

J. LITTLE.
COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED APR. 18, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

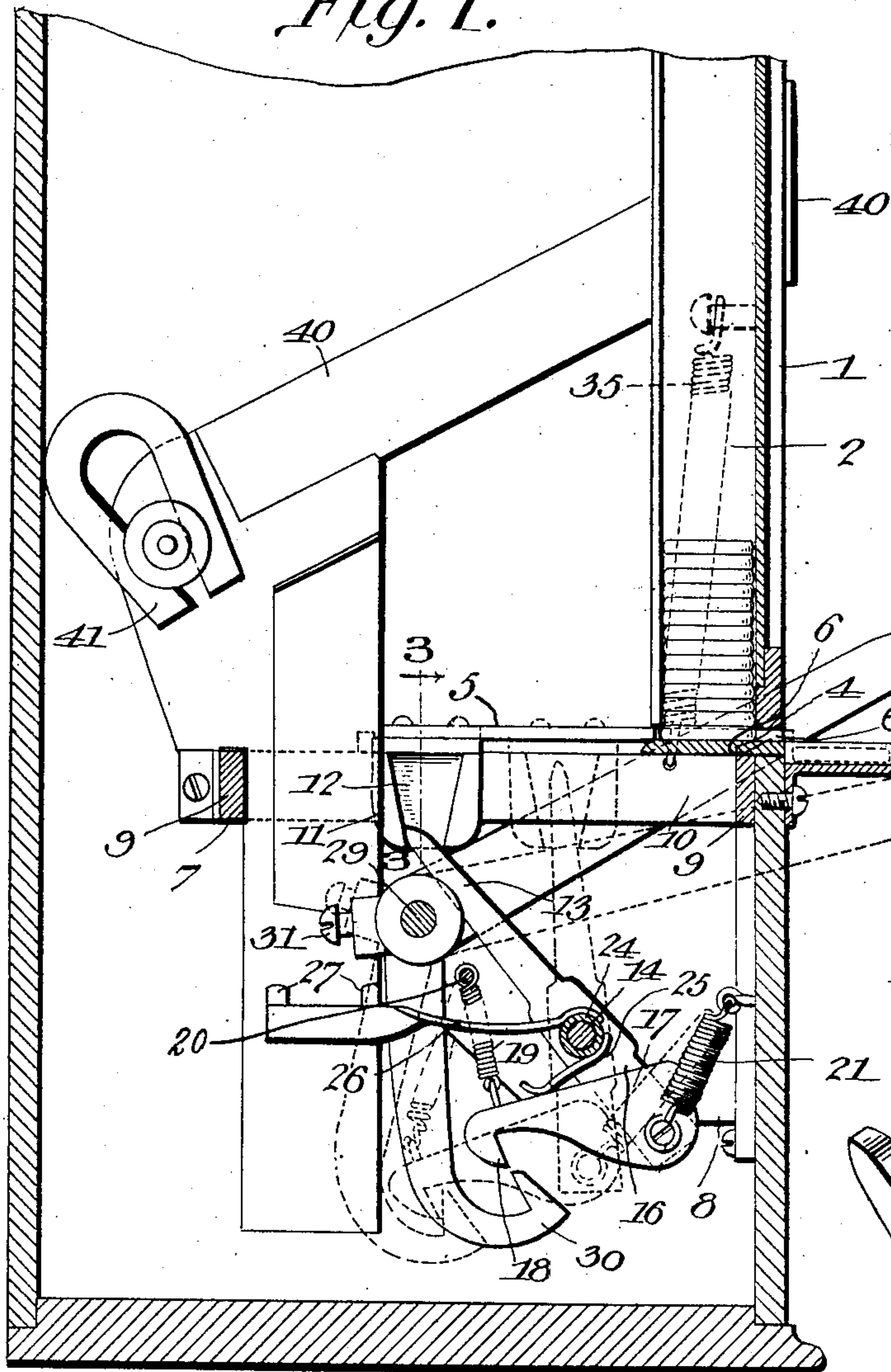


Fig. 3.

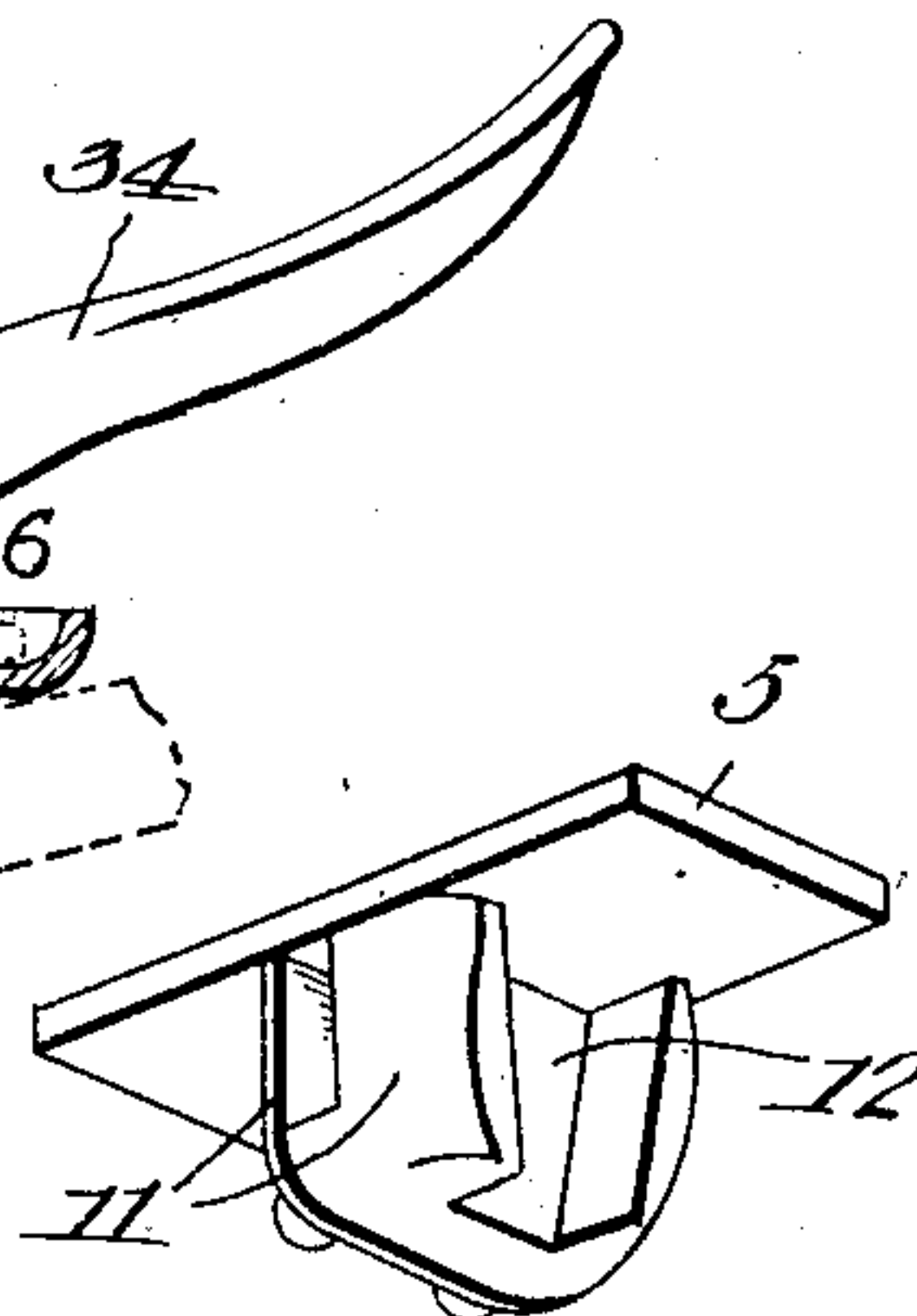
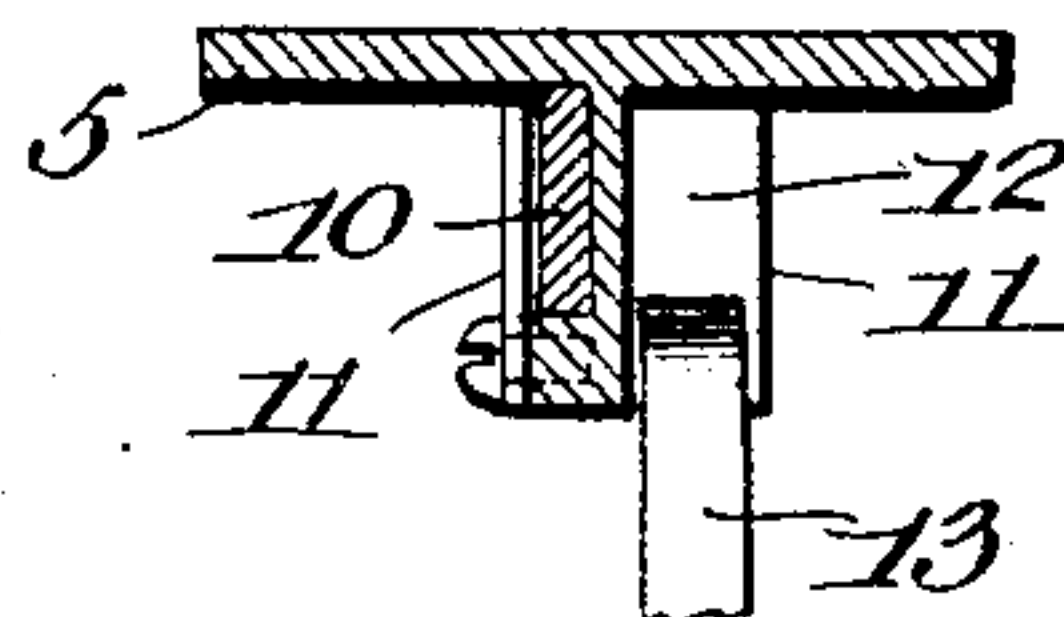


Fig. 4.

Fig. 6.

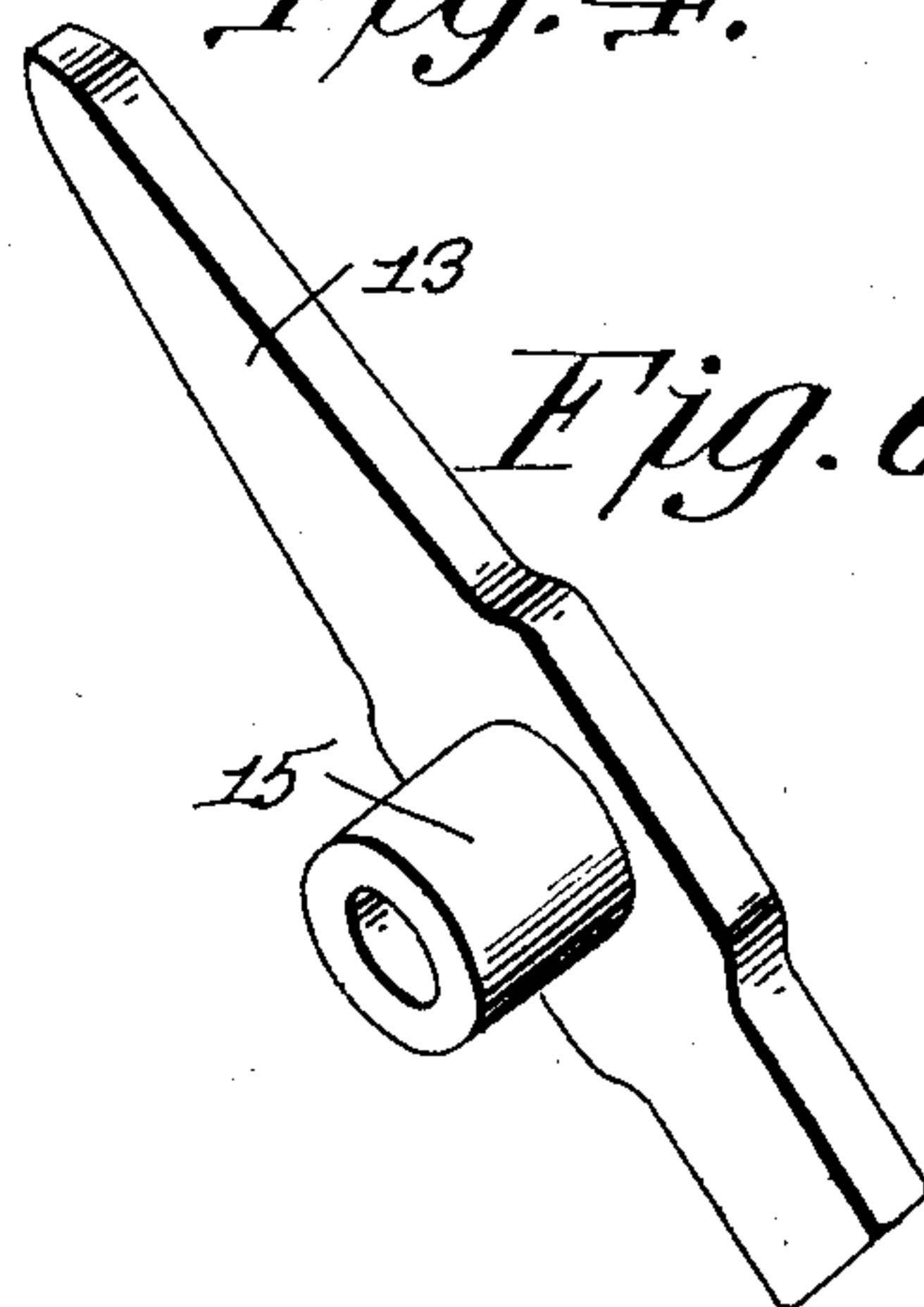
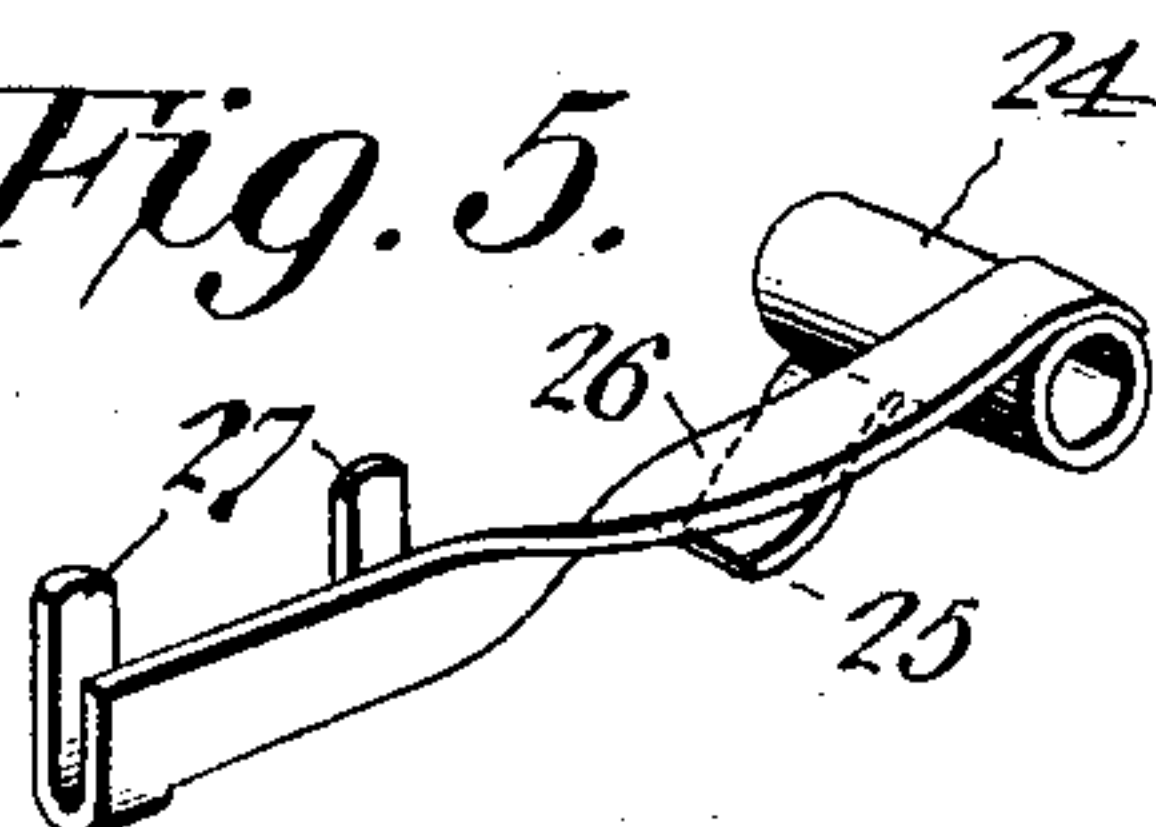


Fig. 5.



Witnesses

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No. 785,813.

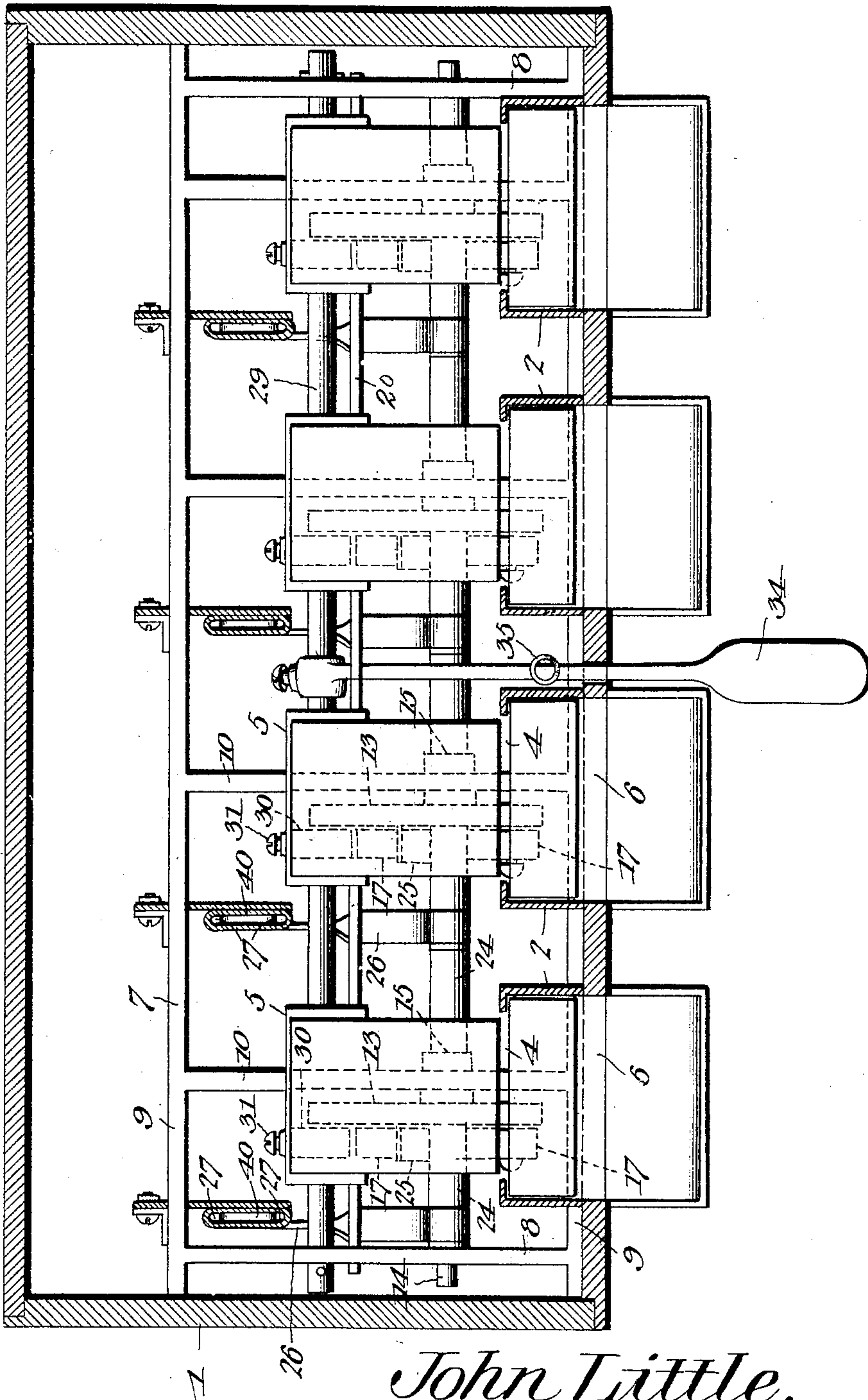
PATENTED MAR. 28, 1905.

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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN LITTLE, OF MINNEAPOLIS, MINNESOTA.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 785,813, dated March 28, 1905.

Application filed April 18, 1904. Serial No. 203,743.

To all whom it may concern:

Be it known that I, JOHN LITTLE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Coin-Controlled Vending-Machine, of which the following is a specification.

This invention relates to improvements in coin-controlled machines for vending various articles of merchandise—such, for instance, as packages of confections or cigars—or for the purpose of setting into motion musical instruments or other devices.

The principal object of the invention is to provide a novel form of coin-controlled mechanism in which the weight and gravity of the falling coin serve to engage or latch together the main operating-lever and the delivery mechanism, and a further object is to provide means whereby on the discharge of the coin the parts will be allowed to automatically resume initial positions.

A still further object of the invention is to provide a mechanism of this class in which a single operating-lever may be employed in connection with any desired number of vending appliances, so that the movement of the single lever will simultaneously effect the discharge of articles of the same or different nature from a number of magazines, with each of which is associated a coin-slot.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in the novel construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a vertical sectional view of the lower portion of a vending-machine constructed in accordance with the invention. Fig. 2 is a sectional plan view of the same. Fig. 3 is a detail sectional view of a portion of the machine on the line 3 3 of Fig. 1. Fig. 4 is a detail perspective view of one of the delivery-slide connec-

tions detached. Fig. 5 is a similar view of one of the coin-receiving arms. Fig. 6 is a detail perspective view of one of the discharging-slide-operating levers detached.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The working parts of the apparatus are arranged within a casing 1, which may contain any desired number of magazines 2, shown in the present instance as provided with a bottom or base 4, in which play slides 5, that deliver the successively lowermost articles of the magazines through delivery-slots 6 in the front wall of the casing.

To the inner surface of the front wall of the casing is bolted a frame 7, comprising a number of spaced brackets 8, that are connected by longitudinal bars 9 and transverse parallel bars 10, the latter serving as guides for the delivery-slides 5, each of such slides being provided with a pair of depending lugs, which straddle the bars. One of the lugs 11 of each slide is provided with a central recess 12, forming a large pocket in which plays the upper end of a lever 13, the two walls of the recess being close to each other at their lower ends to form a contracted passage for the lever. Extending for the full width of the machine and mounted in suitable bearings in the brackets is a shaft 14, on which the large hubs 15 of each of the levers 13 is loosely mounted, and the lower end of each lever is extended to form an arm 16, that is pivotally connected to a latch 17, having a downturned bill 18 at its free end. This latch is normally held in elevated position by means of a small tension-spring 19, connected at one end to the latch and at its opposite end to a transversely-extending bar 20, that is parallel with the shaft 14, and the lever and latch are both held in an oblique position, with the delivery-slide in readiness to engage and discharge an article from the magazines by means of a heavy tension-spring 21, extending between the front of the casing and the pivot-pin 22, which forms a connecting means between the latch and the arm 13.

On the shaft 14 is rigidly mounted a sleeve 24, having a cam-arm 25, preferably formed

of thin sheet metal, said arm resting at all times on top of the latch 17, but its weight being insufficient to overcome the stress of the spring 19. At that end of the collar opposite
 5 the cam 25 is an arm 26, preferably formed of an inherently-elastic material, such as brass, and at the outer end of said arm is a coin-receiving pocket, formed on one side by the arm and on the opposite side by a pair of fingers
 10 27, that are slightly spaced from each other, so that a coin of proper diameter may be engaged and held by the arms, while a coin of smaller size will pass between them without operating the machine. Should a coin of a
 15 proper weight and size be placed in the pocket, it will exert downward force on the end of the lever 26 and will turn the collar 24 to an extent sufficient to cause cam 25 to depress the latch 17 against the stress of its spring 19,
 20 and when the coin is ejected from the pocket the spring 19 will overcome the weight of the arm and cam and will again elevate said latch.

Extending transversely of the machine and mounted in suitable bearings in the brackets
 25 is a main operating-shaft 29, that is parallel with the shaft 14. This shaft carries a number of hook members 30, each of which is rigidly secured to the shaft by a suitable locking device, such as a set-screw 31, and the number of hooks is equal to the number of reservoirs or magazines, one of such hooks being associated with each latch 17 and the bill at its free end being disposed immediately below
 35 the latch, so that when the latch is depressed the two bills will be engaged and firmly locked together. To the main operating-shaft 29 is secured a lever 34, which extends through a suitable slot to the exterior of the machine, and this lever is normally held elevated by a
 40 strong tension-spring 35, so that the several hook members 30 will be maintained in proper position with relation to the latches 17, the lower ends of the hooks 30 being curved in such manner as not to interfere with downward
 45 movement of the bills 18 and latches 17 when the coin is received in one of the pockets at the outer ends of levers 26.

In the operation of the device, there being as many magazines as desired, a coin is inserted in one of the coin-slots 40 associated
 50 with a magazine from which an article is to be delivered, or several coins may be simultaneously inserted in the different chutes associated with the several magazines. Each
 55 entered coin will travel down the chute 40, moving past a permanent magnet 41, so that if of paramagnetic nature it will be deflected from the chute. If the coin is not deflected, it will travel down the chute and fall into the
 60 receiving basket or pocket at the end of arm 26, causing the latter to tip downward and the cam 25 to force the latch down until its bill 18 engages with the bill at the end of the depending hook member 30. The operating-
 65 lever is then depressed, and the shaft 29 re-

ceives a rocking movement which is transmitted to the hook 30, and to latch 17, causing the lower arm 16 of the lever 13 to move to the rear and the upper end of said lever to move
 70 one of the delivery-slides forward and discharge the lowermost articles in the machine through the delivery-slot at the top of the casing. Toward the latter end of the movement the inherently-elastic arms 26 will come
 75 into contact with the cross-bar 20, and the sudden stoppage of this movement in advance of the actual delivery of the goods will cause the coin to be discharged from the arms 27, it being understood that at this time the lever
 80 26 has been elevated to an oblique angle, so that the discharge is readily effected. Inasmuch as the two bills of the hook 30 and latch 17 are in positive engagement the movement will continue until the goods are discharged
 85 and the downstroke of the operating-lever has been completed. On releasing the operating-lever the latter will be restored to its initial position by means of the spring 35, and the
 90 rock-shaft 29 will turn to initial position, allowing the slide and latch 17 to move back under the stress of the spring 21, and when this movement is about complete the spring
 95 19 will act to raise the latch 17 from engagement with the hook 30 and elevate the coin-receiving bucket to a position beneath the chute in readiness for the next operation.

The connection between the upper end of the lever and the delivery-slide affords a simple and effective means for transmitting the
 100 necessary movement in a horizontal plane to the delivery-slide without the necessity of expensive fittings, and further expense is saved by employing only a single lever in connection with a plurality of magazines and delivery
 105 mechanism therefor.

Having thus described the invention, what is claimed is—

1. In a coin-controlled vending-machine, a magazine, a delivery-slide, a delivery-slide-engaging lever fulcrumed at a point intermediate of its length, a pivotally-mounted latch
 110 carried by said lever, a spring tending to maintain the latch in inoperative position, a spring for restoring the lever and slide to initial position, a rock-shaft, an operating-lever
 115 connected thereto, a hooked rocker-arm secured to the rock-shaft and arranged to be engaged by the latch, a pivotally-mounted sleeve, a cam-arm carried thereby and resting
 120 on the latch, a coin-chute, and an arm secured to the sleeve and provided at its free end with a coin-receiving pocket for the reception of coins deposited in said chute.

2. The combination with a rock-shaft, of an operating-lever secured thereto, a plurality of
 125 magazines or reservoirs, a plurality of slides for said magazines or reservoirs, a transverse shaft or bar arranged parallel with the operating-shaft, a series of operating-levers pivotally mounted on said transverse shaft, there
 130

being one of such levers for each of the said
slides, a recessed lug carried by each slide and
serving to receive one of the levers, a spring
engaging the lower end of each lever and serv-
5 ing to restore the slide and lever to initial
position, a latch carried by the lower end of
each lever, springs for holding the latches in
inoperative position, a plurality of hook-
shaped rocker-arms carried by the shafts and
10 arranged to be engaged by the latches, a plu-
rality of sleeves mounted on said transverse
shaft, a cam secured to each sleeve and in en-
gagement with one of the latches, levers pro-
jecting from the sleeves and formed of an in-

herently-elastic material, coin-receiving pock- 15
ets disposed at the outer ends of said levers,
and a cross-bar arranged adjacent to the rock-
shaft and serving by engagement with such
inherently-elastic levers to disengage the coins
from the pockets. 20

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

JOHN LITTLE.

Witnesses:

MICHAEL LYDON,
F. A. GROSS.