W. G. TEMPLETON.

VENDING MACHINE.

APPLICATION FILED NOV. 30, 1917.

1,386,974.

Patented Aug. 9, 1921.

3 SHEETS—SHEET 1.

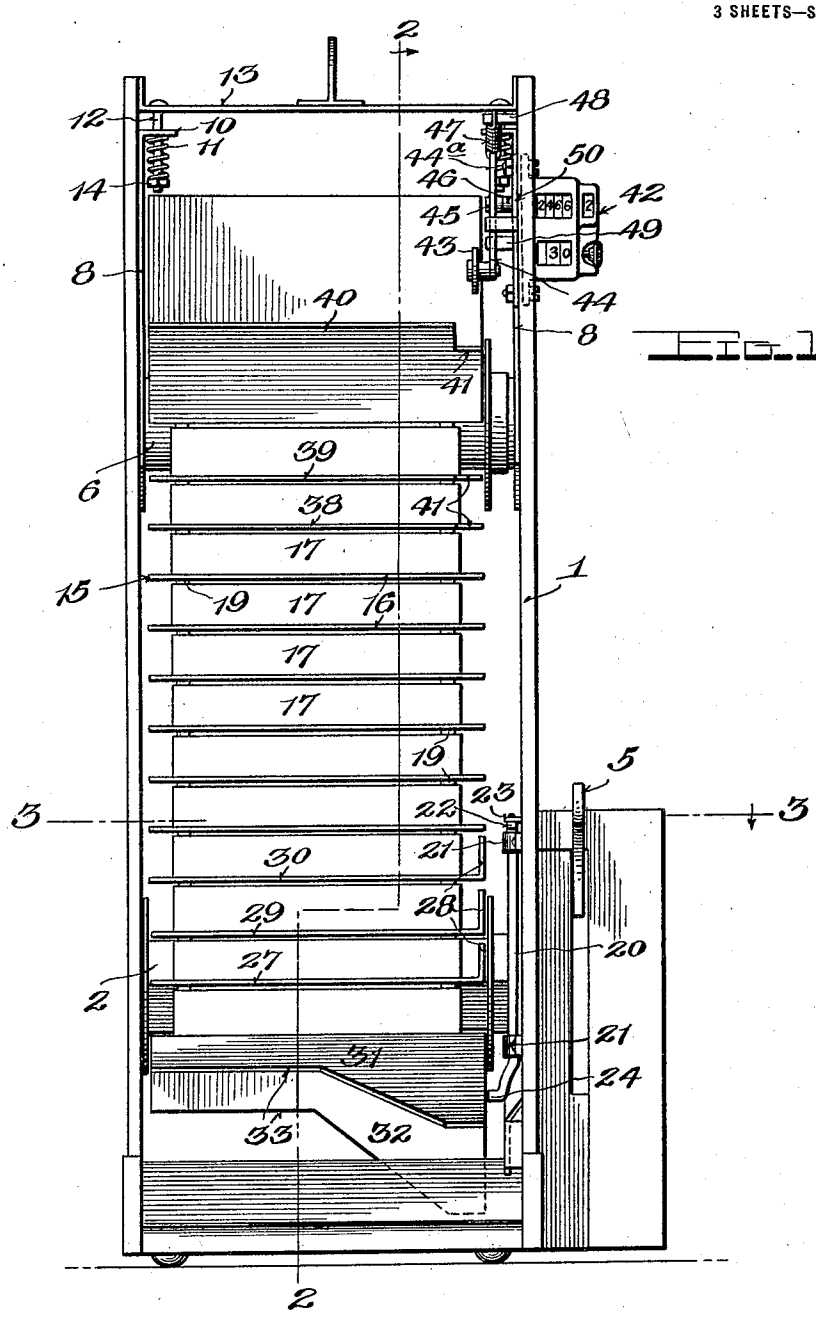


Fig. 1.

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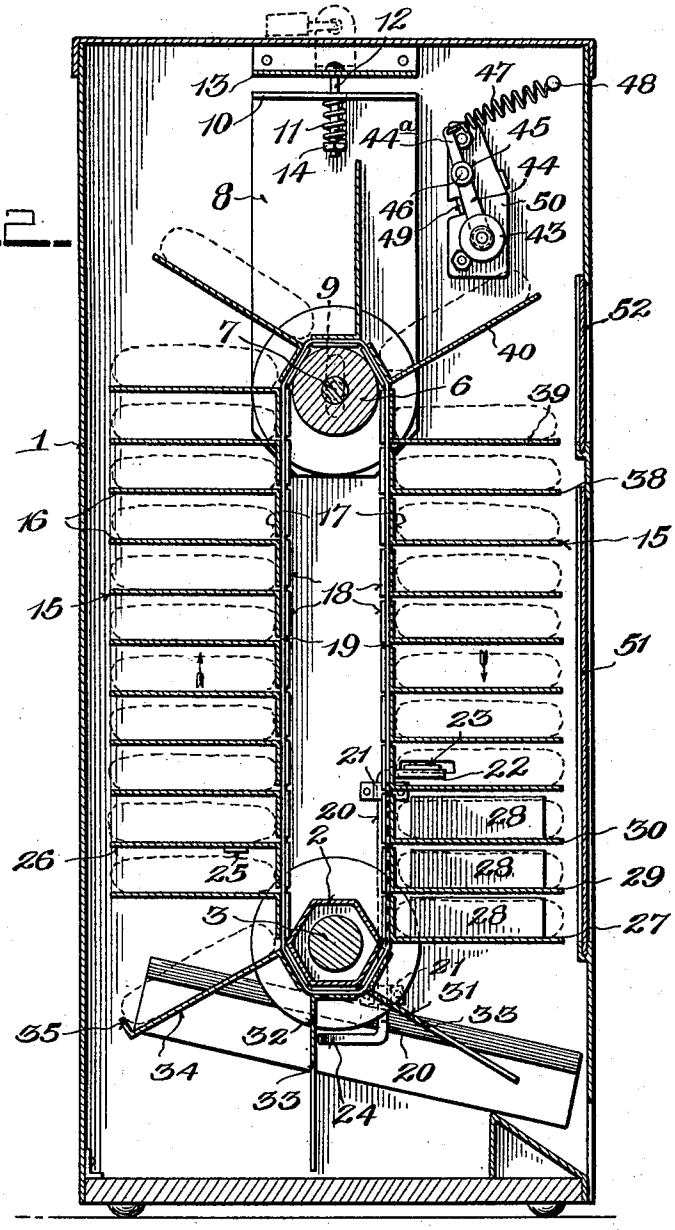
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3 SHEETS—SHEET 2.

FIG. 2.



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3 SHEETS—SHEET 3.

FIG. 3.

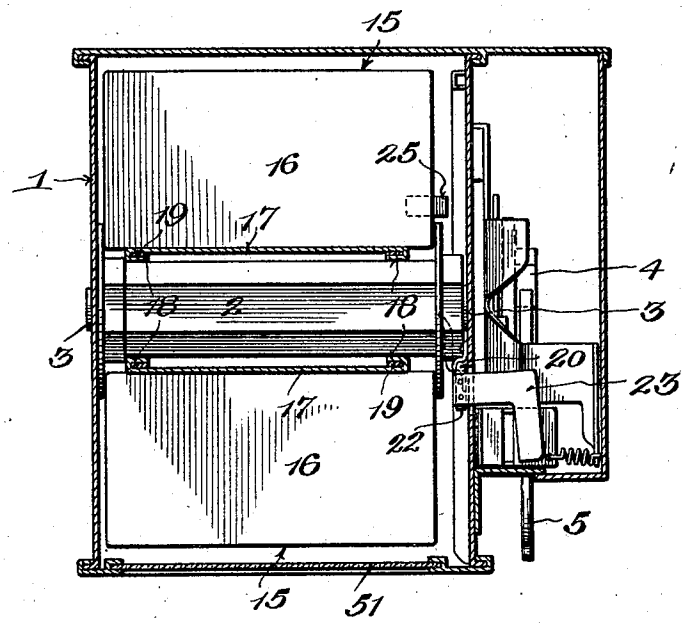
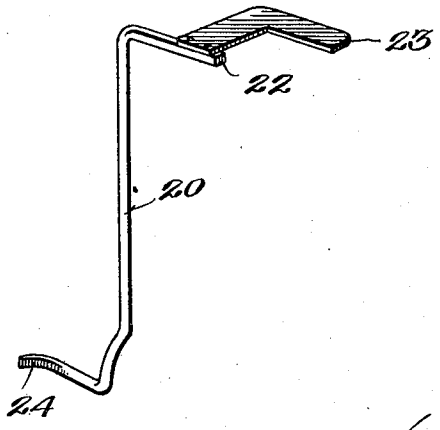


FIG. 4.



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VENDING-MACHINE.

1,386,974. Specification of Letters Patent. Patented Aug. 9, 1921.

Application filed November 30, 1917. Serial No. 204,570.

To all whom it may concern:

Be it known that I, WILLIAM G. TEMPLETON, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Vending-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a vending machine of the type which is adapted, upon the manipulation of suitable release mechanism, to deliver an individual article from a plurality of article containers within a chute forming a part of the machine. One of the principal objects of the invention is the provision of a simple, efficient and cheap vending machine construction which will successfully handle the articles to be delivered and which will effect the delivery of said articles individually in succession, without the use of any ejecting mechanism. Another object of the invention is to provide means whereby the flights of an endless conveyer carrying the articles to be vended will operate a counting device to indicate the number of articles vended. A further object of the invention is to simplify the vending machine construction and insure reliability of action.

A full understanding of the invention will be attained from the ensuing detailed description, when taken in connection with the accompanying drawings, which illustrate a structural embodiment of the invention in a preferred form. The novel features of the invention will be particularly pointed out and specified in the claims at the end of the specification.

In the drawings,—

Figure 1 is a front elevation of the preferred form of my device, the front panel of the casing being removed for the sake of clearness.

Fig. 2 is a vertical section on the line 2—2 of Fig. 1.

Fig. 3 is a horizontal section on the line 3—3 of Fig. 1.

Fig. 4 is a perspective view of the coin slot closing mechanism.

In its preferred embodiment my invention consists of the usual casing 1 in which is journaled a drum 2, preferably hexagonal in cross section, carried by a shaft 3 in fixed position on the casing and extending a short distance beyond one of the side walls thereof, said extended portion carrying the ratchet wheel 4 of a coin controlled device operated by a lever 5. The operating mechanism of the coin controlled device may be of any desired type and forms no part of the present invention.

A second drum 6 which may be cylindrical, if desired, is mounted on a shaft 7 journaled in a pair of plates 8, 8, and extending through slots 9, 9 in the casing. These plates each have an inturned portion 10 which bears against a spring 11 carried by a bolt 12 loosely mounted on a brace member 13 partly closing the top of the casing. A nut 14 serves as means for adjusting the compression of the spring. An endless flight conveyer 15 passes over the drums 2 and 6 and is adjustably held at the proper tension by means of the nuts 14. Each flight of the conveyer consists of a single metal piece 16 bent at right angles along one end forming a back 17 having ears 18 each adapted to grip one of the belts 19 carried by the two drums.

A wire shaft 20 is journaled in keepers 21 on the casing and is turned at right angles forming a head 22 to which is connected a curved metal plate 23 adapted to prevent the operation of the machine when it is empty, this being accomplished by bending the other end 24 of the wire shaft so that it will be projected into the path of a lug 25 carried by the flight 26, this lug turning the shaft 20 in its bearings so as to revolve the plate 23 nearly into contact with the casing, thereby closing the coin slot and consequently preventing movement of the lever which operates the main drum 2.

At the time the device is thus locked in inoperative position, due to the exhaustion of supply, the flight 27 is at approximately the same level as the plate 23, and since this flight carries an upturned portion 28 extending nearly to the bottom of the flight next above, manipulation of the plate 23 to uncover the coin slot is prevented at this time. Flights 29 and 30 just above flight 27 are also provided with similar upturned portions so that three complete operations of the lever 5 are required to enable the operator to uncover the coin slot. The mechanism is such that when the vending machine is open for filling the lever may be depressed while the usual coin-operated

locking pawl, pivoted to the lever, is manually lifted out of operation.

When the machine is thus locked and therefore empty, the operator places an article in each of the shelves 27, 29, 30, as well as in all the other flights at the front of the machine above these flights, but does not place an article on either shelf 31 or 32, these skeleton flights being cut away as at 33, so that they will not hold an article. No article is placed on flight or shelf 34 at this time, but the operator depresses the lever 5 three times, thereby carrying the flight 34 one step beyond the vertical, at which time its lip 35, which was downturned, when the machine was first locked, is now upwardly directed so as to enable it to hold an article and the operator then fills it and all the remaining flights or shelves, with the exception of the skeleton flights 31 and 32, before mentioned. The machine is now in the position illustrated in the drawings.

At this time the upturned lip 28 of flight 30 has passed below the level of the plate 23 and the operator is enabled to turn the wire 20 out of slot-closing position by placing his finger between the flights 36 and 37 thereby rotating the head 22 into contact with the casing and carrying the plate clear of the coin opening and also moving the end 24 into position for engagement by the cam or lug 25 on the next complete revolution of the belt.

Three of the flights, namely, 38, 39 and 40, are each provided with a cutaway portion 41 to prevent operation of the counter 42, while the operator is turning the shelf 34 to article-receiving position. Each of the remaining flights engages a roller 43 carried by a lever 44 pivoted at 45 to the main shaft 46 of the counting device and by such engagement raises the arm sufficiently to advance the counter one number. The lever 44 is extended beyond the pivot 45 forming an arm 44^a to which is attached a spring 47 connected at 48 to the casing of the machine and acting by its tension to hold the roller in the path of the corner of the flights and against the stop 49, which, in the preferred form, is a bent edge of the casing 50 secured to the side wall as illustrated. It will be noted that at the time the locking flight 26 is vertical at the bottom of the machine the first cut-away flight 38 is vertical at the extreme top, so that on the next three operations of the lever, (these three operations being necessary to carry the skeleton flights 31 and 32 past discharging position and to bring the flight 34 into article receiving position at the rear of the machine) no raising of the counter lever will take place, since the roller 43 will be cleared by the next three flights, owing to the cutaway portions 41. During these three operations of the lever the operator will be prevented from moving the plate 23 out of slot-closing position, owing to the presence of the three upturned portions 28.

In the preferred form the casing is provided with a glass panel 51 to enable the display of the bended article which may, for example, be brightly colored candy wrapped in transparent material. Above the glass front 51 is a space 52 for advertising matter.

What is claimed is:

1. In a vending machine, a casing, a conveyer drum rotatably mounted in fixed position in said casing, a pair of plates, a second conveyer drum directly above said first mentioned drum and rotatably mounted in said plates, an endless conveyer carried by said drums and provided with flights for carrying articles to be vended and spring means for supporting the upper drum, the conveyer and the plates, and for independently adjusting the tension on the two sides of the endless conveyer by altering the relative position of each of the plates with respect to the casing.

2. In a vending machine, a casing, a conveyer drum rotatably mounted in fixed position in said casing, a pair of lipped plates, a second conveyer drum rotatably mounted in said plates directly above said first mentioned drum, an endless conveyer belt mounted on said drums, bolts secured to said casing above the lips of the plates, springs on said bolts and nuts on said bolts for adjusting the compression of the springs against said lips, whereby said springs carry the entire weight of the plates, the endless conveyer and the upper drum.

3. In a coin controlled vending machine of the type employing an endless conveyer and a counting device operated thereby, the combination with a plurality of skeleton flights adapted to operate said counting device, of a plurality of flights greater in number than said skeleton flights adapted to pass said counting device without operating it when said skeleton flights are passing article discharging position.

4. In a vending machine, an upper drum, a lower drum, an endless conveyer mounted on said drums, and adjustable spring means for resiliently supporting said upper drum and said conveyer.

5. In a vending machine, an upper drum, a lower drum, an endless conveyer mounted on said drums and having flights for carrying the articles to be vended, and a plurality of independent spring means for resiliently supporting said upper drum, said conveyer, and the articles carried thereon, each of said means being adjustable to alter the tension on one edge of said conveyer.

WILLIAM G. TEMPLETON.