred to in detail here.

The horizontal platform 8 is provided with a slot 46, through which falls by gravity the coin contained in the coin-holder of the delivery-slide when said coin-holder aligns with the slot 46 on the outward movement of the delivery-slide to convey the contents thereof in a position so that the operator can remove the article from the slide. The coin, after it passes this slot 46, is deposited in a tray or receptacle 47, which is inserted beneath the platform 8.

I would have it understood that I reserve the right to make such changes in the form and proportion of parts and details of construction as fairly fall within the scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vending apparatus, the combination of a delivery-slide, a carrier, and a lever arranged out of the path of and connected with said carrier, and the slide for moving the carrier at right angles to and simultaneously with the movement of the slide, substantially as described.

2. In a vending apparatus, the combination of a delivery-slide, a carrier, and a lever fulcrumed at an intermediate point of its length and arranged out of the path of the slide and carrier, said lever being connected at its ends to the slide and carrier, substantially as described.

3. In a vending apparatus, the combination of a delivery-slide, a carrier, and a lever arranged laterally of the slide and carrier and connected at its extremities by a pin-and-slot connection with the slide and carrier, substantially as and for the purpose described.

4. In a vending apparatus, the combination of a carrier-rod having a delivery-slide fixed thereto, a coin-holder rigid with said rod and projecting laterally thereof, a fixed guide in which said carrier-rod operates, and a coin-tube fixed to the guide, substantially as described, for the purpose set forth.

5. In a vending apparatus, the combination of the fixed guides, a vertical coin-tube fixed to one of the guides, an endwise-movable carrier-rod working in said guides and carrying a delivery-slide, a coin-holder rigid with said rod and projecting laterally thereof to clear the rear guide and align with the coin-tube, and a coinway arranged above said coin-tube, substantially as described.

6. In a vending apparatus, the combination of the fixed guide, a coin-tube fixed to said head, a carrier-rod carrying the delivery-slide and working in the guide, a coin-holder rigid with the carrier-rod and projecting laterally thereof and having the raised shoulder, and a detent pivoted to the head of the guide and adapted to engage with the shoulder of the coin-holder, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM C. DOUBLEDAY.

Witnesses:

W. H. WOOLERY,

T. A. ROBINSON.