

July 2, 1940.

W. J. EMERSON

2,206,838

DISPENSING

Filed April 15, 1940

2 Sheets-Sheet 1

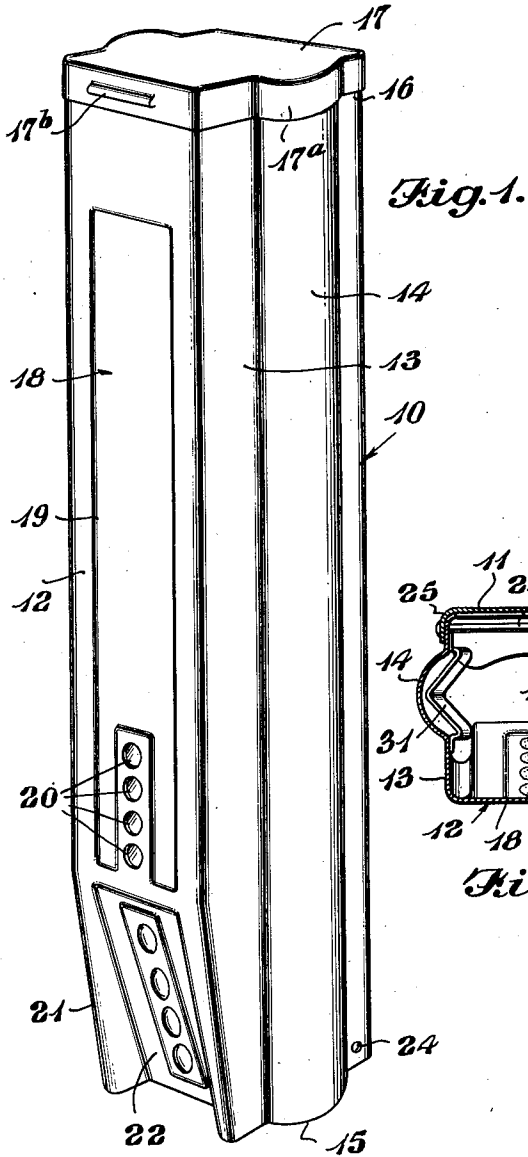


Fig. 1.

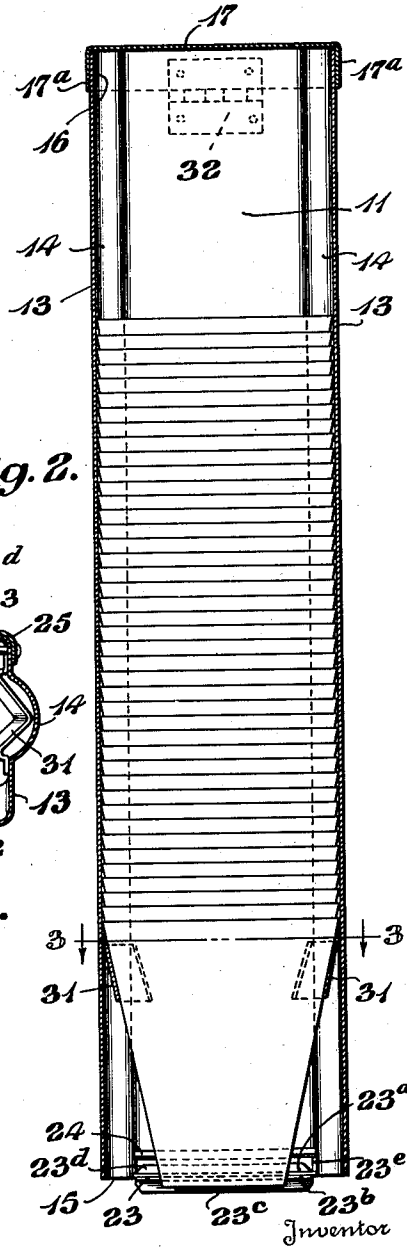


Fig. 2.

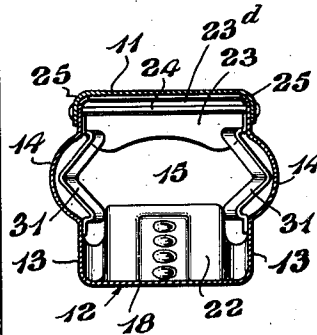


Fig. 3.

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July 2, 1940.

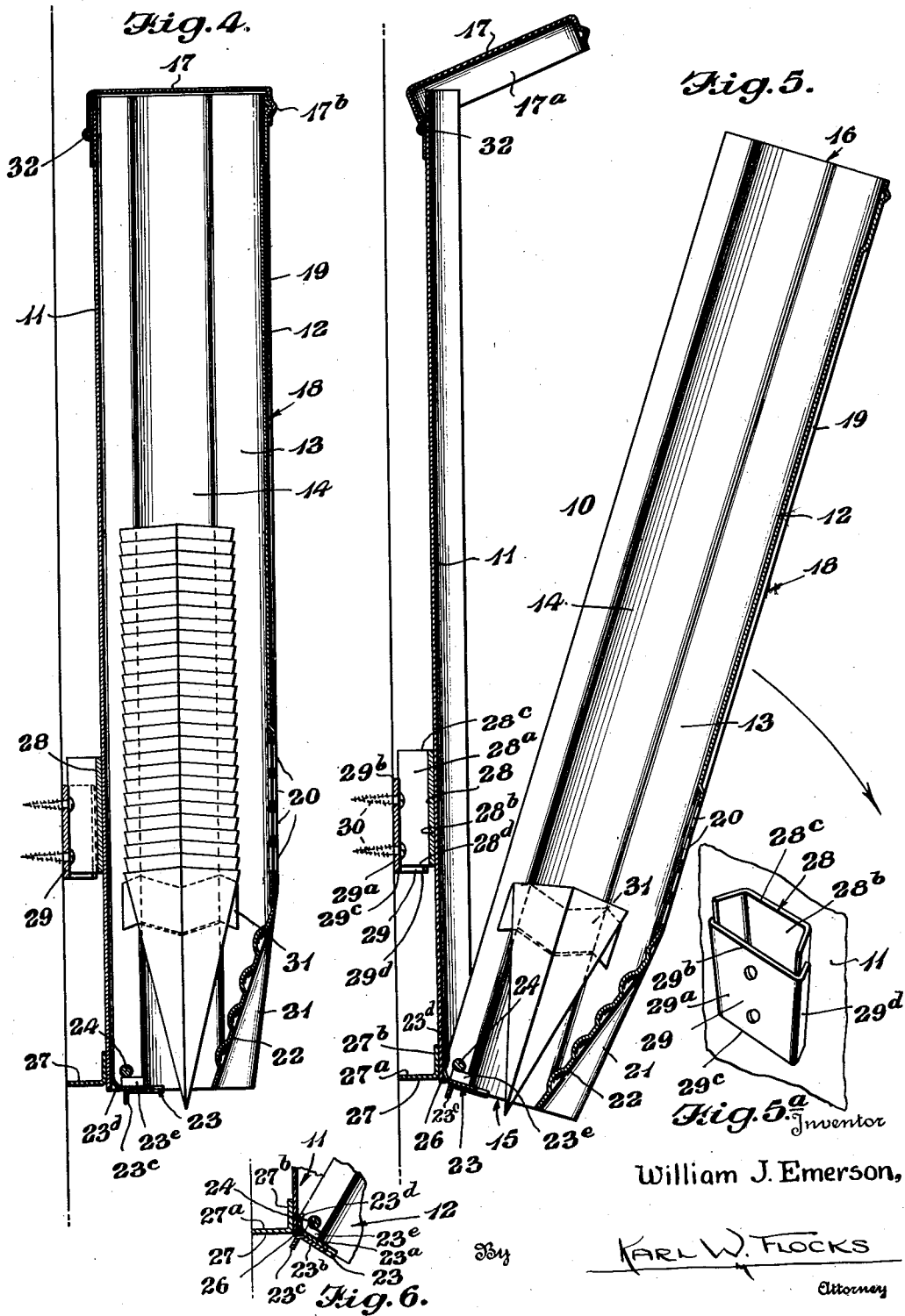
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UNITED STATES PATENT OFFICE

2,206,838

DISPENSING

William J. Emerson, Kensington, Conn., assignor
to Connecticut Paper Products, Incorporated,
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Application April 15, 1940, Serial No. 329,807

8 Claims. (Cl. 312—43)

This invention relates to paper cup dispensing and more particularly to the dispensing of stacked paper cups one at a time as required.

Prior to the instant invention paper cups have been dispensed from stack holders but oftentimes the user obtained two cups when only one was required and frequently the user had difficulty in detaching a single cup from the remainder of the stack. Other prior cup dispenser constructions are expensive and difficult to manufacture and require much attention and servicing in endeavor to keep the dispenser in operation.

It is an object of the instant invention to provide a novel paper cup dispenser which is simple to fabricate, inexpensive to manufacture, and which effects the dispensing of one cup at a time regularly without jamming the stacked cups.

It is a further object of the instant invention to teach a novel method of dispensing paper cups one at a time from a stack.

Other objects and the nature and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

Fig. 1 discloses a view in perspective of a paper cup dispenser in accordance with the invention;

Fig. 2 is a longitudinal section of the dispenser shown in Fig. 1 showing the paper cups in stacked relation within the dispenser;

Fig. 3 is a horizontal section taken along line 3—3 of Fig. 2 and looking in the direction of the arrows, the paper cups having been removed;

Fig. 4 is a longitudinal sectional view taken at right angles to the view shown in Fig. 2;

Fig. 5 is a view similar to Fig. 4 but with the dispenser in open position ready for loading or reloading;

Fig. 5^a is a perspective of the supporting means for the device; and

Fig. 6 is a fragmentary sectional detail of the hinged portion assembly of the dispenser showing the front element in fully open position with the flanged stop thereon engaging the lower portion of the back element.

Referring to the drawings, the cup dispenser 10 comprises an elongated tubular body portion including a generally flat back element 11 and front element 12 which is generally U-shaped in section, the sides 13 of the dispenser 10 forming the legs of the U being bellied as at 14 along their length in order that they perform a function which will be described later in detail. The dispenser 10 is generally open at its bottom 15 which is the dispensing end of the device and closed at its top 16 by the hinged lid 17 which

serves to hold the front element 12 to the rear element 11 as well as to provide access to the device for loading purposes and to keep dust from falling on the stacked cups.

In order that the device may be relatively strong, and pleasing in appearance, occupy a minimum of space and yet be inexpensive to manufacture and readily fabricated, the face 18 of the front element 12 is embossed as at 19 and belled as at 14. In order that the one in charge of the device may be apprised of the necessity of replenishing the cups therein, the face 18 is provided with windows 20.

The lower portion 21 of the front element 12 has an inwardly extending portion 22 which is embossed for strength and appearance and serves to provide a frictional grip for the cup after it has been detached from the stack within the dispensing device. The inwardly extending portion 22 cooperates with the element 23 which extends horizontally from the lower portion of the two sides 13 as shown in Figs. 2, 4 and 5 to effect the frictional gripping action mentioned. The element 23 is located directly below the pintle 24 which secures the lower portions of the sides 13 of the front element 12 to the lowermost portions of the flanged sides 25 of the rear element 11. The element 23 comprises an upper piece 23a and a lower piece 23b which lower piece has a downwardly depending flange 23c which serves as a stop when the hinged lid 17 is opened and the front element 12 is swung forwardly as shown in Fig. 5. When the front element 12 is swung forwardly to its fully open position, the flange 23c engages the lowermost portion 26 of the rear element 11. The piece 23b may be welded to the piece 23c, which latter piece may also have an upwardly extending flange 23d which may be curved so as not to interfere with the rear element 11 when the front element 12 is swung forwardly, it being remembered that the element 23 is secured in fixed relation to the front element 12. The element 23 has upwardly extending ears 23e which may be welded or otherwise secured to the lower portion of the sides 13 adjacent their free edges.

In order that the dispenser 10 may be readily associated with a vertical wall, or other wall, the element 27 of L-shaped section comprising a leg 27a and a leg 27b is secured to the exterior of the lowermost portion 26 of the rear element 11 by welding or otherwise securing the leg 27b to the rear element 11 as shown in Figs. 4 and 5. Intermediate the top and bottom of the rear element 11 and on its exterior is secured as by weld-

ing a piece of sheet metal 28 which is generally U-shaped in section, having legs 28a extending away from and outwardly relative to the base 28b, which base 28b is wider at its top 28c than at its bottom 28d. An independent socket element 29 adapted to be associated with the wall by screws 30 or by other suitable fastening elements is of generally U-shaped section, comprises a base 29a which is wider at its top 29b than at its bottom 29c and has legs 29d which extend away from the base 29a and inwardly, whereby the dispenser 10 may be associated with a wall to which the element 29 has been first secured by applying the dispenser 10 to the wall directly above the said element 29 and pulling downwardly to bring the element 28 into registry with the element 29 to effect a frictional association, the element 27 cooperating as a spacer and to give stability to the association of the dispenser 10 with the wall to which it is to be secured.

Located within the interior of the dispenser 10 and secured to the sides 13 of the front element 12, as by welding, are the cam elements 31 which may be formed of sheet metal into a V-shaped section with the V sloping inwardly and downwardly. The exterior of the V's are located within the bellied portions 14 of the sides 13 and the open ends of the V's are associated with the sides 13 adjacent the edges of the bellied portions 14.

The lid 17, which is dish-shaped, including the flange 17a which extends entirely thereabout, is secured to the exterior of the rear element 11 directly below its top by the hinge 32 and serves to lock the front element 12 to the rear element 11 when the lid is in closed position with the female embossed portion 17b cooperating with the male embossed portion 12a on the upper portion of the front element 12. The portions of the sides 13 of the front element 12 which are adjacent their free edges are normally bulged into a very flat U-shaped section with the edges themselves extending inwardly so that they readily cooperate and fit into the interior of the flanges 25 of the rear element 11 when the front element 12 is moved toward the rear element 11, whereby the said bulges effect a spring and locking action when they are moved entirely within the said flanges 25 so as to hold the front element 12 to the rear element 11 even before the lid 17 is rotated to its closed position.

In the operation of the device, after the same has been associated with a wall, as already described, the lid 17 is pushed upwardly with the thumb of the operator engaging the projecting portion 17b to unlatch the lid which is then swung rearwardly. The front element 12 is then securely gripped at or near its upper portion and pulled forwardly with hinge action taking place about the pintle 24 until the flange 23b engages the lowermost portion 26 of the rear element 11. A stack of paper cups as shown in the drawings is then placed within the front element 12 with the side edges of the cups in alignment with the bellied portions 14 and with the lowermost cup of the stack even with or slightly projecting from the bottom of the dispenser 10. The front element 12 is then swung toward the rear element 11 and the free edges of the sides 13 sprung within the flanges 25 of the rear element 11. The dispenser is then locked by swinging the lid 17 forwardly to its closed position, snapping the female depression 17b in locking relation to the projection 12a.

The device is now loaded and the dispensing of cups takes place when the user grasps the bottom

of the lowermost cup of the stack and pulls thereon. The first action that takes place is that the lowermost cup is forced between the V-shaped cam elements 31 and the side edges of the lowermost cup are caused to move toward each other so that the middle portion of the cup spreads out and detaches itself from the remainder of the stack, though sufficient friction exists between the bottom cup and the one thereabove to bring the remainder of the stack down so that the next to the bottom cup occupies the position previously occupied by the bottom cup. Further pulling on the bottom cup releases it from the lowermost portions of the cam elements 31 and the sides of the bottom cup again spring outwardly to engage the bellied portions 14 of the sides 13 of the front element 12, and the middle portions of the cup engage the inwardly depressed portion 22 and the rear element 23, permitting the user to now grasp the lowermost cup by its sides before entirely removing it from the dispenser for drinking purposes or otherwise.

It is to be understood that it is within the spirit of the invention that all the parts of the device be made of stampings which may or may not be coated interiorly or exteriorly or both for ornamental or wearing purposes or for sanitary reasons.

It will be obvious to those skilled in the art that various changes may be made in this device without departing from the spirit of the invention and therefore the invention is not limited to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. In a paper cup dispenser, a rear element, a front element, and a lid, said rear element comprising an elongated base and a pair of extending flanges therefrom, said front element being generally U-shaped in transverse section with the legs of the U being bulged or bellied throughout their length and with the edges of the legs being relatively slightly bulged and inwardly turned whereby they may cooperate with the said flanges to effect a spring-like locking action, said rear element being hinged to the legs of said front element at their respective bottoms, said lid being hinged to said rear element and being dish-shaped with a circumferential depending flange corresponding to the shape of the horizontal section of the front element and rear element when in closed position, and cam means located within the front element whereby the bottom cup of a stack may be released from the remainder of the stack, said dispenser being open at its bottom for dispensing purposes.

2. Paper cup dispensing apparatus comprising, an elongated tube, a lid for said tube at its top, the sides of said tube being bulged or bellied throughout their length to accommodate the sides of a stack of cups in nested relation within said tube, the bottom of said tube being pinched to frictionally hold a cup after it has been detached from the stack therein.

3. A paper cup dispenser comprising an elongated tubular body portion adapted to hold a stack of cups in nested relation, a combined cam and stop means located within said body portion and adjacent the bottom thereof to support said stack and to facilitate the removal of the bottom cup from the remainder of the stack, said means being generally V-shaped in section with the axis of the V inclined downwardly and inwardly.

4. In a paper cup dispenser, a rear element, a

front element, and a lid, said rear element comprising an elongated base and a pair of extending flanges therefrom, said front element being generally U-shaped in transverse section with the legs of the U being bulged or bellied throughout their length and with the edges of the legs being inwardly turned whereby they may cooperate with the said flanges to effect a spring-like locking action; said rear element being hinged to the legs of said front element at their respective bottoms, said lid being hinged to said rear element and being dish-shaped with a circumferential depending flange corresponding to the shape of the horizontal section of the front element and rear element when in closed position, and cam means located within the front element whereby the bottom cup of a stack may be released from the remainder of the stack, said dispenser being open at its bottom for dispensing purposes.

5. In a paper cup dispenser, a rear element, a front element, and a lid, said rear element comprising an elongated base and a pair of extending flanges therefrom, said front element being generally U-shaped in transverse section with the legs of the U being bulged or bellied substantially throughout their length, said rear element being hinged to the legs of said front element at their respective bottoms, said lid being hinged to said rear element and being dish-shaped with a circumferential depending flange corresponding to the shape of the horizontal section of the front element and rear element when in closed position, and cam means located within the front element whereby the bottom cup of a stack may be released from the remainder of the stack, said dispenser being open at its bottom for dispensing purposes.

6. A paper cup dispenser comprising an elongated tubular body portion having side walls bellied substantially throughout their length, V-

shaped combined releasing and stop means for supporting a stack of cups within said body portion and aiding in releasing the bottom cup from the remainder of the stack, said V-shaped means extending into the bellied configuration.

7. In a paper cup dispenser, a rear element, a front element, and a lid, said rear element comprising an elongated base and a pair of extending flanges therefrom, said front element being generally U-shaped in transverse section with the legs of the U being bulged or bellied substantially throughout their length, said rear element being hinged to the legs of said front element at their respective bottoms, said lid being hinged to said rear element and being dish-shaped with a circumferential depending flange corresponding to the shape of the horizontal section of the front element and rear element when in closed position, and cam means located within the front element whereby the bottom cup of a stack may be released from the remainder of the stack, said dispenser being open at its bottom for dispensing purposes.

8. A cup dispenser comprising an elongated hollow body adapted to house a stack of cups, said body portion having at least one of its sides bellied outwardly in cross-section, said bellied configuration extending substantially throughout the length of said side, said stack of cups being of a width to extend into said bellied configuration, a combined cam releasing and stop means for supporting the said stack of cups within said body portion and aiding in releasing the first cup to be dispensed from the remainder of the stack, said combined means being located adjacent said bellied configuration and serving to draw the side of the cup being dispensed away therefrom as the said cup is being pulled from the dispenser by the user.

WILLIAM J. EMERSON.

DISCLAIMER

2,206,838.—*William J. Emerson*, Kensington, Conn. DISPENSING. Patent dated July 2, 1940. Disclaimer filed June 19, 1941, by the assignee, *Connecticut Paper Products Inc.*

Hereby enters this disclaimer of claim 3.

[*Official Gazette July 8, 1941.*]