

No. 750,741.

PATENTED JAN. 26, 1904.

C. V. WERTZ.
VENDING MACHINE.

APPLICATION FILED AUG. 29, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

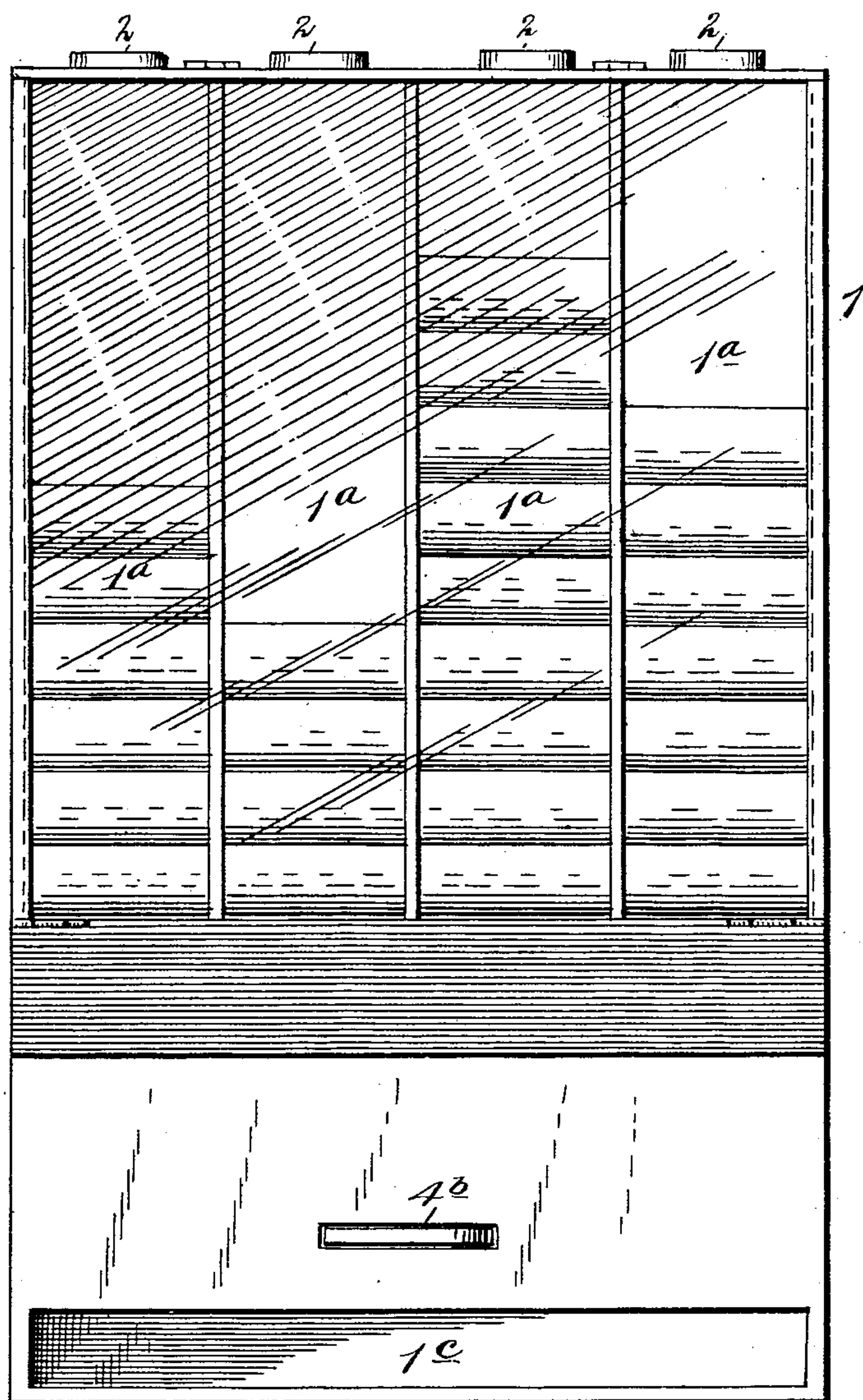


Fig. 1.

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Inventor:
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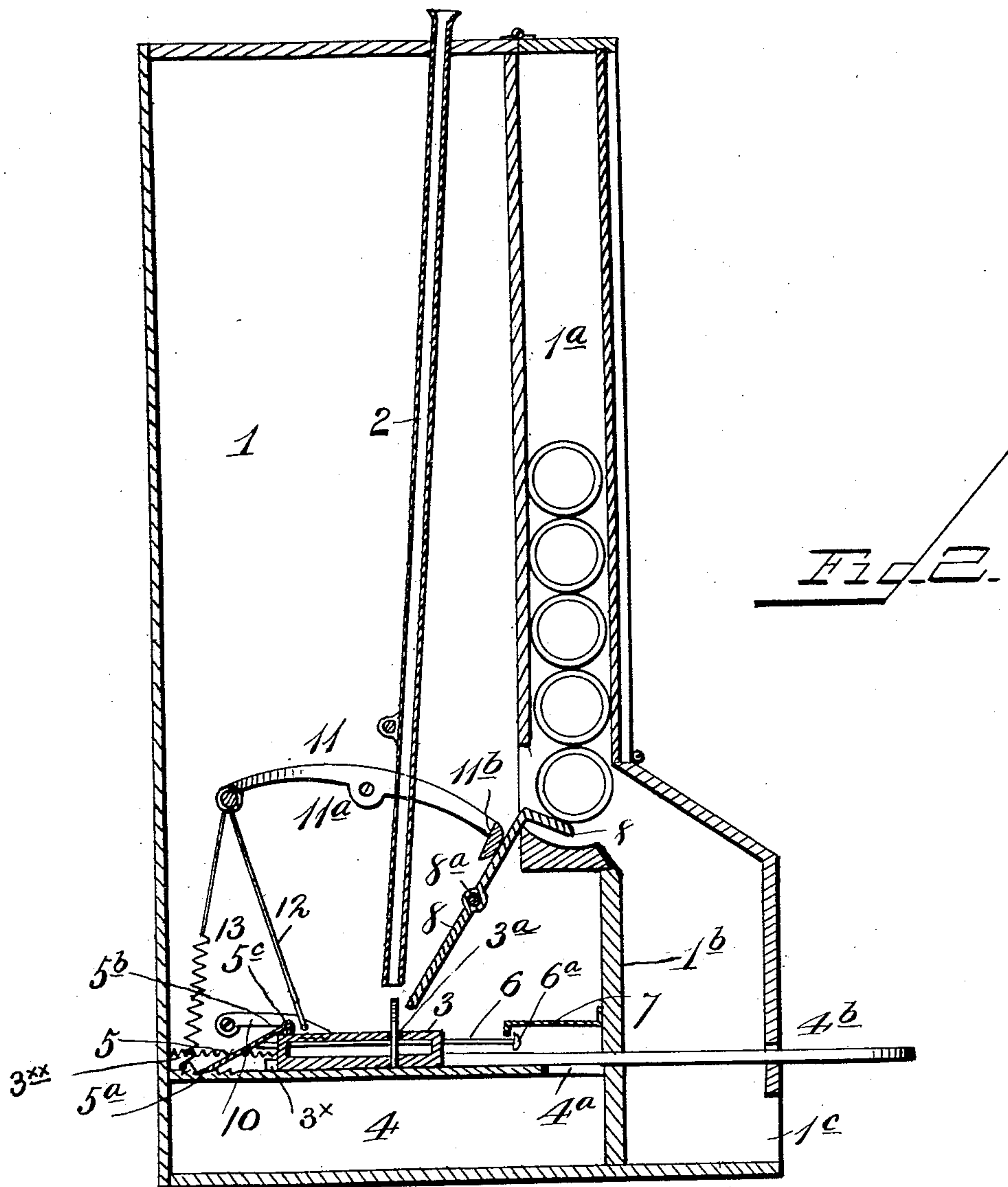
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4 SHEETS—SHEET 2.



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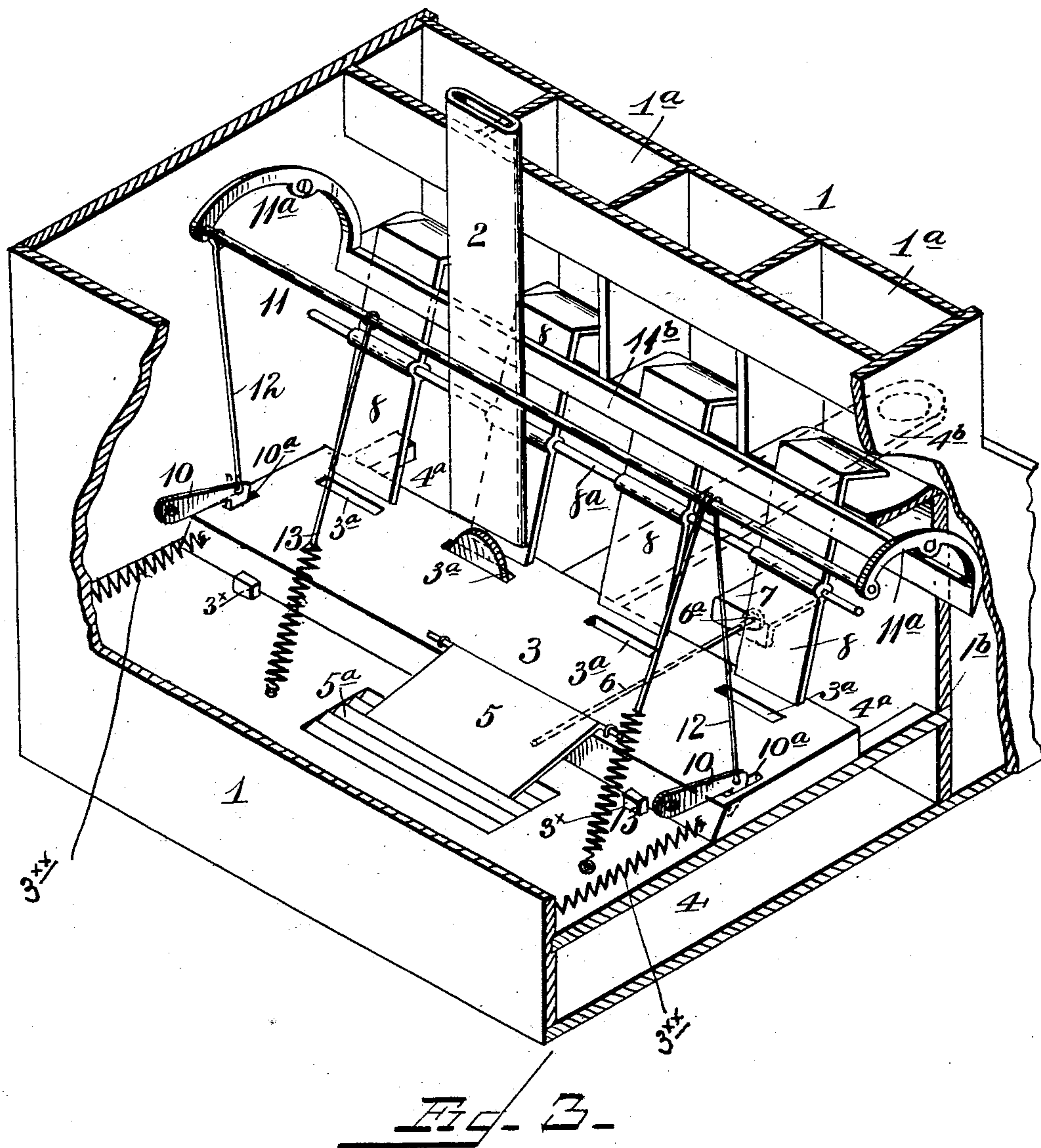
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4 SHEETS—SHEET 3.



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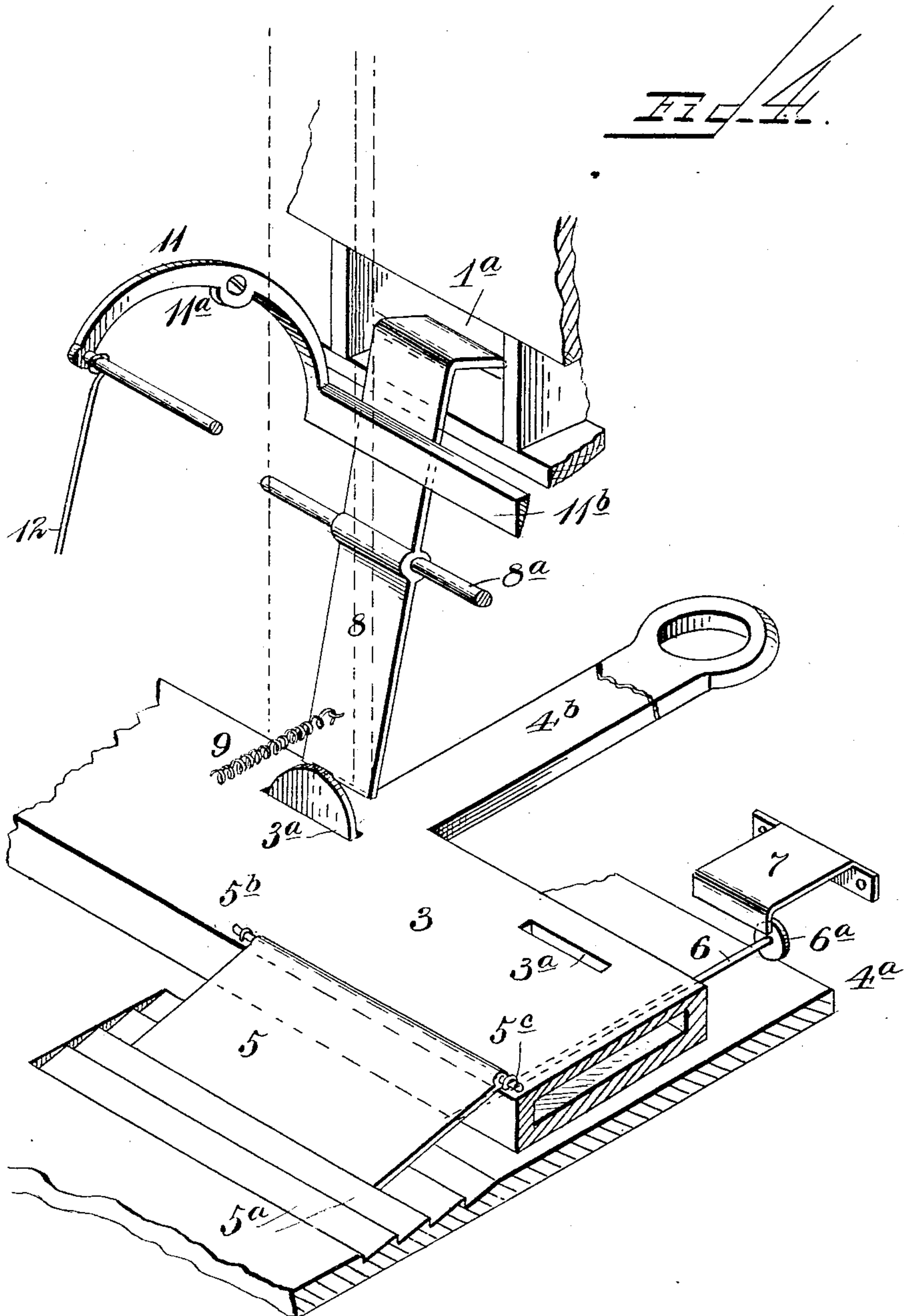
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

CHARLES V. WERTZ, OF PORTSMOUTH, OHIO.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 750,741, dated January 26, 1904.

Application filed August 29, 1903. Serial No. 171,273. (No model.)

To all whom it may concern:

Be it known that I, CHARLES V. WERTZ, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to improvements in vending-machines, more especially that type which are coin-controlled and particularly adapted for liberating or vending articles, as shoe lacing or strings, &c., contained, preferably, in cylindric closures or packages.

It has for its object to provide for the effectual locking in place of the article or package releasing or dropping devices or shelves arranged in the article-receiving tubes or compartments as against surreptitious or unauthorized actuation, as when the requisite coin has not been deposited in the machine; to effect the dropping of an article or package from any one of the package-containing tubes or compartments by a common means and yet prevent interference with the contents of any of the other of said tubes or compartments, and to provide for carrying out the aforesaid ends in a simple and direct manner.

Said invention consists of the combination and arrangement of parts, including their construction, substantially as hereinafter more fully disclosed, and specifically pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a front elevation thereof. Fig. 2 is a sectional elevation of the same. Fig. 3 is a broken-away partial sectional and perspective view disclosing the operative mechanism of said invention. Fig. 4 is a somewhat-enlarged detailed view thereof with certain parts omitted, more clearly showing the common operating means for actuating or releasing the package or article dropping devices or shelves.

In the practicing of my invention I provide a suitable casing 1, having in its preferably glass-faced front portion a number or plurality of compartments or chambers 1^a, more particularly for holding or receiving cylindric closures or packages containing shoe lacing or strings, &c., for vending. Each of said

compartments or chambers opens into or communicates with a preferably offset downward extension 1^b thereof, relatively somewhat enlarged for the final reception of the articles dropped from said compartments and having in its front at the bottom an opening 1^c, through which access may be conveniently had for the removal of said articles.

Suitably arranged and secured in position are the coin-receiving tubes 2, with their upper ends projecting slightly above or resting flush with the top of the latter and their lower ends relatively disposed to certain other parts next described.

A slide or carrier 3 is suitably supported directly upon a chamber 4, finally receiving the coin through an opening 4^a in its upper surface, as presently seen, said slide or carrier having, preferably, an upper and a lower surface, which upper and lower surfaces are provided with coincident slots 3^a, alining with the coin-receiving tubes for the obvious purpose of receiving the coins therefrom, as will later appear. Said lower-surface slots of said slide or carrier being initially closed by the top of the chamber 4 provides for holding the coins in a partially-projected position within the slots of the upper surface of said slide for a purpose which will be seen hereinafter. Said slide or carrier has projecting from its forward edge an arm or handle 4^b, extending through openings in the casing 1, suitably beyond the front portion of said casing to permit the convenient grasping of said handle for actuating said slide or carrier. For limiting the movement of said slide or carrier when pushed rearwardly to its final or normal position after having been drawn forwardly a pawl or plate 5 is hinged or pivoted at one edge in position thereon adapted to engage a ratchet or notches 5^a, whose rear edges are perpendicular and whose bottom surfaces are inclined or beveled upwardly and forwardly, the latter permitting the pawl as the slide or carrier is drawn forwardly to readily ride over the same. The pivoting or hinging connection between said pawl or plate and said slide is preferably effected by suitably securing at one edge of said pawl or plate a stout wire or rod 5^b with its ends projecting

laterally and entering or engaging eye-ended bolts or staples 5^c, driven into said slide near its extreme rear edge. In order to provide for raising or elevating said pawl or plate 5 previous to its return or rearward movement, as is necessary to hold it out of engagement with said ratchet 5^a until just before it has reached the end of said movement, as will be appreciated, a freely-movable rod or finger 6 is arranged within openings in the front and rear portion of the chambered slide or carrier 3, with end portions thereof normally projecting beyond the latter, the forward end of said rod or finger having a lateral enlargement or head 6^a, while suitably secured in position is a stop or trip 7, adapted to engage said enlargement or head 6^a, as will be next explained. Therefore it will be observed that when said slide or carrier has been moved to its utmost forward limit said enlargement or head will have engaged a wall or abutment formed by the part 1^b, and consequently have pushed rearwardly the finger or rod 6, causing the opposite or rear end of the latter to engage and elevate the pawl or plate 5 at that juncture. Inversely, when said slide or carrier is moved rearwardly it will be noted that just before it has reached its final or normal position the head 6^a of the rod 6 will be engaged by and detain said rod while said slide continues its movement, thus permitting the disengagement of said rod from said pawl, and the consequent dropping of the latter into engagement with the ratchet 5^a, arresting further movement in that direction of said slide or carrier. To provide, however, for insuring the stopping of the slide 3 at the required point as it automatically returns to its final position under the action of springs 3^{xx}, so that its coin-receiving slots shall come into direct alinement with the coin tubes or conductors, stops 3^x are suitably secured to the top of part 4 at the required point with relation to said slide for that purpose. The springs 3^{xx} are secured to said slide and to the top of the part 4 or other convenient point, respectively.

A dropping or releasing device 8 is provided for each package or cylinder containing tube, its upper end or right-angled portion being arranged within the plane of the latter and adapted to engage or occupy a position under the bottom of one of the packages or cylinders with said right-angled portion normally standing in a downwardly and forwardly inclined position, as shown. Said releasing device has its longer member or portion about centrally fulcrumed or pivoted, preferably as shown, a common fulcrum or rod 8^a passing through an eye-formed portion 8^b of each of the series of releasing or dropping devices for the article or package-holding tubes and bearing laterally in the casing 1. The lower end of said member of each releasing device, standing in

a rearwardly and downwardly inclined position, is juxtaposed to the coin-receiving slot 3^a, so as to be engaged and actuated by the coin when dropped into said slot as the slide or carrier is drawn or pulled forwardly, thus withdrawing the right-angled upper end of said device from under the bottom package or cylinder sufficiently long to permit its release and delivery into the part 1^b. Said releasing device is held in its normal position by the action of certain parts, as will be apparent presently.

Dogs or detents 10, preferably two, suitably pivoted laterally upon the inside of the casing 1, are adapted to engage notches or slots 10^a in the slide or carrier 3 to lock the same in place against movement to prevent the unauthorized or surreptitious actuation of the machine. An arcuate frame or lever 11 has its curved lateral members 11^a about centrally fulcrumed or pivoted laterally upon the inside of the casing 1 and one of its longitudinal members or bars 11^b normally in contact with the series of cylinder or package releasing devices 8, while the rear ends of its lateral members 11^a are connected by rods 12 to the dogs or detents 10. It will be noted that when any one of the package or cylinder dropping or releasing devices is actuated it in turn will actuate the lever 11, which will disengage the dogs 10 from the slide or carrier 3, and thus unlock it. The lever or frame 11 is automatically restored to its original or normal position by the action of preferably two springs 13, consequently providing for so disposing the dogs 10 as to enable them to automatically reengage the slide or carrier and again lock it in place upon the return movement of said slide or carrier, the disengagement of said dogs from said carrier or slide being effected, of course, when the carrier is moved or drawn forwardly, as will be readily understood.

It will be noted that by depositing a coin in one of the tubes 2, as when it may be desired to obtain an article contained in one of the cylinders placed in one of the tubes 1^a, said coin will finally drop into the coincident slot 3^a in the slide or carrier 3, resting therein in a projected position. The slide or carrier being now pulled forwardly, said coin will engage and actuate the releasing or dropping device 8, consequently withdrawing the upper end of said device from under and permitting the bottom cylinder or package to drop into the compartment extension 1^b within convenient reach of the purchaser. The coin carried past the dropping device 8 by the slide or carrier 3 will drop through the opening 4^a into the chamber or till 4 below. The action of the adjunctive or other parts of the machine, as the elements 5, 6, 7, 10, and 11, it is believed, need no further explanation herein than that above given thereof.

It will be understood that I do not limit my-

self to details herein, as they may be changed as circumstances suggest without departing from the spirit of my invention and the latter still remain protected.

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

1. The combination of means for releasing a cylinder or package containing an article for vending, comprising a lever about centrally fulcrumed and having a right-angled upper end portion arranged in alinement with the latter, means adapted to receive and carry a coin to engage and actuate said lever, a locking means for said lever consisting of a pivoted arcuate frame engaging said lever, retaining means for the coin-carrying means, connected to said pivoted arcuate frame, and means for actuating said coin-carrying means.

2. The combination of means for releasing a cylinder or package containing an article for vending, comprising a lever about centrally fulcrumed and having a right-angled upper end portion arranged in alinement with the latter, a slide adapted to receive and carry a coin to engage and actuate said lever, a locking means for said lever consisting of a pivoted arcuate frame engaging the latter, retaining means for said slide, connected to said pivoted arcuate frame, and means for actuating said slide.

3. The combination of means for releasing a cylinder or package containing an article for vending, comprising a lever about centrally fulcrumed and having a right-angled upper end portion arranged in alinement with the latter, a slide adapted to receive and carry a coin, means for locking said lever consisting of a pivoted arcuate frame engaging the latter, a dog engaging said slide and connected to said pivoted arcuate frame, and means for actuating said slide.

4. The combination of means for releasing a cylinder or package containing an article for vending, comprising a lever about centrally pivoted and having a right-angled upper end portion arranged in alinement with the latter, a slide adapted to receive and carry a coin to engage and actuate said lever, a pivoted arcuate frame engaging said lever, a dog engaging said slide and connected to said pivoted frame, a pawl and ratchet for limiting the rearward movement of said slide, and means for actuating said slide.

5. In a vending-machine, the combination of a lever about centrally fulcrumed and having a right-angled upper end portion arranged in alinement with the chamber containing the article for vending, a slide adapted to receive and carry a coin to engage and actuate said lever, a pivoted arcuate frame engaging the last-named part, a dog engaging said slide, means effecting connection between said lever-engaging frame and said dog, a pawl and

ratchet for limiting the inward or rearward movement of said slide, means to effect the automatic reengagement of said dog with said slide, and means for actuating said slide.

6. In a vending-machine, the combination of a lever about centrally fulcrumed and having a right-angled upper end portion arranged in alinement with the chamber containing the article for vending, a slide adapted to receive and carry a coin to engage and actuate said lever, a pivoted arcuate frame engaging the last named, a dog engaging said slide, means effecting connection between said dog and arcuate frame, a pawl and ratchet for limiting the rearward or inward movement of said slide, means for effecting the automatic reengagement of said dog with said slide, means for elevating said pawl and temporarily holding it in an elevated position, and means for actuating said slide.

7. In a vending-machine, the combination of a lever about centrally fulcrumed and having a right-angled upper end portion arranged in alinement with the chamber containing the article for vending, a slide adapted to receive and carry a coin to engage and actuate said lever, a pivoted arcuate frame engaging said lever, a dog engaging said slide, means effecting connection between said pivoted arcuate frame and dog, a pawl and ratchet for limiting the inward or rearward movement of said slide, an independently-movable rod carried by said slide and adapted to engage and elevate said pawl when said slide has been moved to the limit of its forward movement, and means for actuating said slide.

8. In a vending-machine, the combination of a lever about centrally fulcrumed and having a right-angled upper portion arranged in alinement with the chamber containing the article for vending, a slide adapted to receive and carry a coin to engage and actuate said lever, a pivoted arcuate frame engaging said lever, a dog engaging said slide, means effecting connection between said pivoted arcuate frame and dog, a pawl and ratchet for limiting the rearward movement of said slide, an independently-movable rod adapted to engage and elevate said pawl when said slide has reached the limit of its forward movement, an inward-extending arm adapted to engage said rod when said slide has reached the limit of its opposite movement, and means for actuating said slide.

9. A vending-machine, embracing a pivoted package or cylinder releasing device having a right-angled package engaging or supporting end, means for automatically retaining said end in normal position, comprising a spring-pressed lever-frame with its forward edge engaging said releasing device, a slide or carrier adapted to receive a coin deposited therein and carry said coin into engagement with, and actuating, said pivoted package-releasing de-

vice, and a pawl-and-ratchet mechanism to limit the rearward movement of said slide or carrier, the pawl being pivoted to said slide and engaging the ratchet.

5 10. A vending-machine comprising a pivoted package or cylinder releasing device adapted to normally engage or support a package or cylinder, a slide adapted to receive a coin deposited therein and carry said coin into engagement with, and actuating, said device, a dog
10 or detent for locking said slide in position, and means connected to said dog, adapted to be actuated by said package or cylinder releasing device, and to simultaneously disengage said
15 dog from said slide.

11. A vending-machine comprising a pivoted package or cylinder releasing device adapted to normally engage or support a package or cylinder, a slide or carrier adapted to receive
20 and carry a coin, deposited therein, into engagement with, and actuating, said package-releasing device, dogs for locking said slide or carrier in position, a pivoted frame or lever connected to said dogs and adapted to be actuated by said package or cylinder releasing device.
25

12. A vending-machine comprising a pivoted package or cylinder releasing device, adapted to normally engage or support a cylinder or
30 package containing an article for vending, a slide or carrier adapted to receive and effect the carrying of a coin deposited therein, into engagement with, and actuating, said package-releasing device, dogs adapted to lock said carrier or slide in position, and a lever-frame comprising centrally-pivoted lateral members and longitudinal members secured to the latter, one longitudinal member arranged to be engaged by said package-releasing device and
35

said lateral members having connection with said dogs. 40

13. A vending-machine embracing a pivoted package-releasing device adapted to normally engage or support a package or cylinder containing an article for vending, a slide adapted
45 to receive a coin deposited therein and carry said coin into engagement with, and actuating, said package or cylinder releasing device, a pawl-and-ratchet mechanism for limiting the rearward movement of said slide or carrier, a
50 sliding rod or finger upon said slide and means adapted to engage said rod and cause it to elevate the pawl to a point above said ratchet during the forward movement of said slide or carrier.
55

14. A vending-machine comprising a pivoted package-releasing device, adapted to normally engage or support a package or cylinder containing an article for vending, a slide or carrier adapted to receive a coin, placed therein,
60 and carry said coin into engagement with, and actuating, said package-releasing device, ratchet-and-pawl mechanism for limiting the rearward movement of said slide or carrier, a sliding rod or finger arranged upon said slide
65 or carrier, and having a head at one end and its opposite end relatively disposed to the pawl, and a trip adapted to engage said head and move said rod to lower said pawl to its normal position, after previous elevation, for
70 reengagement of said pawl with the ratchet.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES V. WERTZ.

Witnesses:

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JAMES A. MAXWELL.