May 4, 1965 R. D. CHANCELLOR 3,181,718

BOTTLE STOPPER

Filed May 10, 1963

FIG_1

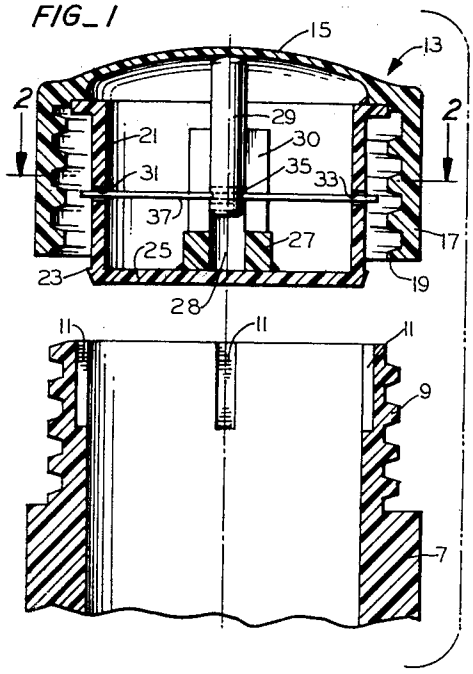


FIG_2

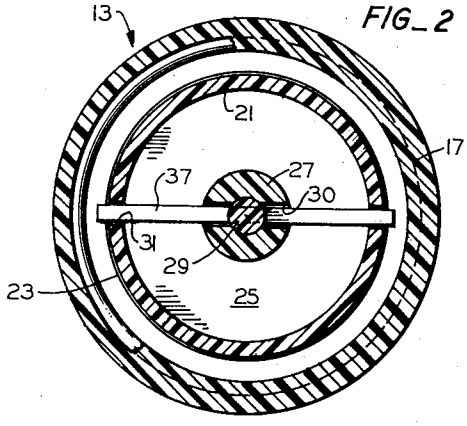


FIG_3

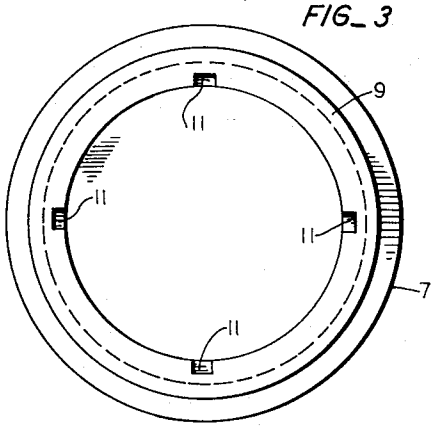


FIG_4

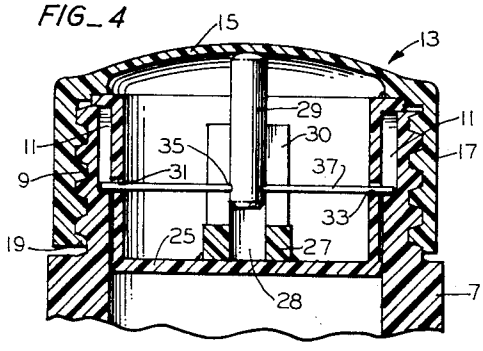
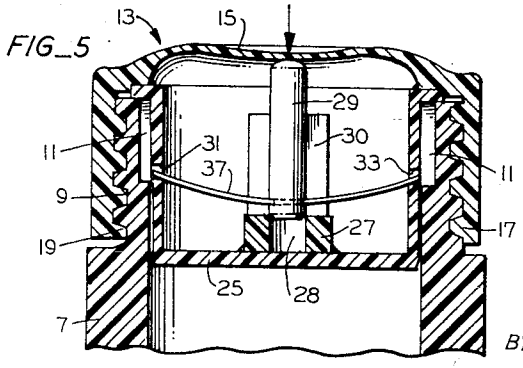


FIG_5



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United States Patent Office 3,181,718 Patented May 4, 1965

3,181,718
BOTTLE STOPPER

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Filed May 10, 1963, Ser. No. 279,437
2 Claims. (Cl. 215—9)

This invention relates to a bottle or jar having a safety closure thereon.

It is highly important that medicines and poisons be kept from young children and various attempts have been made in the past to provide a bottle or jar closure which can be manipulated easily by an adult but which is very difficult for a child to open. Most of these prior art structures have been complicated or have been difficult to actuate and have not become popular.

It is therefore an object of the present invention to provide a bottle with a safety closure structure which is easy for an adult to open and close but which is very difficult for a child to open.

Another object of this invention is to provide a safety closure which is inexpensive to manufacture and which is substantially foolproof in operation.

Other objects will be apparent from the specification which follows.

In the drawings forming a part of this application:

FIGURE 1 is an exploded view of a bottle top and closure embodying the present invention.

FIGURE 2 is a section on the lines 2—2 of FIGURE 1.

FIGURE 3 is a plan view of the bottle top.

FIGURE 4 is an assembled view showing the cap in place in its locked position.

FIGURE 5 is a view similar to FIGURE 4 but showing the top of the cap depressed thereby unlocking the parts.

Referring now to the drawings by reference characters there is shown a bottle having a neck **7** with a thread **9** at the top thereof. On the inside of the neck there are four slots **11**. Although four slots have been shown, it will later be apparent that two slots which are located 180° apart could be employed or that any even number of slots might be employed in the neck it being only important that mating pairs of slots be located opposite each other in the neck of the bottle. A closure generally designated **13** is provided for the bottle, the closure having a flexible top portion **15** and a depending side portion **17** having an internal thread **19** adapted to mate with the thread **9**. A depending sleeve **21** adapted to extend downwardly into the neck of the bottle is also provided. In the embodiment shown, the sleeve **21** forms a fairly tight fit with the inside of the neck of the bottle but it will be later apparent that it is not necessary that this sleeve contact the edge of the bottle and form a portion of the sealing mechanism of the bottle. Thus the sleeve could be made as shown, with a lip **23** which exerts a sealing action on the inside of the bottle neck but, for the purposes of the present invention, this sleeve **21** might be displaced inward and not actually contact the bottle neck. In the embodiment shown in FIGURES 1 through 5 the sleeve supports a bottom **25** which has a boss **27** at the center thereof. The boss has a central hole **28** in which a pillar **29** is free to move. The upper portion of boss **27** is slotted as at **30**. The sleeve **21** has holes **31** and **33** in opposite walls while the pillar **29** has a corresponding hole **35**. Slots extending down in the sleeve from the top can be used in place of the holes **31** and **33** for ease in assembly. A flexible pin or bar **37** passes through the

holes **31**, **33** and **35** and extends outwardly on each side of the sleeve so that when the cap is placed on the bottle as is shown in the assembled view of FIGURE 4, the ends of the pin **37** extend into the slots **11**. It is apparent from FIGURE 4 that if one attempted to unscrew the cap, one would be prevented from doing so by the ends of pin **37** locking in slots **11**. On the other hand, when one presses near the center of the flexible top portion **15**, as is shown in FIGURE 5, pressure is exerted on the pillar **29** forcing it downward disengaging the ends of the pin **37** from the slot **11** so that the cap can be easily removed. It is obvious that it is also necessary to press downwardly on the center of the cap when it is placed on the bottle.

It is believed apparent from the foregoing that I have provided a simple yet effective bottle closure which is inexpensive to manufacture, easy for an adult to manipulate but almost impossible for a child to manipulate.

I claim:

1. A bottle and safety closure therefor including in combination:

(*a*) a bottle having a cylindrical neck, said neck having screw threads about the exterior thereof and at least two indentations in the interior thereof, said indentations being discontinuous and lying in about the same radial plane of said neck;

(*b*) a cap having a cylindrical collar portion with interior screw threads mating with the said screw threads of the said neck and a normally horizontal top portion integral with the said collar, said normally horizontal portion being flexible and resilient;

(*c*) a pillar extending downward from about the center of the said flexible top portion;

(*d*) pins extending radially from at least two points adjacent the base of the said pillar toward the said collar of said cap, the said pins extending a distance in excess of that required to contact the internal portion of the neck of the said bottle when the said cap is in place upon the said bottle, said pins each terminating in an end of a size adapted to register with one of the said indentations in the said neck, said pins being flexible; and

(*e*) a sleeve extending downwardly from and secured near the marginal edge of said top portion, the sleeve having apertures therethrough on the same plane as the pins, with the terminal ends of the pins extending in sliding relationship through the apertures and into said indentations, said sleeve being sufficiently rigid to cause the said pins to deflect to an arcuate shape, disengaging the ends of said pins from the said indentations in the bottleneck and releasing the same cap when downward pressure is exerted near the center of the flexible, normally horizontal top portion.

2. The structure of claim 1 wherein the said indentations are in the form of a pair of vertical slots inside the neck of the said bottle, said slots being in a position to register with the terminal ends of the said pins.

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