



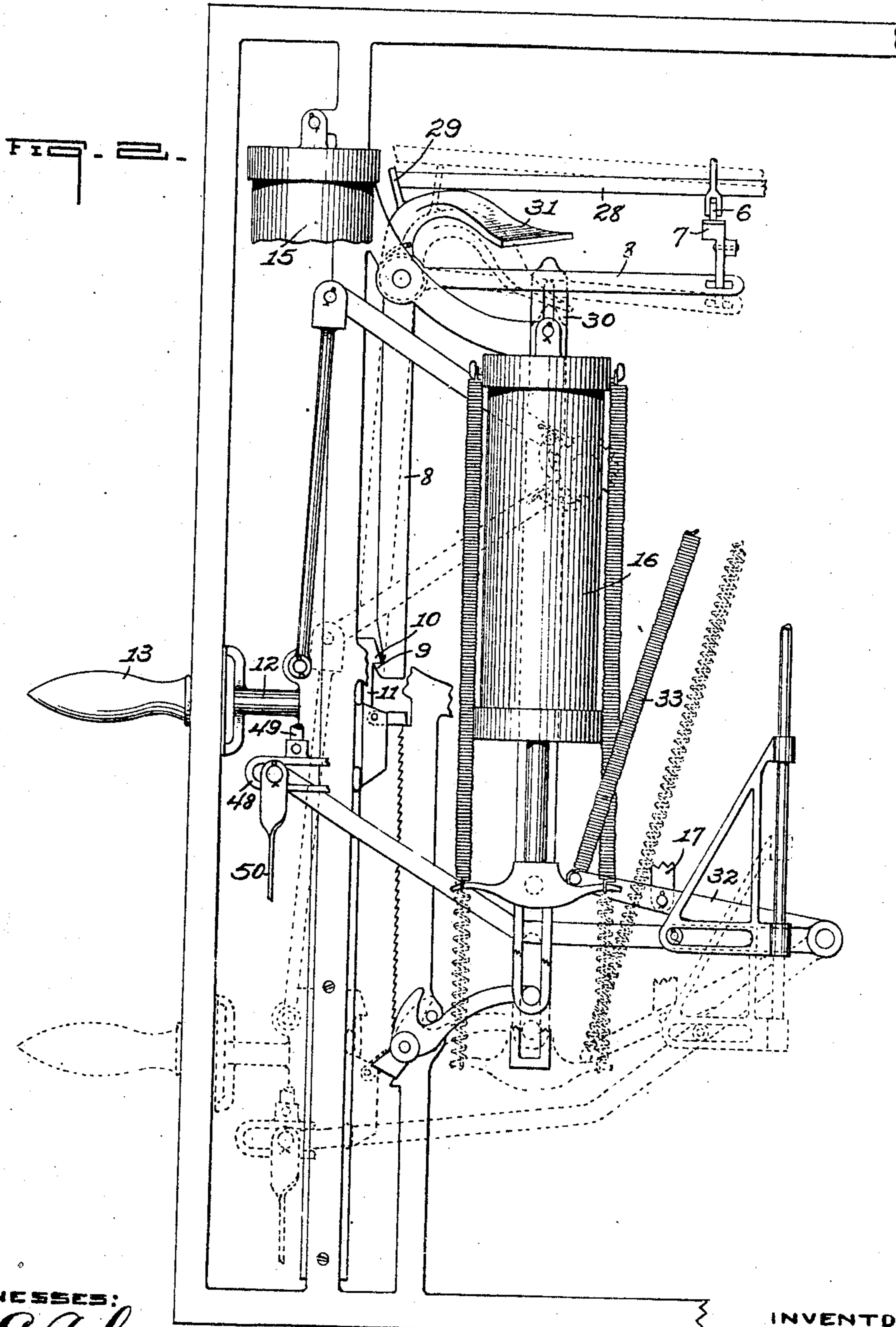
No. 871,384.

PATENTED NOV. 19, 1907.

R. D. H. ANDERSON.  
VENDING MACHINE.

APPLICATION FILED JAN. 16, 1907.

4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

Fig. 35.

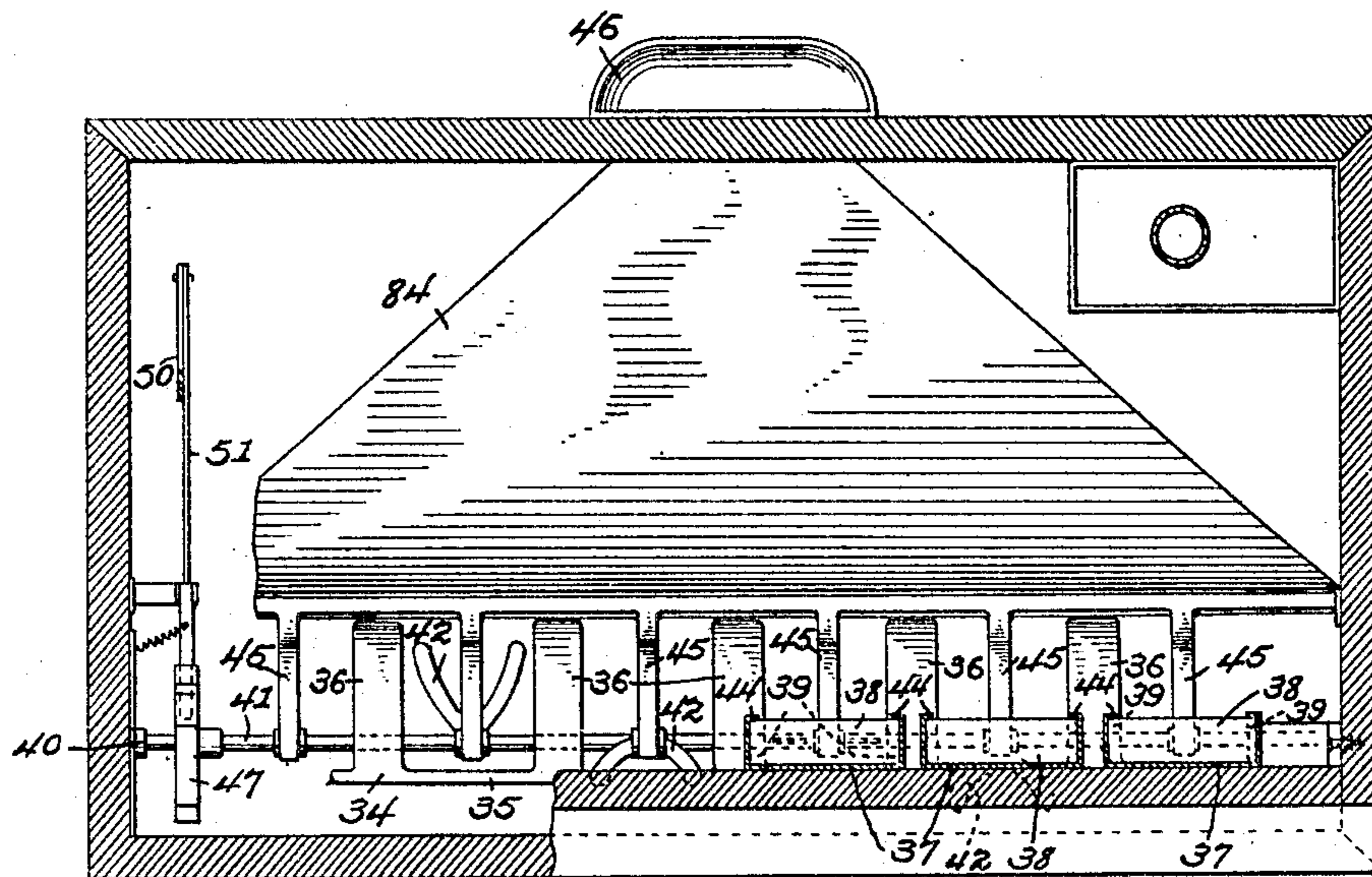
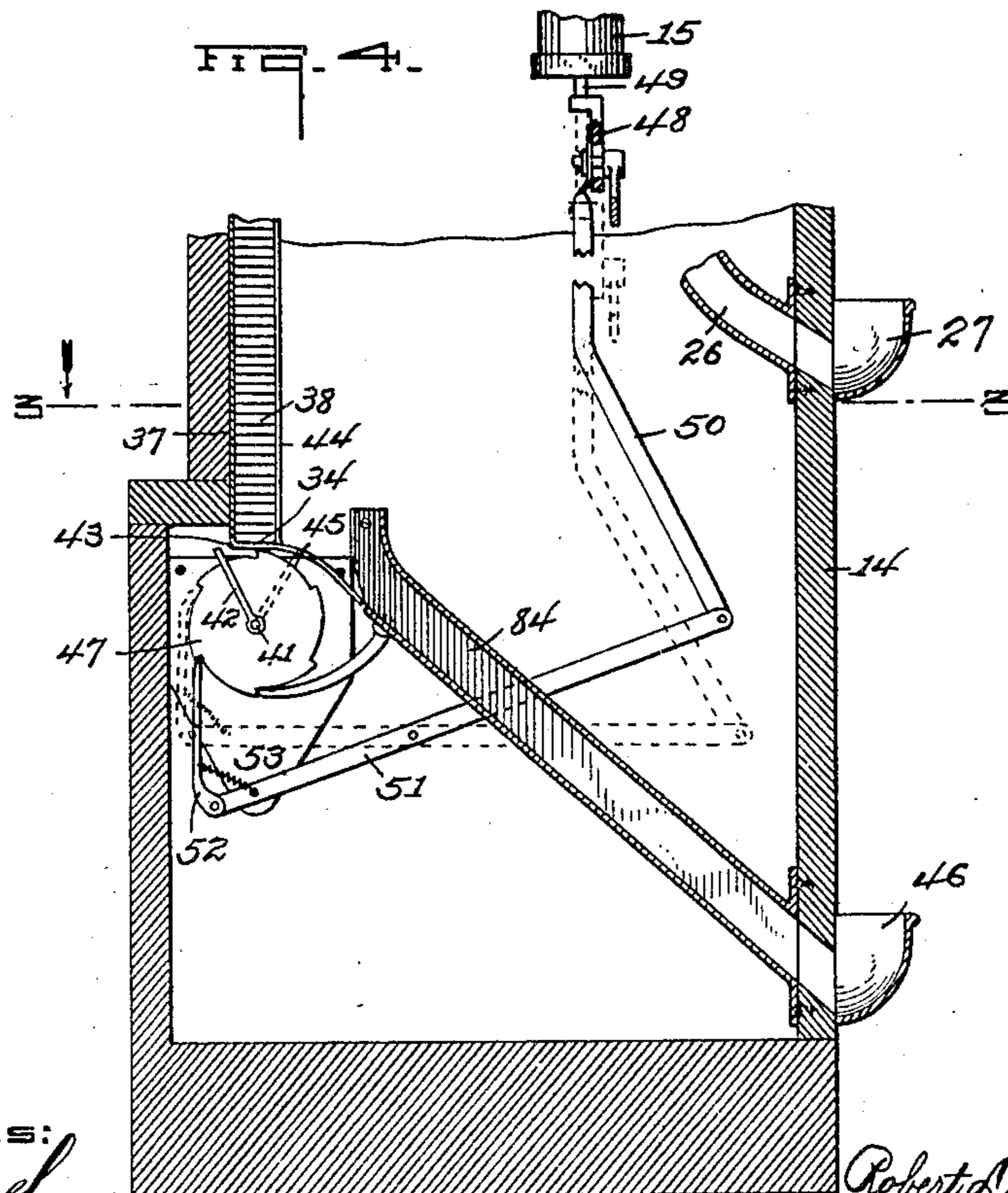


FIG. 4.



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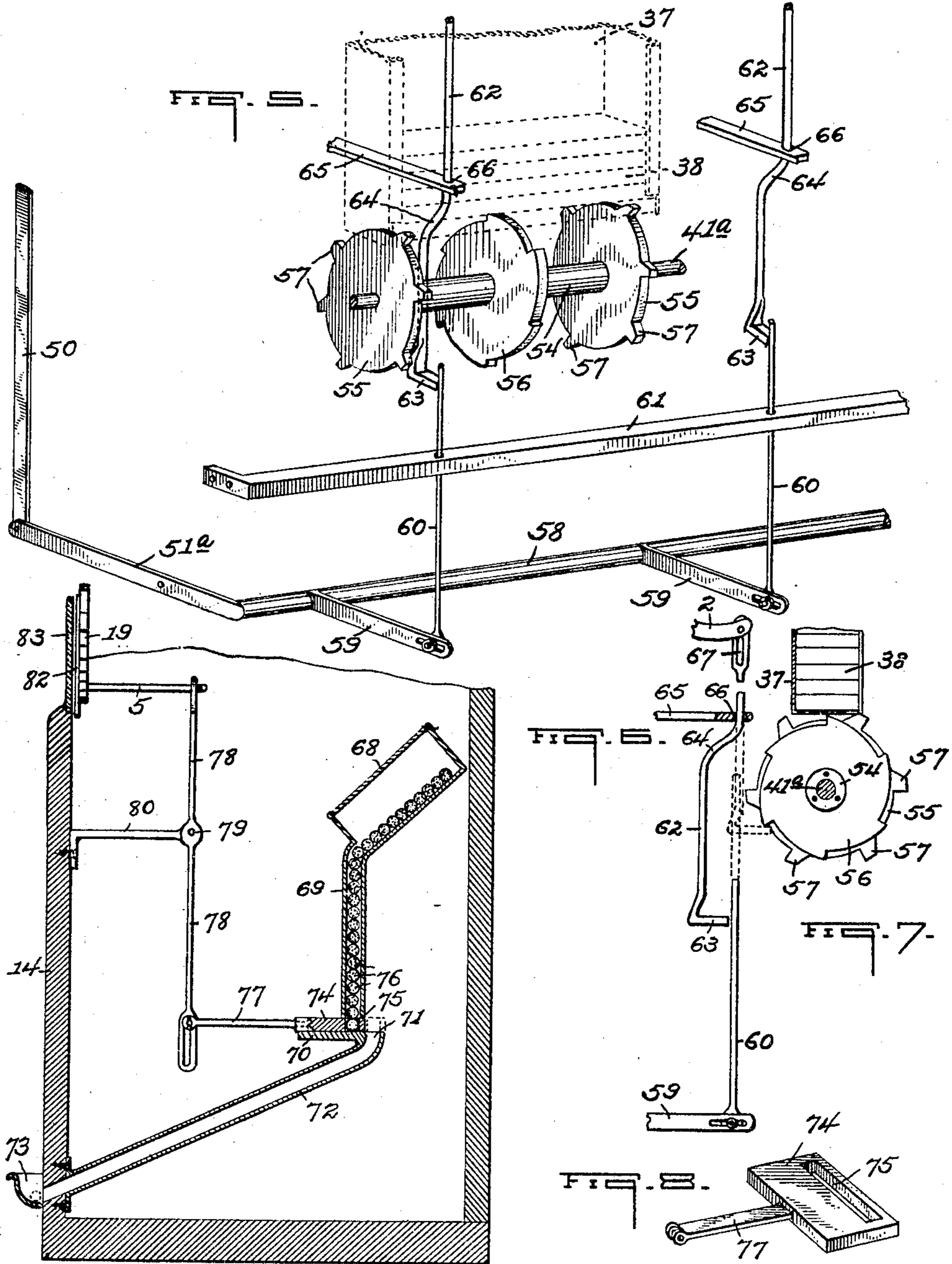
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# UNITED STATES PATENT OFFICE.

ROBERT D. H. ANDERSON, OF CINCINNATI, OHIO.

## VENDING-MACHINE.

No. 871,384.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed January 16, 1907. Serial No. 352,515.

*To all whom it may concern:*

Be it known that I, ROBERT D. H. ANDERSON, a citizen of the United States of America, and resident of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to new and useful improvements in vending machines, and more particularly to a coin-controlled machine for vending merchandise, and its chief object is to provide a vending machine which, when actuated by the insertion therein of a coin and the subsequent manipulation of a lever or the like, automatically discharges or delivers the article of merchandise or vendible commodity purchased.

A further object is to provide a machine of the character mentioned adapted for containing a variety of articles of merchandise or vendible commodities and having a plurality of separate coin-slots or passages therein and coin-controlled mechanism connected with each slot or passage whereby a plurality of coins simultaneously deposited in different slots or passages automatically act to discharge a plurality of said articles upon once manipulating said lever or other actuating device.

A further object is to provide a vending machine of the character mentioned having contained therein or associated therewith mechanism whereby an additional or premium article, such as an article of merchandise or a check redeemable in merchandise, is occasionally automatically delivered. And a still further object is to provide a vending machine of the above-mentioned character having means for indicating the person to whom the premium article delivered belongs, as when a plurality of persons deposit coins in separate coin-slots of the machine at one time.

With these and other objects in view, the invention finally consists in the particular construction, arrangement and combination of parts which will hereinafter be fully described, reference being herein had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a rear elevation of a vending machine constructed according to my invention, the major portion of the rear wall thereof being broken away to show certain details of construction of the inclosed parts, as will

hereinafter be explained; Fig. 2 is an enlarged fragmentary detail view showing certain features of construction of the actuating mechanism which intervene between the coin-controlled mechanism and the delivery mechanism; Fig. 3 is a horizontal cross-section of the machine, showing certain details of the delivery mechanism; Fig. 4 is a vertical sectional detail view, further illustrating said delivery mechanism; Fig. 5 is an enlarged fragmentary detail view, showing in perspective a modified formation of delivery mechanism; Fig. 6 is a view somewhat similar to Fig. 4, but illustrating a premium-article delivery mechanism; Fig. 7 is a fragmentary detail view showing in vertical and transverse section the delivery mechanism illustrated in Fig. 5; and—Fig. 8 is a perspective view of the premium-article ejecting slide shown in Fig. 6.

As herein illustrated, I employ in my machine, in connection with the novel delivery mechanism, the common and well-known coin-controlled mechanism, as well as the lever and lever-actuated mechanism, of an ordinary check-paying gambling slot-machine. Among the well-known features of the machine may be pointed out the coin-receiving and holding slides 1, to which the coins deposited in the coin-slots (not shown) drop, and which, when individually or collectively depressed in the usual manner, serve, through the intermediate mechanisms, to elevate the free end or ends of the arm or arms 2, each of which projects rearwardly through a clevis-shaped member 3, raising the latter, and consequently, through the mechanism intervening between the member 3 and a plunger-restoring member 4, withdrawing said member 4 from movement-restraining relation with the ordinary plungers 5 and releasing a hook (not shown) from interlocking engagement with one of the plungers 5. A revoluble roller 6 is actuated by the depression of the slide 1 to move rearward upon a pivoted lever 7, depressing the point and elevating the rear end of the latter and, consequently, elevating the horizontal arm of a bell-crank 8 to which said rear end is connected, this action withdrawing the jaw 9 carried by the lower extremity of the vertical arm of said bell-crank from interlocking engagement with the lug 10 carried by the lever-slide 11. The lever 12 is thereby freed so that it may be readily moved downward or depressed upon the application of the req-

uisite power to the handle 13 which stands  
 outside the casing 14. As the said lever is  
 depressed, it carries therewith, through the  
 medium of a series of levers connected there-  
 5 to, against the tension of a plurality of  
 springs and against the pressure of air in air-  
 cylinders 15 and 16, a pivoted pawl 17 the  
 point of which, when the limit of its down-  
 ward movement is reached, stands in engage-  
 10 ment with a tooth of a peripherally-toothed  
 wheel or disk 18 which is rigidly carried by  
 the rear face of a relatively larger wheel  
 or disk 19 having peripheral teeth 20 and  
 also having therein adjacent to its peripheral  
 15 edge a plurality of perforations 21, said per-  
 forations being so arranged that, when the  
 disk 19 stands at rest with the interlocking  
 tooth 22 in engagement with a tooth 20  
 thereof, one perforation and one only stands  
 20 directly in front of said plungers 5, ad-  
 mitting of the passage therethrough of the  
 plunger in line therewith, provided said  
 plunger has been previously released by the  
 withdrawal of the hook associated there-  
 25 with, as hereinbefore described. As is ob-  
 vious, and as is well known, only the plunger  
 having connection in the manner herein-  
 before mentioned with the slide in which  
 the coin has been deposited is so released.  
 30 A series of coöperating levers 23 and 24  
 are interposed between the plungers 5 and  
 the check-holding receptacle 25 whereby one  
 or more checks are delivered from said re-  
 ceptacle through a chute 26 to a suitable  
 35 pocket 27 when a plunger 5 moves inward  
 through a perforation 21 in the disk 19.

When the operating lever 12 is depressed,  
 the arm 28 bearing the tooth 22 is raised in a  
 manner well understood, allowing a pivoted  
 40 lug 29 to drop into supporting engagement  
 therewith, said lug supporting said tooth 22  
 out of engagement with the teeth of the disk  
 19 until the upper end of the slotted bar 30  
 carried downward with the lever 12 engages  
 45 and elevates the arm 31 as said bar rises on its  
 return movement, said arm 31 being opera-  
 tively connected to said lug 29 and being  
 swung back by said arm 31 from supporting  
 engagement with the arm 28, allowing the  
 50 latter to drop. At the limit of the down-  
 ward movement of the operating lever, the  
 arm or lever 32 bearing the pawl 17 is re-  
 leased, and, actuated by the coil-spring 33  
 connected to said lever 32, the latter imme-  
 55 diately jumps back to its normal elevated  
 position, carrying therewith the pawl and,  
 since said pawl engages a lower tooth of the  
 disk 18, actuating said disk 18 and the disk  
 19 attached thereto to revolve rapidly.

60 As previously stated, the above-described  
 parts are old and well known in check-paying  
 gambling slot-machines, but said parts enter  
 into the construction of the present vending  
 machine in such manner as to perform not  
 65 only their usual or normal functions, but also

other and novel functions as well, and their  
 general arrangement and operation have  
 therefore been briefly explained herein not  
 only in order that the coöperation and asso-  
 ciation thereof with the novel features of con-  
 70 struction may be more fully understood, but  
 also with a view of enabling others to com-  
 prehend the novel results attained by such  
 association. It will be understood, however,  
 that various component parts, which it is not  
 75 considered necessary to mention in connec-  
 tion with the hereinbefore described mech-  
 anism, and having important and necessary  
 functions, enter into the construction of the  
 machine.

Proceeding now to describe the merchan-  
 dise-delivery mechanism, 34 indicates a suit-  
 ably mounted horizontal support or mer-  
 chandise-holding base located preferably  
 near the rear wall of the casing 14. Said  
 85 base may be of any appropriate character,  
 consisting, preferably, of a narrow bar 35  
 having a plurality of spaced forwardly-  
 extending fingers 36. Mounted vertically  
 upon said support or base 34 is a plurality of  
 90 merchandise-receptacles 37 in which the arti-  
 cles of merchandise are stacked in super-  
 posed relation, receptacles containing pack-  
 ages 38 of chewing gum being illustrated in  
 Figs. 1, 3, 4, 5 and 7, the machine being par-  
 95 ticularly adapted for the vending of goods of  
 this character. As is obvious, one large re-  
 ceptacle containing a plurality of compart-  
 ments spaced apart to correspond to the  
 spacing of the fingers 36 might readily be  
 100 employed, as shown in Fig. 1. The recepta-  
 cles or compartments 37 are made of such a  
 width that the opposite bottom ends thereof  
 stand upon adjacent fingers. The bottoms  
 of said receptacles are open except that oppo-  
 105 sitely disposed rests 39 are provided as sup-  
 ports for the merchandise.

Extending transversely directly under-  
 neath the support or base 34 and having its  
 ends suitably journaled, as at 40, is a shaft  
 110 41 having rigidly mounted thereon a plurality  
 of forks 42 which are spaced in conformity  
 to the spacing of the fingers 36, said forks  
 being located on the shaft to operate between  
 adjacent fingers. The forks are so arranged  
 115 relatively that they stand directed at an  
 angle to each other corresponding to the cir-  
 cumference of a circle divided by their num-  
 ber. Consequently, as the shaft 41 rotates,  
 but one fork is brought into operative or  
 120 ejecting relation to the merchandise at a  
 time, but all of said forks are alternately  
 brought into such relation in a complete rev-  
 olution of said shaft. Said forks are made of  
 such a length as to admit of their reaching  
 125 behind and discharging or ejecting but one  
 package 38 of gum, or other article, as the  
 case may be, at a time, the fork entering the  
 lower end of the receptacle 37 directly be-  
 hind the lowermost package and forcing it  
 130

out through a suitable passage 43 provided for the purpose in the front flanges 44 thereof. The discharged package slides over a suitably arranged guide 45 to a tapered inclined chute 84 which leads to and directs the package to a suitably located pocket 46 on the outer front face of the casing 14.

As a means for communicating motion to the shaft 41, a ratchet-disk 47 is fixed upon the shaft, which ratchet has peripheral ratchet-teeth corresponding in number to the number of coin-slots and, consequently, to the number of merchandise receptacles and ejecting forks. Suitably connected to the ordinary slotted yoke 48 carried by the lower extremity of the piston rod 49 of the air-cylinder 15, to be depressed thereby when the said rod is lowered by the depression of the lever 12, is a lever 50 which is pivotally attached at its lower end to one end of a lever 51 pivotally mounted intermediate its ends and carrying a pivoted pawl 52 on its opposite end. Said pawl 52 is normally held in a suitable manner, as by a spring 53, in engagement with the ratchet 47. As is obvious, when the lever 50 is thrust downward by the lowering of the lever 12, as just mentioned, the pawl 52 is thereby actuated to rotate said ratchet forward slightly, as is clearly shown in dotted lines in Fig. 4. The retraction of the pawl is effected through the intermediate levers by the return of the piston rod 49 to its normal position.

As is apparent, the delivery mechanism hereinbefore described is not adapted for effecting the simultaneous delivery of a plurality of articles of merchandise even though coins be simultaneously deposited in two or more of the coin-slides. For attaining such a result, I prefer to employ the modified formation of delivery mechanism illustrated in Figs. 5 and 7, the construction and operation of which forms the subject-matter of the next succeeding paragraph.

A shaft 41<sup>a</sup> underlying the receptacles 37 has its ends fixed at opposite sides of the casing 14, and revolvably mounted on said shaft beneath each receptacle is a sleeve 54 having fixed or keyed thereon at each end a toothed wheel 55 and a ratchet disk 56, the latter being located at a point intermediate said wheels 55. The teeth 57 of said wheels 55 are adapted to enter the lower end of a receptacle 37 when the ratchet disk fixed on the sleeve 54 is rotated and to force a package 38, or other article contained therein, from said receptacle in precisely the same manner as is done by the forks 42 hereinbefore described. It will be noted that the shaft 41<sup>a</sup> is non-rotatable and that the sleeves 54 are independently rotatable upon said shaft. As a means for individually rotating said sleeves for causing the toothed wheels 55 to eject the merchandise, a rod 58 having its ends fixed to the outer ends of

pivoted levers or arms 51<sup>a</sup> is mounted transversely at a suitable point, said rod having fixed thereon a plurality of forwardly-directed arms 59, each of which has pivotally connected to its outer end a rod 60 which is vertically movable through suitable guides or a guide such as a horizontally disposed bar 61 having its ends attached to the casing 14, each rod being movable directly in the rear of the ratchet disk 56, as shown in Fig. 7.

Pivoted to the opposite end of an arm or lever 51<sup>a</sup> is the lower end of the lever 50 hereinbefore mentioned. As is obvious, with each depression of the lever 12, the rods 60 are, through the intermediate mechanism just described, thrust vertically upward past the ratchet-disks 56, as is indicated in dotted lines in Fig. 7.

Pivotally attached to and depending from the free end of each of the arms 2 of the coin-operated mechanism is a rod 62 having a horizontal forwardly-directed hook or foot 63 upon its lower end, as shown. At a suitable point in said rod 62 is provided a compound bend 64 which causes the lower end or foot 63 to normally stand slightly in the rear of the ratchet disk 56 and out of the path of movement of the rod 60. A suitably mounted arm 65 has a guide-eye 66 therein in which said rod 62 stands; said arm 65 being located to hold said rod 62, when the latter occupies its normal position, at a point above and adjacent to the bend 64. When a coin is deposited in one of the slides 1 and said slide is depressed, elevating the free end of the arm 2 connected therewith, the rod 62 is thereby elevated, and, through the medium of coacting stationary guide-arm 65 and the bend 64, the lower end of the rod 62 is thrust forward behind one of the teeth of the ratchet disk 56 in a manner well understood. In this position the heel of the foot 63 is engaged by the rod 60 upon the depression of the operating lever 12 and said foot is thereby thrust upward, imparting to said ratchet disk and the sleeve 54 a partial rotation which effects the ejection of the merchandise. A slot 67 provided in the upper end of the rod 62 admits of the elevation of said rod without derangement of the parts composing the coin-controlled mechanism. Owing to the fact that separate discharging means connected with the different coin-slides 1 are employed in the mechanism just described, a number of coins simultaneously deposited in different coin-slides will, through said means, effect the simultaneous delivery of an equal number of articles of merchandise.

Associated, preferably, with the machine as hereinbefore described is a second delivery mechanism which will hereinafter be termed a premium-delivery mechanism, said mechanism being adapted to occasionally operate to deliver an article of merchandise, which article will hereinafter be termed the pre-

mium or premium-article, the object being to legitimately promote the sale of the vendible merchandise contained by the machine.

Referring particularly to Fig. 6 in which the premium-delivery mechanism is clearly illustrated and in which cigars are shown as the premium-articles employed, 68 indicates a suitable inclined premium holding receptacle having a chute 69 leading vertically therefrom and terminating at an appropriate distance above a table 70, adjacent to the rear edge of which is the mouth 71 of an inclined chute 72 leading to a pocket 73 which may be the same pocket to which the vendible articles of merchandise are delivered, as hereinbefore described, or which may be a separate pocket. Slidably mounted upon said table 70 directly under the lower end of the chute 69 is a premium-ejecting slide 74 having therein a slot 75 which normally registers with the open lower end of said chute 69 and is adapted for holding therein one of the premium articles 76.

Pivotaly connected to the end of an arm 77 carried by the slide 74 is the lower end of a substantially vertical lever 78 which is pivoted intermediate its ends to a supporting arm 80, as at 79, and has its opposite end attached to one of the plungers 5. When the revoluble disk 19, after having been actuated to revolve in a manner hereinbefore explained, stops with a perforation 21 in direct line with the plunger 5 to which the lever 78 is attached, said plunger, actuated by the usual springs 81, moves forward into said perforation, provided it has been previously released by the withdrawal of the hook associated therewith, which release is effected, as hereinbefore described, by depositing a coin in and the subsequent depression of the coin-slide 1. When said plunger thus moves forward, it swings the lever 78 on its pivot 79 and forces the slide 74 rearward to the position indicated in dotted lines in Fig. 6, whence the premium-article 76 contained within the slot 75 of the slide 74 is permitted to drop into the mouth 71 of the chute 72. It will be noted that the premium-delivery mechanism above described is duplicated as often as there are coin-slots and plungers in the machine, and that the separate premium-delivery mechanisms are separate and distinct.

When the premium-delivery mechanism is employed, it is desirable that the various mouths of the coin-slots bear distinguishing marks or characters and that a disk 82, bearing on its face adjacent to its peripheral edge corresponding distinguishing marks or characters, corresponding in number to the perforations in the disk 19, and having associated therewith a suitable finger or indicator for indicating the perforation 21 in the disk 19 which stands in front of the plungers 5, or, rather, for indicating the plunger that has

entered a perforation in said disk, be provided on the front face of said disk to revolve therewith, as in the ordinary check-paying slot-machine hereinbefore mentioned, said disk 82 being located directly behind a sight-glass 83 provided in the front face of the casing. Such a provision of designating marks or characters in connection with the coin-slots and the revoluble disk 82 indicates whom among a plurality of persons simultaneously depositing coins in the various coin-slots is entitled to a delivered premium-article. But one person may obtain a premium article at a time, and the delivered premium-article, as is evident, is the property of the person who deposited his coin in the slot whose designating character corresponds to that on which the indicator, previously mentioned, has stopped. This designating and distinguishing mechanism, as hereinbefore stated, is that commonly employed in slot-machines, and is therefore not herein explained in detail, forming, as it does, no novel part of this machine.

It will be noted that the machine may be arranged either for delivering checks redeemable in merchandise as premiums, employing the usual check-delivery mechanism partially illustrated in Fig. 1 and briefly referred to herein, or premium-articles of intrinsic value, employing the mechanism shown in Figs. 6 and 8 and herein described.

While the major portion of the mechanism of an ordinary form or type of gambling machine is employed in this vending machine, it will be understood that in my said vending machine the element of chance is eliminated, thus removing it from the gambling machine class. The article of merchandise purchased by the deposit of a coin in the machine is in every case delivered to the depositor. While the delivery of premium-articles is purely one of chance, yet this feature is employed merely to promote the legitimate sale of the vendible merchandise.

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

1. In a vending machine, a plurality of merchandise receptacles, an actuating lever, means interposed between said lever and each of said receptacles whereby a depression of the former discharges an article of merchandise from one of the latter, mechanism for releasing said lever, a plurality of premium receptacles, a revoluble disk having perforations therein, a plurality of plungers associated with said disk, means for releasing one of said plungers, and means intermediate said plungers and said premium receptacles whereby a premium article is discharged from the latter upon the entrance of the released plunger in a perforation in said disk.

2. In a vending machine, a plurality of

merchandise hoppers, means for discharging merchandise from said hoppers, a plurality of premium hoppers, a revoluble perforated disk, a plurality of plungers associated with said disk for entrance in said perforations thereof, means for releasing one of the plungers, and means operated by the entrance of said plungers in said disk perforations to discharge premiums from said premium hoppers.

3. In a vending machine, a plurality of merchandise hoppers, means for discharging merchandise from said hoppers, a revoluble perforated disk actuated by the operation of said discharging means, premium hoppers, and discharging means for said premium hoppers normally engaged with the unperforated parts of said disk and adapted when entering the perforations thereof to operate said premium discharging means.

4. In a vending machine, a plurality of merchandise hoppers, means for discharging merchandise from said hoppers, a revoluble

perforated element actuated by the operation of said discharging means, plungers adapted to enter said perforations of said element, premium hoppers, slides controlling the discharge of the latter, and pivoted levers connected at their ends to said plungers and to said slides.

5. In a vending machine, merchandise hoppers, discharging means therefor, premium hoppers, discharging means therefor, and means set in operation by actuation of said merchandise discharging means for controlling said premium discharging means, said third named means, normally abutting and retaining said premium discharging means against discharging position.

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

ROBERT D. H. ANDERSON.

Witnesses:

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E. A. LENKARD.