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DISPENSING APPARATUS

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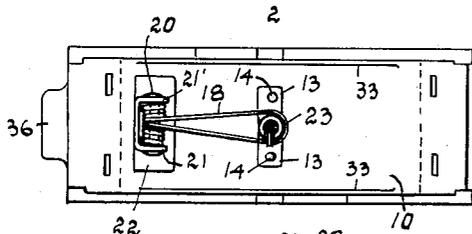
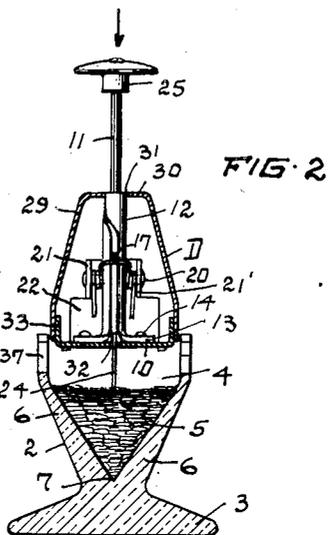
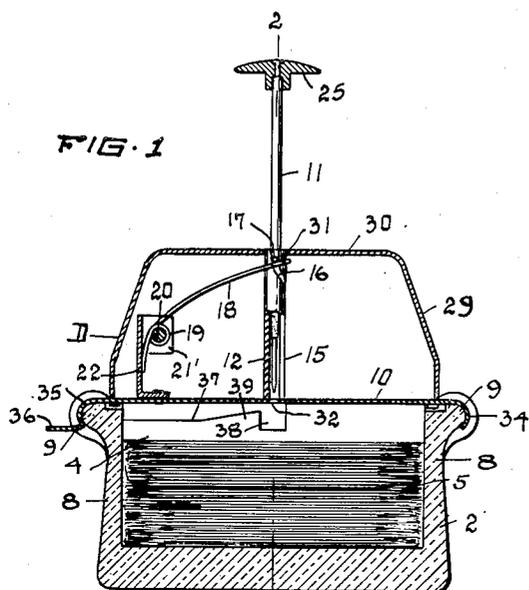


FIG. 4

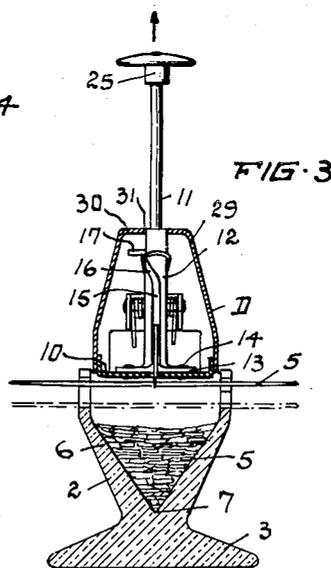


FIG. 3

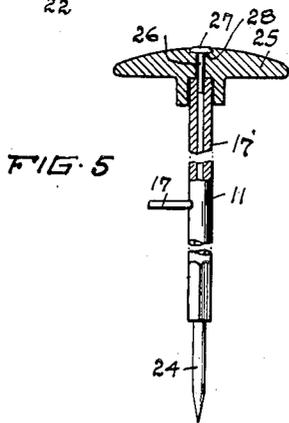


FIG. 5

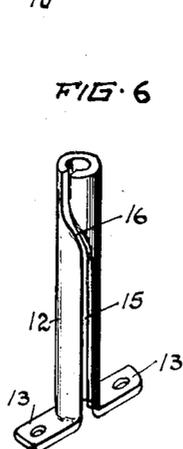


FIG. 6

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# UNITED STATES PATENT OFFICE

1,972,425

## DISPENSING APPARATUS

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Application September 21, 1933, Serial No. 690,454

8 Claims. (Cl. 312-76)

My invention relates in general to dispensing apparatus and more particularly to dispensing apparatus for tooth picks or similar articles. The general object of my invention is to provide a tooth pick dispensing apparatus for individually dispensing tooth picks stored in a closed container to prevent contamination of the stored tooth picks prior to their use by manual contact therewith.

Another object of the invention is to provide a tooth pick dispensing device having automatically actuated means adapted to pick up a single tooth pick from the contents of a closed container and expose the tooth pick openly to permit a person to use the dispensed tooth pick.

A further object of the invention is to provide a tooth pick dispensing apparatus having a shiftable pointed pick up member for picking up a single tooth pick from the contents of a closed container.

Still another object of the invention is to provide a tooth pick dispensing apparatus of the type described with a longitudinally shiftable and axially rotatable pointed pick up member adapted to pick up a tooth pick from the contents of a closed container and expose the opposite ends of the tooth pick by rotating said member so that the opposite ends of the tooth pick extend through slots in the opposite side walls of the container.

With these and other objects in view which will become more apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawing, in which like characters of reference indicate like parts throughout the several figures, of which

Fig. 1 represents a longitudinal sectional view through a tooth pick dispensing device according to the invention showing the pointed pick up member in raised position.

Fig. 2 represents a sectional view taken on line 2-2 of Fig. 1 with the pick up member in lowered position while picking up a tooth pick.

Fig. 3 represents a sectional view similar to Fig. 2 with the pick up member in partly raised position.

Fig. 4 represents plan view, partly in section, of the tooth pick dispensing mechanism with the cover member removed.

Fig. 5 represents a side view, partly in section, of the pointed pick up piston, and

Fig. 6 a perspective view of the guide member for the pick up piston shown in Fig. 5.

As illustrated in the accompanying drawing the tooth pick dispensing apparatus comprises an elongated hollow glass member 2, provided with a widened base 3 for supporting said member upon a flat surface. Member 2 stores in its chamber 4 a number of tooth picks 5 which are longitudinally packed into said chamber, parallel to the side walls 6 thereof. The side walls 6 intersect each other at 7 and guide the tooth picks toward the middle of chamber 4, thus causing the tooth picks to align with respect to a dispensing mechanism D, mounted upon the end walls 8 of chamber 4, which walls are rounded at their upper edges as at 9 to permit clamping of a bottom plate 10 of device D thereto as will be later described.

The dispensing mechanism D in general consists of a plunger 11 slidably and rotatably guided in a cylindrically shaped and longitudinally slotted sleeve member 12, which member is secured at its lower end to bottom plate 10 by means of angularly offset extensions 13, secured to said bottom plate by rivets 14. A longitudinal slot 15 in sleeve member 12 is inclined at its upper end, as at 16, to cause rotation of plunger 11 at the end of its upper movement, when a pin 17 secured to said plunger and guided in slot 15 enters the inclined portion 16 thereof. A wire spring 18 coiled at 19 around a pin 20, mounted in oppositely bent arms 21-21' of a bracket 22, secured to bottom plate 10, encircles sleeve member 12 with its free looped portion 23 and forces plunger 11 upwardly by pushing against pin 17, thus normally holding plunger 11 in raised position. Plunger 11, preferably made of a tubing 17', carries at its lower end a pointed member or needle 24, securely attached to the tubing by contracting the wall thereof upon said needle, or if desired the needle may be removably or interchangeably secured in place. Secured to the upper end of piston 11, by a pin 26, is a freely rotatable knob 25. Pin 26, which extends axially through the knob into the tubing 17, is formed with an enlarged head 27 adapted to seat in a recess 28 on said knob. A cover member 29, secured to bottom plate 10 in any customary way encloses the operating parts of the mechanism. This cover member is provided at its top face with a circular opening 31 snugly fitting sleeve member 12 to rigidly support said member in proper working position.

The supporting bottom plate 10 is perforated at 32 opposite sleeve member 12 to permit of

plunger 11 being freely shifted downwardly into chamber 4 of member 2. A pair of lateral flanges 33 on plate 10 effect alignment of cover member 29 with said bottom plate and insure proper assembly of these parts. The opposite ends of plate 10 are half circularly bent at 34 and 35 to effect yielding clamping connection of said plate with the circular end walls 8 of member 2, and one end of said plate is laterally extended as at 36 to facilitate clamping attachment and detachment of dispensing mechanism D with member 2.

In dispensing operations the plunger 11 is manually forced downwardly by pressure upon knob 25, so that the pointed needle 24 enters through perforation 32 into chamber 4 and finally pierces one of the tooth picks within said chamber. When the plunger is now released spring 18 forces the plunger and the pierced tooth pick carried thereby upwardly. Close to the end of this upward movement when pin 17 enters into the inclined portion 16 of slot 15 the plunger and the tooth pick carried thereby are rotated so that the tooth pick is shifted to a right angular position with respect to member 2. Such shifting of the tooth pick is made possible by recessing the upper edges of side walls 6 at 37, so that the opposite ends of the tooth pick can freely extend at opposite sides of member 2. The final upward movement of plunger 11 causes stripping of the tooth pick from the pointed needle 24 by bottom plate 10 so that the tooth pick drops upon the recessed edges of member 2. Proper placing of the dispensed tooth pick is effected by narrow slots 38 in the side walls 6. Preferably the depth of recesses 37 decreases towards the middle of member 2, as at 39, to insure proper placing of the stripped tooth pick in slot 38.

What I claim, is:

1. A dispensing device for dispensing articles stored in a container comprising vertically shiftable pick up means adapted to individually pick up the articles in said container, means to automatically rotate the pick up means, when shifted vertically, and means to strip the lifted article from said pick up means after rotation thereof.

2. A dispensing device for dispensing articles comprising a container for storing articles therein, a vertically shiftable, pointed pick up device mounted upon said container adapted to individually pick up articles stored in said container and lift same with respect thereto, means to automatically rotate said pick up device at the end of its vertical lifting movement and means to strip the lifted article from said lifting device after rotation thereof.

3. A dispensing device for dispensing articles comprising a container open at its top adapted to store articles therein, and a dispensing mechanism mounted on said container above the opening thereof, said dispensing mechanism including a vertically shiftable, pointed pick up device adapted to individually pick up and lift the articles in said container, means on said pick up device to automatically rotate said pick up device at the end of its lifting movement and means to strip the picked up article from said pick up device after its rotation.

4. A dispensing device for dispensing tooth picks comprising an elongated container having an open top, end walls and converging side walls,

recessed portions in said side walls extending from one end to the middle portion thereof, the recessed portions in said side walls being diametrically opposed to each other, a vertically shiftable pointed pick up plunger mounted on the end walls of said container and arranged above the open top thereof, yielding means for holding said plunger in raised position above said container and guiding means for said plunger adapted to impart a rotary movement to said plunger and strip a tooth pick, picked up by said plunger, said recesses permitting free rotation of the tooth pick at the end of the pick up operation for free exposure of the opposite ends of said tooth pick through said recesses.

5. A dispensing device for dispensing tooth picks comprising an elongated container including an open top, end walls and converging side walls, a recessed portion in each upper edge of said side walls extending from one end to the middle portion thereof, said recessed portions being diametrically opposed, a narrow slot in the middle portion of each edge of said side walls, and a pick up mechanism seated upon the end walls of said container, said pick up mechanism including a casing, a pointed pick up plunger adapted to be shifted vertically with respect to said casing and extended through the wall thereof into said container to pick up tooth picks stored in said container, and guiding means for said plunger adapted to impart a rotatory movement to said plunger at the end of its upward movement, said recesses permitting free rotation of a tooth pick, picked up by said plunger and free exposure of the ends of said tooth pick, and said narrow slot retaining said tooth pick in its exposed position.

6. A dispensing device for dispensing tooth picks comprising an elongated container having diametrically arranged recesses in its upper edge extending from one end to the middle portion of said upper edge, a narrow slot in the middle portion of opposite walls of said container adjacent said recessed portions thereof, and a pick up mechanism seated upon the upper edge of said container, said mechanism including a spring-pressed pointed plunger and guiding means adapted to guide said plunger and impart rotatory movement thereto, when said plunger advances to a predetermined position.

7. A dispensing device for dispensing tooth picks as described in claim 6, including a plunger having a knob freely rotatably secured to its top portion.

8. A dispensing device for dispensing tooth picks comprising an elongated container having diametrically arranged recesses in its upper edge extending from one end to the middle portion of said upper edge and a narrow slot in the middle portion of opposite walls of said container adjacent the recessed portions thereof, said slots being deeper than said recesses and said recesses decreasing in depth towards said slots, and a pick up mechanism seated upon the upper edge of said container, said mechanism including a spring-pressed pointed plunger and guiding means adapted to guide said plunger and impart rotatory movement thereto, when said plunger advances to a predetermined position.

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