

No. 692,462.

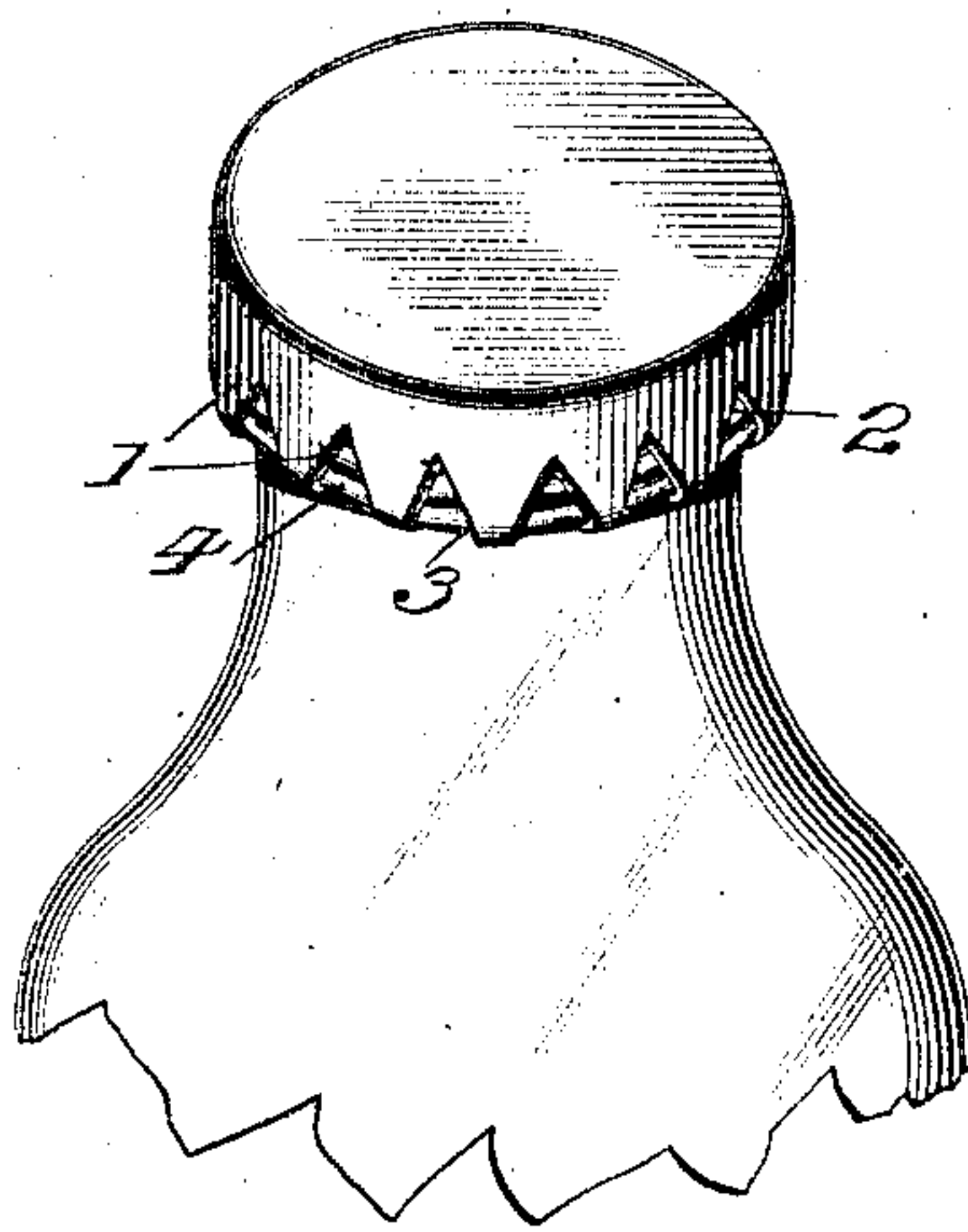
Patented Feb. 4, 1902.

P. LINDEMEYR.  
VESSEL CAP.

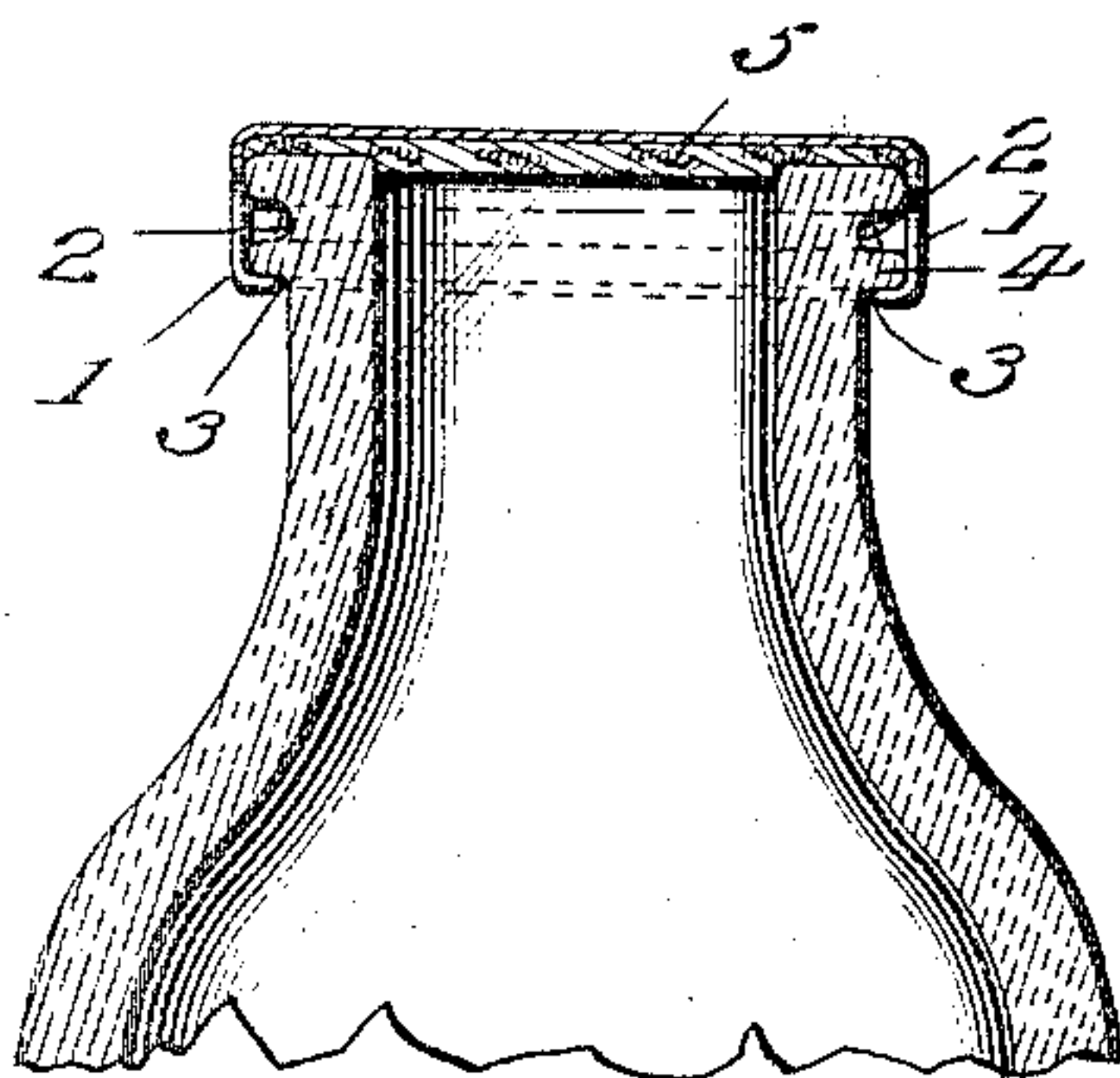
(Application filed Oct. 18, 1901.)

(No Model.)

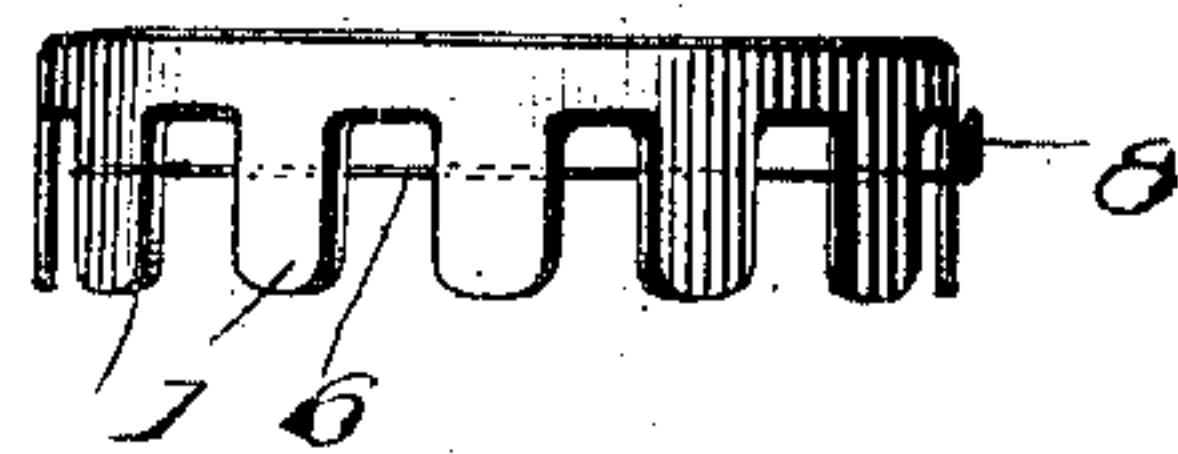
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

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# UNITED STATES PATENT OFFICE.

PHILIP LINDEMEYR, OF BALTIMORE, MARYLAND, ASSIGNOR TO MARYLAND STOPPER COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND.

## VESSEL-CAP.

SPECIFICATION forming part of Letters Patent No. 692,462, dated February 4, 1902.

Application filed October 18, 1901. Serial No. 79,179. (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 Vessel-Caps; 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 caps for closing bottles and other vessels, and has for its object to improve the means of securing the particular class of caps and for removing the same; and it consists in the construction here-

15 in described and pointed out.  
In the accompanying drawings, Figure 1 is a perspective of the cap applied to a bottle mouth and neck. Fig. 2 is a central longitudinal section. Fig. 3 is a side view of a

20 modified cap with a stripper-wire.  
Numeral 1 denotes teeth formed on the edge of a bottle-cap. These as represented are approximately V-shaped, but may be U-shaped or have other analogous forms.

25 2 denotes a groove formed in the neck of a bottle below its mouth and situated between two circumferential ribs or rings.

3 denotes a shoulder on the lower side of the lower rib or ring 4, which bounds said

30 groove on its lower side.  
5 denotes a sealing-disk, of cork or other material, which preferably will be used, though its use is not of the gist of the improvement.

35 When the cap is applied to a bottle, its teeth 1 extend below the shoulder 3 and are bent thereunder to hold the cap in place. In this operation the resiliency of the cork coöperates and adds to the security of the closure.

40 The cap-teeth are of such length that the spaces between them extend above the ring 4 and preferably to or above the upper line of the groove. Said spaces should not, however, extend so high nor the teeth be so long

45 as materially to impair their holding power when bent under shoulder 3, whereby means, such as a band or ring, would be made necessary to hold them to the bottle-neck. Caps having short holding-teeth engaged with

50 shoulders on bottle-necks have been proposed, and such feature of construction is not of

the present invention, except as combined with means substantially such as herein described for disengagement of the teeth and removal of the cap.

By my improvement the groove guides the point of the stripping instrument or tool, if such be used, around under the teeth whether the bottle be rotated or the tool pushed or pulled about it, the bottle remaining comparatively stationary, or whether the rotary movement of the bottle be combined with a thrust or pull of the tool. In case of soft-metal caps the teeth can be rapidly disengaged with safety to the operator, the point of the tool traveling in the groove. In case of more rigid material, such as steel, the teeth can be loosened one at a time in succession and more slowly on account of the greater resistance, but in such case also the groove receives and guides the tool-point. The improvement lessens very decidedly the danger of an injurious slip of the pointed tool heretofore used for an analogous purpose, and it obviates the crimping of the cap edge to provide for the use of a stripping-tool, and in connection with such advantage it also obviates the necessity of a separate securing-band and the exposure of the teeth, as illustrated in British Patent No. 15,846 of A. D. 1889. If a stripping-wire be used, it may be attached to one of the teeth and lie in the groove and need not extend more than half-way around the bottle-neck.

6 (see Fig. 3) denotes a wire or cord secured to one of the teeth and situated in the groove. Its free end extends out between two teeth and preferably is provided with a loop 8 to receive a nail, pencil, or other like article, which can be conveniently used to pull the wire in stripping the cap from the bottle. The use of a nail or the like is not essential and neither is the ring, though it provides a convenient finger-hold. It is preferred that the wire, exclusive of a ring and of the wire-fastening, have a length not less than half the circumference of the bottle-neck, but the improvement is not limited in this respect.

In some cases the groove 2 can be filled with a sealing material, the wire being covered or partly covered thereby. In others a string or the like saturated with a sealing material and



surrounding the entire neck can be employed with advantage, and particularly if no sealing-disk 5 is used.

The use of a stripping wire or cord is not essential to the main part of the improvement, since if such device is omitted a pointed instrument can be inserted between the teeth to pull or pry them out of engagement with the bottle.

10 The provision of a shoulder 3 to receive the inwardly-bent ends of the teeth, said teeth fitting under the shoulder and holding the cap on the bottle without other means, combined with a groove or space 2 in the bottle-neck to admit between the teeth a device for releasing them and stripping off the cap, is important. By this construction the points of the teeth are guarded by the shoulder 3, and the spaces between the teeth are left unobstructed for the use of a pointed-tooth detaching implement, the groove coöperating in this particular, said groove being adapted to receive a sealing material, if desired. The stripper wire or cord is not necessary either to secure the cap or to remove it and may, if preferred, be dispensed with, since the cap is secured by the bent teeth, each of which extends over the groove, so that a pointed instrument can be inserted under it and that whether either a stripper-wire or sealing material, or both, be in the groove.

So far as concerns securing the cap and removing it when desired the groove need not extend entirely around the vessel, and the cap-securing function of the teeth is independent of the groove.

In the construction set forth in said British patent the projections on the lower edge, because of their comparative length and size, may more properly be styled "legs" than teeth, since they extend considerably above the groove that separates the two ribs and also to a considerable distance below the lower rib, being so long as to preclude turning their lower ends into the angle between the rib and the bottle-neck and fit the rib, as by my con-

struction. Further, the extension of the legs and the spaces between them to close proximity to the bottle-mouth and to a considerable distance above the groove would weaken the holding capacity of the legs if they were depended upon to hold the cap upon the bottle.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a vessel having two rings near its mouth separated by a circumferential groove, with a cap having in its lower edge a series of teeth separated by spaces extending over the groove and terminating near it, said teeth being bent under the under side of the lower ring with their bodies fitting said under side and their extremities situated in the angle between the rib and bottle-neck to hold on the cap and also guard the ends of the teeth, all substantially as set forth, whereby an instrument can be introduced into the groove between any two adjacent teeth and guided by such groove in stripping a plurality of teeth in succession from the vessel.

2. The combination of a vessel having two rings near its mouth separated by a circumferential groove, with a cap having in its lower edge a series of teeth separated by spaces extending over the groove and terminating near it, said teeth being bent under the under side of the lower ring with their bodies fitting said under side and their extremities situated in the angle between the rib and bottle-neck to hold on the cap and also guard the ends of the teeth, and a stripping-wire situated in the groove and secured to one of the teeth and extending about one-half the circumference of the vessel-neck.

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

PHILIP LINDEMAYER.

Witnesses:

G. W. BALLOCH,  
BENJ. R. CATLIN.