

(No Model.)

G. KOCH.  
BOTTLE STOPPER.

No. 598,050.

Patented Jan. 25, 1898.

Fig. 1.

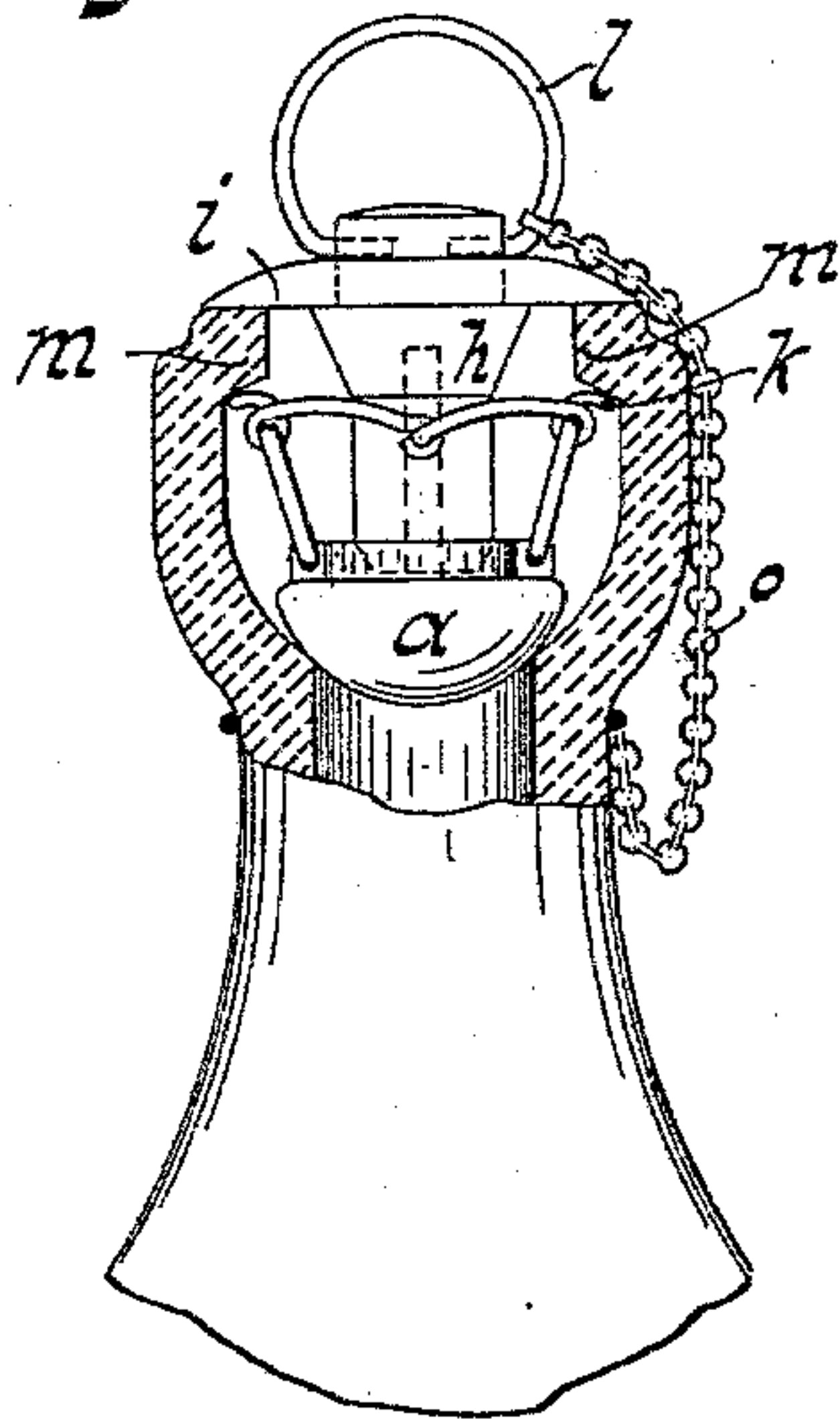


Fig. 2.

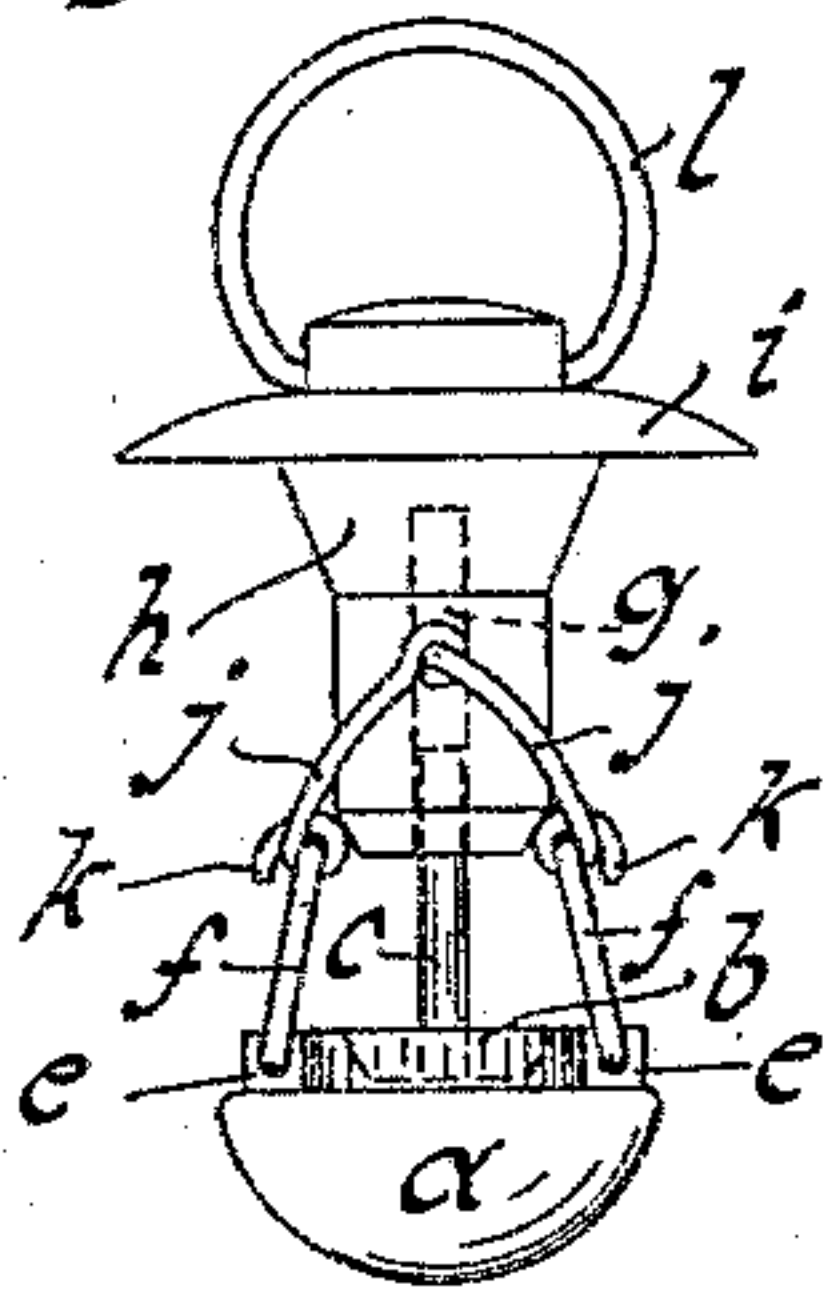


Fig. 5.

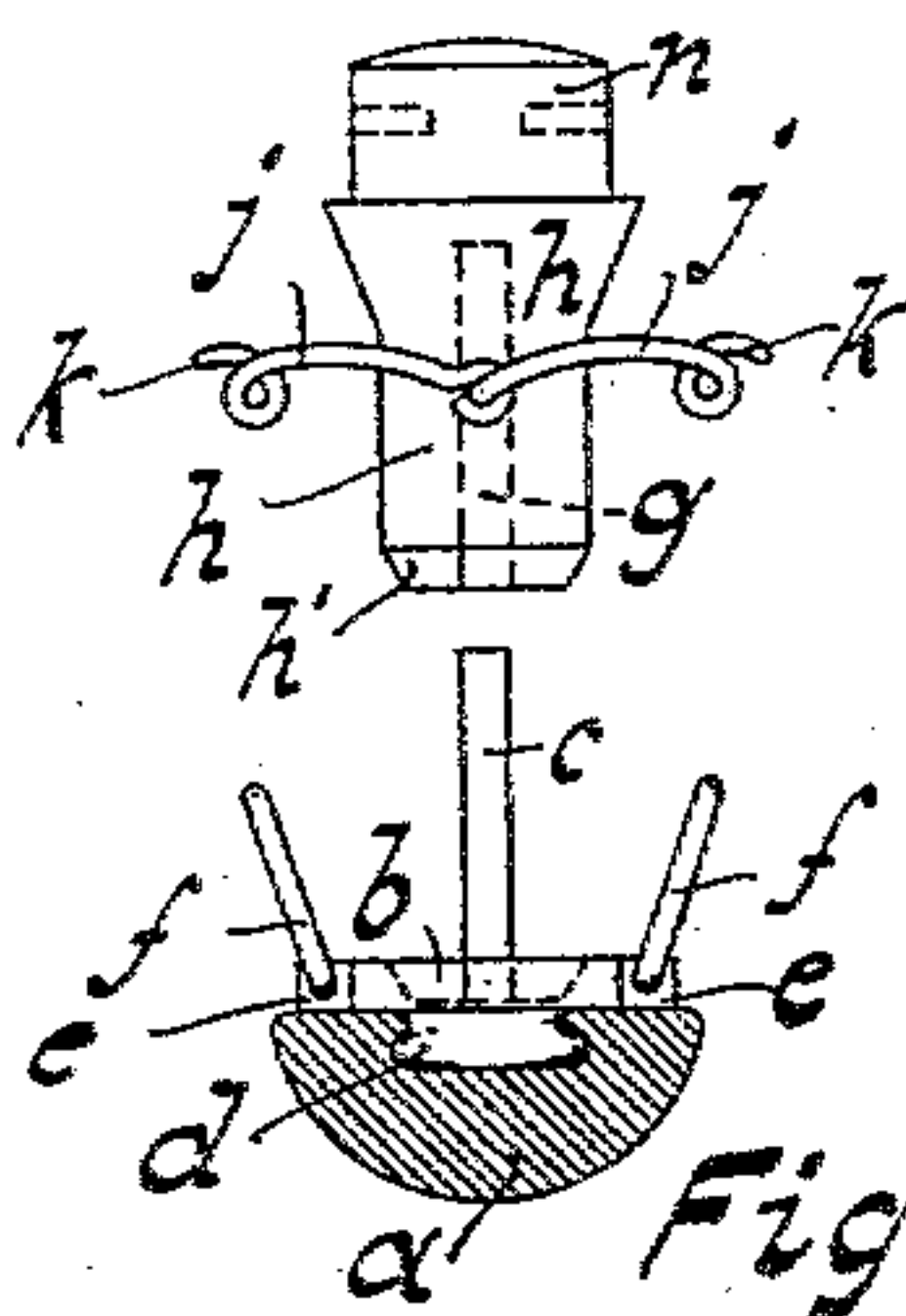


Fig. 3.

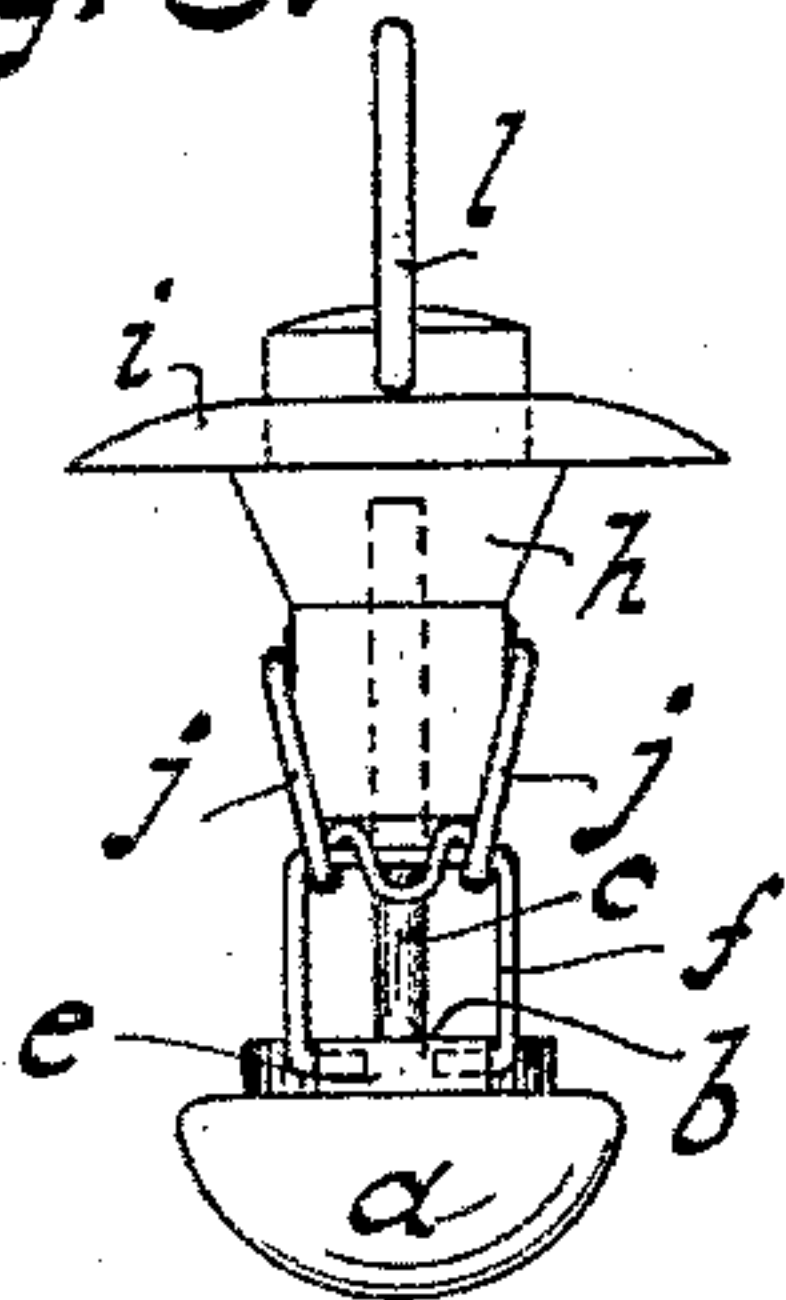


Fig. 7.

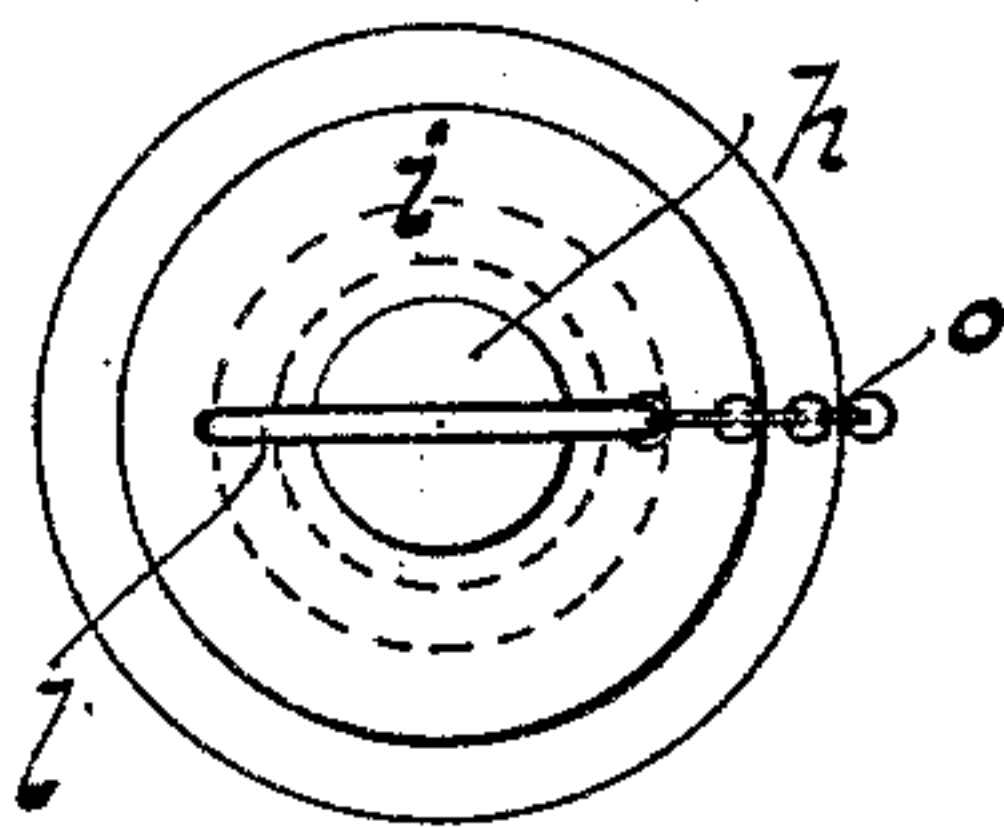
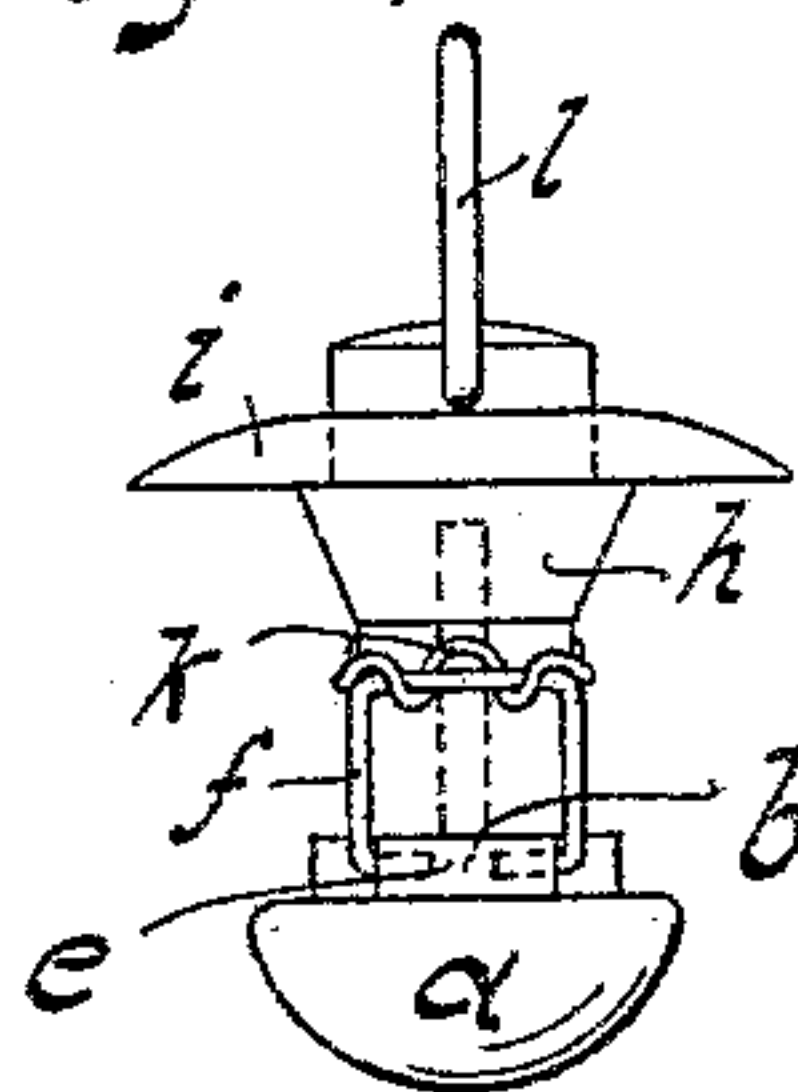


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

GUSTAV KOCH, OF NEW YORK, N. Y., ASSIGNOR TO JACOB FRITZ AND  
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## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 598,050, dated January 25, 1898.

Application filed May 27, 1896. Renewed July 6, 1897. Serial No. 643,616. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAV KOCH, a citizen of Germany, residing in New York, county and State of New York, have invented certain  
5 new and useful Improvements in Bottle-Stoppers, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, wherein—

Figure 1 is an elevation of my bottle-stopper inserted in and closing the mouth of a bottle. Fig. 2 is an elevation of the stopper withdrawn from the bottle. Fig. 3 is an elevation of the stopper at right angles to that shown in Fig. 2. Fig. 4 is a similar elevation to Fig. 2. Fig. 5 is a similar elevation to Fig. 3, showing the stopper when inserted in the  
15 mouth of a bottle. Figs. 5 and 6 are elevations of the main parts of the stopper disconnected. Fig. 7 is a top view of a bottle closed by my improved stopper.

20 Similar letters of reference indicate corresponding parts in all views of the drawings.

My invention relates to bottles and bottle-stoppers; and it consists of a device adapted to be inserted in and secured in the mouth  
25 of a bottle by braces wedged automatically against a flange provided in the mouth of the bottle and holding the plug firmly against the aperture in the neck of the bottle.

The stopper comprises a trunk *h*, having a  
30 circular head *n*, adapted to receive lid *i* and bow *l*, securing the lid *i* to the head and serving also as a handle to the stopper and for connecting it by means of a chain *o* to the neck of the bottle.

35 The body of the trunk may be square, polygonal, or circular in section and is tapered on its lower end, as shown in the drawings, and links *j* of the toggle-joint, forming part of the locking device of the stopper, are pivoted  
40 thereto.

The plug is composed of an elastic packing *a*, secured on the flanged peg *d* and joined to the trunk by pin *c*, sliding in boring *g*, provided in the center of the trunk, and by links  
45 *f*, hinged in extensions *e* of the plug and connected to the links *j* of the toggle-joint. These latter are for this purpose spirally wound on their ends to form joints for links *f*, and their noses *k*, adapted to lock the stopper against  
50 the flange *m*, are extended above or over the joint.

The operation of the stopper will readily be understood from the above description.

The stopper is normally in position shown in Fig. 2. In this position the links *f* and *j*  
55 are drawn in and the stopper may be inserted through the mouth of the bottle. When the elastic packing *a* of the plug reaches the narrower part of the aperture of the bottle and its further motion is thereby arrested, the  
60 trunk *h* of the stopper slides downward on pin *c* until its tapered end reaches recess *b*, provided for it in the plug, and forces thereby links *j* of the toggle-joint apart into position shown in Fig. 1, links *f* forcing their  
65 noses *k* underneath the flange *m* around the mouth of the bottle. The dimensions of the stopper are so proportionated that the vertex of the toggle-joint formed of the links *j* comes in this position of the stopper underneath  
70 their end points *k*, and consequently the plug will be securely bolted thereby and the elastic packing *a* pressed forcibly against the aperture in the neck of the bottle. The tapered  
75 end *h'* of the trunk has the function to spread apart the joints of the links *j* and *f* when the stopper is forced downward, thereby insuring the smooth working of the stopper.

To withdraw the stopper from the bottle, it is only necessary to take hold of bow *l* and  
80 pull it upward. By this action first the toggle-joint composed of the links *j* is drawn together, and links *f*, bracing the plug against flange *m*, being joined to links *j*, the pressure  
85 on the plug is removed, the stopper is extended into position shown in Fig. 2, and then withdrawn from the bottle.

I claim as my invention and desire to secure by Letters Patent—

1. A bottle-stopper, comprising a plug, having an elastic packing adapted to close hermetically the aperture in the neck of a bottle, a centrally-set guiding-pin, bracing-links pivoted to the plug, a trunk, connected to the plug and sliding on the guiding-pin, links forming  
95 a toggle-joint, pivoted to the trunk, and connected with the links pivoted to the plug, a lid and a bow, secured in the head of the trunk, the bow serving as a handle for the stopper and at the same time holding the lid  
100 to the trunk.

2. In a bottle-stopper composed of an elastic



plug and of a body or trunk, extensibly connected to the plug, the combination of braces, pivoted to the plug, with a toggle-joint, composed of links, hinged to the braces, and pivoted to the trunk of the stopper, the toggle-joint operating the braces expanding them or drawing them together in accordance with the motion of the trunk, for the purpose of securing the stopper in the mouth of the bottle and withdrawing it again.

3. The combination with a circular flange, set in the mouth of a bottle or of a similar vessel, of a stopper, composed of an elastic plug, extensibly connected to the trunk or body of the stopper; braces, pivoted to the plug and adapted to wedge it against the flange

and a toggle-joint composed of links, hinged to the braces, and pivoted to the trunk of the stopper, the toggle-joint operating the braces, spreading them apart underneath the flange when the stopper is inserted in the bottle, thereby pressing the elastic plug against the aperture in the neck of the bottle.

In witness that I claim the improvements described in the foregoing specification I have signed my name in the presence of two subscribing witnesses.

GUSTAV KOCH.

Witnesses:

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ELIZABETH C. NIELSON.