Jan. 22, 1929. 1,699,608

G. S. COOKE

DISPENSING MACHINE

Filed March 10, 1928 2 Sheets-Sheet 1

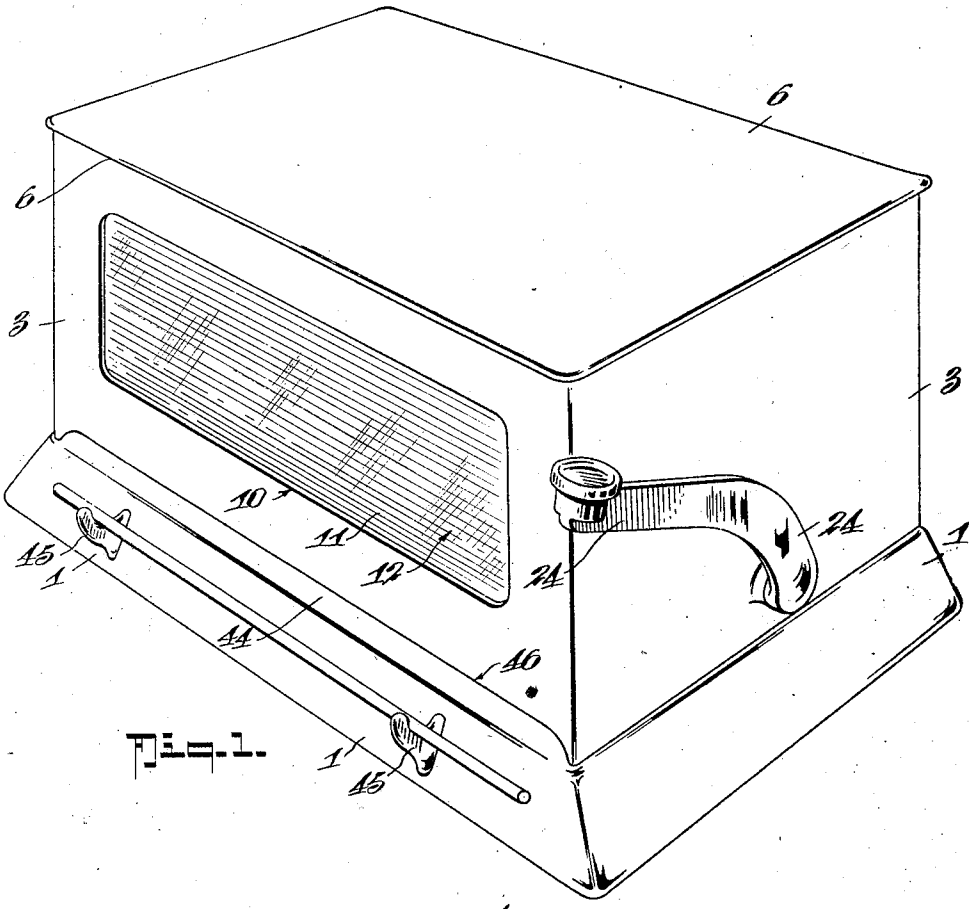


Fig. 1.

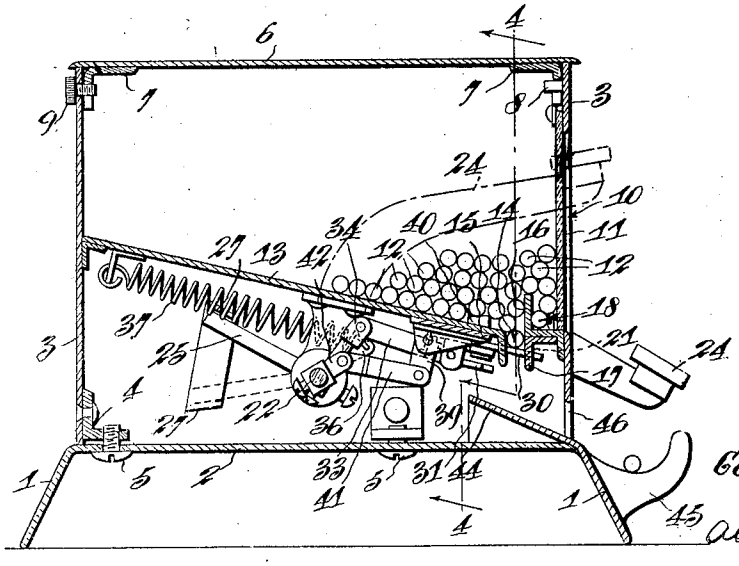


Fig. 2.

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Fig. 3.

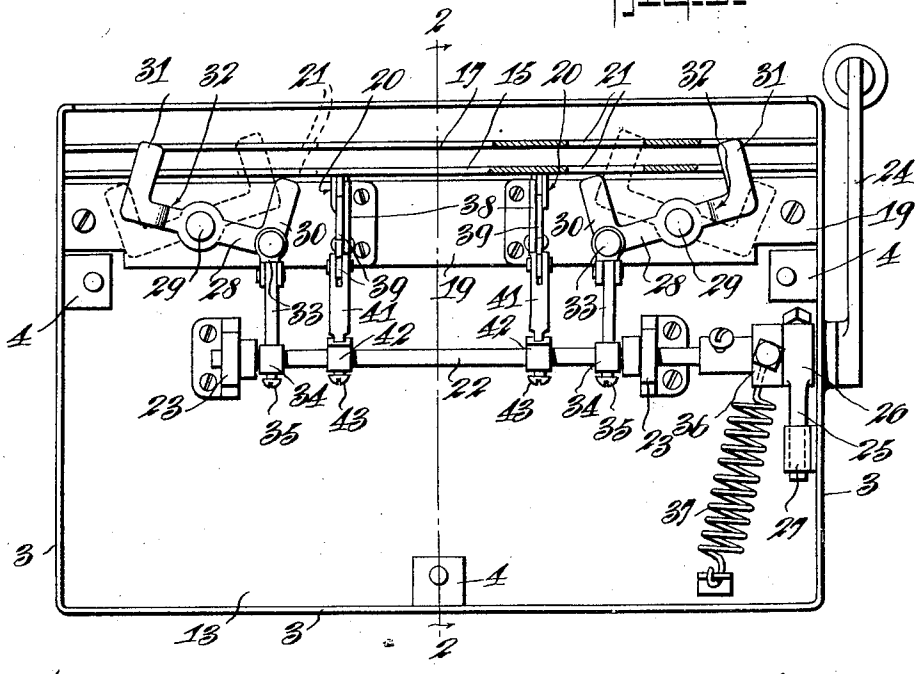


Fig. 4.

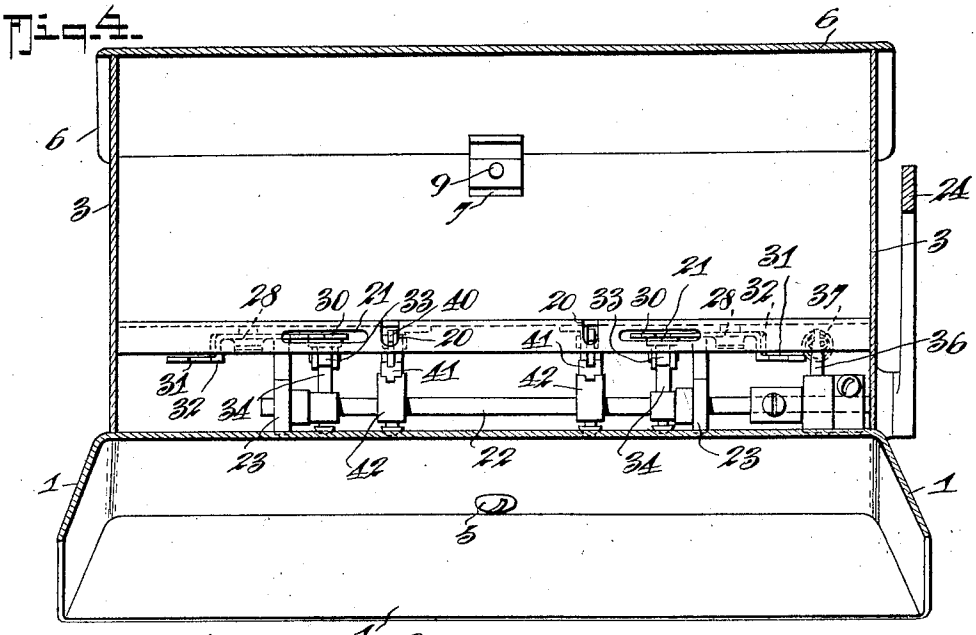


Fig. 5.

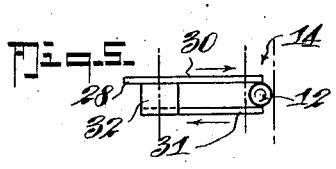
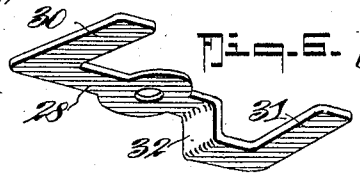


Fig. 6.



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UNITED STATES PATENT OFFICE.

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DISPENSING MACHINE.

Application filed March 10, 1928. Serial No. 260,636.

The invention generally has reference to hand actuated devices for dispensing articles one at a time as desired for use and primarily has for its object to provide a simple, attractive, sanitary and economically manufactured device of the character stated which is adapted for dispensing soda water straws, or similar longitudinal bodies, and wherein means are provided for assuring proper individual discharge of the articles, all tendency of the straws to turn askew in the device or to stick together near or in the discharge passage being obviated.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends, my invention consists in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, then be particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1 is a perspective view of the invention.

Figure 2 is a vertical cross section taken on the line 2—2 on Figure 3, the parts being shown in the straw discharging position in full lines.

Figure 3 is an inverted plan view of the housing shell illustrating the operating mechanism.

Figure 4 is a transverse section of the complete device taken on the line 4—4 on Figure 2.

Figure 5 is an enlarged diagrammatic edge view of one of the straw holding and releasing members and illustrates its relation to the straw being discharged during the discharging action.

Figure 6 is a detail perspective view of one of the holding and releasing members per se.

In the drawings 1 designates the base of the device which includes beveled defining edges and a bottom plate 2 to which the rectangular body shell 3 is secured through the medium of the fixed brackets 4 carried by the shell and the securing screws 5 which pass through apertures in the bottom plate 2 and thread into sockets in the said brackets, see Figures 2 and 3.

The open top of the shell 3 is covered by a top or cover plate 6 which is provided with depending positioning and securing brackets 7, one of which is apertured to receive a keeper pin 8 which projects inwardly from the front wall of the shell near the top and the other thereof being provided with a threaded tap to receive the securing screw 9 which passes through a suitable aperture in the rear wall of the shell. See Figure 2. When mounting the cover 6 it is only necessary to bring the apertured bracket and pin 8 into engagement and, when the rear edge of the said cover has been lowered to position, to mount the securing screw 9. The devices 7, 8 and 9 serve to properly position the cover 6 and to hold it against inadvertent removal.

The front wall of the shell 3 is provided with a window 10 covered inside with a transparent plate 11 through which the straws 12 contained in the shell may be viewed.

In the shell 3 a straw supporting shelf 13 is mounted on a plane inclined toward the discharge slotway 14 provided at the front of the shell and defined on one side by a drop flange 15 depending from the front edge of the shelf and on the other or front side by an abutment plate 16 which also carries a drop flange 17 spaced from and in parallel relation with the flange 15 to form the said slotway, and is spaced back from the window to provide a sample display trough 18, see Figures 2 and 3.

A reinforced plate 19 is secured along the under side near the lower edge of the shelf 13 and two transverse slots 20 are formed in the shelf edge and drop flange 15 and two pairs of registering longitudinal slots 21 are formed in the drop flanges 15 and 17, the purpose for which will presently appear, see Figures 2, 3 and 4.

A rocker shaft 22 is rockably mounted in bearings 23 depending from the shelf 13 and one end of the said shaft is projected through one end wall of the shell and has an operating lever 24 secured thereupon and a stop pin 25 is secured to the shaft within the shell as at 26 and is engaged by stops 27 secured to an end wall of the shell to limit the rocking movement of the shaft 22. Two U-shaped rocker members 28 have their bases pivoted as at 29 to the reinforce plate 19, and one side arm 30 of each member 28 lies in a plane for passing through the slots 21 in the drop flanges 15 and 17, and the other arm 31 of each member 28 is bent as at 32 to lie below and across the flanges 15 and 17 when the parts are in the normal or at rest position to prevent falling of straws through the discharge slotway 14. See Figure 3. At the

juncture of each arm 30 with the base each U-member 28 is flexibly link-connected at 33 with a crank 34 secured at 35 on the rocker shaft 22, and another crank 36 is secured on the shaft 22 and is spring connected as at 37 to the shelf 13 and serves to normally hold the parts to the position illustrated in Figure 3 of the drawings.

Two bearing brackets 38 are secured to depend from the reinforce plate 19 and a bell crank agitator 39 is pivoted to each thereof and includes an upwardly inclined extension 40 adapted to work up and down through the transverse slots 20 in the shelf edge and to engage the straws adjacent the discharge slotway to agitate them and assure against sticking or mis-alignment thereof.

The agitators 39 are link connected at 41 to the cranks 42 secured at 43 on the shaft 22 so that when the shaft 22 is rocked the said agitators will be moved as and for the purpose described.

Normally the parts are in the position illustrated in Figures 1 and 2 of the drawings with the rockable U member arms 31 extending across beneath the drop flanges 15 and 17 and the discharge slotway defined thereby and serving to support the straws against discharge through the said slotway. As the operating lever 24 is forced downwardly the positions of the members 28 will be reversed from that shown in full lines in the said Figure 3 to the positions illustrated in dot and dash lines in the said figure, or in other words, with the arms 31 withdrawn from across the slotway and the arms 30 inserted through the longitudinal grooves 21 and across the said slotway. The movement of the arms 30 and 31 is such that as the arms 31 are moved from beneath the single straw-to-be-discharged the arms 30 will be moved beneath the remaining straws in the discharge slotway and will support them against discharge movement until the arms 31 assume their normal position above referred to upon release of pressure upon the operating lever 24 and the return action of the parts occasioned by the spring 37.

It will be observed by reference to Figures 2 and 5 of the drawings that the respective arms 31 and 30 operate on planes spaced apart a distance equivalent to the diameter of the straws so that at a certain time in the change of position in the said arms from that illustrated in full lines in Figure 3 to the positions illustrated in dot and dash lines in that figure, both arms of each member 28 will engage the straw being discharged and as they are moving in opposite directions as diagrammatically illustrated in Figure 5 of the drawings they will impart a partial rotation to the straw by frictional engagement such as will assure against any tendency of the straw to stick and will facilitate the proper discharge thereof from the slotway.

By reason of the provision of the agitators 39 and 40 and the peculiar cooperation of the arms 30 and 31 in effecting the release of a single straw while supporting the remainder of the straws, and also the provision of the abutment plate 16, all possibility of mis-alignment of the straws with the discharge slotway or of sticking in warm weather is obviated.

As a straw leaves the discharge slotway it falls onto an outwardly downwardly inclined plate 44 carried by the base and onto receiving hooks or fingers 45 which are spaced a considerable distance apart as is clearly illustrated in Figure 1 of the drawings. Of course, the front wall of the shell is provided with a suitable opening 46 through which the straws may pass.

By spacing the members 45 as shown in Figure 1 of the drawings it is made natural that a person grasping a straw should grasp it intermediately of its ends, thus discouraging unsanitary grasping of the straw at either end. This fact in connection with closure of the shell against the promiscuous handling of the strays renders the device desirably sanitary.

In the foregoing description I have disclosed a simple dispensing structure, neat and attractive in appearance, dust-proof and sanitary. The device comprises three simple sections, namely a base, a main central section which carries the articles to be dispensed and all operating mechanisms, and the removable cover section.

While I have disclosed and described the device as adaptable for use in dispensing soda water straws it should be understood that the invention may be employed for dispensing lead pencils, and matches or any other long thin articles, and by the addition of a suitable coin control means the device may be utilized as a vending machine.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the novel details of construction, the manner of use and the advantages of my invention will be readily apparent to those skilled in the art to which it relates.

What I claim is:

1. In a dispensing device, a base section, a shell section, and a cover section, means on said base section to receive a discharged article, said shell section having a discharge slotway, an article-supporting shelf in said shell section inclined to the slotway, an abutment plate defining the slotway in a direction opposed to the direction of inclination of the shelf and spaced from the adjacent wall of the shell to provide a sample display trough, a window in the shell wall adjacent said groove, and means carried by the shell section for releasing articles through the slotway one by one as desired for use.

2. In a dispensing device, an article containing shell section, said shell section having a discharge slotway, an article-supporting shelf in said shell section inclined to the slotway, an abutment plate defining the slotway in a direction opposed to the direction of inclination of the shelf and spaced from the adjacent wall of the shell to provide a sample display trough into which articles may move to be displayed therein but not to be dispensed therefrom, a window in the shell wall adjacent said trough, and means carried by the shell section for releasing articles through the slotway one by one as desired.

3. In a dispensing device, a casing, spaced flanges forming a longitudinal discharge slotway therebetween, an inclined shelf delivering into the slotway, at least one of the flanges having transverse slotways therein, a U-shaped dispensing member having the base thereof pivotally mounted to rock about a vertical axis to alternately present the arms thereof across the discharge slotway, one of said arms being disposed in a plane to operate through the transverse flange slotways and the other of said arms being bent down to operate in a plane beneath the flanges and spaced from the plane of movement of the first mentioned arm a distance at least as great as the width of the discharge slot, and operating devices including a link connected to the base of the dispensing member at one side of its pivot.

4. In apparatus for dispensing soda water straws, a casing, spaced flanges forming a longitudinal discharge slotway therebetween, an inclined shelf delivering into the slotway, at least one of said flanges having transverse slotways therein, a U-shaped dispensing member having the base thereof pivotally mounted to rock about a vertical axis to alternately present the arms thereof across the discharge slotway with at least one of the arms operating through the flange slotways, the arms of the said dispensing member being disposed in different parallel operating planes so spaced that the said arms will engage the straw being dispensed above and below and by their reverse movement impart rotation to the said straw and prevent sticking thereof in the discharge slotway.

GEO. S. COOKE.