Feb. 7, 1950 A. A. PERELMAN 2,496,812

DISPENSER FOR PAPER CUPS AND THE LIKE

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Fig. 4.

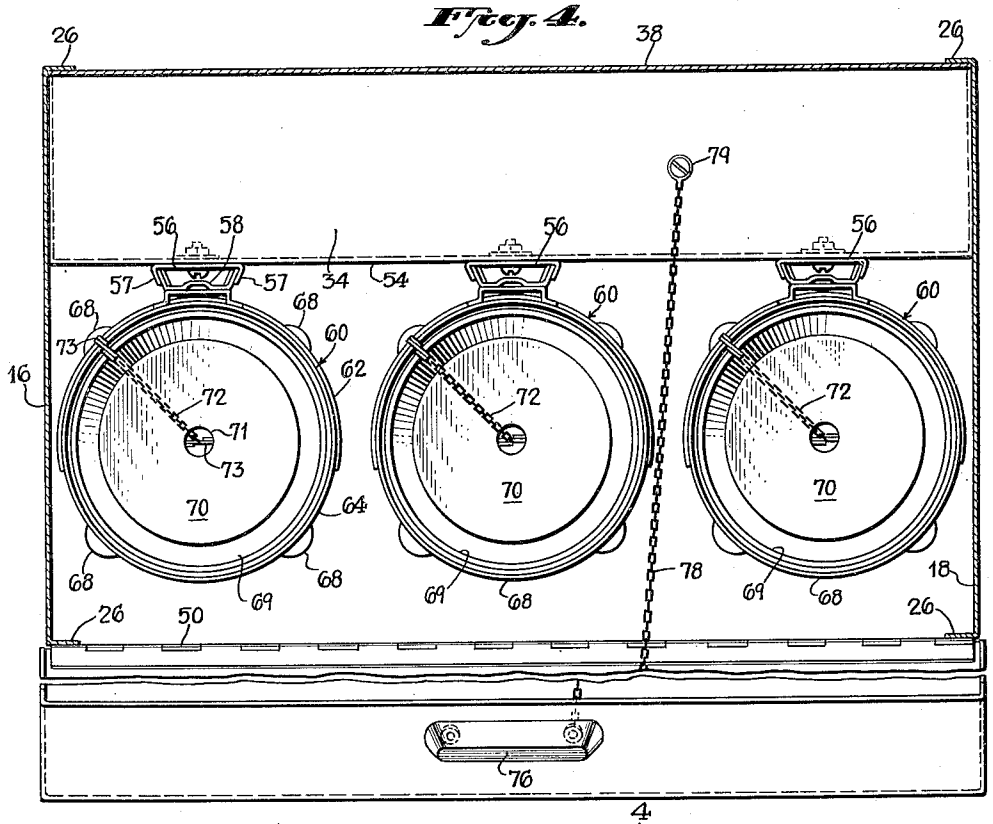


Fig. 1.

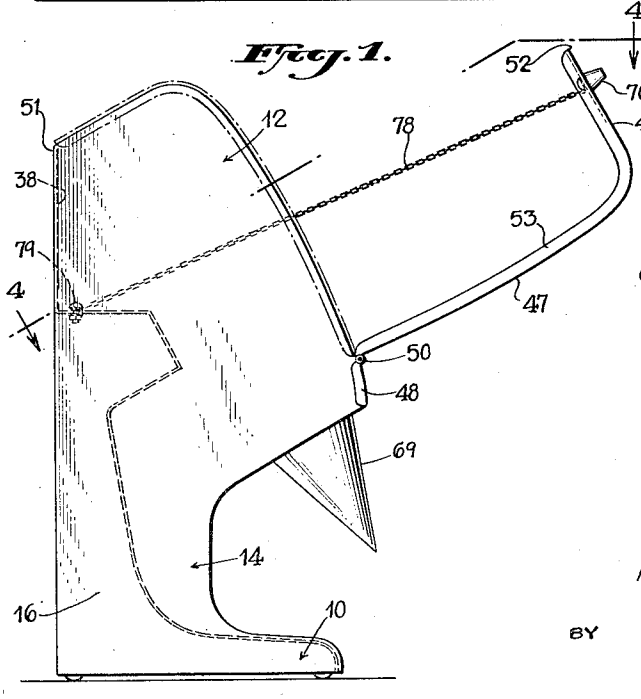
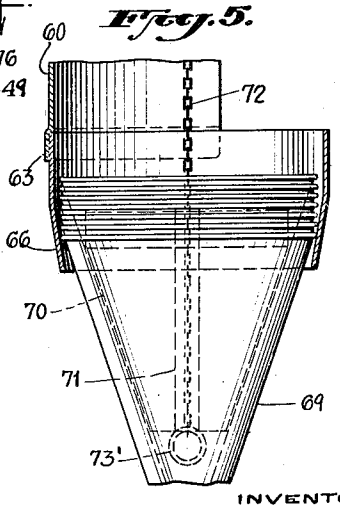


Fig. 5.



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DISPENSER FOR PAPER CUPS AND THE LIKE

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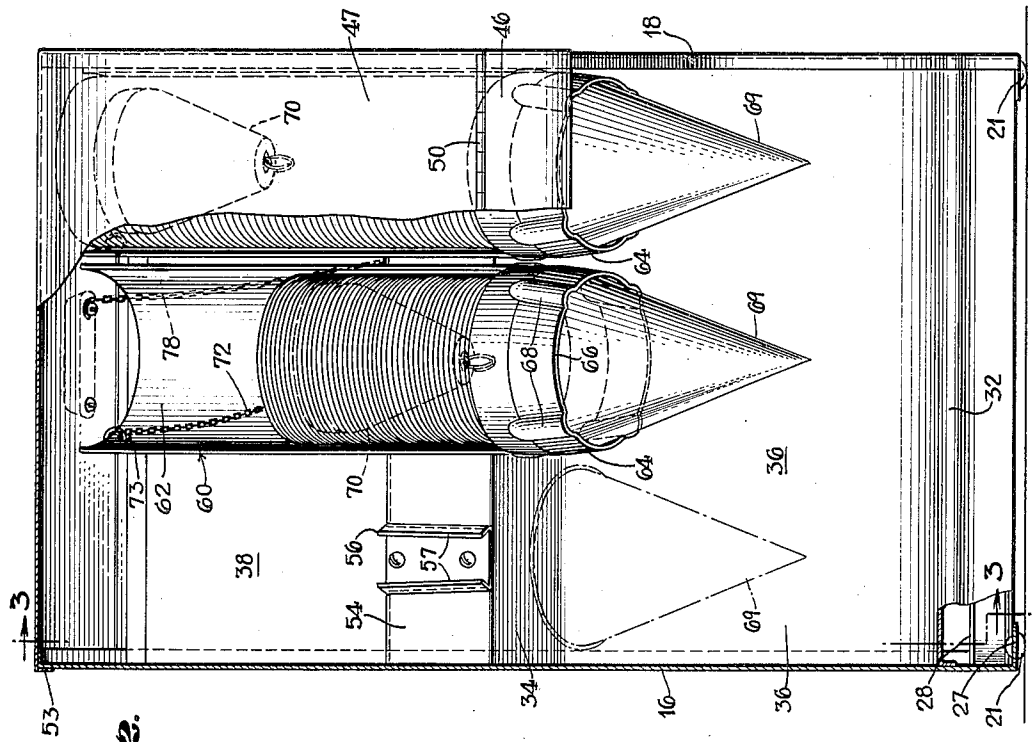

Fig. 2.

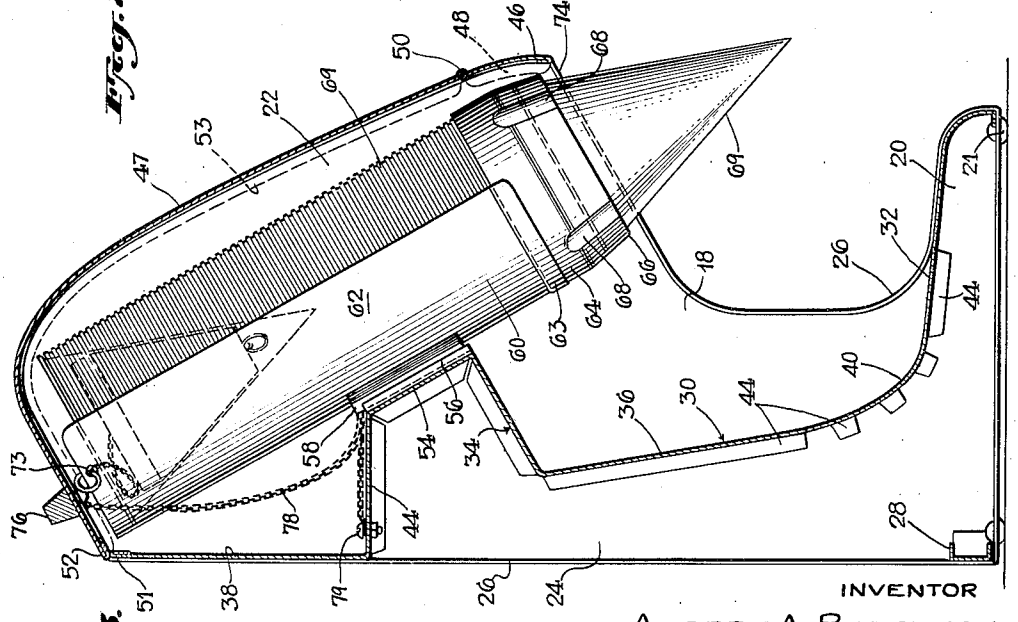

Fig. 3.

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UNITED STATES PATENT OFFICE

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DISPENSER FOR PAPER CUPS AND THE LIKE

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Application October 15, 1947, Serial No 779,896

10 Claims. (Cl. 312—43)

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This invention relates to dispensers and more especially a dispenser useful for holding and dispensing conical paper cups and the like.

More particularly, the invention has to do with a cabinet structure for dispensing paper cups such as drinking cups, soda cups and dishes, the structure being especially intended for counter use in soda fountains. In the form shown, the cups are nested in stacks in inclined chutes mounted within the cabinet whereby dirt and dust are prevented from settling upon and contaminating the cups; only the outer wall of the lowermost cup of each stack, positioned for immediate dispensing, being exposed below the cabinet proper for ready removal.

The cabinet in addition to supporting such cups in position for dispensing is readily reloaded and the operation is such as to provide an indication whenever a stack of cups requires replenishment. The cup holding chutes are readily removable so that chutes of various sizes may be interchanged to accommodate cups of the desired size. Also the cup holding chutes are provided with a constricting discharge throat adapted to hold the stack of cups for removal therefrom of one cup at a time.

The above and other novel features of the invention will appear more fully from the following detailed description when taken in conjunction with the accompanying drawings. It is to be understood, however, that the drawings are employed for purposes of illustration only and are not designed as a definition of the limits of the invention, reference being had for this purpose to the appended claims.

In the drawings wherein like reference characters indicate like parts,

Figure 1 is a side elevation of the dispenser with the loading door in open position;

Figure 2 is a front elevation, with portion thereof cut away and one chute removed;

Figure 3 is a section taken substantially on the line 3—3 of Figure 2;

Figure 4 is a sectional view taken substantially on the line 4—4 of Figure 1, and

Figure 5 is a transverse sectional view of a chute and constricting sleeve.

Referring to Figures 1 and 3, it will be seen that the dispenser is provided generally with a base 10 and an overhanging inclined cabinet 12 connected to the base portion by a column or reduced portion 14. The cabinet is composed of a pair of end members 16, 18, formed of sheet material or the like, each member having a corresponding base portion in the form of a foot or

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toe 20 and a corresponding cabinet end portion 22 connected by a corresponding integral column portion 24. Each of the end members may be formed from stampings and provided with a stiffening flange 26 extending substantially around the entire marginal edge. The flange 26 along the bottom edge is extended in width as is indicated at 27, and rubber feet as at 21 are provided at the forward and rearward ends thereof in order to support the dispenser in a suitable manner as upon a counter.

The two end members are held in spaced relation by a channel member 28 extending between the lower rear corners of the end members, and a formed sheet member 30 having a deck portion 32 and a double bent horizontal bracket-forming part 34 with wall portions 36 and 38 extending on either side of the bracket portion 34. The wall part 36 merges into the deck part 32 by a smoothly curved section 40.

The forward extremity of the deck portion 32 may be arranged in lapped relation with the flange 26 and secured thereto by spot welds or other suitable well-known means. The back wall portion 38 may likewise be secured to the flange 26 along the upward extending rear edges of the end members. The remaining portion of the sheet member 30 preferably provided with integral attaching flanges as at 44, which in turn are preferably secured to the end members 16 and 18 by any suitable means, such as welding, riveting or soldering. The upper or cabinet portion of the end members is connected by a slightly rounded transverse member 46 extending across the front lower portion thereof, the transverse member 46 having end flanges 48 and being secured either through the flanges 48 to the end members 16 and 18 or to the adjacent flanges 26 of the end members. By means of a piano hinge 50 extending across the upper edge of the transverse member 46, a combined front panel 47 and top wall 49 in the form of a door is hingedly secured at 50 to the transverse member 48. The upper edge 52 of the top panel 47 is adapted to reach to and form a closure with the upper edge 51 of the back wall 38. The door is provided with stiffening flanges 53 along its marginal edges.

The structure thus far described provides an elevated open-bottom cabinet, arranged above a recess formed between the column portions 24, and above the deck 32.

The bracket 34 is provided with an inclined face 54 (Figs. 2 and 3) set at an angle of approximately 30°, to which is affixed a number of con-

verging channel members **56** the flanges **57** of which are inwardly bent toward one another and adapted to receive corresponding inclined edge wedge members **58** by means of which individual inclined paper cup retainers or chutes **60** are detachably held in operative position.

Each of the cup containers comprises a semicylindrical guide chute **62** having at the bottom end thereof a sleeve **64** secured in a slight offset **63**. The sleeve is slightly tapered at its lower end as at **66** to provide a constriction against the passage of paper cups therethrough. The constricted portion may be preferably formed by gathering the metal at one or more points around the periphery as at **68** to provide elementally outwardly extending bulges.

It will be seen from the foregoing description that a plurality of nested conical cups **69** may be readily placed within each trough-like chute **60**, the rim diameter of the cups being just slightly greater than the throat or constricted diameter at **66** of the sleeve **64**. Within the uppermost cup is positioned a conical or other suitably shaped weight **70** adapted to place an even load upon the stack of cups and provide sufficient resistance to assure the gripping of a cup for removal, such as by a cup holder; the load however, being insufficient to drive the bottommost cup through the constricted opening **66** of the sleeve **64**. The travel of the weight is suitably limited by a predetermined length of flexible chain **72** secured to the chute as at **73** so that as the stack of cups diminishes to but a few in number, for example, as shown in Fig. 5, the chain will become taut and its weight thereby relieved from the remaining cups: whereupon it is at once apparent, when removing one of the few remaining cups, that the stack needs replenishing. The chain may extend through a central hole **71** in the weight and be provided with a ring **73'**.

It will be seen that with the chute arranged at an approximate angle of 30° with the constricting end immediately behind the transverse member **46**, the lower conical portion of the lowermost cup will be exposed for convenient grasping thereof. Upon gripping the exposed cup end, the cup may be drawn through the constricted opening by a light pull. The rim of the cup being formed of flexible material such as paper, readily buckles into one or more of the bulges **68** to permit the cup rim to momentarily reduce its diameter and thereby be removed through the sleeve constriction.

The top portion of the door **52** may be provided with a suitable handle **76**, and in order to limit its opening movement, any suitable means such as a chain **78** extending from beneath the handle to a point **79** at the rear of the shelf **34** may be provided.

From the arrangement thus described, it will be apparent that the cabinet structure is such as to protect the cups stacked therewithin from dirt and contamination, the only exposed portion of the stack of cups in any chute being the outside surface and lower portion of the lowermost cup awaiting removal from the dispenser. At the same time, ready access is provided for refilling of the dispenser. By providing a plurality of chutes, the continuity of service is assured since, as soon as one chute appears empty, as will be readily apparent to the operator by reason of the feel resulting from the relief of the weight **70**, the other chutes may be employed while the empty chute is refilled directly or detached and replaced by a filled chute.

The construction is such that through the combination of the end members with the formed member extending therebetween, which members may be sheet metal, a rigid and inexpensive dispensing device of adequate strength and pleasing appearance is provided.

While a single form of the invention has been illustrated and described, it is to be understood that the invention is not limited thereto, but may be embodied in various modified forms. As many changes in construction and arrangement of parts may be made without departing from the spirit of the invention, as will be apparent to those skilled in the art, reference will be had to the appended claims for a definition of the limits of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. In a dispenser for conical paper cups and the like, the combination of a cabinet having a closed top and side walls and an undercut portion defining an open bottom, said cabinet being provided with a support for a chute for holding a stack of said cups, an inclined trough-like chute provided at its lower end with a discharge throat constructed and arranged so as to retain a stack of nested cups contained in said chute from freely sliding through the sleeve and to release individual successive cups of said stack when pulled downwardly therefrom, cooperating engaging portions carried respectively on said support and chute constructed and arranged to individually releasably hold said chute in inclined position with the lowermost cup partly extending through said open bottom.

2. In a dispenser for conical paper cups and the like, an inclined chute for holding a stack of cups to be dispensed, said chute being provided at its lower end with a throat having means to retain cups contained in said chute from sliding through said throat, a weight adapted for placement within a cup positioned in said chute, and means for limiting the movement of said weight downwardly in said chute, said chute and weight being so constructed and arranged that when said weight is resting on said stack of cups in said chute said throat releasably holds said cups in position while permitting withdrawal of the lowermost cup and when the uppermost cup of said stack is below the lowermost position of said weight said uppermost cup lies in close proximity to the upper end of said throat.

3. In a dispenser for conical paper cups and the like, a frame, a plurality of inclined trough-like chutes removably supported thereon and each providing at its lower end a constraining sleeve portion having a tapered reduced diameter portion adapted to retain cups contained in said chute from sliding through the sleeve, the reduced diameter portions each being slightly less than the diameter of the rim of the cups adapted to be retained, a cabinet enclosure secured to said frame and providing a hood enclosing said chutes and having one bottom opening disposed adjacent the lower end of said tapered sleeve portions, to thereby provide for the passage therethrough of the lower end of the lowermost cups of stacks of cups held in said chutes, said cabinet having a panel disposed over the trough-like portions of said chutes and movable to open position for loading said chutes.

4. In a dispenser for conical paper cups and the like, a frame comprising end members and a

supporting bracket, an inclined chute of semicylindrical shape, means for detachably supporting said chute on said bracket, a constraining sleeve secured to the lower end of said chute having a tapered reduced diameter portion adapted to retain cups contained in said chute from sliding through the sleeve, the reduced diameter portion being slightly less than the diameter of the rim of the cups adapted to be retained, and a radially outwardly extending bulge in said reduced diameter portion into which a section of the rim of a cup being removed through said reduced diameter portion may expand and temporarily buckle slightly to permit reduction in diameter of the remaining rim to clear said reduced diameter portion.

5. In a dispenser for conical paper cups and the like, a pair of end walls, a member connecting said end walls and having a bracket portion extending from one end wall to the other, an inclined chute detachably secured to said bracket portion for receiving a plurality of nested paper cups, a constricting sleeve at the lower end of said chute through which the bottommost cup in said chute may be removed, a housing secured to said end walls and cooperating therewith to enclose said chute, and said end walls having a foot-like extension at their respective lower ends to form a base.

6. In a dispenser for conical paper cups and the like, a pair of end walls, a member disposed between said end walls and providing a transversely extending portion, a plurality of inclined chutes secured to said portion for receiving a plurality of stacks of nested paper cups, a like plurality of constricting sleeves at the lower ends of said respective chutes through which the bottommost cups in said respective chutes may be removed, a like plurality of weights adapted to be received in the uppermost cup in said respective chutes, and means other than said sleeves for limiting the downward travel of said weights.

7. In a dispenser for conical paper cups and the like, a pair of spaced end members each having a footlike forward extending base portion, and an upward forward extending cabinet end wall portion connected by an intermediate column portion, the latter defining a recess beneath the cabinet portion, a sheet metal spacing member formed to provide a lower deck portion, a recess back wall, a double bent bracket portion and an upper back wall for said cabinet, said spacing member having its side edges in abutting relation with said end members and being secured thereto along their length, a transverse member connecting the end members at the forward lower end of the cabinet portion, a hinge on the upper edge of said transverse member, and a door-like enclosure member connected to said hinge and formed to correspond with the remaining upper edge contour of the cabinet portion of said end members to form a closure therefor, and a dispensing chute secured to said bracket and inclined forwardly and downwardly, said chute having a discharge opening for holding a paper cup immediately to the rear of said transverse member, to project the conical bottom portion of a cup into the recess formed above said deck portion and forward of said recess back wall.

8. In a dispenser for conical paper cups and the like, the combination of a cabinet having a closed top and side walls and an undercut portion defining an open bottom, said cabinet being provided with a support for a plurality of chutes for holding stacks of said cups, a plurality of inclined trough-like chutes each provided at its lower end with a constraining sleeve having a tapered reduced diameter portion adapted to retain a stack of nested cups contained in said chute from freely sliding through the sleeve, the reduced diameter portion being slightly less than the diameter of the rim of the cups adapted to be retained, cooperating engaging portions carried respectively on said support and chutes constructed and arranged to individually releasably hold said chutes in inclined position with the lowermost cup partly extending through said open bottom.

9. In a dispenser for conical paper cups and the like, an inclined chute for holding a stack of cups to be dispensed, a constraining sleeve positioned at the lower end of said chute having a tapered reduced diameter portion adapted to retain cups contained in said chute from sliding through the sleeve, the reduced diameter portion being slightly less than the diameter of the rim of the cups adapted to be retained, a weight adapted for placement within a cup positioned in said chute, and means for limiting the movement of said weight downwardly in said chute, said chute and weight being so constructed and arranged that when said weight is resting on said stack of cups in said chute said reduced diameter releasably holds said cups in position while permitting withdrawal of the lowermost cup and when the uppermost cup of said stack is below the lowermost position of said weight it lies in close proximity to the upper end of said tapered portion.

10. In a dispenser for conical paper cups and the like, an inclined chute for holding a stack of cups to be dispensed, said chute being provided at its lower end with a throat having means to retain cups contained in said chute from sliding through said throat, means for adding an increased downward force urging said stack of cups disposed in said chute against said throat for a part only of the downward travel of the upper end of said stack, whereby when said stack is depleted to a predetermined number of cups it is relieved of said increased downward pressure against said throat, said chute and force increasing means being so constructed and arranged that when said increased force is exerted on said stack of cups in said chute said throat releasably holds said cups in position while permitting withdrawal of the lowermost cup.

ALBERT A. PERELMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
1,037,553	Shea	Sept. 3, 1912
1,694,157	Barbieri	Dec. 4, 1928
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Certificate of Correction

Patent No. 2,496,812 February 7, 1950

ALBERT A. PERELMAN

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows:

Column 6, line 69, list of references cited, for the patent number "1,037,553" read *1,037,552*;

and that the said Letters Patent should be read as corrected above, so that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 7th day of November, A. D. 1950.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.