

G. W. MACKENZIE.
VENDING APPARATUS.
APPLICATION FILED JAN. 12, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

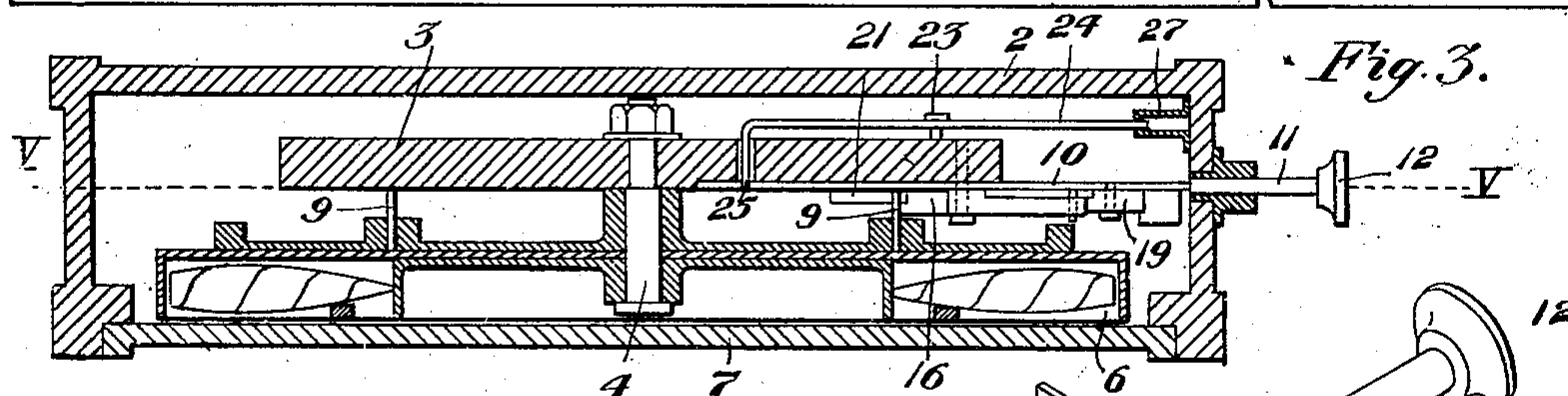
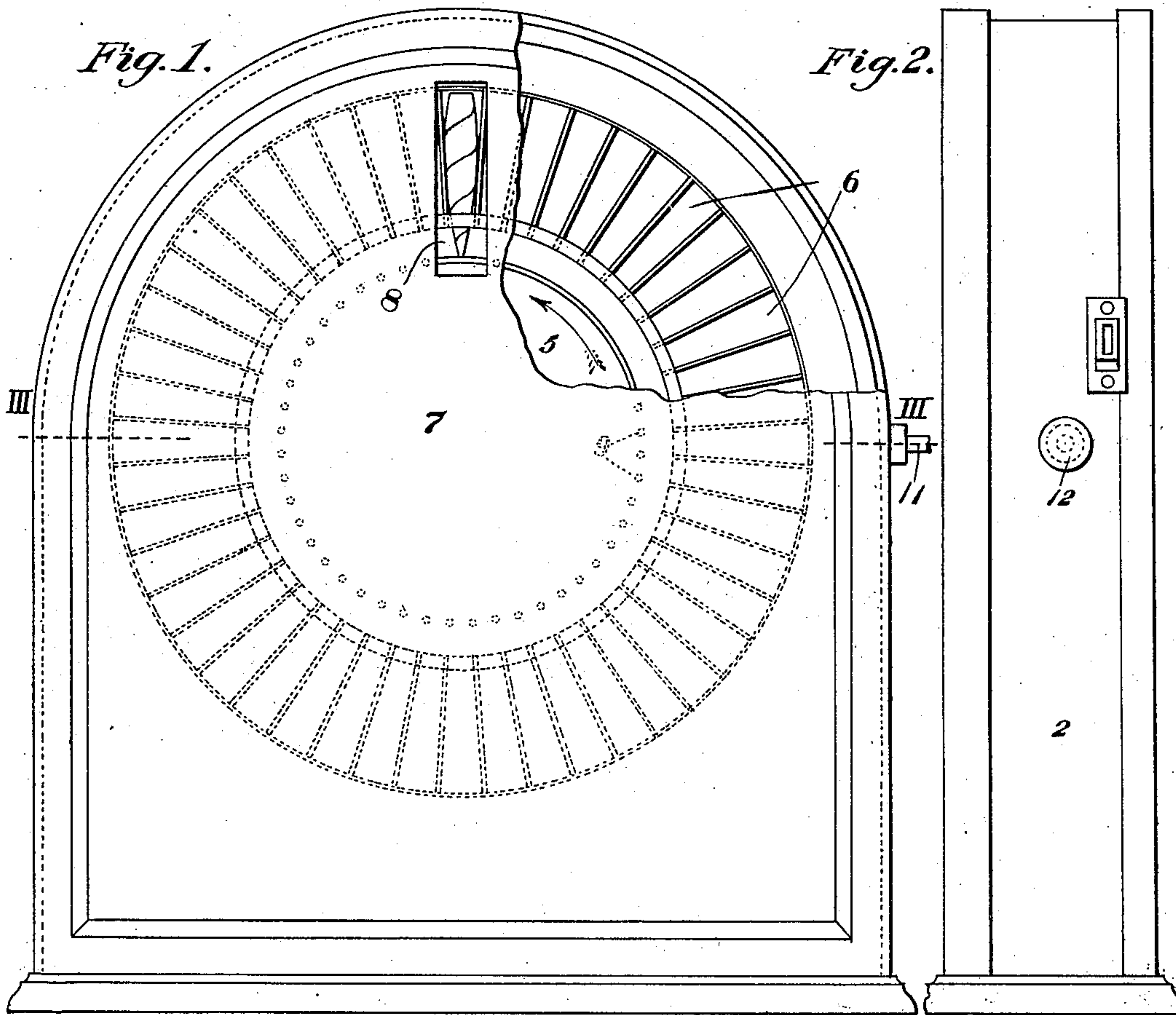
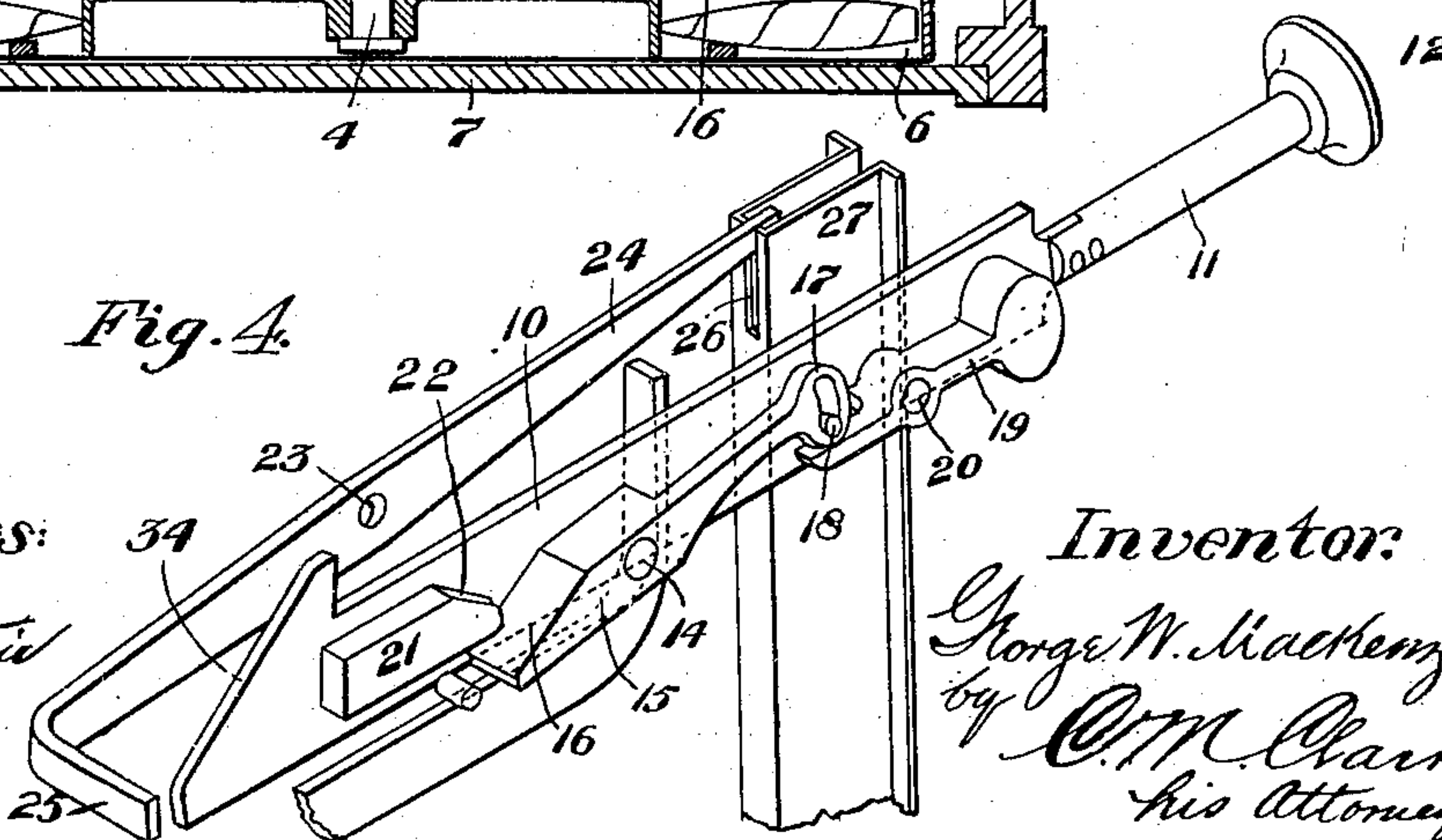


Fig. 4.



Witnesses:

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C. S. Lepley

Inventor:

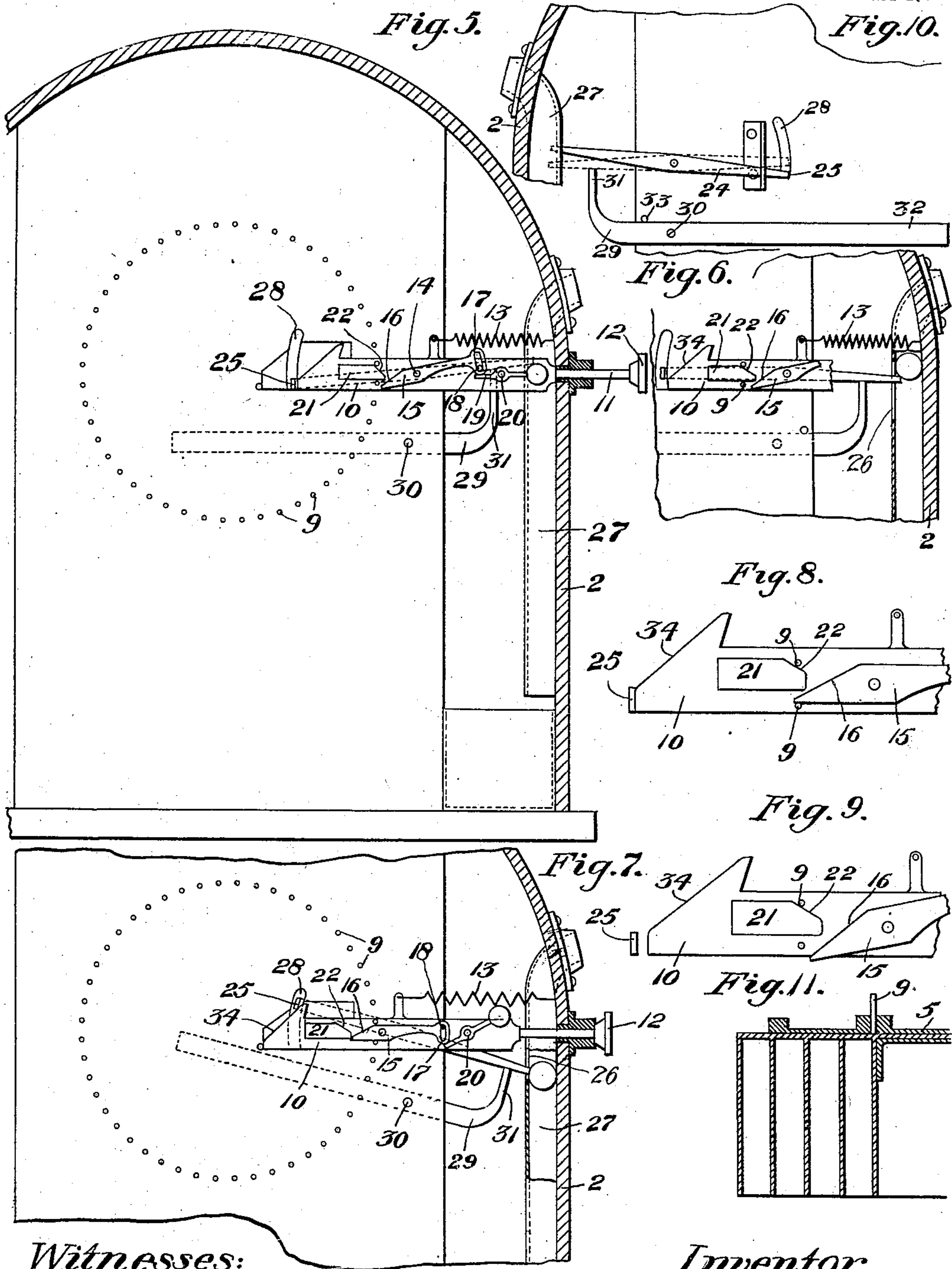
George W. MacKenzie
by C. M. Clarke
his Attorney

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2 SHEETS—SHEET 2.



Witnesses:

Ella W. Mackenzie
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Inventor:

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UNITED STATES PATENT OFFICE.

GEORGE W. MACKENZIE, OF BEAVER, PENNSYLVANIA.

VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 744,377, dated November 17, 1903.

Application filed January 12, 1903. Serial No. 138,693. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MACKENZIE, a citizen of the United States, residing at Beaver, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Vending Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a face view in elevation, partly broken away, of my improved coin-controlled vending-machine. Fig. 2 is a side view thereof. Fig. 3 is a horizontal sectional view on the line III III of Fig. 1. Fig. 4 is a perspective detail view on an enlarged scale, showing the push-bar and its connected mechanism and the coin-controlled locking-arm, the parts being in their normal position. Fig. 5 is a partial vertical sectional view indicated by the line V V of Fig. 3, the rotating carrying-wheel having been removed. Fig. 6 is a partial sectional view illustrating the action of the coin to unlock the locking-arm, so as to release the push-bar. Fig. 7 is a similar view showing the push-bar depressed, having turned the carrying-wheel almost one space and raised the locking-arm, releasing the coin. Fig. 8 is a detail view of the inner end of the push-bar and its shifting devices, showing the parts in position immediately before the termination of the outward travel, the inner end of the locking-arm having dropped down in front of the bar. Fig. 9 is a similar view showing the bar having completed its outward travel and finishing the shifting operation, so as to complete the period of movement of the carrying-wheel. Fig. 10 is a detail view of the back portion of the apparatus, showing the locking-arm and the counterweighting arresting-arm. Fig. 11 is a detail view showing a modified form of carrier.

My invention relates to automatic vending devices wherein a rotating carrier is adapted to hold or contain the article to be vended and is intermittently operated by a coin-controlled push-bar, so as to expose a special article, quantity, or number of articles at each operation.

Referring to the drawings, 2 represents the

case of the apparatus, upon an inner wall or supports 3 of which is mounted a stud or bearing 4, upon which is rotatably mounted a carrier 5. The carrier is preferably made in the form of a wheel, having regularly-arranged pockets or spaces 6, adapted to hold a cigar or any other suitable article, and the front 7 of the case is provided with an opening 8 of suitable area and form to permit the removal of the article, with which opening the pockets 6 are adapted to intermittently and successively come into register. The front 7 may be hinged to the main case and may conveniently be made of plate-glass or be provided with a pane of glass adapted to expose the contents of the carrier or a portion of them immediately in advance of the opening 8, so as to indicate the contents or the condition of the apparatus, whether charged or empty.

Extending backwardly from the carrier 5 concentric with its center is a series of pins or abutments 9, corresponding to the pockets 6, as indicated in Fig. 1.

Slidably mounted in the interior of the case in any suitable support is a push-bar 10, the stem 11 of which extends outwardly through the side of the case in a suitable bearing and is provided with a push-button 12, the push bar and button being normally retracted by a spring 13, of any suitable form, secured to the push-bar and to the interior of the case. Pivotaly mounted at 14 on the push-bar is a shifting-finger 15, having a tapered face 16, adapted to engage one of the pins 9 in the forward movement of the push-bar, forcing it up and rotating the carrier in the direction of the arrow in Fig. 5, in which figure the pins 9 are indicated as standing in front of the shifting apparatus. The back end of the shifting-finger 15 is slotted, as at 17, and is engaged by a pin 18, limiting the downward travel of its point, the back end being normally held raised, as in Fig. 5, by a counterweighted lever 19, pivoted to the push-bar at 20. In front of the finger 15 is a lug 21, provided with a cam-face 22, adapted to engage the partially-shifted pin 9 on backward movement of the bar, moving the pin up and completing the operation.

Pivoted at 23 is a locking-arm 24, the inner

end 25 of which is bent around and adapted to engage the front end of the push-bar, so as to lock the push-bar against inward travel, the outer end of the locking-arm extending
 5 through a vertical slot 26 into the path of a coin adapted to travel downwardly through coin-slot 27. The outer end of the locking-arm is normally held raised in the slot by reason of the slightly-greater weight of the
 10 inner end, which extends through a slot 28 or is otherwise suitably arranged so as to stand immediately in front of the push-bar, the locking-arm being delicately balanced, so as to be sensitive to the gravity of the coin.

15 29 is an arresting-arm, pivoted at 30 and having an upwardly-extending extremity 31, adapted to arrest the downward travel of the inner end of the locking-arm when depressed by the weight of the coin, thus raising the
 20 inner end 25 sufficiently far to unlock the push-bar, as in Fig. 7. The arresting-arm has a counterweighting extension 32, adapted to raise the extremity 31, its upward movement being limited by a pin or abutment 33.

25 A coin having been dropped from the exterior of the case in the slot 27, its weight depresses the outer end of the locking-arm, raising the inner end, when the push-bar may be
 30 pushed in, whereupon the point of the finger 15 engages one of the pins or abutments 9, causing it to ride upwardly on cam-face 16, and upon releasing pressure from the push-bar the spring 13 will retract it, and the cam-
 35 face 22 of lug 21 will complete the movement of the pin, thus producing an intermittent rotation of the carrier equivalent to the pitch or space between the pins and moving the
 40 pockets 6 one space. The forward or inner end of the push-bar is provided with an inclined cam-face 34, which engages the end 25 of the locking-arm, tilting it upwardly and depressing its outer end, which bears down
 45 against the terminal 31 of the arresting-arm, thus releasing the coin, as in Fig. 7, which then drops down through the slot into a receptacle 35 in the interior of the case. Upon
 50 releasing the push-bar the locking-arm resumes its normal position in front of the bar, locking it against further movement until released by the insertion of another coin.

It will be understood that the carrier 5 may be adapted to contain various articles, and the shape of the pocket may be varied or several cavities be arranged within the compass
 55 of one space, as by making a series of inwardly-extending cylindrical openings in which a plurality of cigars or cigarettes may be inserted, all of which may be exposed at one time, as illustrated in Fig. 11. The carrier may also be provided with any suitable
 60 holding device—as, for instance, pins—upon which stamps or other articles may be affixed, and various other adaptations of the device may be made to suit different requirements
 65 of use.

It will be understood that the front door or

partition or other removable closure is to be provided with a suitable lock, so as to prevent tampering with the machine or access
 70 to its interior without unlocking.

Other changes or variations may be made in the design, proportion, or other details by the skilled mechanic without departing from the invention, and all such are to be considered as within the scope of the following
 75 claims.

What I claim is—

1. In vending mechanism, the combination of a rotatable carrier provided with a series of radially-arranged pockets and a corresponding series of radially-arranged pins, a push-bar provided at its inner end with a bearing-
 80 face and an inclined cam-face adapted to engage a locking-arm, and carrying a pivoted cam adapted to engage one of the pins on inward movement of the bar and a fixed cam
 85 located above and beyond the pivoted cam and adapted to engage the pins on outward movement of the bar, with a pivoted counterweight adapted to depress the point of the
 90 cam to engage the pin, substantially as set forth.

2. In vending mechanism, the combination of a rotatable carrier provided with abutments, a push-bar having a forward terminal and an inclined cam-face and provided
 95 with a pivoted cam and a fixed cam respectively adapted to successively engage one of said abutments, a projecting terminal of the pivoted cam provided with a slotted end, a
 100 limiting-pin therefor, a pivoted counterweight adapted to engage the slotted terminal and depress the pivoted cam to operative position, and a pivoted locking-arm having a portion adapted to engage the forward terminal and
 105 cam-face of the bar, substantially as set forth.

3. In vending mechanism, the combination of a rotatable carrier provided with abutments, a push-bar having a forward terminal and an inclined cam-face adapted to engage a locking-arm, and provided with a pivoted
 110 cam and a fixed cam respectively adapted to successively engage one of said abutments, a projecting terminal of the pivoted cam provided with a slotted end, a limiting-pin therefor, a pivoted counterweight adapted to engage the slotted terminal and depress
 115 the pivoted cam to operative position, and a pivoted counterweighted arresting-arm adapted to make contact with the locking-arm, substantially as set forth.
 120

4. In vending mechanism, the combination of a rotatable carrier provided with radially-disposed pockets and a series of circularly-arranged abutments, a push-bar having a
 125 forward terminal and a backwardly-inclined cam-face and provided with a lower pivotal cam and an upper fixed cam respectively adapted to successively engage one of said abutments, a pivoted counterweight adapted
 130 to depress the pivoted cam to operative position and a pivoted locking-arm having a por-

tion adapted to engage the forward terminal and cam-face of the bar, substantially as set forth.

5. In vending mechanism, the combination
5 of a rotatable carrier provided with radially-disposed pockets, and a series of circularly-arranged abutments, a push-bar having a forward terminal and a backwardly-inclined cam-face and provided with a lower pivotal
10 cam and an upper fixed cam respectively adapted to successively engage one of said abutments, a pivoted counterweight adapted to depress the pivoted cam to operative position, and a pivoted locking-arm having a
15 portion adapted to engage the forward terminal and cam-face of the bar, with a retracting-spring and a push-button for the bar, substantially as set forth.

6. In vending mechanism, the combination
20 of a rotatable carrier provided with radially-disposed pockets and a series of circularly-arranged abutments, a push-bar having a forward terminal and a backwardly-inclined cam-face and provided with a lower pivotal
25 cam and an upper fixed cam respectively adapted to successively engage one of said abutments, a pivoted counterweight adapted to depress the pivoted cam to operative position, a pivoted locking-arm having a por-
30 tion adapted to engage the forward terminal

and cam-face of the bar, and a pivoted counterweighted arresting-arm adapted to be depressed by the locking-arm, and to return said arm to locking position, substantially as set forth.

7. In vending mechanism, the combination
35 of a rotatable carrier provided with radially-disposed pockets and a series of circularly-arranged abutments, a push-bar having a forward terminal and a backwardly-inclined
40 cam-face and provided with a lower pivotal cam and an upper fixed cam respectively adapted to successively engage one of said abutments, a pivoted counterweight adapted
45 to depress the pivoted cam to operative position, a pivoted locking-arm having a portion adapted to engage the forward terminal and cam-face of the bar, and a pivoted counterweighted arresting-arm adapted to be depressed by the locking-arm, and to return said
50 arm to locking position, said locking-arm being adapted to be depressed to release the push-bar, substantially as set forth.

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

GEORGE W. MACKENZIE.

Witnesses:

JAS. J. MCAFEE,
C. M. CLARKE.