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DISPENSER FOR ELONGATED ARTICLES

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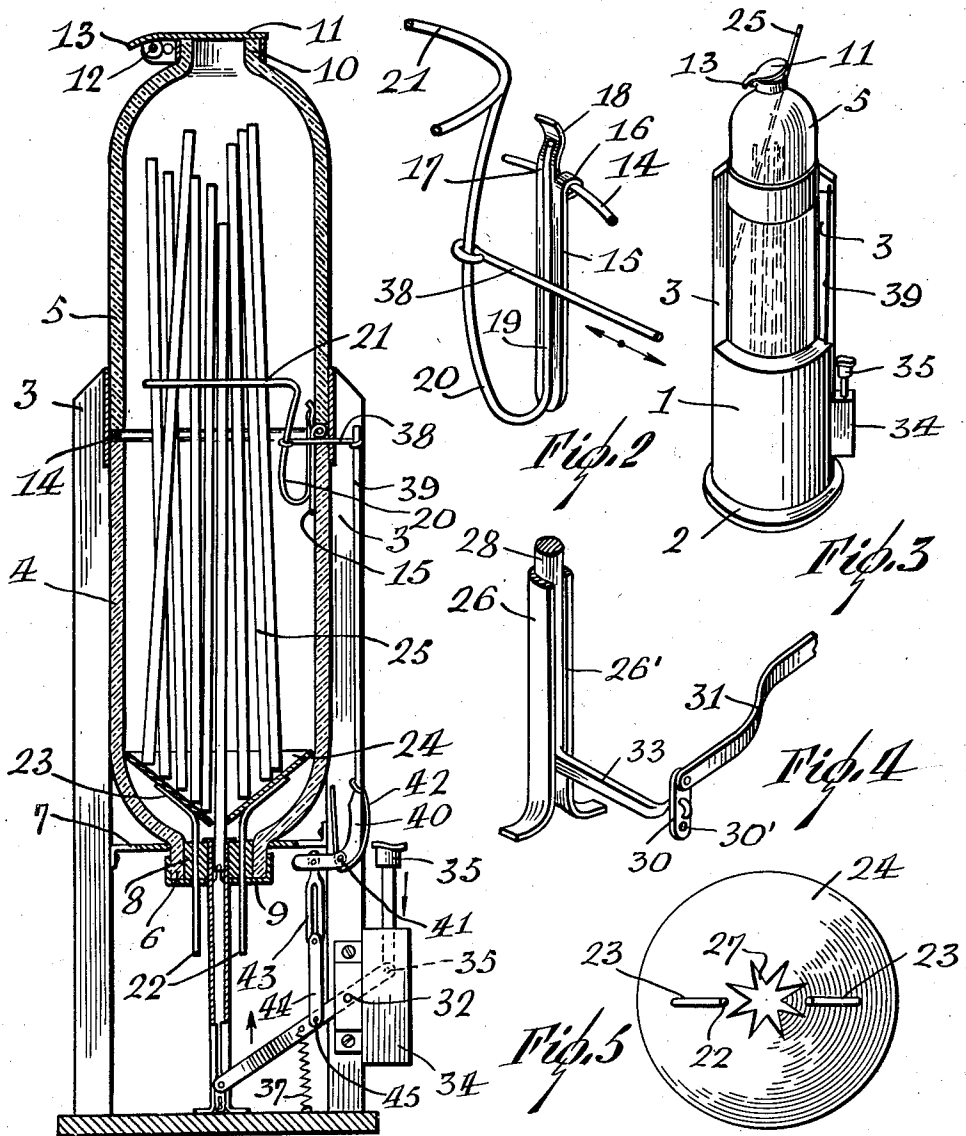


Fig. 1

Fig. 6

Fig. 2

Fig. 3

Fig. 4

Fig. 5

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## DISPENSER FOR ELONGATED ARTICLES

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4 Claims. (Cl. 312-78)

The present invention pertains to a novel dispenser for straws or other articles of a similar shape. In connection with the dispensing of straws, the principal object of the invention is to provide a mechanical device for the purpose described and one that is sanitary, as required for restaurants or soda fountain use.

The straw dispensers now in common use are such as to expose all the draws simultaneously. Consequently the customer, in drawing a straw, can hardly avoid touching others, and all the straws are exposed to the air and to any sneezing or coughing that might occur in the vicinity. The device of this invention, on the other hand dispenses only one straw at a time, and this is done by mechanical operation, while all the other straws remain protected in the receptacle.

To function in this manner, the device comprises a receptacle having a comparatively small open top normally covered by a self-closing lid. One straw at a time is permitted to drop into a tube and is ejected therefrom by a manually operated plunger. The straw thus ejected lifts the lid and extends partly through the open top. The lid, tending to close under its own weight or through a spring, retains the straw against the edge of the top opening until the straw is withdrawn by the user.

Another spring retracts the plunger after this operation has been completed. Associated with this spring, or the mechanism operated thereby, is another mechanism terminating in a ring enclosing the straws within the container and adapted to agitate the straws as the plunger is retracted. Such operation causes another straw to gravitate to the tube where it is in position to be discharged in the manner described when the plunger is again operated.

The invention is fully disclosed by way of example in the following description and the accompanying drawing, in which:

Figure 1 is a vertical section of the device;  
Figure 2 is a perspective view of the vibrator;  
Figure 3 is a perspective view of the device;  
Figure 4 is a detail perspective view of the discharge mechanism;

Figure 5 is a bottom plan view of the supporting cone, and

Figure 6 is a detail elevation of the discharge plunger.

Reference to these views will now be made by use of like characters that are employed to designate corresponding parts throughout.

In Figures 1 and 3 the device is shown as comprising a cylindrical lower base portion 1 resting

on a floor member 2. A number of spaced uprights 3 extend upwardly from the upper end of the base 1.

Within the uprights is mounted the principal portion of the container consisting of a pair of tubular sections 4 and 5 of substantially identical shape and reversed relatively to each other, with their larger ends coinciding with and abutting each other so clearly illustrated in Figure 1. The lower end 6 of the lower section 4 is received in a suitable bracket 7 supported by the uprights 3. The end 6 is closed by a stopper 8 which is held by a cap 9. The reduced end 10 of the upper section 5 is closed by a cap 11 hinged at 12 and having a finger 13 extending beyond the hinge. The cap tends to close under its own weight or by a spring at the hinge and can be lifted manually by pressing on the finger 13.

Between the tubular sections 4 and 5 is mounted a ring 14 as shown more clearly in Figure 2. From the ring is suspended a strip 15, the upper end of which is split into sections 16 and 17, the former being coiled around the ring 14 and the latter being bent at 18 against the upper section 5. The bent end exerts spring pressure against the section 5, and in conjunction with an opposite upright 3, holds this section to the lower section 4, the latter being securely supported by the bracket 7 and uprights 3 as previously described. A wire 19 is soldered along the strip 15 and is bent or bowed upwardly at 20 from its lower end and finally formed with or secured to a horizontal ring 21 for a purpose that will presently appear.

In the stopper 8 are mounted two or more brackets 22 with outwardly flared upper ends 23 in the bottom of the lower section 4. In these ends is seated an inverted conical support 24 for a number of straws 25 contained in the sections 4, 5 and encircled by the ring 21.

On the base 2 is mounted a tube 26 extending through the stopper 8 and split for convenience of assembly if desired. The apex of the conical member 24 is apertured at 27 in line with the tube to permit one straw at a time to drop into the upper end of the tube. The tube contains a plunger 28 having its upper end reduced at 29 to fit into the lower end of a straw.

A lever 31 is pivoted at 32 in the base 1 and has its inner end pivoted to small adjustable link 30 from which extends a link 33 hooked in one of the holes 30' through a slot 26' in tube 26 and fixed to the reduced lower end of plunger 28. The outer end of lever 31 extends beyond the pivot point 32 and beyond the cylinder 1 and is

preferably enclosed in a housing 34. A push button 35 is mounted to slide vertically through the upper end of the housing 34 and is pivoted at 35 to the outer end of the lever 31. The lever is normally drawn to the position shown in Figure 1 by an expanded spring 37 extending from the base 2 to the lever at a point inward of its fulcrum 32. It is now evident that, when the push button 35 is depressed, the plunger 28 is caused to enter the lower end of a straw 25 that has gravitated into the tube 26 and to lift the straw. The latter is lifted sufficiently to pass through the upper reduced end 10 of section 5 and lift the cover 11, or the cover may be manually lifted by pressing on the finger 13. Thereafter, the weight of the cover retains the straw in its elevated and partly exposed position, as illustrated in Figure 3.

A link 38 is extended laterally from the bow 20 and between the sections 4, 5. From this link is suspended a vertical link 39 having a curved lower end 40 pivotally attached at 41 to the fixed structure. A wire spring 42 coiled around the pivot and the curved end 40 normally retains the link 39 in the position illustrated in Figure 1.

A slotted link 43 is suspended from the curved end 40, while still another link 40 has one end mounted in the slot of link 43 and the other end pivotally attached at 45 to the lever 31.

In the operation of this portion of the device, it will be seen that there is no action thereof when the push button 35 is depressed, the link 44 merely sliding idly in the link 33. However, when the lever 31 is returned by the spring 37 to its lower or idle position, the link 44 pulls downwardly on link 33, swinging the link 39 on its pivot 41 and moving the link 38, whereupon the bow 20 and ring 21 are shaken or vibrated. This action occurring after the discharge of the straw through the end 10, causes another straw to be moved into the opening 27 and tube 26 in position for the next delivery. The opening 27 may be star-shaped as in Figure 5 or of any other desired or suitable configuration. The device is refilled on lifting the upper section 5 which is held only by the spring action of the bend 18 as previously set forth.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention, as indicated by the appended claims.

What I claim is:

1. A dispenser of the character described com-

prising a receptacle having an inverted conical bottom and an open top, said bottom having an opening in its center, a vertical tube below said opening and adapted to receive articles from said opening, a plunger slidable in said tube and adapted to push an article from said tube into said open top, means for actuating said plunger, a horizontal ring adapted to enclose articles mounted vertically in said receptacle, and means adapted to vibrate said ring horizontally and operatively connected to the first named means.

2. A dispenser of the character described comprising a receptacle having an inverted conical bottom and an open top, said bottom having an opening in its center, a vertical tube below said opening and adapted to receive articles from said opening, a plunger slidable in said tube and adapted to push an article from said tube into said open top, means for actuating said plunger, a horizontal ring adapted to enclose articles mounted vertically in said receptacle, means adapted to vibrate said ring horizontally, and a spring adapted to return said plunger to retracted or idle position and connected to the second named means to operate the same.

3. A dispenser of the character described comprising a receptacle having an inverted conical bottom and an open top, said bottom having a toothed opening in its center, a vertical tube below said opening and adapted to receive articles from said opening, a plunger slidable in said tube and adapted to push an article from said tube into said open top, means for actuating said plunger, means adapted to agitate articles in said receptacle, and a spring adapted to return said plunger to retracted or idle position and connected to the second named means to operate the same.

4. A dispenser of the character described comprising a receptacle having an inverted conical bottom and an open top, said bottom having a toothed opening in its center, a vertical tube below said opening and adapted to receive articles from said opening, a plunger slidable in said tube and adapted to push an article from said tube into said open top, means for actuating said plunger, means adapted to agitate articles in said receptacle, and a spring adapted to return said plunger to retracted or idle position and connected to the second named means to operate the same, said plunger being reduced at its upper end.

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