

March 15, 1927.

J. W. ANDERSON ET AL

1,621,098

CUP DISPENSER

Filed Nov. 1, 1924

Fig. 1

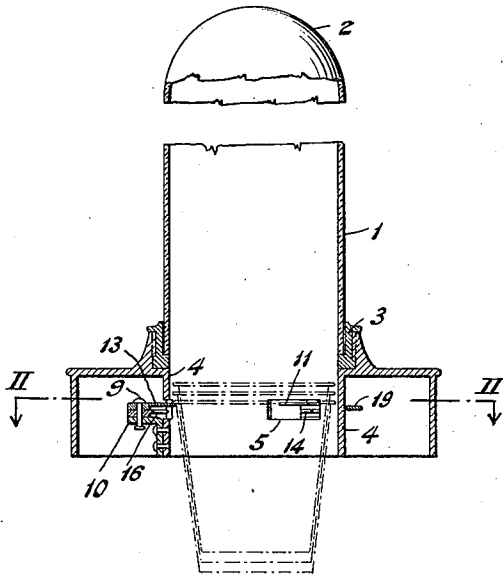


Fig. 2

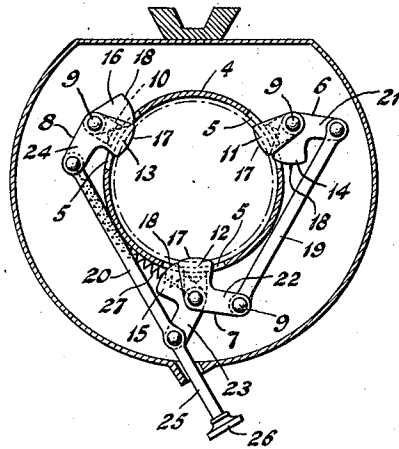


Fig. 3

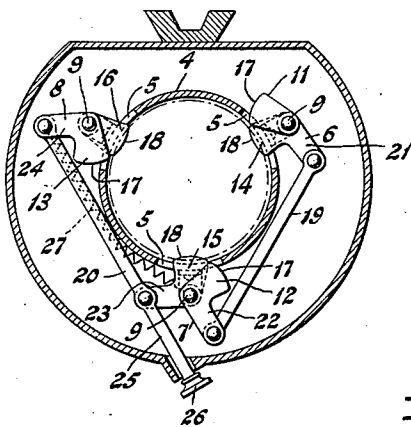


Fig. 4

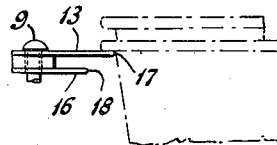


Fig. 5

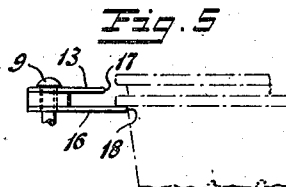
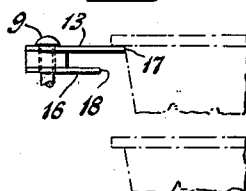


Fig. 6



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CUP DISPENSER.

Application filed November 1, 1924. Serial No. 747,152.

This invention relates to cup dispensers and with regard to its more specific features, mechanism for automatically releasing one cup at a time in position to be manually or automatically removed from the stack.

An object of this invention is to provide a new and improved dispensing mechanism which is simple and efficient in operation and inexpensive in manufacture.

A further object is to provide a device of the character described which will, automatically, when operated by the hand, select one cup from a stack of nested cups and permit its removal while retaining the next adjacent cup.

The invention accordingly comprises the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the constructions hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a vertical section through a machine embodying this invention;

Fig. 2 is a cross-section along the line II—II of Fig. 1, showing the mechanism in normal position;

Fig. 3 is a similar view showing the mechanism in position to drop the stack;

Fig. 4 is a diagrammatic view showing the release of the escapement to the stack of nested cups while supporting the stack in normal position;

Fig. 5 is a similar view showing the escapement in position to drop the stack; and

Fig. 6 shows the assumption of normal position with the bottom cup in the act of being released.

In the drawings, the numeral 1 comprises a container adapted to receive a stack of nested cups preferably of the variety which has a bead around the upper rim. This container which is preferably of glass is closed at the top as shown at 2, at the lower end, fits into a sleeve 3 carried by a cylindrical cup guide 4. The guide 4 is provided at intervals spaced around its circumference with apertures through its side walls as shown at 5, and a set of escapements 6, 7 and 8 are pivotally mounted on pins 9 carried by

brackets 10 attached to the sleeve, in position to extend through the orifices 5 into the pathway of the flanges of the nested cups.

Each of the escapements 6, 7 and 8 comprises an upper cup supporting member 11, 12 and 13, and a lower cup supporting member 14, 15 and 16, and the upper and lower cup supporting member of each escapement are relatively spaced from each other vertically by an amount equal to the distance between two cup flanges.

Each of the upper cup supporting members has a small arcuate face, 17, and each of the lower cup supporting members has a corresponding face 18, and these faces 17 and 18 are differently disposed about the axis of the escapement so that as the escapements are oscillated in unison, the upper and the lower set of cup supporting members is each brought into the pathway of the cup flanges as the other is withdrawn from that pathway.

For the purpose of co-ordinating the oscillation of the different escapements, links 19—20 connect each escapement with an adjacent escapement, being pivoted to arms, 21, 22, 23 and 24 of said escapements. These arms are preferably so situated that in the middle of the oscillation of the escapement required to bring the sets of cup supporting members successively into position, the arms will be substantially at right angles to the links.

As illustrated, three escapements are employed, one of which is link connected to each of the other two, but it will be obvious that a different number of escapements can be employed, if desired.

One of the links as 20 may be extended outwardly as at 25 and provided at its outer end with a handle 26, while a spring 27 may be connected between one of the pins 9 and one end of one of the links to urge the handle 26 outwardly, in position to bring the upper set of cup supporting members normally into the pathway of the stack. Means are provided for limiting the oscillation of the escapements in different directions after the other set of cup supporting members has passed out of engagement with the stack. As illustrated, this can be accomplished by permitting the side of the link 20 to come into engagement with the outer side of the sleeve constituting the cup guide.

The operation of the device is as follows:

The dispenser may be operated by filling the retainer 1 with a stack of nested cups and thereafter inverting it in place. At this time, the upper set of the cup supporting members 11, 12 and 13 is in the way of the cup flanges and the stack falls within the cup guide until the flanges of the lowermost cup rest upon those members. In this position the lowermost cup cannot be removed because of the engagement of its flange with the cup supporting members.

To remove a cup from the dispenser, the handle 26 is pressed inwardly releasing the members 11, 12 and 13 from engagement with the lowermost cup and bringing the members 14, 15 and 16 into the pathway thereof, as shown in Fig. 3. Thereupon the entire stack falls until the lowermost cup is in engagement with the lowermost set of cup supporting members. Upon the release of the handle 26, the upper set of cup supporting members passes in position to support the next to the bottom cup, while the lower cup supporting members pass from beneath the stack. In this position, the stack is supported by the next to the bottom cup and the bottom cup is unsupported, so that if it be free to fall, it will drop from the machine, otherwise it may be retained upon the stack by the friction between it and the cup above it. It may thus be readily removed from the machine in either event.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all the ge-

neric and specific features of the invention herein described, and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Having described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. A cup dispenser comprising a container, a support therefor having a plurality of openings therein, a plurality of escapements pivotally mounted on said support and adapted to be projected through said openings, links pivotally connecting said escapements, a handle on one of said links for actuating the links and the escapements, and resilient means connected with one of said links for returning the escapements and links to normal position after an operation thereof.

2. A cup dispenser comprising a container adapted to hold a stack of nested cups, a support for said container, an apertured sleeve in said support to form a guide for the cups, said sleeve having a plurality of openings therein, a pair of escapements pivotally supported on said sleeve and projecting through two of the openings in said sleeve, an intermediate escapement mounted on said sleeve for coaction with another of said openings, links pivotally connecting said first mentioned escapements to said intermediate escapement, a handle formed on one of said links to permit simultaneous operation of all of said escapements and said links to cause the cups to be discharged one at a time through said sleeve, and means for returning said escapements and said links to normal position.

In testimony whereof we affix our signatures.

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