

May 5, 1959

H. F. BENNETT
CUP DISPENSER UNIT

2,885,113

Original Filed March 19, 1952

2 Sheets-Sheet 1

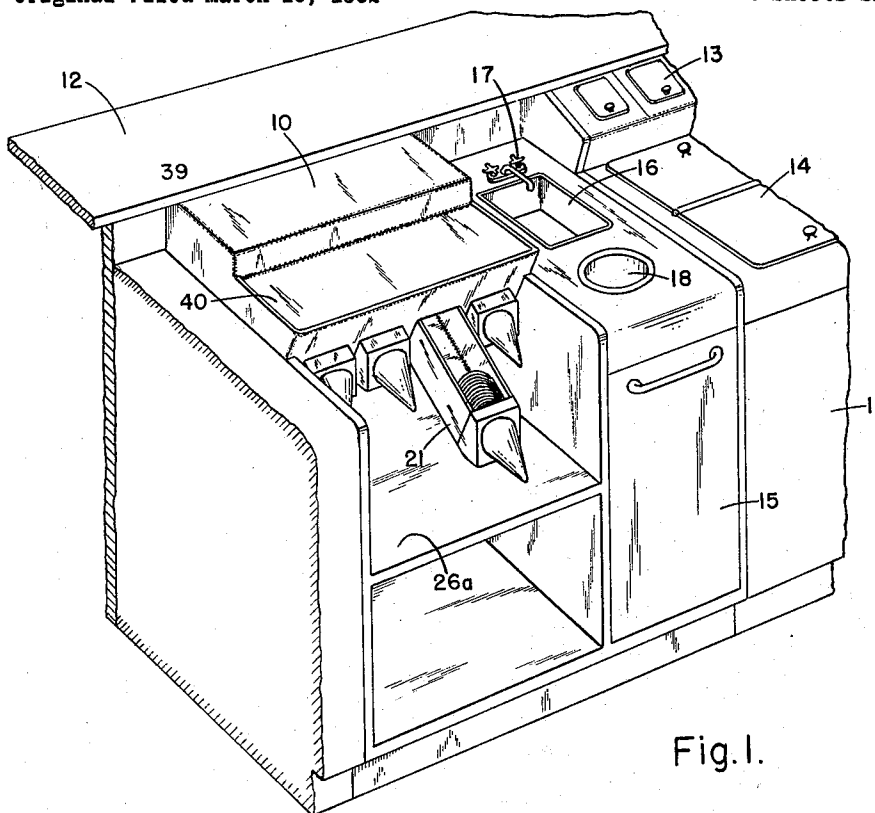


Fig. 1.

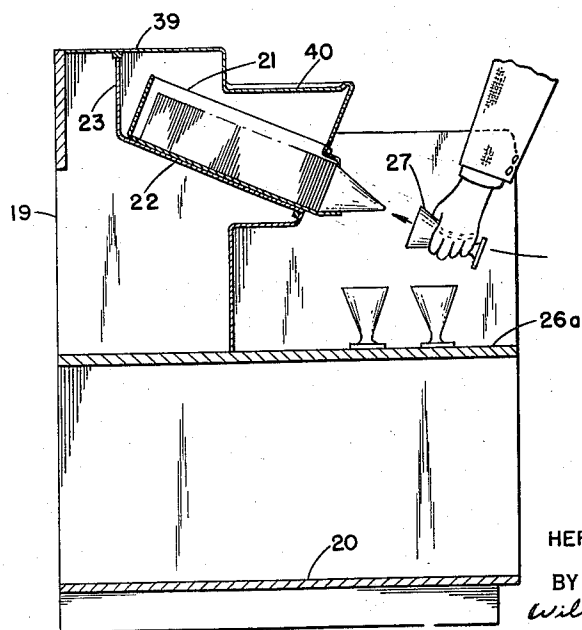


Fig. 2.

INVENTOR
HERBERT F. BENNETT

BY
William F. Sweeney
ATTORNEY

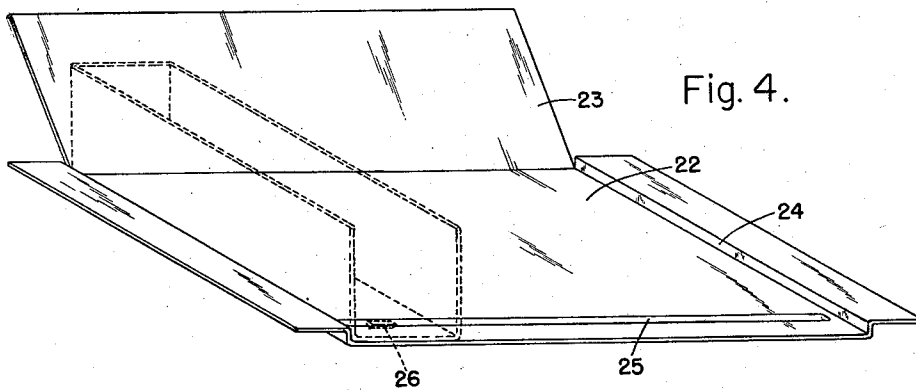
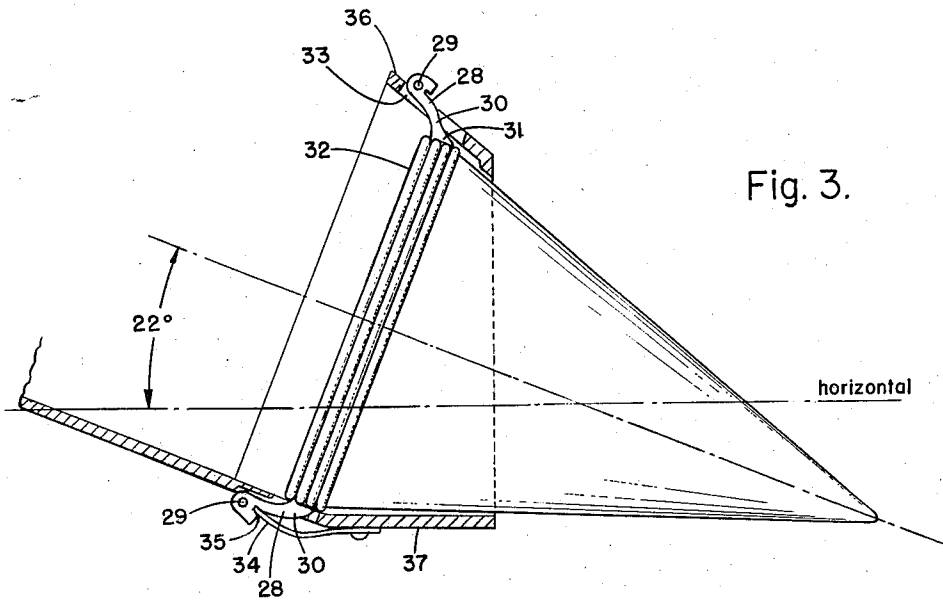
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INVENTOR
HERBERT F. BENNETT

BY *William F. Swerzy*
ATTORNEY

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2,885,113

CUP DISPENSER UNIT

Herbert F. Bennett, Easton, Pa., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Substituted for abandoned application Serial No. 277,410, March 19, 1952. This application June 29, 1954, Serial No. 439,954

2 Claims. (Cl. 221-34)

This application is a substitute for my abandoned application Serial No. 277,410, filed March 19, 1952.

This invention relates to dispensers and particularly to a dispenser for holding paper cups or containers and the like to be individually dispensed.

More particularly the invention has to do with a cabinet structure from which paper containers such as beverage cups, soda cups and sundae dishes can be individually dispensed, the structure being especially intended for use as a unit to be associated with a conventional soda fountain. In the form shown, the containers are nested in stacks in inclined chutes mounted within the cabinet whereby they are protected from dust and dirt, only the outer surface of the lowermost container in each stack, positioned for immediate dispensing, being disposed outside the chute for ready removal.

Heretofore it has generally been the practice either to place the new containers in vertically mounted dispensers located behind the fountain or to stack the containers, unprotected, on the back bar. In the former case the containers are protected from contamination by the dust and dirt of the air and by the fingers of the attendants. In the latter, the risk of such contamination is present. In both cases the containers are behind the attendant, requiring him to turn after taking the customer's order, place a container in a holder, and then turn back facing the customer to fill and serve the order. When this is done many times a day it consumes considerable total time.

On the other hand, by my arrangement, the containers are aligned with the fountain and the serving of the order can be accomplished without the attendant turning away from the customer.

The chutes for the containers are preferably disposed at an angle of not less than 22 degrees with the horizontal. With this angle the cups drop to the lower end of the chute by gravity. The lower end of the chute is open and the lowermost end of the bottom container projects beyond the chute.

For a restraining mechanism I prefer to use the ratchet-like device shown and claimed in the co-pending application of Herman Carew, Serial No. 154,713, filed April 7, 1950, issued as Patent No. 2,740,551 on April 3, 1956, for Cup Dispensing Apparatus. This mechanism restrains the stack against movement back into the chute when the lowermost container is removed by the use of a holder of a type well-known in the art and by which the lower end of the container is gripped, as the holder is pushed thereagainst.

For fountain use I prefer that the unit provide at least four chutes to accommodate the most common size containers used at soda fountains. Also, I prefer that the chutes be rectangular in cross-section as I have found that containers will slide more easily in a chute of that shape.

The unit, in addition to supporting said containers in position for ready removal is also designed for ready reloading. The individual chutes are disposed parallel

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to and adjacent each other in the same plane and are located at such height with respect to the unit that the lowermost container in each stack may be readily reached by the attendant using an appropriate holder.

The chutes are preferably made in the form of open-topped drawers having a bottom wall, two side walls and an end wall. A dispenser head, as hereinafter described, is attached to each drawer at the discharge end of the chute. The individual drawers may be of the same width and the dispenser head size may be selected to conform with the diameter of the container to be dispensed. It is also possible to construct the chute or drawer to conform to the size of the container it is to be used with and to attach a suitable sized head thereto. For manufacturing simplicity however, it is preferable that all the chutes or drawers be of the same size.

For ease in reloading, the drawers are slidably supported on a unitary shelf. This shelf is mounted inside the cabinet at an angle of approximately twenty-two degrees to the horizontal. The back or inner end of the shelf has an upwardly extending portion to limit the inner movement of the individual chutes. Short upwardly extending side walls are provided on the opposite parallel sides of the shelf to serve as guides for the end drawers of the bank thereof supported by the shelf.

The shelf is provided with a groove adjacent its outer edge. Each drawer is provided with a protusion or button on the lower surface of its bottom wall and adjacent its front or discharge end. The bottom and the groove engage each other to form a means for restraining the drawer against outward movement during normal use of the unit. However, when the attendant desires to refill the drawer, it can be pulled forward beyond the confines of the cabinet by the simple act of lifting the drawer enough to disengage the button from the groove. A suitable latch may be provided to prevent the drawer from being pulled entirely out of the unit after it has been moved forward for reloading. The entire unit here described is disposed within the confines of a cabinet having the general configuration of the soda fountain with which it is to be associated. The surfaces above the container drawers or chutes are preferably flat and horizontal so that they can be used to support articles placed on them.

A horizontal shelf or platform is provided below the chutes to support the supply of holders, while the space beneath that platform may be used to store a reserve supply of new containers.

The unit may have a waste disposal mechanism associated therewith, such mechanism being of the type generally used for macerating kitchen refuse and flushing it to the sewage system.

The dispenser unit may be attached to the fountain at any convenient place such as at an end, or in the case of long fountains, dispenser units may be placed along the fountain at points adjacent the separate batteries of syrup dispensers and ice-cream containers.

An object of the invention is to provide a compact and an attractive dispenser unit of the character described.

Other objects and advantages of the invention will be readily apparent from the following description and accompanying drawings wherein:

Fig. 1 is a perspective view of a fragmentary portion of a soda fountain having my container unit attached thereto.

Fig. 2 is a vertical section taken in side elevation and showing details of a single dispenser chute.

Fig. 3 is a fragmentary section on an enlarged scale showing the container stack supporting and restraining mechanism at the lower end of each chute.

Fig. 4 is a perspective view of the shelf for supporting

a bank of chutes, or drawers, one of the drawers being shown in dotted lines.

In the drawings, and particularly referring to Fig. 1, the paper container dispenser unit 10 is shown associated with a soda fountain 11, only a portion of the fountain being shown. That portion comprises a serving counter 12, syrup units 13 and ice cream containers 14. A second unit is shown at 15 interposed between the dispenser unit 10 and the fountain portion 11. Unit 15 may comprise a sink 16 to which water is supplied by a faucet 17. It may also include a motor operated waste disposal unit of a type well-known in the art, for the purpose of macerating the used containers and flushing them to the sewage system. Access to this disposal unit is obtained through an opening 18 provided in the top of unit 15. In practice the unit 15 may be built and supplied integrally with the dispenser unit 10 to form a single structure.

The dispenser unit is provided with several adjacent chutes for paper containers. A vertical section through the dispenser unit and one of the chutes is shown in Fig. 2. The contour of the dispenser unit is made to conform with the general contour of the fountain with which it is to be associated. It is here shown as having a vertical outside wall 19 and a bottom horizontal wall 20.

The container chutes 21, here shown as four in number (Fig. 1), are made in the form of drawers, each having a rectangular cross-section, open at its top and slidably mounted on a flat shelf 22. This shelf is disposed at an angle of approximately twenty-two degrees to the horizontal. The inner end of the shelf is bent upwardly to form a vertically extending wall 23 which limits the inward movement of the sliding drawers 21.

Referring to Fig. 4, it will be noted that the parallel opposite side walls 24 of the shelf 22 extend vertically upward a short distance. These walls serve as guides for the end drawers of the four supported by the shelf. A groove 25 is provided parallel to and adjacent the front edge of shelf 22. Also, a button or depression 26 is provided on the under surface of the bottom wall of each drawer or chute 21 near the front end thereof. This button engages the groove 25 to hold the drawer against being displaced when the drawer is in its normal inward operating position. When the drawer is to be refilled, the attendant need only raise the drawer slightly to disengage the button from the groove, after which the drawer can be pulled forward from the cabinet in a position for refilling. Likewise, all the drawers can be removed from the shelf 22 when the unit is to be cleaned.

The drawer or chute 21, which is one of a series of four in parallel relationship, is disposed at an angle of approximately 22 degrees with the horizontal so that the containers therein will feed by gravity to the discharge end adjacent the attendant, that is, the end opposite the vertical wall 19. This is the least angle at which cups will drop by gravity to the dispensing head without force being applied to the upper end of the stack. In this position the cup dispensing casing conforms to the height limitation of the counter of the fountain and at the same time its surfaces 39 and 40 are available for work surfaces. Also, the discharge ends of the chutes are readily accessible to the attendant.

Preferably a horizontal shelf 26a is provided in the unit below the dispenser chutes. This shelf is so spaced from the bottom of the chutes as to provide space for storing the various sized holders used to support the containers. The space beneath this shelf may be used for storing cartons of new containers or for any other desired purpose.

Fig. 3 shows in detail the structure used to restrain the containers in the chute against axial movement in either direction except that the end container may be withdrawn at will by the attendant using a suitable holder such as is indicated at 27 in Fig. 2. Here it is shown

being moved in the hand of an attendant toward the lowermost container in the chute 21. It will be noted that this container projects beyond the end of the chute and it is highly desirable that the chute be so located that this container can be readily reached by the swinging arm of the attendant.

The structure shown in Fig. 3 is a slight modification of that described and claimed in the co-pending application of Herman Carew, and assigned to the assignee of the present application. In general, it comprises a pair of diametrically opposed latches 28, pivoted as at 29. Each latch has an arm 30 provided with a notched end 31 projecting inwardly toward the nested containers 32 through a slot 33. The notched end 31 of arm 30 is maintained in engagement with the rolled or beaded rims of containers 32 by a leaf spring 34 in the case of the lower latch 28 and by gravity in the case of the upper latch. The upper end of spring 34 is engaged in a notch 35 provided in lower latch 28 between its pivot 29 and the notched end 31 of arm 30. The function of the latches 28, as described fully in the foregoing application, is to restrain them against movement into the chute in the reverse direction when the lowermost container is being removed by the attendant as previously described.

The structure shown in Fig. 3 is mounted on a separate head 36 disposed adjacent the lower end of chute 21. The heads associated with the respective chutes may be of varying size to dispense different sized containers. It should be noted that the under surface 37 of the head projects horizontally outward a short distance. Thus it cooperates with the tapering wall of the adjacent container to hold the tip of the container up to the center line of the stack and keep it in proper alignment for easy removal thereof.

The chutes are preferably made rectangular in cross-section as I have found that this shape offers considerably less resistance to movement downward than chutes having a circular cross-section.

The upper surfaces 39 and 40 of the casing enclosing the unit are made flat and horizontal so that they may support articles placed on them. Also, the front wall of the casing slopes inwardly from the top wall 40 at such an angle that it lies parallel to the back walls of the cup chutes and at a right angle to the horizontal axis of said chutes whereby it is aligned uniformly with the dispensing chute heads which project through it.

While the invention is shown in but one embodiment, it is apparent that other forms might be adopted, all coming within the scope of the following claims.

I claim:

1. For use with a conventional soda fountain having a flat horizontal counter surface, a multiple stack cup dispensing unit comprising a casing having side, bottom, front and top walls, a major portion of said top wall being disposed in a horizontal plane, the overall height of said unit being such that when it is placed adjacent the aforesaid flat horizontal counter surface of the soda fountain the top wall of said unit is no higher than said counter surface, a flat supporting surface disposed beneath and spaced from the horizontal top wall of said casing, said supporting surface extending substantially the full width and breadth of said casing, said surface being supported at an angle of approximately twenty-two degrees with the horizontal, a plurality of cup supporting chutes each having vertical side walls, an end wall and a flat bottom wall and an open top, said chutes being movably supported in parallel relationship on said angularly-disposed supporting surface, each of said chutes constituting a receptacle for a stack of tapered, nested disposable cups to be individually and manually dispensed while the chute remains in position in the casing, a dispensing head disposed at the discharge end of each chute for maintaining the stack of cups therein with the closed end of the cup immediately to be dispensed projecting through an opening in said head beyond the chute and

the head in a position to be grasped and separated from the stack, said front wall of the casing being disposed at such an angle to the top wall of the casing that it lies in a plane parallel to the end wall of the chute, with the dispensing head of each chute projecting outwardly 5 beyond said angularly inclined front wall.

2. Structure according to claim 1 in which the dispensing head is provided with a flange extending horizontally outward from the outer surface of the head beneath the lowermost outwardly projecting cup of the stack and 10 upon which flange said cup rests in alignment with the horizontal axis of the cup stack.

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