E. TERRELL.

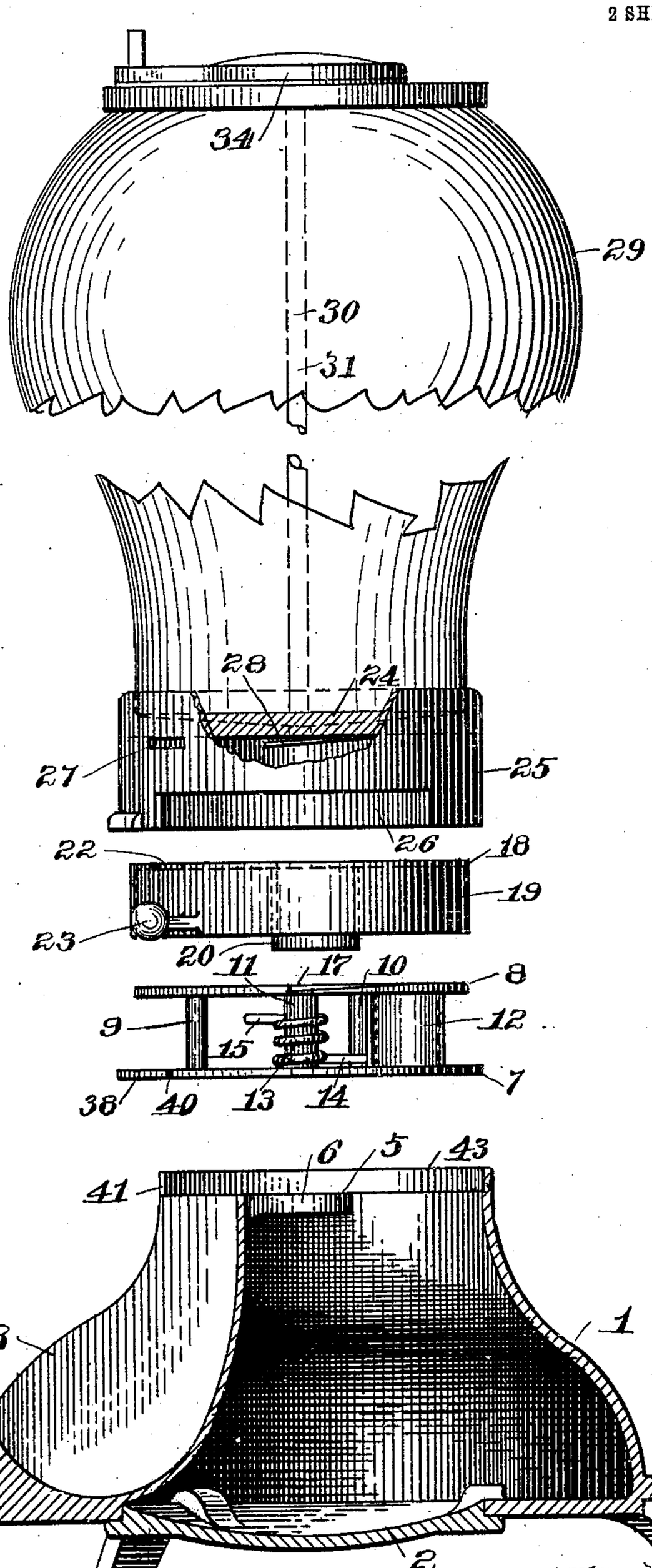
VENDING MACHINE.

APPLICATION FILED JAN. 15, 1909.

934,634.

Patented Sept. 21, 1909.

2 SHEETS—SHEET 1.



Witnesses:

G. M. Gridley

A. Rager

Fig. 1

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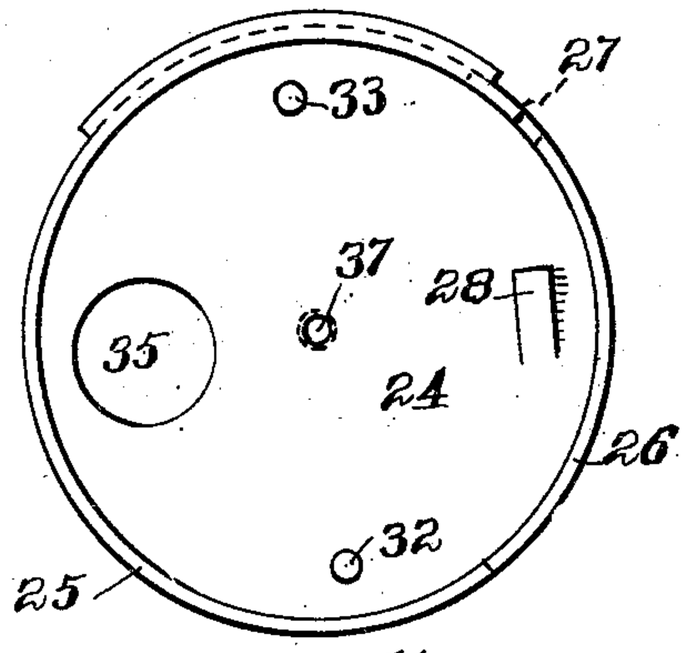

Fig. 3.

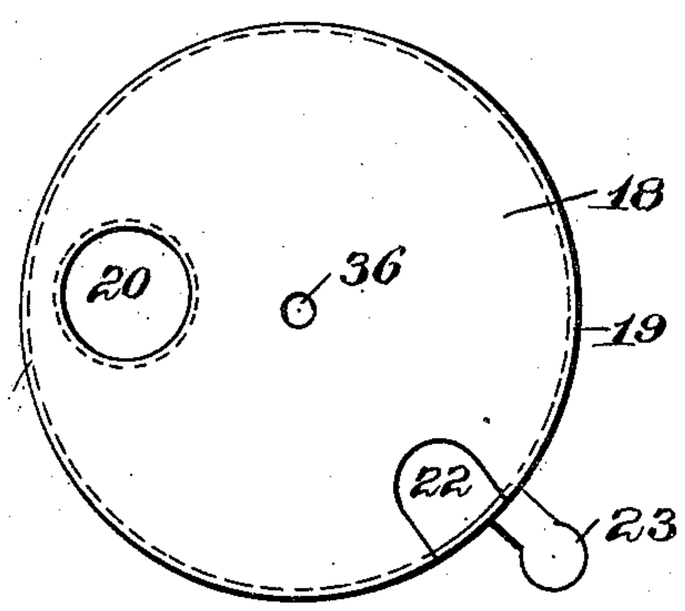

Fig. 4

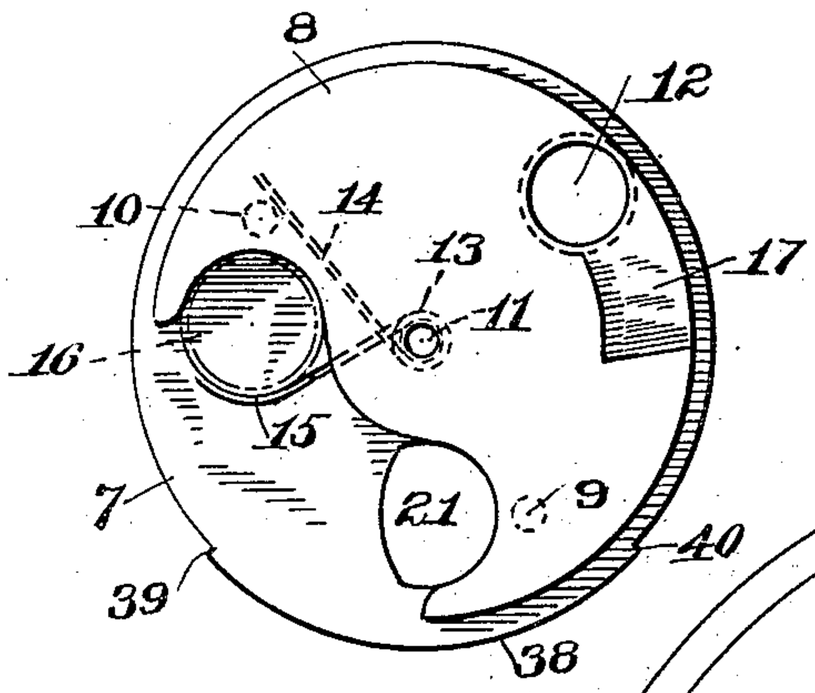

Fig. 5

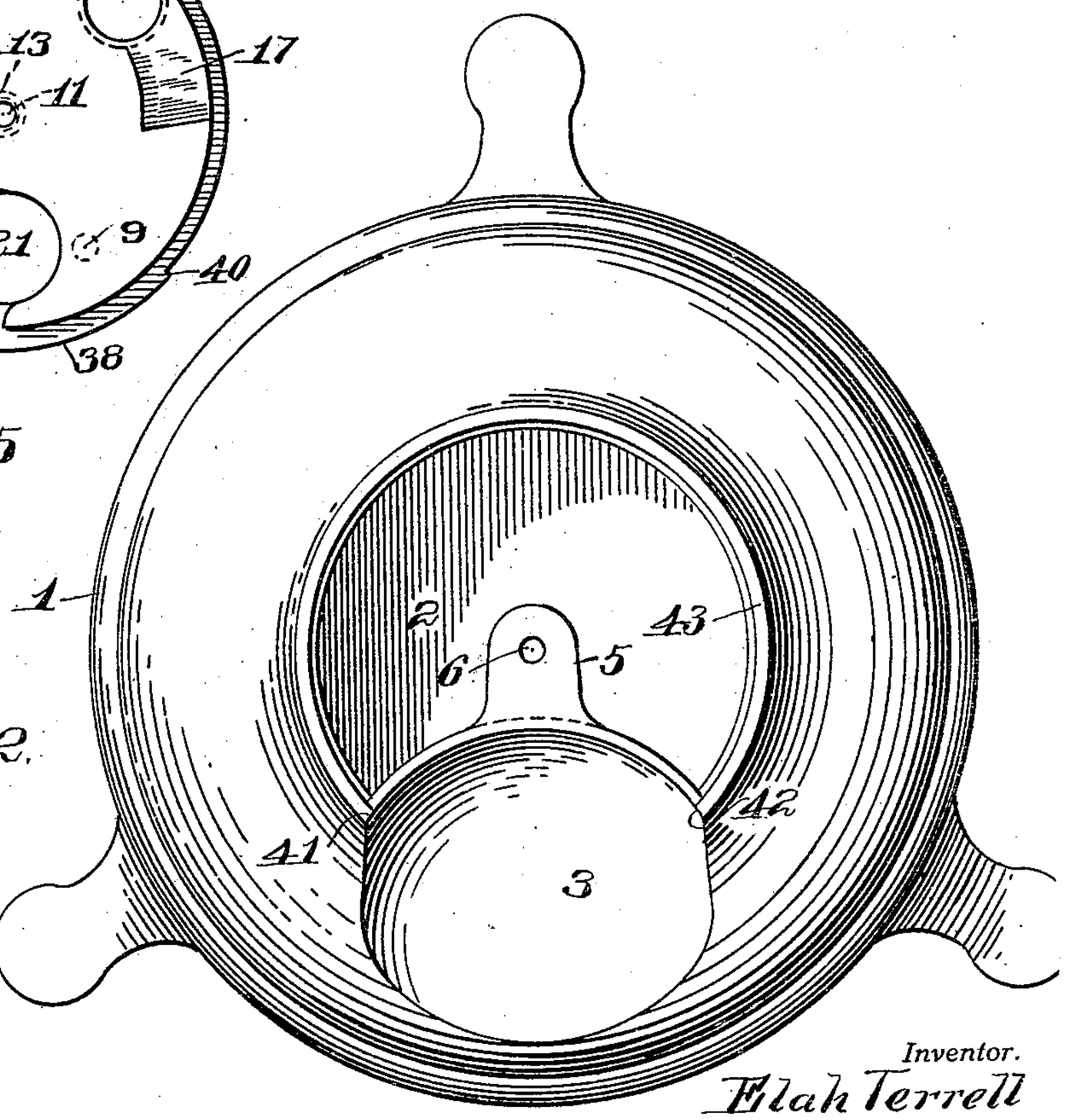

Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

ELAH TERRELL, OF COLUMBUS, OHIO, ASSIGNOR TO WILLIAM A. MARSH, OF COLUMBUS, OHIO.

VENDING-MACHINE.

934,634. Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed January 15, 1909. Serial No. 472,411.

To all whom it may concern:

Be it known that I, ELAH TERRELL, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to improvements in vending machines adapted to be operated by a coin, and includes a construction embodying a plurality of disks properly arranged to operate upon the introduction of a coin to deliver the coin to a receptacle and to deliver the predetermined quantity of the goods to be vended to an exterior receptacle provided for that purpose.

It includes means for preventing the operation of the machine when no coin has been introduced, and it further includes means for preventing the retraction of the coin carrying disk for the purpose of extracting the coin, after said disk has been moved to a certain point short of its limit of movement, thereby rendering it impossible to receive the goods without leaving the coin in the care of the machine.

The construction and arrangement of the various devices for accomplishing my purposes are extremely simple, and embody parts which are not readily put out of order.

The foregoing and other features hereinafter fully set forth and their combinations are embodied in the accompanying drawings which are hereto attached and hereby made a part of this specification in which—

Figure 1 shows, in elevation, a vending machine broken away as to its globe, and the various parts thereof detached, the base portion being shown in section, the figure showing the parts as they would appear if each could be lifted up from the base sufficiently to clear the part adapted normally to lie inclosed by the part shown immediately above it. It should be noted that the upper portion of Fig. 1 is also partly in section; Fig. 2 is an upper plan view of the base detached; Fig. 3 is a view from beneath of the disk or plate overlying the coin carrying disk, the latter being shown in Fig. 4; Fig. 5 is a view from above of the disk which is cut away to permit the movement of the cup for measuring the goods.

Referring to the drawings, 1 indicates the base of the machine having removably positioned therein the bottom member 2, which may be removed in order to take out the coins; at 3 is shown the hollow or depression made in one side of the base for the purpose of receiving the goods when they are delivered from the receptacle, to which the operator has access from the outside of the machine. Extending inwardly from the upper portion of the base is a lug 5 having the opening 6, through which a screw is inserted for securing all of the parts of the machine together when the same are properly assembled and placed thereon.

Immediately upon the base are located the two disks 7 and 8, held together in spaced apart relation by the posts 9 and 10 and the middle post 11, which is seen to be hollow for the reception of the screw inserted from beneath through the opening 6 above mentioned. When the screw is positioned, the disks 7 and 8 are fixed against rotation. Between these disks is located the coin chute 12, through which the coin drops after the coin disk has been moved to its outward limit, into the hollow base 1 on the removable bottom member 2. Upon the central post 11 is carried the spring 13, having one end 14 bearing against the post 10 and the other end 15 adapted to bear against the goods cup hereinafter described. In the upper disk 8 is formed the inclined depression 17, into which the coin drops when moved to that point, to prevent the return of the coin disk without carrying the coin to the chute 12 as will be more completely described hereinafter.

The coin carrying disk 18 has the depending band-like flanges 19 thereon, which, when said disk is superposed on the disks 7 and 8, incloses the space between the latter; the disk 18 rests upon the disk 8, and is free to rotate thereon. Said disk 18 carries the goods cup 20 thereon, the latter being open at the bottom, but inasmuch as it moves over the disk 7, the goods can not escape therefrom until an appropriate opening 21 through disk 7 is reached. The disk 18 contains the coin niche 22, said disk being of the same thickness as the coin which will operate the machine. The handle 23 is fixed upon the band-like flange 19 and the disk 18 is rotated by taking hold of the handle and moving the same to the right or to the left. When the handle is moved to the right, the goods cup 20, through this engagement with

the spring end 15, compresses the spring 13, and when the handle is released the contraction of the spring 13 will rotate the disk 18 back to its normal position.

The disk 24 has the flange 25 depending therefrom which is cut away at 26 to receive the handle 23 and permit the movement thereof. Flange 25 also contains the coin slot 27, through which the coin is inserted into the niche 22 above described. The disk 24 contains the spring check 28 upon its lower face in proper position for engaging the coin niche 22 when the disk 18 is rotated; if the coin is placed in the niche 22, the spring check engages the face of the coin, and the disk 18 may continue its rotation, whereas if no coin is found in the niche, the spring check 28 enters the niche and locks the disk 18 against further movement in that direction. Inasmuch as the disk 18 carries the goods cup, and the said disk must reach practically its maximum movement before the goods are delivered to the exterior of the machine, it is seen that the spring check 28 prevents the vending unless the appropriate coin has been inserted into the niche 22. On the disk 24 is arranged the globe 29, which is held in position thereon by means of the rods 30 and 31 passing through said plate 24 at the points 32 and 33. At the top of the globe is arranged an appropriate lid 34. The disk 24 has the opening 35 therein through which the goods pass into the goods cup 16. The disks 18 and 24 are seen to contain the central openings 36 and 37 therein, said openings, when the parts are appropriately positioned, being adapted to register with the opening 6 and the opening 17, so that the screw which holds the parts together passes through these registering openings, being inserted therein from beneath through the hollow base portion 1.

When the parts are properly positioned, it is seen that the operation of the machine will be as follows, to wit: It will be understood that goods cup 20, in the normal position of the machine, will receive goods from the globe or receptacle 29 through the opening 35, and is therefore full at the time a coin is inserted into the machine; the coin is inserted through the slot 27 into the niche 22, whereupon the handle 23 is moved toward the right, rotating the disk 18 and carrying the coin therewith; the spring check 28, which is in frictional contact with the upper base of the disk 18, is engaged by the coin in the niche 22, and the disk 18 is thereby permitted to continue its rotation. When the coin has been advanced to the inclined depression 17 cut into the face of the disk 8, the coin will drop thereinto, one edge thereof engaging the wall of the depression 17, and the other edge engaging the wall of the coin niche, so that it is impossible to turn the disk 18 toward the left or its normal position so long as the coin remains therein. Further movement of the disk toward the right will carry the coin therewith, and when the chute 12 has been reached, the coin will drop therethrough into the hollow base 1, and at about the time the coin reaches the chute 12, the goods cup 20 has been brought into register with the opening 21 through the plate 7, whereby the goods are delivered into the exterior depression 3. The handle 23 is now released, and the action of the spring end 15 on the goods cup 20 returns the disk 18 to its normal position, in which the goods cup 20 registers with the opening 35 and is again filled with goods, and the coin niche 22 is placed in registration with the slit 27, ready for the insertion of another coin. When the parts are positioned properly, the flange 38 lies within the opening 3 and the shoulders 39 and 40 thereon abut against the ends 41 and 42 of the flange 43 on the upper portion of the base 1, and by this arrangement the disk 7 is locked against rotation.

From the foregoing description it is seen that the coin disk 18 is of approximately the thickness of the selected coin, and is the only portion of the machine which is adapted to be rotated; therefore it carries the coin and the goods cup, it being understood that the coin niche 22 is such as to permit the coin to lie on the upper face of the disk 8, and to slide thereon between the walls of the niche 22; by rotating the disk 18, the coin is therefore brought to the chute 12 and the goods cup 20 is brought into register with the opening 21 into the exterior depression 3. The disk 18 is returned to its normal position by means of the spring 13. Further, on account of the spring check 28, it is impossible to operate the machine to deliver goods unless the appropriate coin has been inserted, and the provision of the inclined depression 17 renders it impossible to obtain goods from the machine and at the same time retract the coin; or, as it is usually phrased, it is impossible to "beat" the machine. The construction is withal extremely simple and contains no parts which are readily put out of order in use.

I do not intend to confine myself to the specific arrangement of the parts disclosed, but desire to claim any modifications which fall within the scope of my invention.

What I claim is:

1. In a vending machine having a coin receiving base and goods receptacle, a disk rotatably mounted and having a coin niche therein, a goods cup mounted on said disk and rotatable therewith, a stationary disk upon which said rotatable disk is adapted to turn having a depression formed therein and an opening formed therethrough for the discharge of the coin, a handle for turning said disk, and a spring for returning

said disk to normal position, the parts being so arranged that when the coin niche registers with said depression the said disk can not be returned to normal position without the discharge of the coin.

2. In a vending machine having a coin receptacle and a goods receptacle, a series of disks interposed between said receptacles, one of which is mounted rotatably, a goods cup carried by said rotatable disk having a coin niche formed therein, a check member adapted to frictionally engage the upper face of said rotatable disk and to enter said coin niche when the coin is not found therein and thereby lock said disk against further rotation from normal position.

3. In a vending machine having a base and goods receptacle, a disk beneath said goods receptacle having an opening therethrough and provided with a check upon its lower face, a second disk rotatably mounted between said first mentioned disk and having a coin niche formed therein, a goods cup carried by said rotatable disk, a pair of spaced apart disks superposed one upon the other, the upper disk being cut away to permit the movement of the goods cup and having an opening formed therethrough for the discharge of the coin and also having an inclined depression formed upon its lower face, spring means carried between said pair of disks for returning said goods cup to its normal position, and means for actuating said rotatable disk to its goods discharging position.

4. In a vending machine having a base and a goods receptacle, a disk supporting said receptacle having an opening therethrough, a check upon the lower face of said disk, a pair of spaced apart disks mounted upon said base, the upper one having a coin opening therethrough and an inclined depression formed therein, a rotatable disk mounted between said first mentioned disk and the upper one of said pair of disks and adapted to be borne by the upper one of said pair of disks, a goods cup carried by said rotatable disk, said rotatable disk having a coin niche formed therein adapted when empty to engage with said check, whereby said disk is locked against further rotation in that direction, and when said disk carries a coin the latter is adapted to enter said inclined depression, whereby said disk is locked against retrograde movement until said coin is discharged.

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

ELAH TERRELL.

Witnesses:

GEO. W. RIGHTMIRE,

A. RAGER.