

(No Model.)

2 Sheets—Sheet 1.

P. LINDEMEYR.
BOTTLE.

No. 603,108.

Patented Apr. 26, 1898.

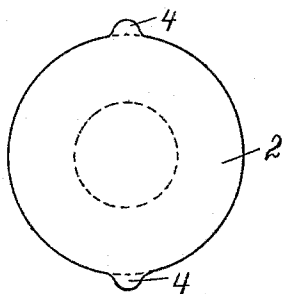


Fig. 4.

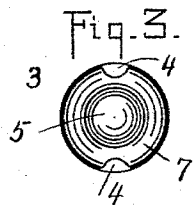


Fig. 3.

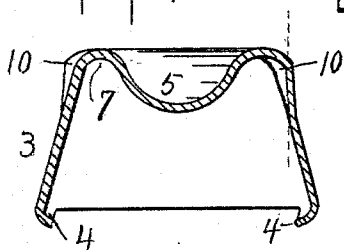


Fig. 7.

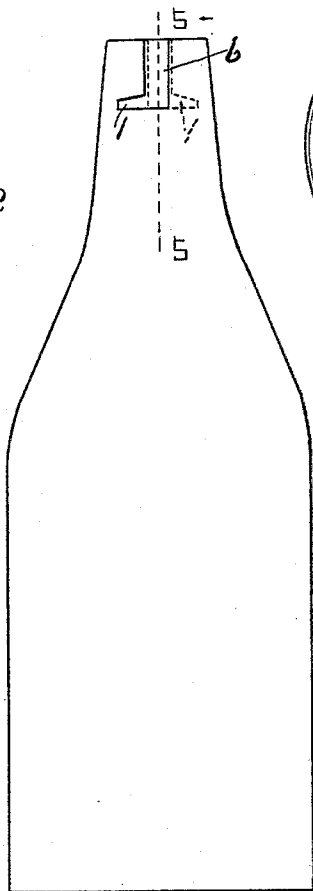


Fig. 1.

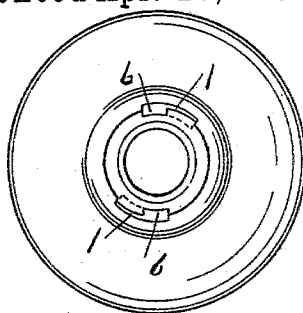


Fig. 2.

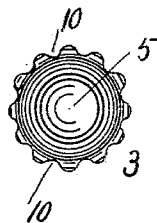


Fig. 6.

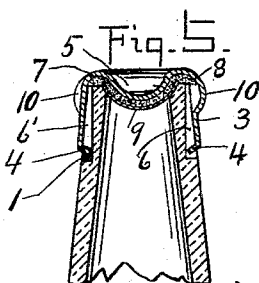


Fig. 5.

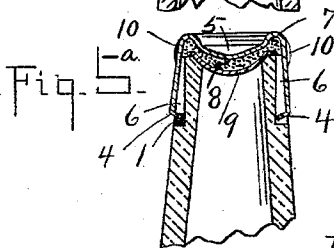


Fig. 5-a.

Witnesses
C. M. Catlin,
Jas. M. Copenhaver.

Inventor
Philip Lindemeyr
By Ruf. R. Catlin
Attorney

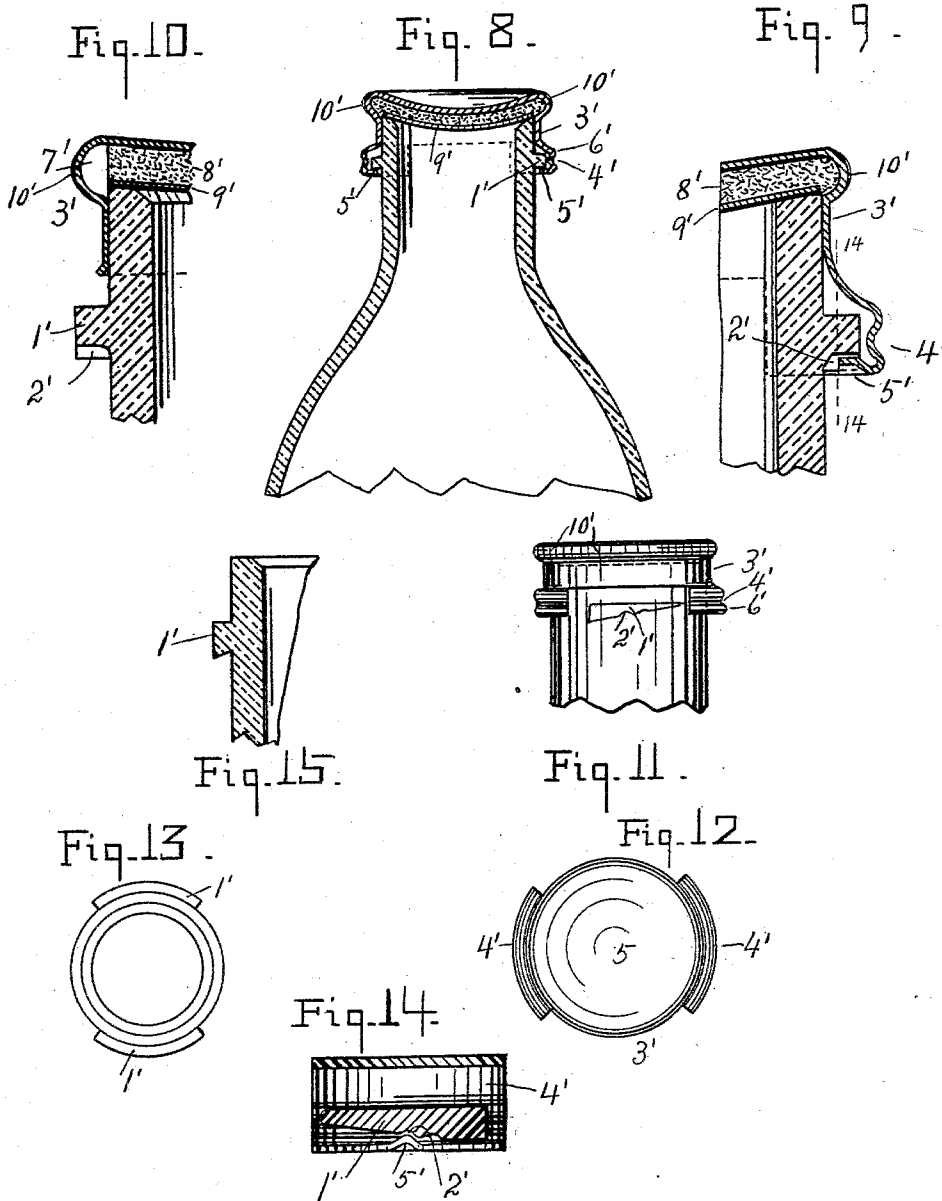
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2 Sheets—Sheet 2.

P. LINDEMEYR.
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Witnesses
C. M. Catlin.
Geo. M. Cofaschauer.

Inventor
Philip Lindemeyr
by Ruf. R. Basline Attorney

UNITED STATES PATENT OFFICE.

PHILIP LINDEMEYR, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE
MONARCH MANUFACTURING COMPANY OF BALTIMORE CITY.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 603,108, dated April 26, 1898.

Application filed April 20, 1897. Renewed March 24, 1898. Serial No. 675,042. (No model.)

To all whom it may concern:

Be it known that I, PHILIP LINDEMEYR, a resident of Baltimore, in the State of Maryland, have invented certain new and useful
5 Improvements in Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

10 The invention relates to bottles, and has for its object to provide bottles with improved caps easily formed and securely fastened and sealed upon said bottles; and the invention consists in the construction hereinafter described and pointed out.

In the accompanying drawings, Figure 1 is a side elevation of a bottle. Fig. 2 is an enlarged top plan of the same. Fig. 3 is a bottom plan of a bottle-cap. Fig. 4 is a blank
20 for forming the cap. Fig. 5 is a vertical section of bottle top and cap. Fig. 5^a is a similar view of a modification. Fig. 6 is a top plan of cap. Fig. 7 is an enlarged section of cap. Fig. 8 is a central section of a modified
25 bottle neck and cap. Fig. 9 is a partial similar view of the same on an enlarged scale. Fig. 10 is a similar view, the cap-holding finger being broken away. Fig. 11 is a side elevation of a bottle-neck having its mouth
30 closed by a cap. Fig. 12 is a plan of a cap. Fig. 13 is a similar view of the bottle-mouth. Fig. 14 is a section on line 14 14 of Fig. 9. Fig. 15 is a section of a modified detail.

The main part of the bottle and bottle-top
35 may have any desired form and size, but will preferably have a top of frusto-conical form, as shown in Fig. 1, and will have overhanging parts at diametric points for engaging fingers on the bottle-cap.

40 Numeral 1 denotes transverse grooves or depressions formed in and on opposite sides and on the outside of the neck to form said overhanging parts. Each groove 1 is connected with a similar depression or groove 6,
45 extended to the bottle-mouth.

3 denotes a cap, which may be stamped or formed in any usual way out of sheet metal and formed by one or more operations, as found convenient.

50 In Fig. 4 the numeral 2 denotes a plain blank suitable for forming the cap with locking-fingers 4 and depressed center 5, the out-

line of the cap-top being indicated by the dotted circle, and the line for bending the fingers being also indicated by short dotted lines. 55

The cap is of frusto-conical form and fits the bottle-top. In applying it to the top it is pushed down thereon, each finger 4 being in the vertical groove 6, until the cap can be slightly turned to engage the fingers under
60 the inclined upper walls of the transverse depressions or grooves 1.

Grooves substantially such as shown are preferable to projecting ribs, for the reason that the latter require longer engaging fingers, which in use are more exposed or outwardly projecting than such short ones as
65 may be used with grooves, and the preferred construction also presents a better appearance.

Between the depressed portion 5 and the approximately vertical wall of the cap is an annular groove 7, situated directly over the wall of the bottle-mouth. 70

8 is a disk of plastic material, which may be compounded, having the general characteristics of shoemaker's wax, and 9 denotes a cover, of prepared or parchment paper or fabric, situated on the lower side of the disk and of a character to resist weak acids. 75

In the preferred form shown in Figs. 1 to 5^a the relative situation and fit of the bottle-top in the cap with respect to groove 7 is such that the composition and paper disks if hard-pressed are pushed into the annular seat 7,
80 there being no room for outward pushing of the materials except in the small depressions between the corrugations 10. Said corrugations are in the drawings exaggerated in respect to their length and depth for the sake
85 of clearness. They provide the equivalent of a milled periphery and in addition provide interior receptacles for the plastic material, portions of which being crowded therein act
90 by their increase of friction and adhesion as anchors to hold in place the main parts of said packing, the corrugations thereby performing two useful offices. 95

It will be understood that the corrugations can be formed within a vertical line passing through their foot, as indicated by dotted line in Fig. 7, to provide for withdrawal
100 of die.

The groove 7 is practically filled by the

composition whenever the cap is applied to the bottle, and no space for the outward expansion of the material under pressure exists except the small spaces between the corrugations, as already stated. It is therefore difficult under any conditions to cut the packing in applying the cap to the bottle. The small portions of material crowded between the corrugations act by adhesion to hold the packing in when the cap is removed from the bottle.

On Sheet 2 the overhanging parts are shown as ribs 1', projecting outward, the lower sides thereof being inclined and having one or more notches 2' to engage the cap-holding fingers. These projections are preferably molded on the bottle.

3' indicates a cap, which may be made of block-tin or other metal. It is provided with depending fingers or hooks 4', terminating in inturned extremities 5', adapted when the cap is suitably placed on the bottle to engage under the inclined ribs and enter one of the notches 2'.

6' indicates beads, corrugations, or flexures formed in the depending hooks or fingers 4' to impart to them some degree of elasticity. These are not essential in all cases and, if used, need not be of the particular form, number, or extent indicated. It is, however, desirable that these hooks or fingers be sufficiently elastic to be sprung into and out of notches 2' when the cap is screwed on or off the bottle-neck by rotating it to move said fingers along under the inclined ribs. The notches serve to prevent accidental removal or loosening of the cap; but the construction is such that it can be removed and reapplied at pleasure.

7' denotes an annular groove formed in the cap, milled or corrugated, as indicated at 10', a little more at one side than shown in Figs. 5 and 7, to receive the edge of a plastic packing-disk 8. The extension of the edge of this disk into the groove insures that the joint between the contiguous vertical walls of the cap and bottle-neck shall be covered or packed. It is further provided that the disk 8 shall be securely retained in the cap when removed. The plasticity of the disk insures that its edge can be crowded into the groove and remain therein.

A wax such as before named is used for the disk because it is not affected by many weak acids, has no offensive odor, and retains the shape imparted to it. Being properly placed within the cap and the latter being screwed over the bottle-mouth, the joint between the cap and bottle is thoroughly packed. The paper cover for the disk, consisting of one or two circles, is by many weak acids not injuriously affected. It improves the appearance of the disk besides protecting it against the bottle-mouth.

The above-described cap-stoppers are capable of general use, though they are particu-

larly applicable to bottles containing medicinal or proprietary remedies or other liquids intended to be kept in the bottle and used therefrom a portion at a time.

Having described my invention, what I claim is—

1. The combination of the frusto-conical cap with a bottle having a similarly-shaped top, said cap having a groove 7 in its vertex, and contiguous corrugations 10 surrounding its top below said groove, the exterior of said corrugations being situated within the greatest circumference of the cap to permit withdrawal of a die and providing receptacles for packing and an exterior holding-surface for the fingers in rotating the cap, substantially as described.

2. The combination of the frusto-conical cap with a bottle having a similarly-shaped top, said cap having a groove 7 in its vertex, and contiguous corrugations 10 surrounding its top below said groove, the exterior of said corrugations being situated within the greatest circumference of the cap to permit withdrawal of a die and providing receptacles for packing and an exterior holding-surface for the fingers in rotating the cap, a plastic packing, a paper cover for the same, said groove and corrugations affording communicating receptacles for the plastic packing, substantially as described.

3. The combination of the frusto-conical cap having vertical corrugations 10 and a horizontal communicating groove 7 situated directly over the bottle-lip and integral fingers 4, with the bottle having a frusto-conical top and grooves 6 terminating in transverse grooves 1, a packing situated in said groove and corrugations, and parchment or the like situated between the bottle-lip and the packing, substantially as described.

4. In a bottle the combination of a cap with a packing of plastic wax and a cover of parchment, prepared paper or the like, to prevent the cutting of said wax, the parchment being interposed between the wax and the bottle-lip, substantially as described.

5. The combination of a bottle provided with inclined shoulders thereon, a cap provided with a circumferential groove and with pendent spring-fingers adapted to engage under the shoulder, a packing of plastic wax, and a paper cover for the bottom of the packing and between it and the wax to obviate the cutting of the same, the cap being adapted in coöperation with the bottle-mouth to press the plastic material into the groove, said material remaining fixed in the groove, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

PHILIP LINDEMEYR.

Witnesses:

BENJ. R. CATLIN,
JOS. H. BLACKWOOD.