(No Model.) 3 Sheets—Sheet 1.

G. B. CORNELL.

VENDING MACHINE.

No. 441,536. Patented Nov. 25, 1890.

Fig. 1.

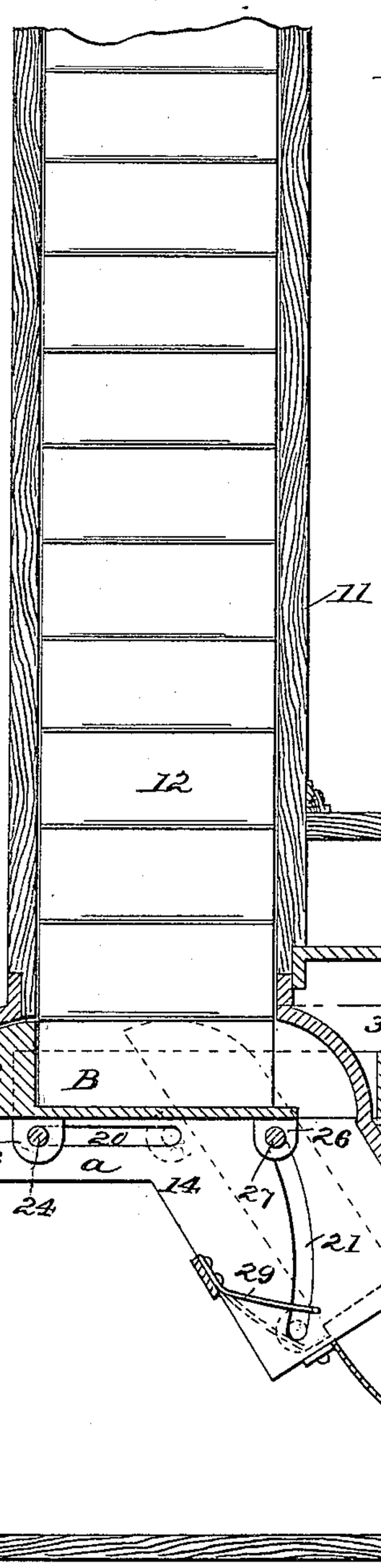


Fig. 5.

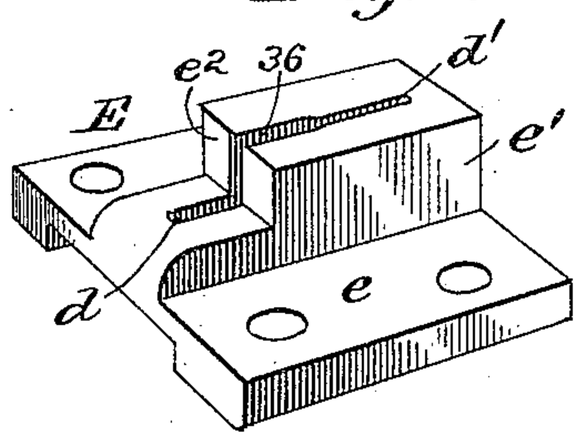
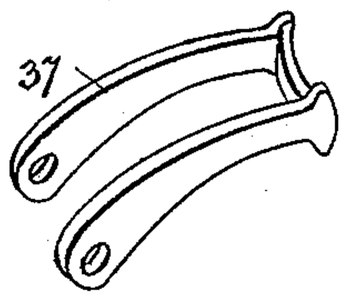


Fig. 9.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2.

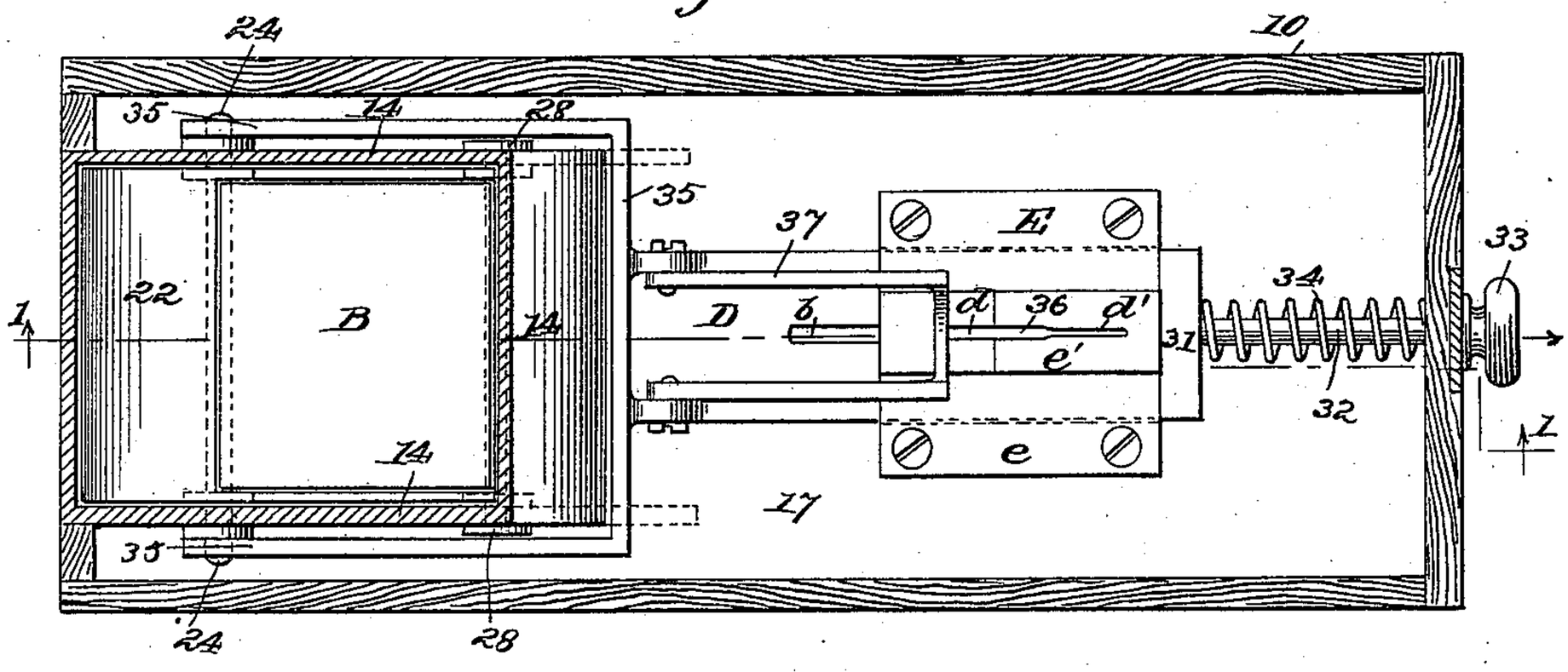


Fig. 3.

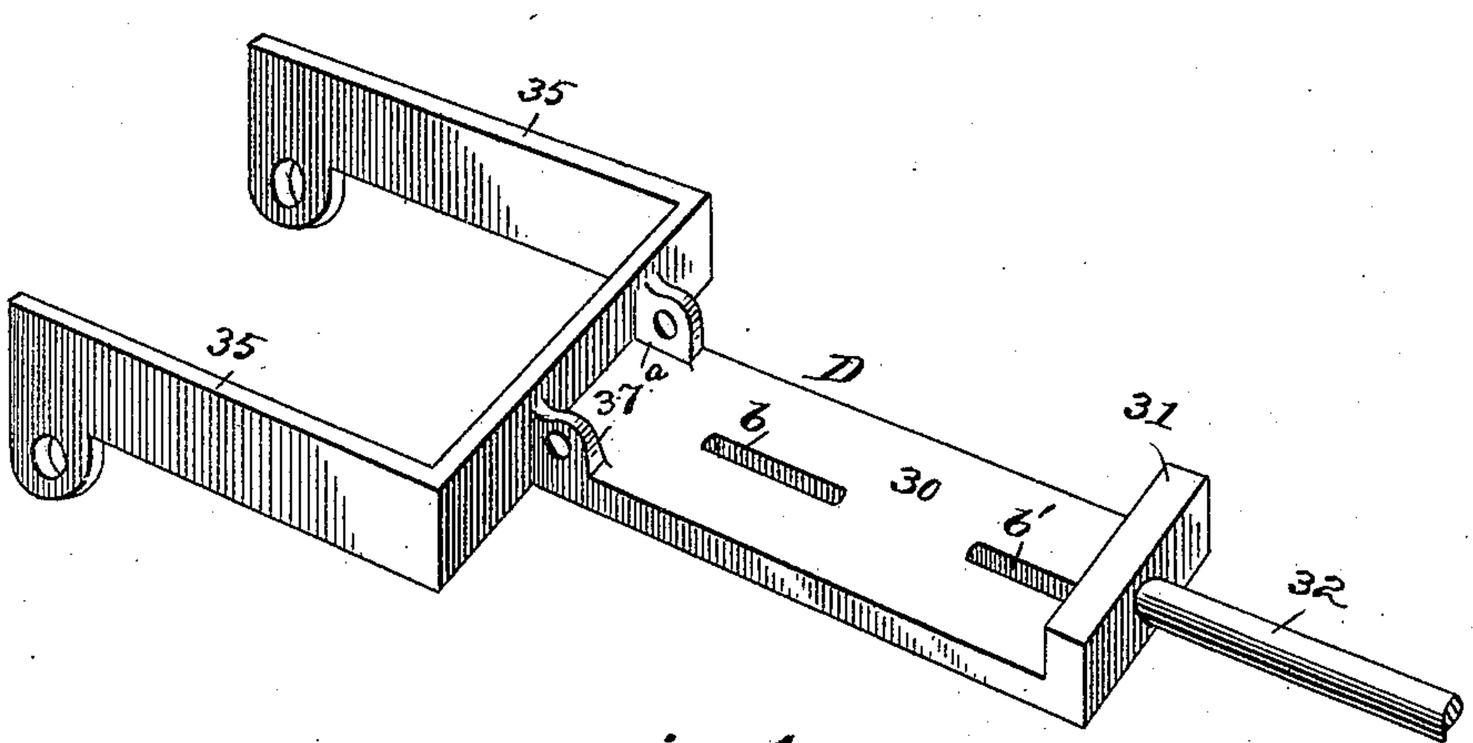
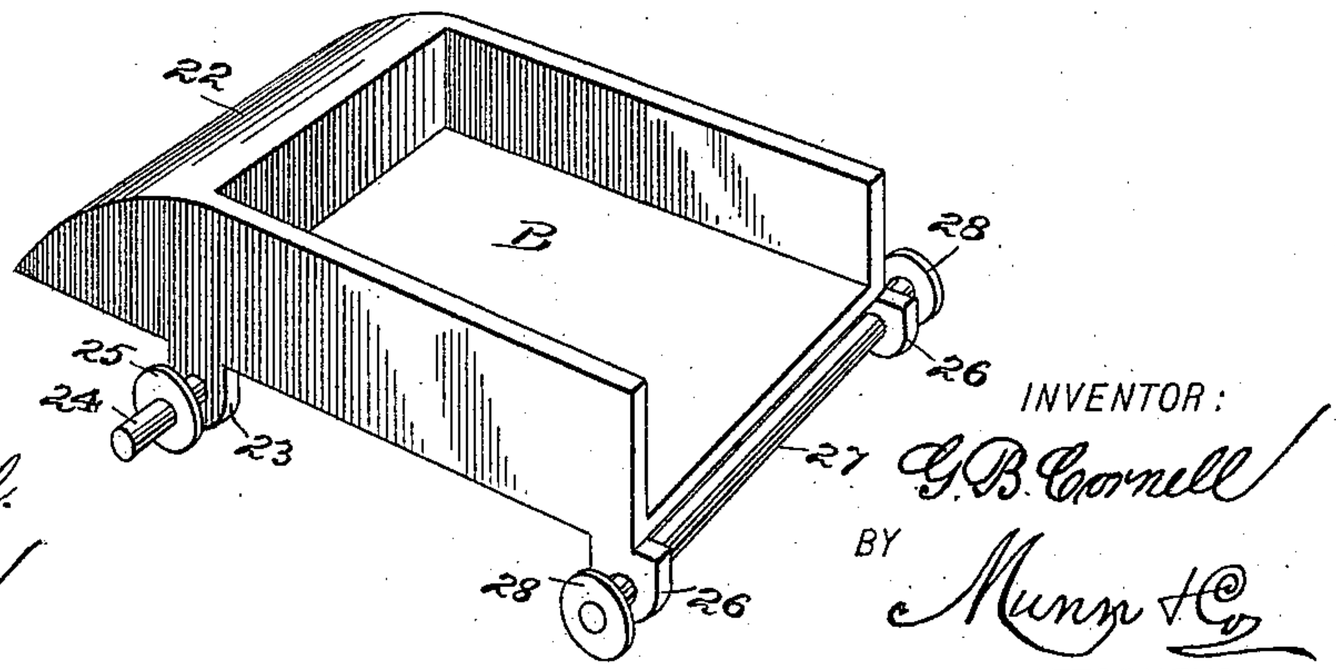


Fig. 4.



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(No Model.) 3 Sheets—Sheet 3.

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Fig. 6.

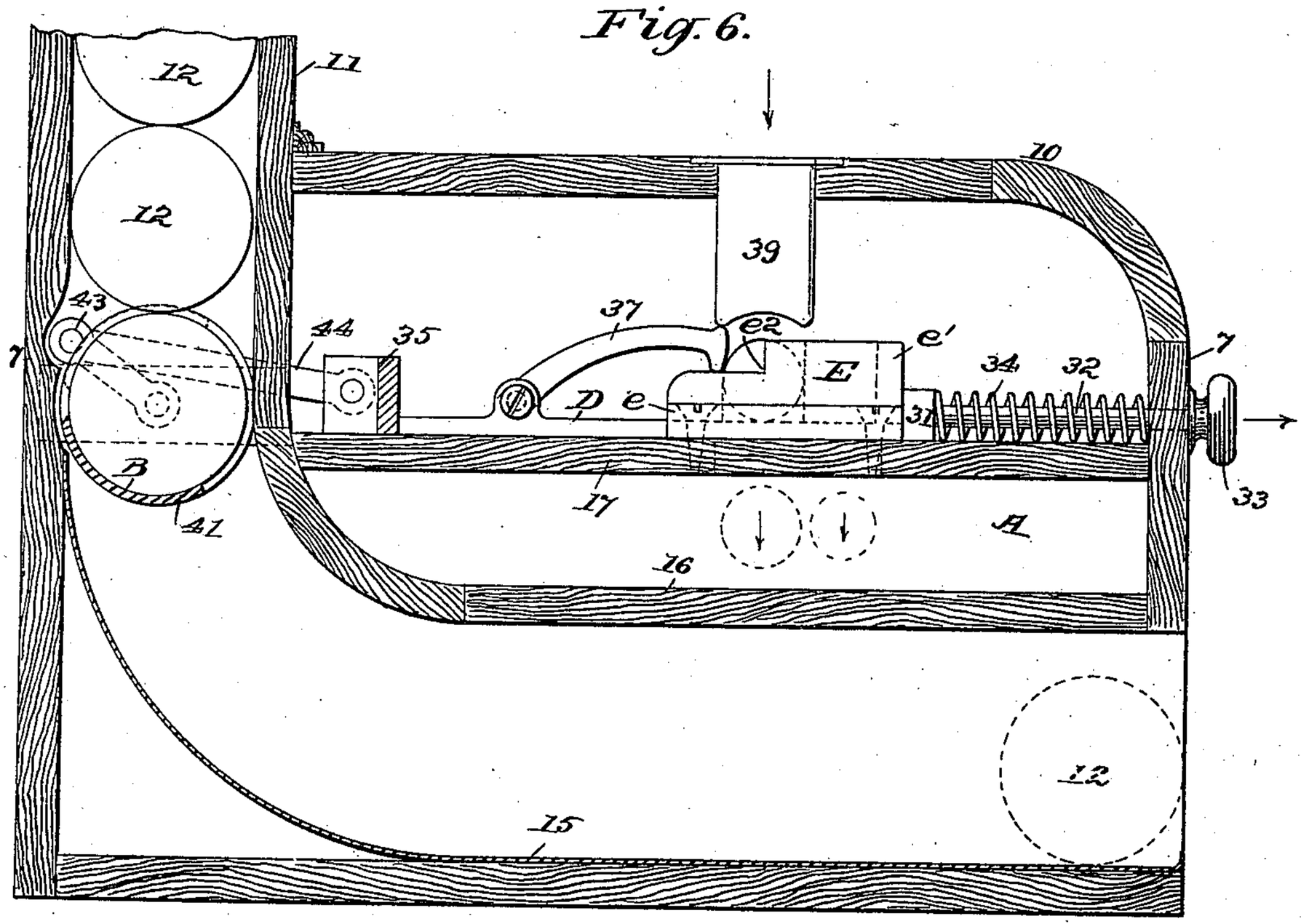


Fig. 7.

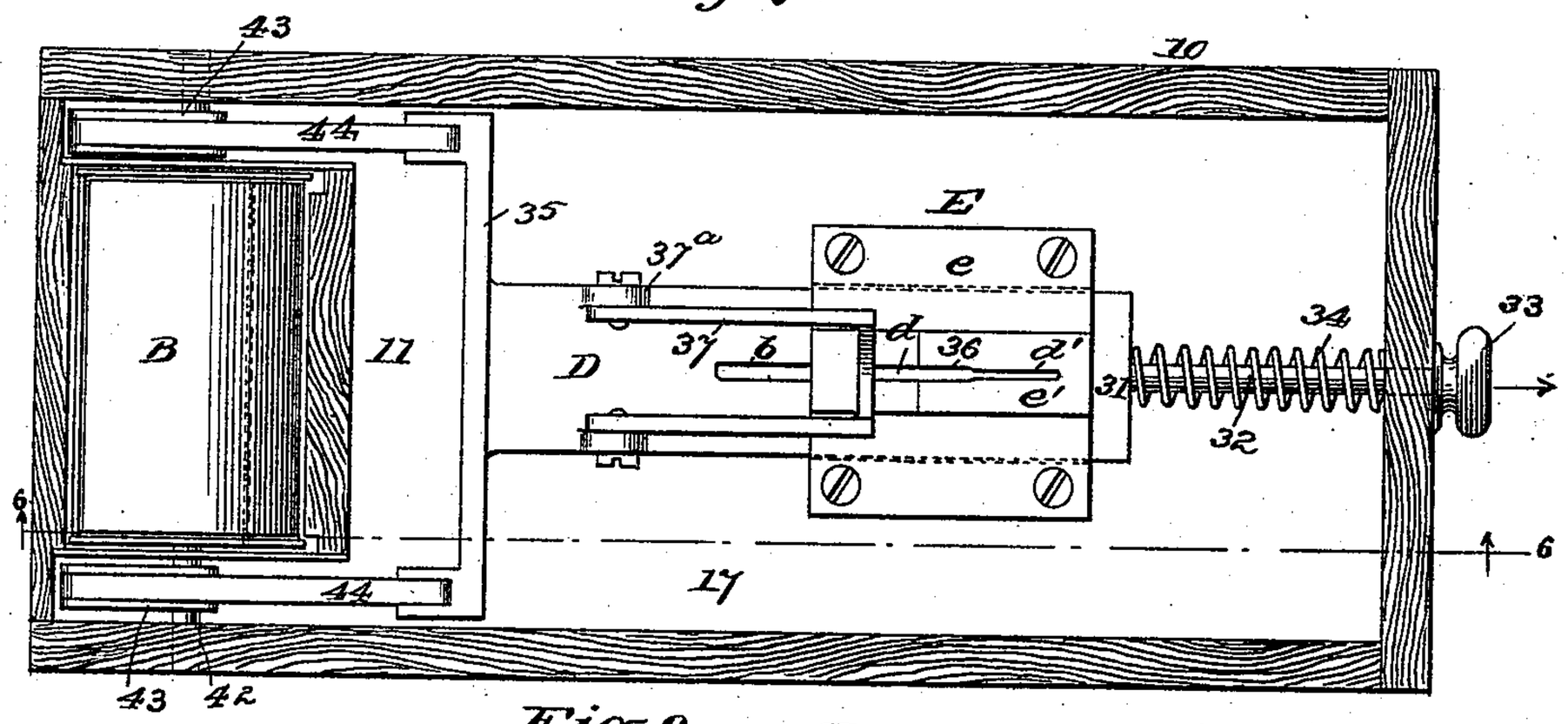
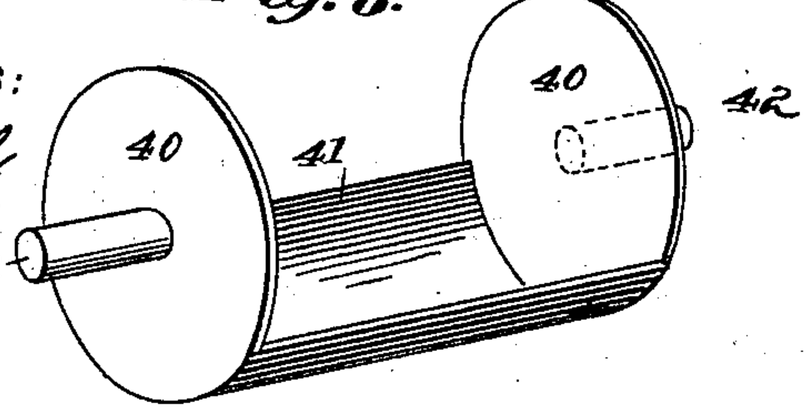


Fig. 8.



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UNITED STATES PATENT OFFICE.

GEORGE B. CORNELL, OF NEW YORK, N. Y.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 441,536, dated November 25, 1890.

Application filed July 18, 1890. Serial No. 359,122. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. CORNELL, of New York city, in the county and State of New York, have invented a new and useful Improvement in Vending-Machines, of which the following is a full, clear, and exact description.

My invention relates to an improvement in vending-machines, and has for its object to provide a means whereby a package may be withdrawn from the machine only after a genuine coin of a predetermined denomination has been properly introduced therein, and wherein, also, any other coin or imitation of a coin dropped into the machine will not in the least interfere with the mechanism thereof.

A further object of the invention is to construct a machine of this character containing but few parts, which parts will be simply arranged and very durable.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section through a machine having the improvements applied, the section being taken on the line 1 1 of Fig. 2. Fig. 2 is a horizontal section taken on line 2 2 of Fig. 1. Fig. 3 is a perspective view of the slide detached from the machine. Fig. 4 is a perspective detail view of the discharge-section. Fig. 5 is a detail perspective view of the coin-block detached. Fig. 6 is a central vertical section through a slightly-modified form of the machine, the section being taken on the line 6 6 of Fig. 7. Fig. 7 is a horizontal section through the modification, the section being taken on the line 7 7 of Fig. 6. Fig. 8 is a detail perspective view of the discharge-receptacle used in connection with the modified form of the machine, and Fig. 9 is a detail perspective view of the latch.

The casing 10 of the machine may be of any suitable or approved form, and the said casing is so constructed as to provide for a reservoir 11, adapted to contain the merchandise 12 to be dispensed, which reservoir is preferably located at the rear of the casing and extends upward some distance beyond the main portion of the top, as is best shown in Fig. 1. The reservoir shown in Fig. 1 is adapted for the reception of polygonal packages, and that form of reservoir illustrated in Fig. 6 is adapted for the reception of cylindrical packages.

In the form of device illustrated in Fig. 1 a horizontal partition 13 is constructed within the casing near the top, which partition extends from the front and is ordinarily connected with the lower edge of the front wall of the reservoir. The delivery or lower end of the reservoir is surrounded by a housing 14, the rear portion of which housing and also the bottom portion are open, and with the lower end of the housing a downwardly-curved chute 15 is connected. The housing is somewhat angular, comprising a horizontal portion *a* and a downwardly and forwardly projecting portion or section *a'*, a horizontal partition 16 being secured to the lower front end of the housing and also to the front of the casing. The forward end of the chute 15 is preferably flush with the front of the casing and is uncovered, the chute being of sufficient size to permit the operator to extract a package therefrom. About midway between the upper horizontal partition and the partition 16 an intermediate parallel partition 17 is formed, which extends from the housing also to the front of the casing. In the intermediate partition 17 a long slot or opening 18 is formed, and the space between the partitions 16 and 17 constitutes a coin-receiving chamber A. In the sides of the horizontal portion or section *a* of the housing horizontally-aligning slots 20 are produced, and in the sides of the downwardly-extending section *a'* curved slots 21 are formed, which slots are vertically located.

A discharge-receptacle B is located beneath the lower end of the reservoir 11, which discharge-receptacle is rectangular in general contour, corresponding to the cross-sectional contour of the reservoir. The forward end of the discharge-receptacle is open, as is best illustrated in Fig. 4, and the rear end is

curved downward or made cylindrical, as shown at 22. The cylindrical end 22 of the discharge-receptacle extends beyond the rear wall of the reservoir, as shown in Fig. 1, the casing being constructed to accommodate it. When the discharge-receptacle is in its normal or horizontal position, (shown in positive lines in Fig. 1,) the interior side and end walls thereof vertically align the corresponding walls of the reservoir.

From each side of the discharge-receptacle near its rear end a lug 23 is downwardly projected, and to the said lugs a spindle 24 is secured. The extremities of the spindle 24 pass through the horizontal housing-slots 20 and extend beyond the said slots, being provided, preferably, with guide-washers 25, adapted to engage with the outer side faces of the housing. From the sides of the forward end of the discharge-receptacle another set of lugs 26 is downwardly projected, and in these forward lugs a spindle 27 is secured. The extremities of the spindle 27 pass through the curved slots 21 of the housing and extend slightly beyond the outer side faces of said housing, being provided at their extreme ends with attached washers 28. In the lower end of the housing a spring 29 is secured at one end, the said spring being located in the path of the discharge-receptacle when the latter is tilted or brought to its delivery position.

The discharge-receptacle is operated through the medium of a slide D. The slide is shown in detail in Fig. 3, and consists of a central or body portion 30, preferably rectangular in cross-section, the forward end of the body being upturned to form a lip 31. A rod 32 is integral with or attached to the forward end of the body portion of the slide, which rod extends through a suitable aperture or opening in the front of the casing 10, and at its outer end it is provided with an attached or integral knob 33. The rod 32 is surrounded by a spring 34, having a bearing against the forward end of the body and the contiguous face of the casing, as is best shown in Fig. 2. In the body-section of the slide two spaced longitudinal slots b and b' are produced, and the said body-section is adapted for lateral movement upon the intermediate partition 17 and in a channel produced in the base of the coin-receiving block E, securely attached to the intermediate partition over the opening 18 therein. The base e of the coin-block is provided with a longitudinal extension e', preferably rectangular in cross-section, as shown in Fig. 5, and extending from end to end of the base. The forward portion of the extension is higher than the rear portion, forming thereby a shoulder e^2. In the extension of the coin-block a vertical coin-receiving opening 36 is formed, registering with the opening 18, leading into the coin-chamber A. The coin-receiving opening 36 extends beyond both sides of the shoulder e^2 and through said shoulder. The said opening 36 is made in two widths, the wider portion d being located in the direction of the rear portion of the block and the narrower portion d' in the direction of its forward portion. A yoke-latch 37 operates in conjunction with the slide, and the members of said latch are pivoted to suitable lugs 37^a, extending from the rear end of the body-section of the slide. When the slide is in its normal position, being held in such position by the spring 34, the narrower portion of the coin-receiving slot 36 is immediately above the opening 18 in the intermediate partition 17, as is best shown in Fig. 1, and the larger or wider section of the slot 36 is immediately over that portion of the body of the slide located between the slide-slots b and b', while the latch 37 rests upon the upper face of the reduced portion of the coin-block extension, some little distance to the rear of the shoulder e^2 of said block. A coin-conducting tube 39 is inserted in the upper portion of the casing and extends vertically downward within the same through the upper partition 13, and when the slide is in its normal position the forward end of the latch 37 practically contacts with the under face of the conducting-tube, which is concave at the under side thereof, as is also best shown in Fig. 1. The coin-conducting tube 39 always registers with the larger section of the coin-slot 36.

In operation, if a genuine coin of the proper denomination be dropped through the tube 39 it enters the inner section d of the slot 36, and by reason of its thickness is prevented from entering the smaller section of the slot. To extract a package from the reservoir, a coin being in position within the coin-block, the slide is drawn outward by means of the knob 33, whereupon the latch 37, carried by the slide, rides up upon the periphery of the coin, said coin acting as a cam. The latch is thus elevated to the upper face of the forward portion of the extension e' of the coin-block, and, as no further impediment is in the path of the latch, the slide may be drawn outward sufficiently to permit the coin to drop down into the chamber A through the slot b in the slide and the opening 18 in the top of the coin-chamber. In drawing the slide outward the yoke 35, being connected with the discharge-receptacle, forces said receptacle down to the inclined position illustrated in dotted lines in Fig. 1, which brings the bottom of the receptacle into alignment with the upper curved portion of the chute 15, whereupon the package contained in the discharge-receptacle drops therefrom and slides down the chute 15 to the open front thereof. When the discharge-receptacle is brought to its tilting position, the spring 29 is pressed downward, and the cylindrical surface 22 of the receptacle is brought beneath the lower package of the column contained in the reservoir 11, whereby the said column of packages is supported. When the slide D is released, the spring 34 draws it back to its normal position and the discharge-

receptacle is elevated to its horizontal position, assisted by the lower spring 29. As soon as the discharge-receptacle assumes the horizontal position the lower package of the column in the reservoir drops down therein, ready to be discharged when the slide is again drawn outward. Should a thin or spurious coin be dropped into the slide-opening 36, it will immediately roll into the narrower section of the slot and drop downward through the opening *b* of the slide and the opening 18 into the chamber A. The slide cannot then be drawn outward, as the latch 37 will act as a stop, coming in contact with the shoulder 31.

In the modification illustrated in Fig. 6 the difference in construction consists, principally, in the construction of the discharge-receptacle and the action of said receptacle with the slide. The reservoir 11 is adapted to receive cylindrical packages or packages approximating a circular contour. The housing at the delivery end of the reservoir is dispensed with and the chute 15 is carried upward to meet the said end of the reservoir. At the junction of the chute with the reservoir the discharge-receptacle B is journaled. This receptacle consists of two disks 40, which constitute the ends of the receptacle, connected by a semicircular plate 41, which forms the bottom of the receptacle, the plate being united to the peripheries of the disks; or the said disks and plate may be made from one piece of metal, if deemed best. Each disk is provided with an attached trunnion 42, and by means of the said trunnions the receptacle is pivoted. To each trunnion 42 a crank-arm 43 is secured at one end, and at their opposite ends the crank-arms are pivotally connected with the yoke-section of the slide by means of links 44. In the operation of this form of the device, when the slide is drawn outward the receptacle is rocked until the open portion thereof faces downward and the back or bottom 41 of the plate is carried upward, whereupon said bottom supports the column of packages in the reservoir 11, while the package contained in the discharge-receptacle rolls out therefrom and down the chute 15.

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

1. In a machine of the character described, the combination of a fixed coin-receiver provided with a shoulder at its slotted portion, a slide, and a latch connected with the slide and adapted for engagement with a coin when in the receiver and with said shoulder in the absence of a coin, substantially as shown and described.

2. In a machine of the character described, the combination, with a fixed coin-receiver, of a slide, discharge mechanism connected with the slide, and a latch carried by the slide and adapted for engagement with the coin when the latter is in the said receiver, substantially as specified.

3. In a machine of the character described, the combination, with a fixed coin-receiver having a coin-slot of varied width produced therein, of a slide provided with coin-discharging openings and capable of lateral movement beneath the coin-receiver, substantially as specified.

4. In a machine of the character described, the combination, with a fixed coin-receiver having a coin-slot of varied width produced therein, of a slide provided with coin-discharging openings and capable of lateral movement beneath the said coin-receiver, and a release-latch connected with the slide, substantially as and for the purpose set forth.

5. In a machine of the character described, the combination, with a fixed coin-receiver having a coin-slot of varied width produced therein, of a slide provided with coin-discharging openings and capable of lateral movement beneath the said coin-receiver, and a discharge mechanism and release-latch connected with the slide, as and for the purpose specified.

6. In a machine of the character described, the combination, with a slide provided with coin-discharging openings and a fixed coin-receiver, of a latch connected with the slide and engaging the coin-receiver, and a tilting discharge mechanism also connected with the slide, substantially as shown and described.

7. In a machine of the character described, a coin-receiver having a slot of two widths produced therein, substantially as described.

8. In a machine of the character described, the combination, with the wall of a coin-chamber provided with an opening therein, of a coin-receiver located above the opening of the chamber and provided with a slot of two widths, and a slide capable of lateral movement under the coin-receiver and over the opening in the coin-chamber, said slide having openings therein, substantially as and for the purpose described.

9. In a machine of the character described, the combination, with a package-reservoir and a discharge-receptacle located beneath the reservoir and capable of a rocking movement, of a slide connected with the discharge-receptacle provided with openings therein, a stationary coin-receiver provided with a shoulder, and a latch connected with the slide and adapted for engagement with the fixed coin-receiver, the said latch being arranged to travel over a coin held in the fixed coin-receiver, substantially as and for the purpose specified.

10. In a machine of the character described, the combination, with a package-reservoir and a discharge-receptacle located beneath the reservoir capable of a rocking movement, the said discharge-receptacle being adapted to receive packages from the reservoir and consisting of a receptacle provided with an open discharging-section and a bearing-section adapted for engagement with the lower pack-

age in the reservoir, of a slide connected with the discharge-receptacle, provided with an opening therein, a stationary coin-receiver provided with a shoulder, and a latch connected with the slide and adapted for engagement with the fixed coin-receiver, the said latch being arranged to travel over a coin held in the fixed coin-receiver, substantially as and for the purpose specified.

GEORGE B. CORNELL.

Witnesses:
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JAS. R. STUDWELL.