No. 795,891. PATENTED AUG. 1, 1905.

E. BUCK.

COIN ACTUATED VENDING MACHINE.

APPLICATION FILED AUG. 1, 1904.

2 SHEETS—SHEET 1.

Fig. 1

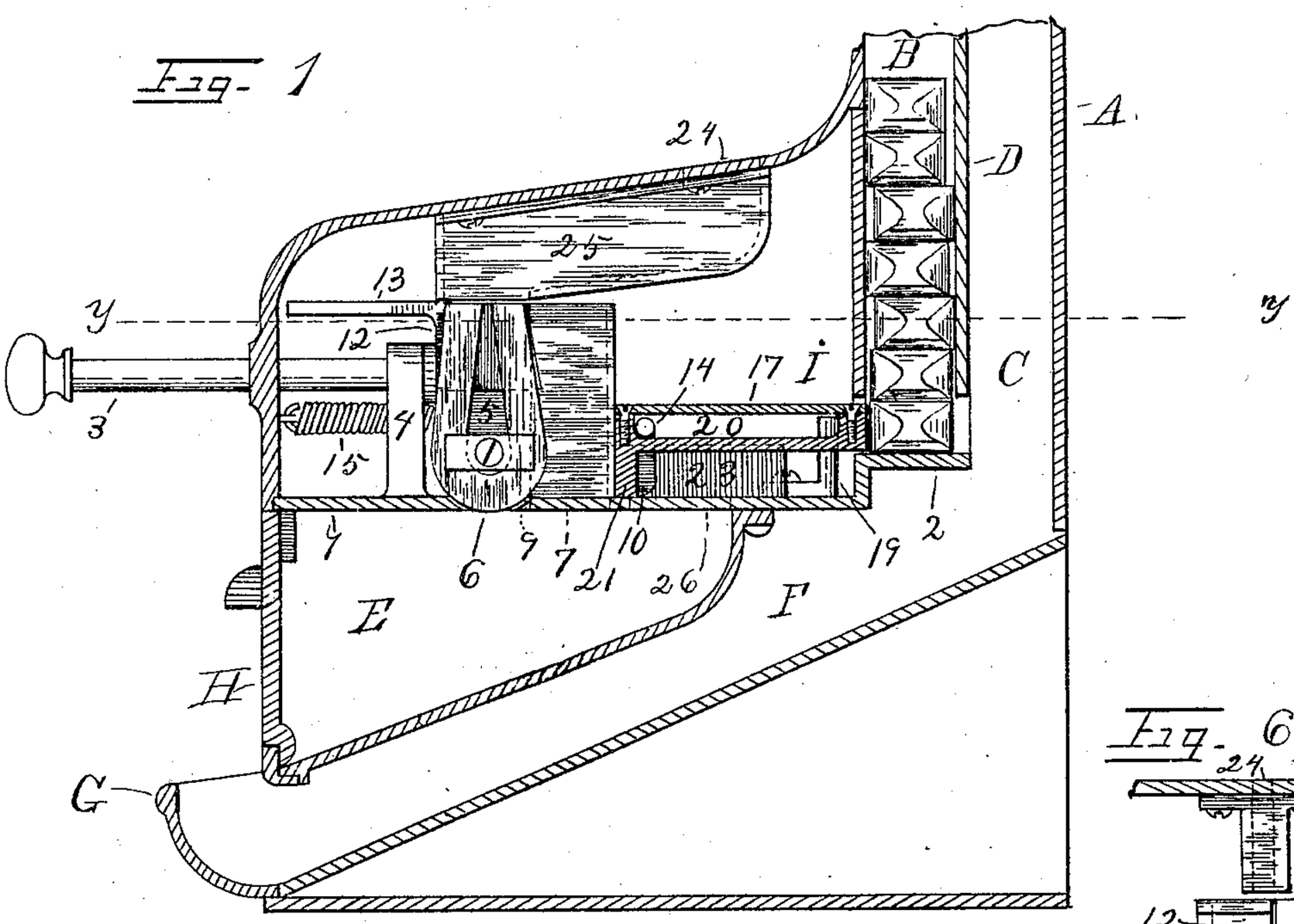


Fig. 6

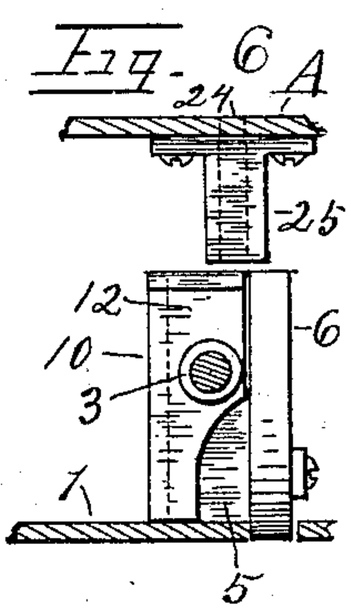
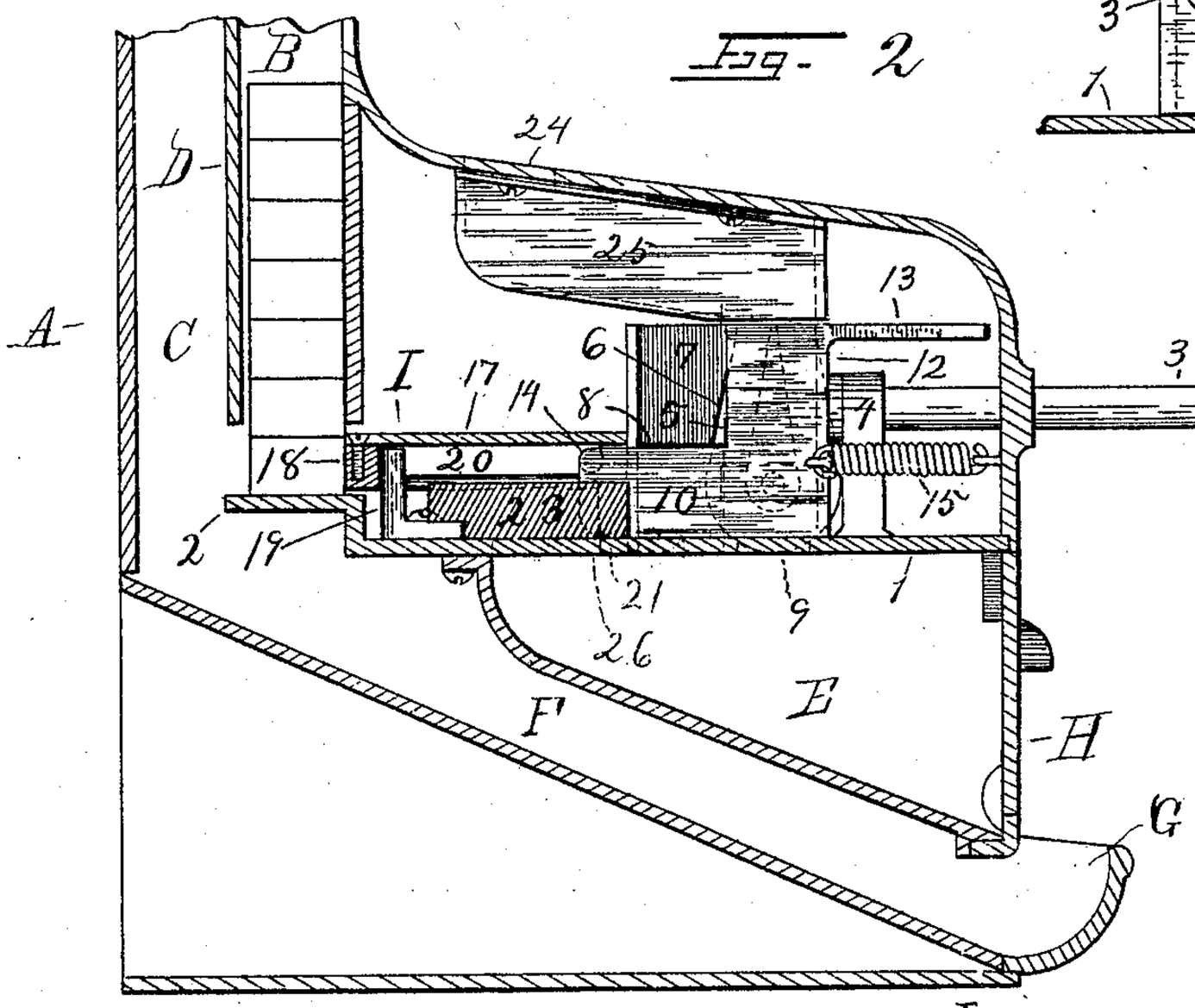


Fig. 2



Witnesses
Jos. A. C. Rimms.
Thos. E. Edwards

Inventor
Elijah Buck
By Victor E. Randall Atty.

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2 SHEETS—SHEET 2.

Fig. 3

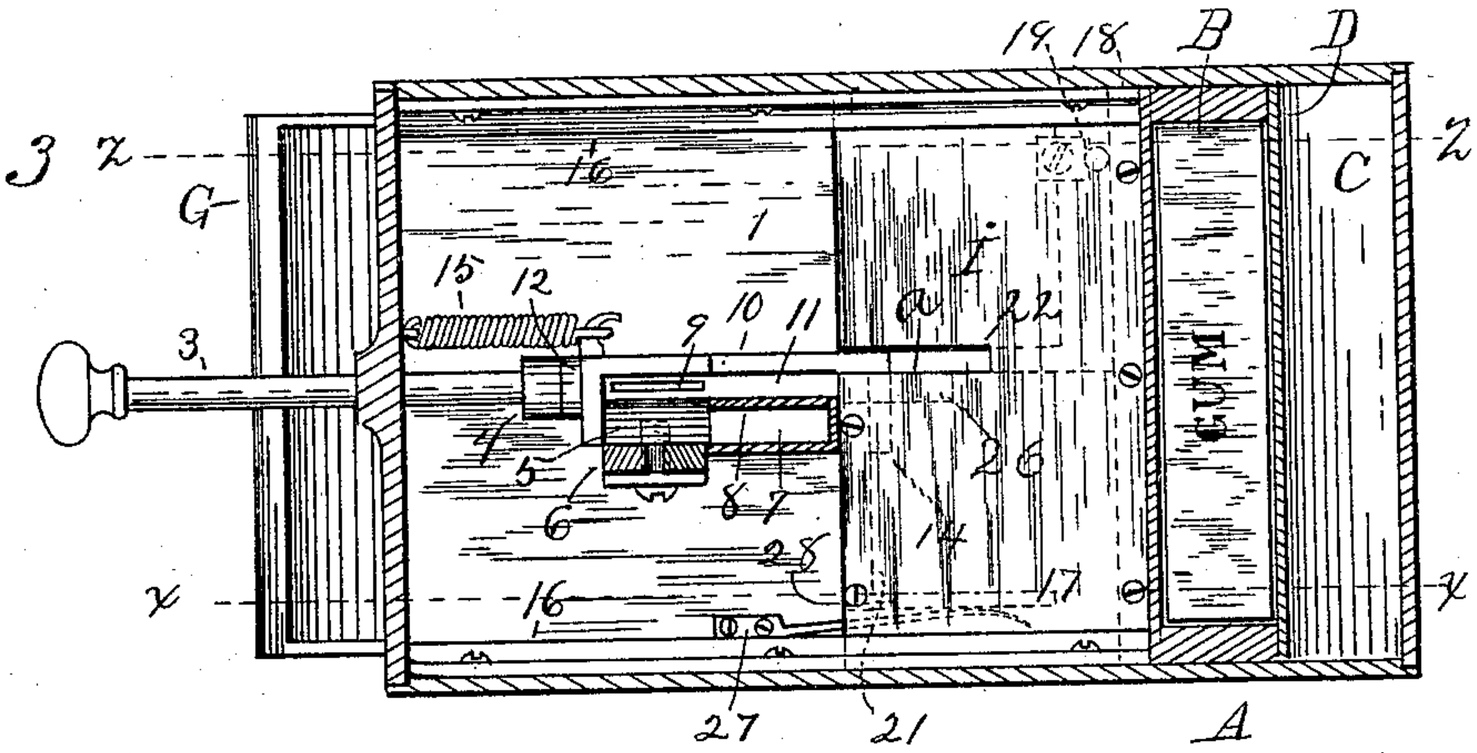


Fig. 4

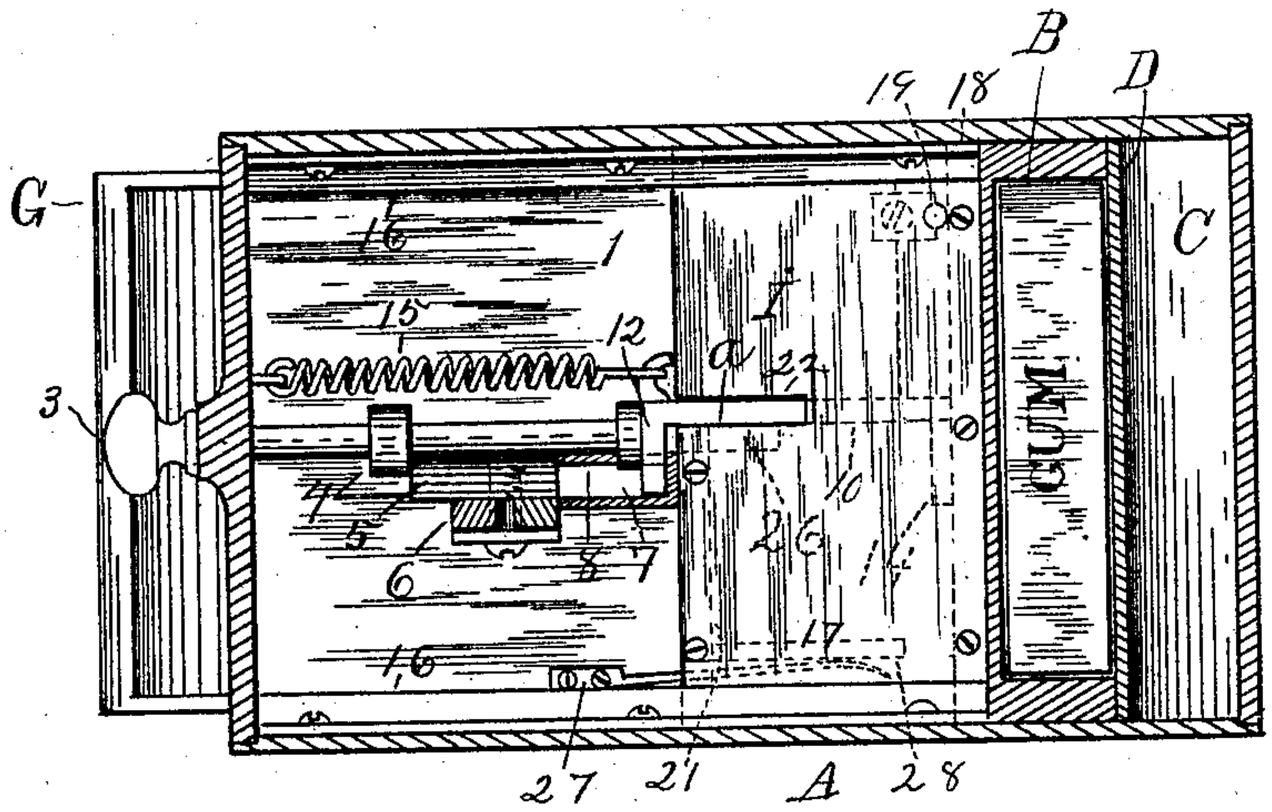
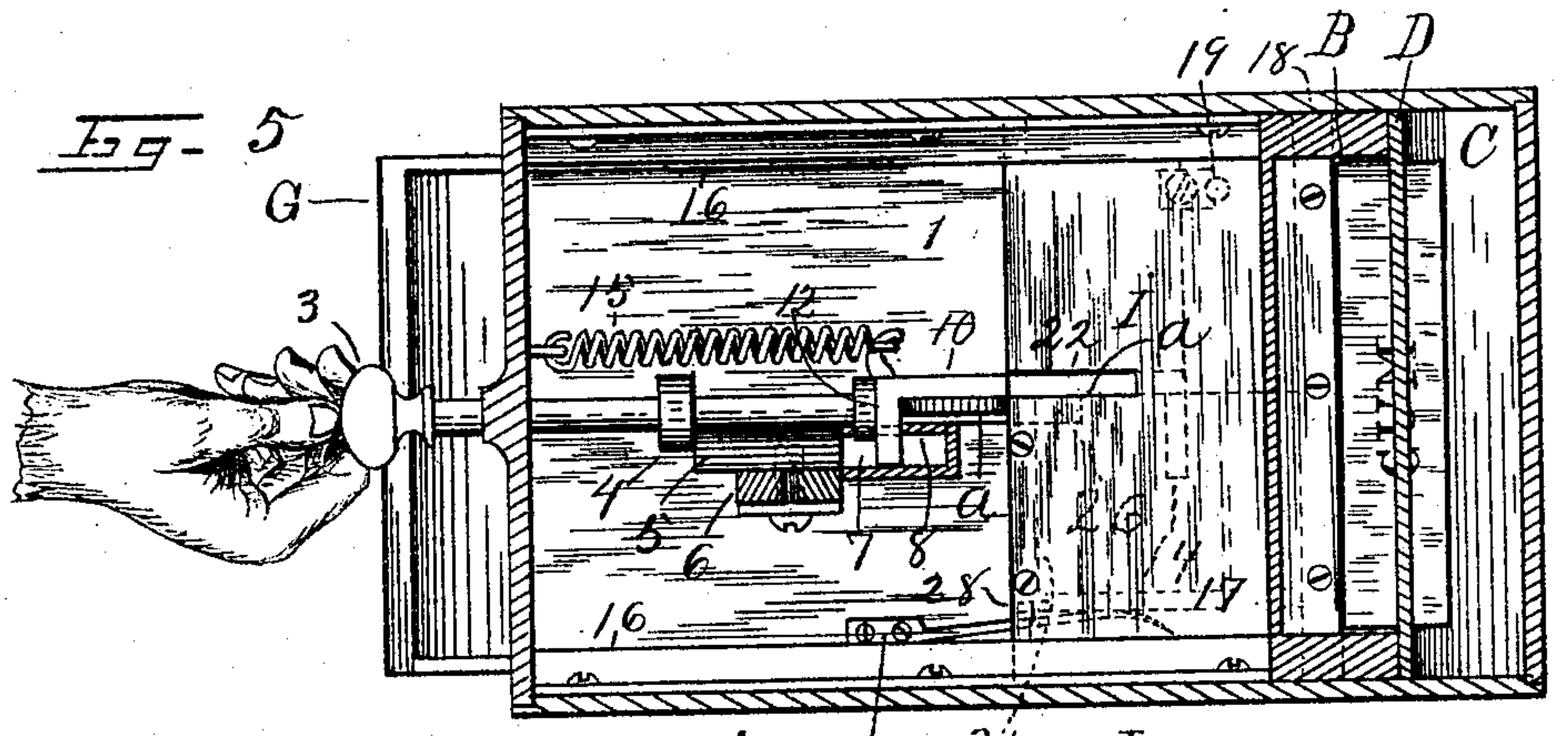


Fig. 5



Witnesses;
Jos. L. C. Binns.
Thos E Edwards

Inventor;
Elijah Buck
By, Victor B. Randall
Atty.

UNITED STATES PATENT OFFICE.

ELIJAH BUCK, OF MARSHALL, MICHIGAN.

COIN-ACTUATED VENDING-MACHINE.

No. 795,891. Specification of Letters Patent. Patented Aug. 1, 1905.

Application filed August 1, 1904. Serial No. 218,963.

To all whom it may concern:

Be it known that I, ELIJAH BUCK, a citizen of the United States, residing at Marshall, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Coin-Actuated Vending-Machines, of which the following is a specification.

This invention relates to vending-machines, and has for its object to construct a device of its class that will be symmetrical in design, simple in construction, positive in operation, and cheap to manufacture; and it more particularly relates to machines for vending gum and articles having a dimension longer than their circumference.

Briefly comprehended, my invention comprises a cabinet of suitable design within which the articles to be vended will occupy an upper rear portion, to the forward and bottom of which the operating mechanism is adapted to work and below which the exit-trough and coin-receptacle are located, the operating mechanism consisting of a plunger of a length corresponding to the width of the vending-column and having a rectangular rear portion thereof cut away intersecting a line coincident to the inner edge of a push-button adapted to operate the same; a longitudinal concavity or aperture in the remaining portion of said plunger adapted to receive an L-shaped end of said push-button; guides for directing both said plunger and button and a spring to react the same; a coin-chute leading to a magnet supported from the side of an upwardly-curved projection on a platform upon which said mechanism is arranged, the inner and curved side of said projection being coincident to the travel of said push-button; a slug-exit in advance of said projection; a minor coin-exit to the inner side of said projection in said platform in the path of said push-button and a final coin-exit forward of and at the limit of the actuating stroke of said push-button, the inner side of said push-button and the inner edge of said projection and slug-exit forming a trough within which a coin is held vertically edgewise in its transit in the operation of said machine, and an apron forming a top and rear extremity to said push-button adapted to cut off the ingress coin-chute when said plunger advances to actuate the machine.

In the drawings forming a part of this specification like letters and figures refer to corresponding parts throughout the several views, in which—

Figure 1 is a side sectional elevation of my improved vending-machine on the line $x\ x$ of Fig. 3. Fig. 2 is a reverse view of Fig. 1 on the line $z\ z$ of Fig. 3. Fig. 3 is a plan view of Fig. 1 on the line $y\ y$ thereof. Fig. 4 is a plan view of Fig. 3 with the push-button thrust to its extreme limit, but having no coin to actuate the vending-plunger. Fig. 5 is a plan view of Fig. 3 with a coin locked between the push-button and vending-plunger and shows the plunger in the act of releasing a package. Fig. 6 is a detail of the rear extremity of the push-button in cross-section back of the magnet and shows the contour of the shoulder 12.

In Figs. 1, 2, and 3 the machine is represented in a normal position preparatory to receiving the coin.

A is a casing which is made from any suitable material and may be designed in any form adequate to the purpose and as here represented is rectangular in cross-sction, the base thereof being somewhat larger than its vending-chamber, the latter of which is designated as its "upper" and "back" portion, within the latter of which is the receptacle-compartment B and the exit-chamber C, the two being separated by partition D.

Within the base the operating mechanism, coin-tray, and exit-chute are located, of which E represents the coin-tray, having a door H, and F the exit-chute, in this instance the tray occupying a position above the exit-chute and immediately beneath the operating mechanism. However, it will be obvious that the former could be placed below the latter by arranging a coin-trough leading from the operating mechanism thereto. The exit-chute comprises an inclined plane whose upper end is adapted to receive parcels from the receptacle or parcel-chamber and deposit the same in a lower forward part of the machine within a cup G, the aforesaid chute being independent and adapted to slide within the base of the machine from the rear thereof. Above the coin-tray E is a platform 1, upon which the operating mechanism to the machine is situated. This platform is encompassed on the front and two sides by the base-walls, its rear terminating in an elevated shelf 2, disposed from the back of the machine and situated below the vending-chamber B, the two walls of which are coincident to its edges and separated therefrom the space of the article to be vended, as shown in Figs. 1 and 2. From the front and entering the base above the platform 1 is a push-button 3, the shank

thereof passing through a bearing 4, situated on or forming a part of said platform. Abutting the bearing 4, to one side thereof and alined with the push-button 3, is a rib 5, having vertical sides and a curved top, the latter of which terminates above the inner side thereof. To the outer side of this rib a magnet 6 is fastened, as shown, the poles of which extend above said rib the width of a coin adapted to actuate the machine, and for an illustration I will hereinafter employ and designate such coin as a "nickel" or "five-cent piece." To the rear and abutting the edge of this magnet and rib a dummy or slug exit 7 is provided. This exit opens within the coin-tray E and is alined with said rib, its inner wall 8 having a height not exceeding the width of a nickel and is coincident with the inner wall of the rib 5 aforesaid, the rear and outer side of said exit being alined with the upper end of said magnet, as shown. Opening into the coin-tray E adjacent to the inner wall of the rib 5 and alined with the push-button 3 is a slot 9, Fig. 3, through which a coin smaller than a nickel would pass and not tend to actuate the machine.

Upon the inner end of the push-button 3 is a coin-actuating slide 10, the bottom edge of which is adapted to play on the platform 1, the inner face of which forms a wall adjacent to the rib 5 and a dummy exit 7 and forms a chamber 11, Fig. 3, the rear side 12 and the upper edge of said slide to a width slightly exceeding the breadth of a nickel terminating at a point coincident to the poles of the magnet 6, the inner edge of the side 12 being formed with an angle coincident to the inner face of the rib 5 and the magnet 6, as shown in Fig. 6.

Parallel with the push-button 3 and extending rearwardly from the top of a slide 10 is a flat horizontal apron 13, and terminating the upper forward end of said slide is a horizontal finger 14, Figs. 1 and 2.

Connecting the rear end of the slide 10 with the wall of the cabinet a coil-spring 15 is located, the object of which is to react said slide after having been pushed in.

Situated between the dummy or slug exit 7 and the vending-chamber B is the plunger I. This plunger works between the platform 1 and the L-shaped guides 16 16, secured to either side of the inner side walls. The body of this plunger is shaped very like the letter L, lying horizontally with its stem presented toward the vending-column, said stem being adapted to play over the vending-column bottom 2 in the operation of the machine, the rear of the stem, Fig. 2, at the end thereof abutting the post 19, secured to the platform, when in a normal position. The foot of the L trends rearwardly, and within a portion thereof a concavity 20 is formed and admits of the finger 14 to the push-button to work at full stroke when no coin is placed within the machine. Covering the top of the plunger in this instance I employ a thin rectangular metallic plate 17, secured in position by flat-headed countersunk screws, as shown. This plate is provided with a slot 22 in the rear center portion thereof, which admits of the push-button 3 working and not disturbing said plunger when not actuated by a coin. To the rear of the plunger I a depending rib 21 is provided, and joining therewith at right angles and trending toward the face of the plunger a wing 28 extends therefrom, said wing and rib being coincident on their bottom edges and adapted to slide on the platform 1. Secured at one end to the platform 1 is a flat spring 27, its opposite end being slightly curved and adapted to bear against the wing 28 of said plunger. The object of this spring is to always bear against said wing and keep the point of contact *a* of the plunger I up snug against the slide 10, so that a coin in being impinged between the shoulder 12 and the rear edge of the plunger I will not through wear of the machine allow said coin to slip between said slide and the point *a*.

Should a dummy or slug composed of iron or steel be placed within the machine, upon reaching the magnet 6 said magnet will attract the same, and as the push-button 3 is thrust in the shoulder 12 thereof as it advances will pass along the face of said magnet and brush said slug therefrom and into the exit 7, and no action will be given to the plunger any more than as though no coin was in the machine.

It will be apparent that the details of the construction could be varied from the arrangement herein shown without departing from the spirit and intent of my invention—as, for instance, the forward longitudinal extremity of the slide 10 could be curved upward and forward from the shoulder 12 and terminate within a slot on the top side of the vending-plunger, and the guide 23 could be arranged to impinge the longitudinal wall of the cut-away portion of the vending-plunger I and form a guide for the passage of the coin in lieu of the slide 10.

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

1. In a coin-controlled vending-machine the combination with an inclosing casing, of a supporting-plate arranged therein and provided with a vertical rib, a guide forward of and adjacent to said rib, a vertical pin adjacent to said guide, a push-button, a vending-plunger, the inner end of the push-button having a projection adapted to operate within a recess of said vending-plunger, a coin-passage formed between said vertical rib and said push-button, the forward end of said push-button adjacent to said coin-passage operative against said guide, said vending-plunger at one side adapted to bear against said vertical

pin when in a normal position to impinge said vending-plunger at its longitudinal bearing against the inner end of said push-button, a spring bearing against the opposite end of said vending-plunger to keep said vending-plunger against said push-button throughout the course of its stroke, and a spring adapted to react said push-button and vending-plunger, substantially as described.

2. The combination with a coin-actuating push-button, a coin-exit, and vending-plunger, of a supporting-base, a curve top rib extending above said base adjacent to the travel of said push-button, a magnet secured to and extending above said rib, a slug-exit forward of said rib, a coin-chute leading to said magnet above said rib, a push-button adjacent to said rib forming a coin-receptacle therebetween a shoulder formed on said push-button adapted to slide on said base and having a contour coincident to said rib and magnet, whereby the travel of said push-button will carry a coin along between said rib and brush a slug inherently attracted to said magnet into said slug-exit and means for returning said push-button and vending-slide to a normal position, substantially as set forth.

3. The combination with a coin-actuating push-button, coin-exit, and vending-plunger, of a supporting-base, a vertical curved top rib extending above said base adjacent to the travel of said push-button, a magnet secured to and extending above said rib, a slug-exit forward of said rib, a coin-chute leading to said magnet above said rib, said push-button having a shoulder and a longitudinal extremity adjacent to said rib and the inner wall of said slug-exit provided with a transverse finger adapted to work within a widened slot in said vending-slide, said magnet adapted to attract and detain a slug of inherent substance, the curved top rib adapted to guide a coin within the space formed between said shoulder and vending-plunger and the walls of said longitudinal extremity curve top rib and slug-exit, said shoulder having a contour coincident to said rib and magnet and adapted to brush off a slug attracted to said magnet and into a slug-exit, and impinge a coin against said vending-plunger in the operation of the machine, and means for returning said plunger and push-button, substantially as and for the purpose set forth.

ELIJAH BUCK.

Witnesses:
W. B. WADE,
B. H. WHITAKER.