

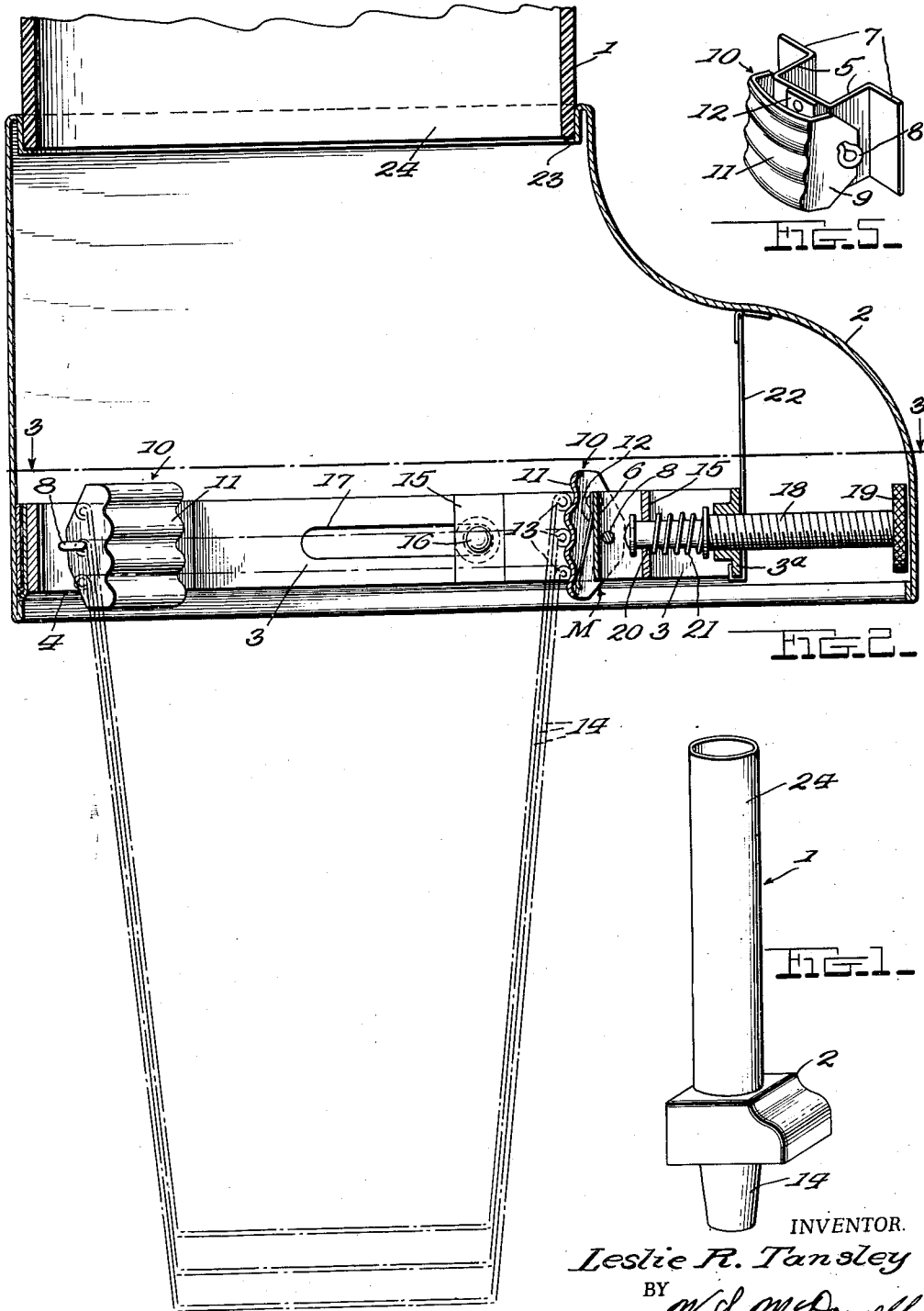
Aug. 5, 1952

L. R. TANSLEY
RECEPTACLE FOR STORING AND DISPENSING
NESTED DRINKING CUPS

2,606,087

Filed April 19, 1950

2 SHEETS—SHEET 1



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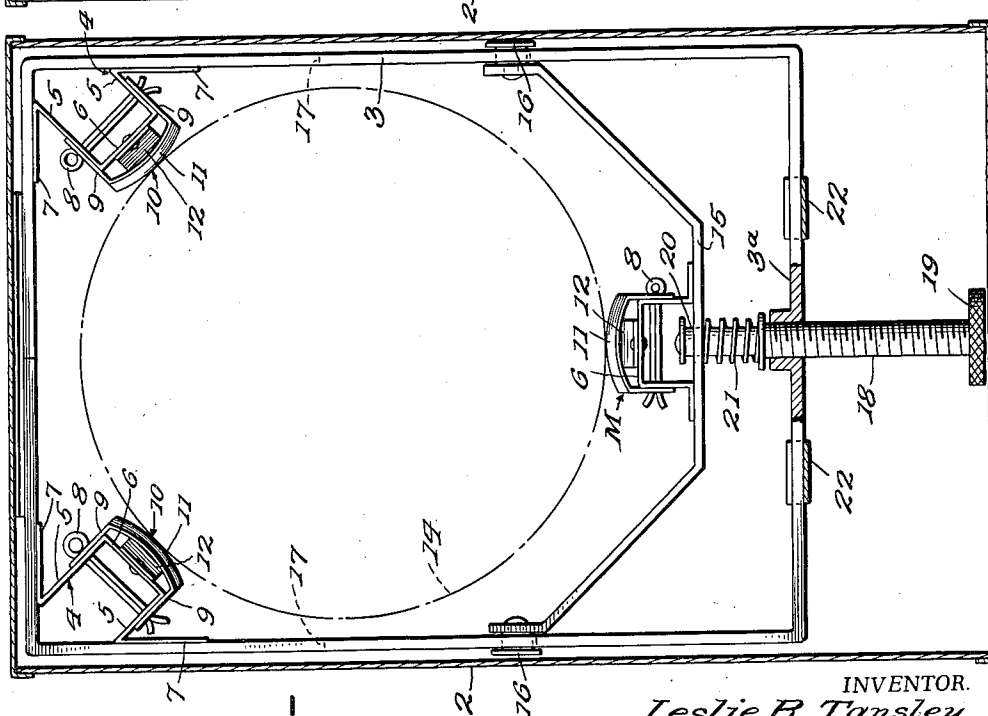
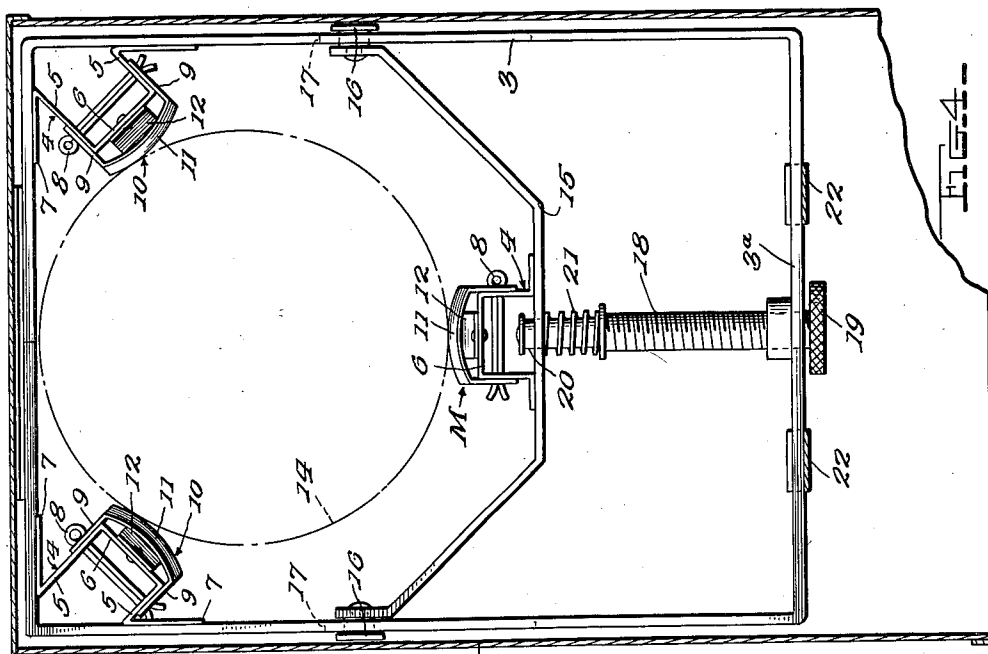
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UNITED STATES PATENT OFFICE

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RECEPTACLE FOR STORING AND DISPENSING NESTED DRINKING CUPS

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4 Claims. (Cl. 312-43)

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This invention relates to an improved receptacle for receiving, storing and individually dispensing nested articles, such as drinking cups of paper or paperboard composition.

Such cups are produced by the manufacturers thereof in different sizes, the same varying in depth and diameter. As a result, it has been customary to provide dispensing receptacles for such cups in which each receptacle is specifically designed for the reception of drinking cups of but one size, necessitating the employment of a number of different dispensing receptacles for cups of various sizes.

Accordingly it is the principal object of the present invention to provide a cup-dispensing appliance which is capable of holding a relatively large number of paper drinking cups in nested order, with a lower or terminal cup accessible through the bottom of the machine for individual withdrawal purposes, and wherein the machine includes a novel arrangement of cup-supporting devices adjustable relative to each other to adapt such devices for the support of cups varying in diameter.

Another object of the invention is to provide a paper cup dispensing machine employing a magazine having a base in which is arranged a pair of spaced pivotally movable cup-supporting pawls occupying at all times definite positions in the base of the machine, the said pawls coacting with a similar pawl mounted on an adjustably movable carrier and capable of being moved toward and away from said first-named pawls, whereby to vary the spacing between said pawls and adapting the same thereby to cups of different diameter.

A further object is to provide a machine for dispensing paper drinking cups which constitutes an improvement upon the construction disclosed in my prior patent, No. 2,315,827, dated April 6, 1943.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the novel details of construction and arrangement of parts described in the following specification and illustrated in the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of a drinking cup dispensing device or machine formed in accordance with the present invention;

Fig. 2 is a vertical sectional view taken through the base of the machine;

Fig. 3 is a horizontal sectional view taken on the plane indicated by the line 3-3 of Fig. 2

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and disclosing the pawls in position to receive drinking cups of maximum diameter,

Fig. 4 is a similar view disclosing the pawls adjusted to receive and support drinking cups of a diameter smaller than that of the cups indicated in Fig. 3;

Fig. 5 is a perspective view of one of the cup-supporting pawls.

Referring to the drawings, the numeral 1 designates the casing of my improved cup-dispensing holder. The casing includes a base 2 in which is positioned a horizontally disposed substantially rectangular frame 3. Carried by this frame are stationary and adjustable cup-supporting pawls, which will now be described.

The rear corners of the frame 3, as shown in Fig. 3, are provided with stationary brackets 4, each of said brackets including parallel side legs 5 which are united at their outer ends by a transverse web 6, the opposite edges of said legs terminating in laterally directed flanges 7 which are adapted to be welded or otherwise secured to the inner surfaces of the frame 3 contiguous to the rear corners of the latter. The legs 5 are formed with registering openings through which passes a cotter key 8, the latter passing through openings provided in the side wings 9 of a plurality of pivotally movable pawls 10, each of the latter having a corrugated cup-engaging outer web 11 and being pivotally movable about the axis afforded by the supporting cotter key 8. A leaf spring 12 is fixed at one end to each of the brackets 4 and has its outer or free end engaged with the lower portion of the corrugated web 11 of each of the pawls, so that normally said pawls assume a somewhat angular position, as indicated in Fig. 2 of the drawings. The corrugations of the web are so shaped as to receive the rolled or beaded upper edges 13 of the nested drinking cups indicated at 14 in the drawings. The height of the pawls is such that each set of pawls will have direct engagement with two or more of the drinking cups, the lower or terminal cup being disposed in engagement with the lower portions of said pawls.

In association with the pair of spring-pressed pawls disposed at the rear of the casing and previously described, I employ a similar pawl of the same construction and operation but which is movable toward and away from the rear set of pawls, as disclosed more particularly in Figs. 3 and 4 of the drawings, the movable pawl being designated by the letter M. The movable pawl is carried by a bar 15 arranged within the confines of the frame 3, the ends of said bar car-

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rying headed studs, shown at 16, which project through elongated slots 17 provided in the side members of the frame 3, the length of the slots serving to determine the extent of adjustment of the movable pawl M toward and away from the stationary or fixed pawls.

To control the sliding adjustment of the bar 15, use is made of an adjusting screw 18 which is provided at the outer end thereof with a knurled turning knob 19. The threaded shank of the screw is received within a threaded bore provided in the front leg 3a of the frame 3, and the inner end of the screw 18 is swiveled as at 20 in the lower bar 15 of the pawl M, so that by this construction, upon the rotation of the screw 18, the lower bar may be moved back and forth to vary the position of the movable pawl in adapting the latter to cups of different diameters. A light coil spring 21 may be positioned between the leg 3a and the bar 15 to maintain the adjustment of the screw 18 and said movable pawl. The actuating knob 19 of the screw is readily accessible through the open under side of the base 2. The frame 3 at its forward end may be supported in connection with the base 2 by means of straps shown at 22 and at its rear end the frame may be welded or mechanically fastened to contiguous rear portions of the base 2.

The base portion of the machine terminates at its upper end in an annular seat 23 in which is positioned the lower end of a plastic cup-retaining tube 24, the latter being vertically positioned and of suitable height to retain a desired number of drinking cups in nested order.

In the use of the device, it is merely necessary for one seeking to withdraw a cup to engage with finger pressure the bottom or terminal cup of the nested group of cups positioned in the holder. By applying downward pressure to the gripped terminal cup, the latter may be withdrawn from its supporting engagement with the pawls, the latter rocking slightly about their horizontal axes during this withdrawing operation. Since the cup next above the terminal cup has its beaded edge disposed above the axis of turning movement of the pawls, it will be apparent that when a pawl is rocked to release a terminal cup, the next upper cup will be gripped more firmly than normal by the inwardly moving upper portions of the pawls, thus securely sustaining the entire group of cups during the withdrawal operation.

The apparatus is comparatively simple to manufacture and is composed of but few, easily accessible and strong and substantial working parts which are not likely to become out of order or require repair. The apparatus is thus well adapted to be produced at low cost and to be capable of being operated successfully and satisfactorily over prolonged periods of time. The cups handled thereby are kept in an orderly manner and the construction of the device is such as to insure the withdrawal of but one cup with each withdrawal operation.

It will be understood that my invention is subject to certain mechanical variations without departing from the essential operating principles thereof or the spirit and scope of the invention as the same have been defined in the following claims.

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I reserve the right to employ such modifications as operating the machine with the use of a coin if such a modification should be so desired.

I claim:

1. Apparatus for holding and dispensing in single order a plurality of nested paper drinking cups comprising, a casing including an open-bottomed base member and a superposed vertical cup-storage magazine, a horizontally situated rectangular frame positioned in the bottom of said base member below said magazine, a pair of circumferentially spaced inwardly extending cup-supporting pawls provided in the corners of said frame, a third pawl spaced circumferentially from said first-named pawls, and a support for said third pawl mounted on and movable longitudinally of said frame, whereby to adjust the third pawl relative to said first-named pawls to adapt the complete pawl assembly for the support of drinking cups differing in diameter.

2. Apparatus for holding and dispensing drinking cups as specified in claim 1, in combination with manually operated threaded means for adjusting the operating positions of the support of the movable pawl and maintaining such adjustment.

3. Apparatus for holding and dispensing a plurality of nested drinking cups disposed in vertical order, comprising: an open-bottomed base member carrying at the top thereof an upright tubular cup-receiving magazine, a rectangular frame disposed within the bottom of said base member in registry with said magazine, a pair of stationary brackets projecting inwardly and radially from adjoining corners of said frame, a plurality of cup-supporting pawls pivotally mounted on said brackets for turning movement about horizontal axes, spring means biasing said pawls for turning movement in one direction about said axes, a third pawl, bracket means slidably mounted on said frame toward and away from said first-named brackets, and means for maintaining the adjustment of said sliding bracket and said third pawl to adapt the complete set of pawls to drinking cups varying in diameter.

4. Drinking cup holding and dispensing means as specified in claim 3, and wherein manually operated threaded means are carried by said frame for adjusting and maintaining the adjustment of said slidable bracket.

LESLIE R. TANSLEY.

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