

No. 707,978.

Patented Aug. 26, 1902.

F. RECHT.  
CAP FOR BOTTLES.

(Application filed Dec. 13, 1900. Renewed Feb. 21, 1902.)

(No Model.)

Fig. 1.

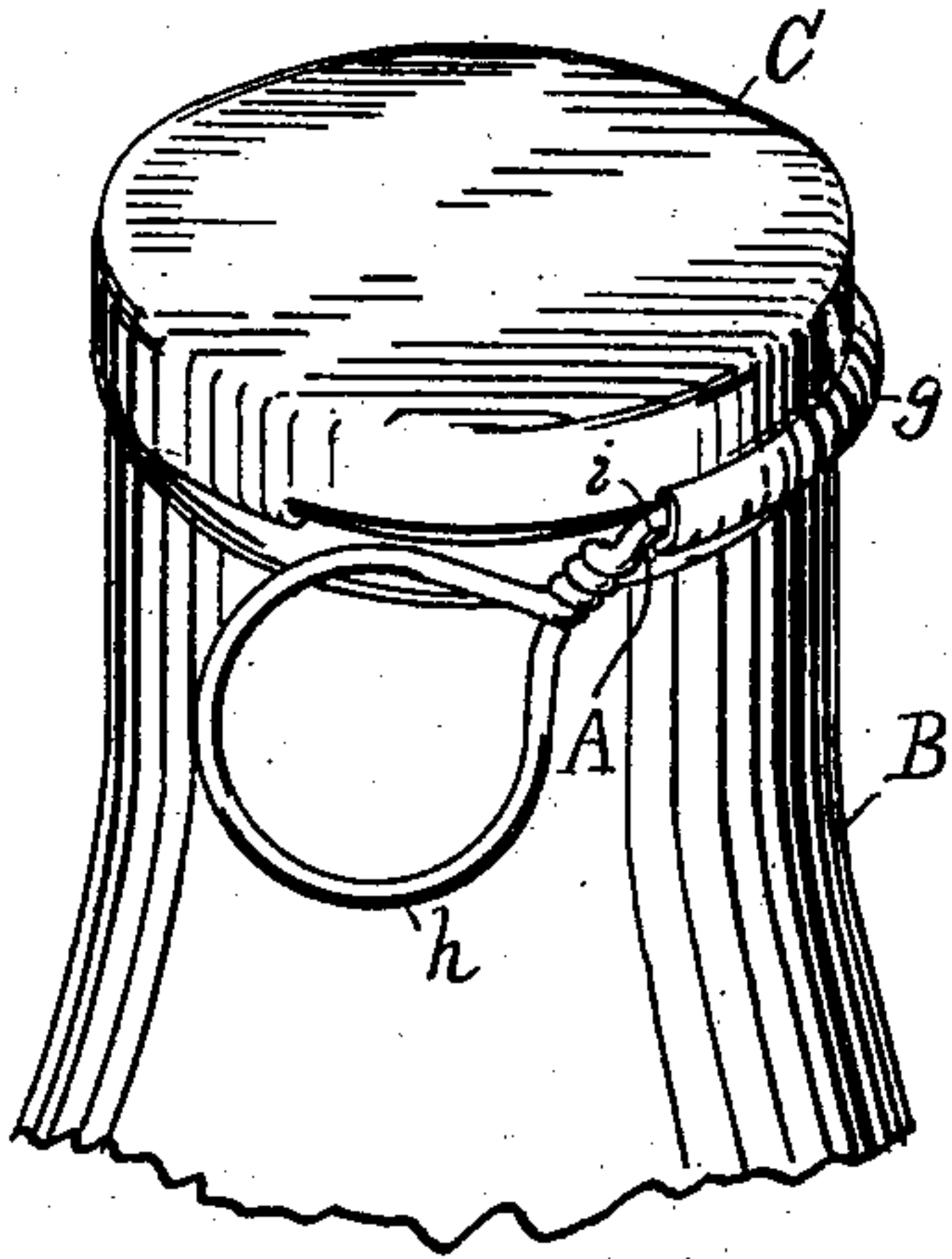


Fig. 2.

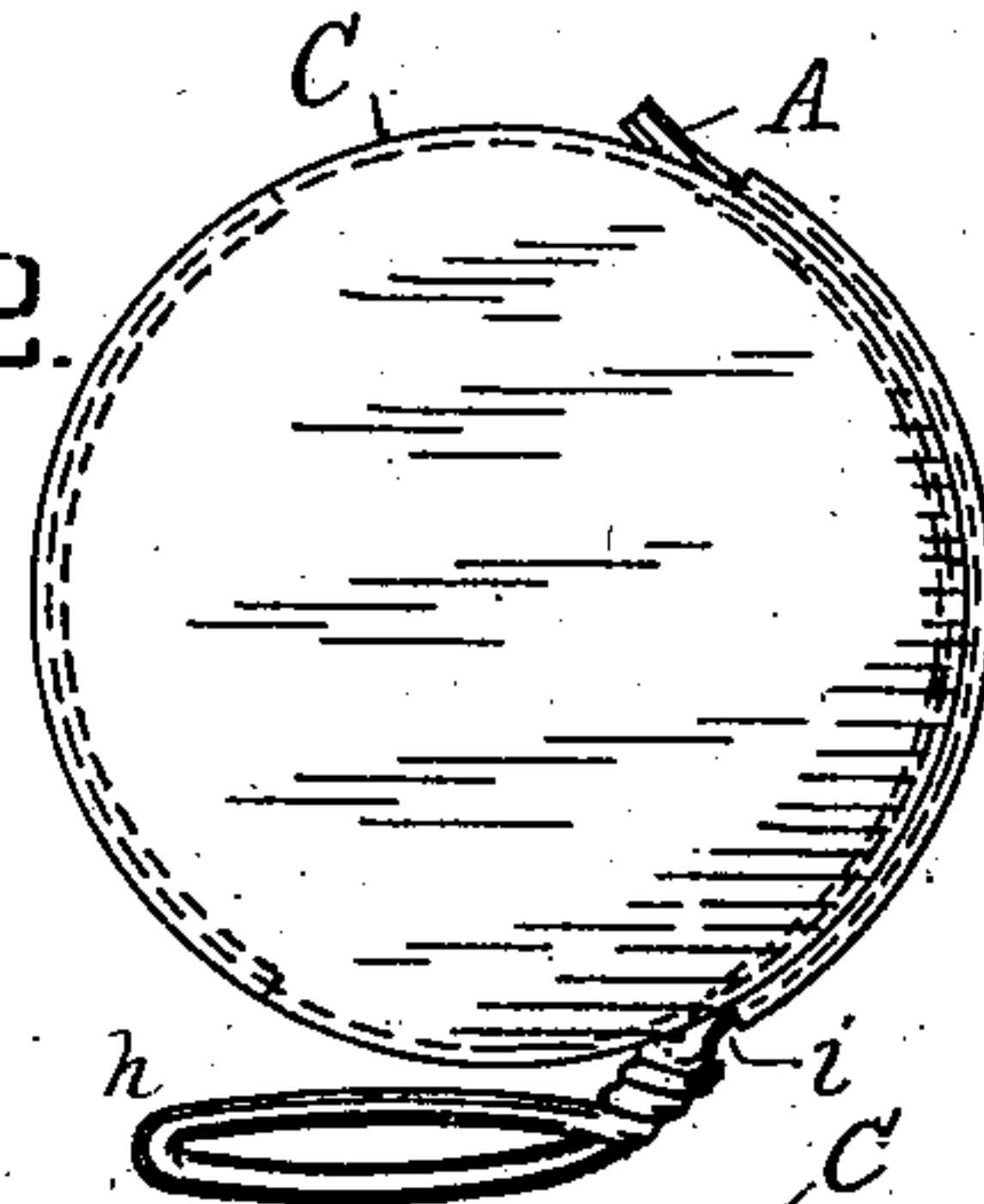


Fig. 3.

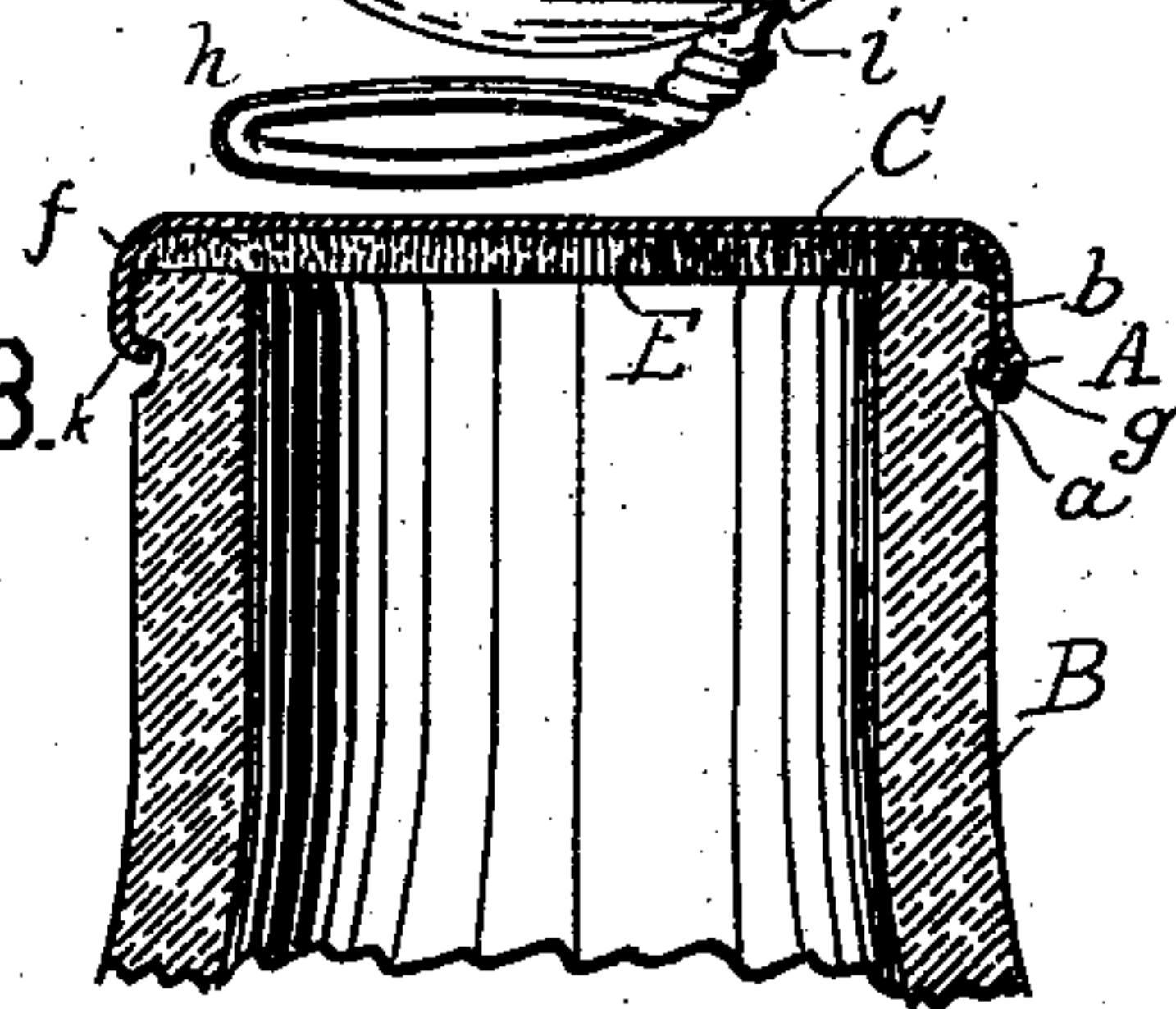


Fig. 4.

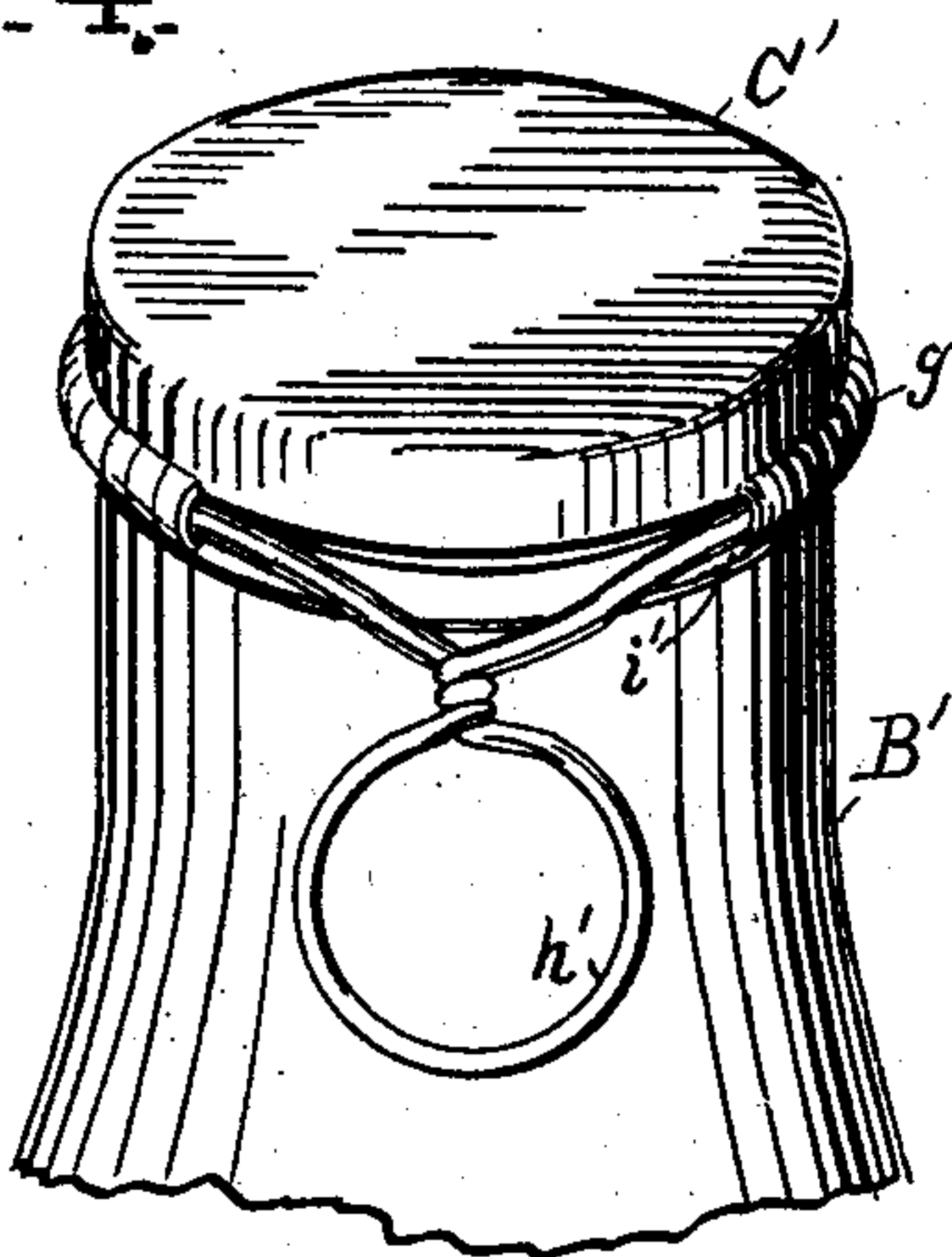


Fig. 5.

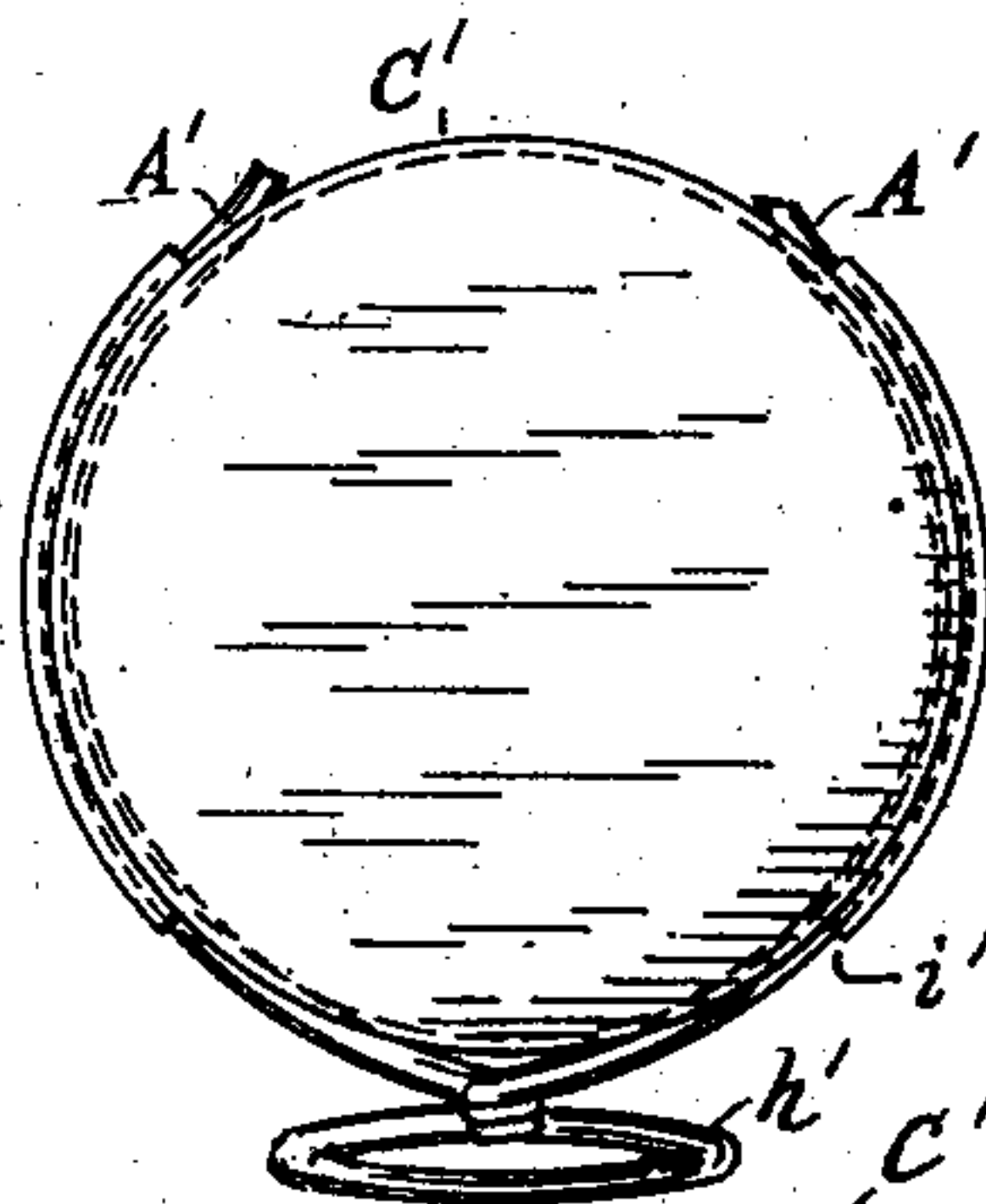
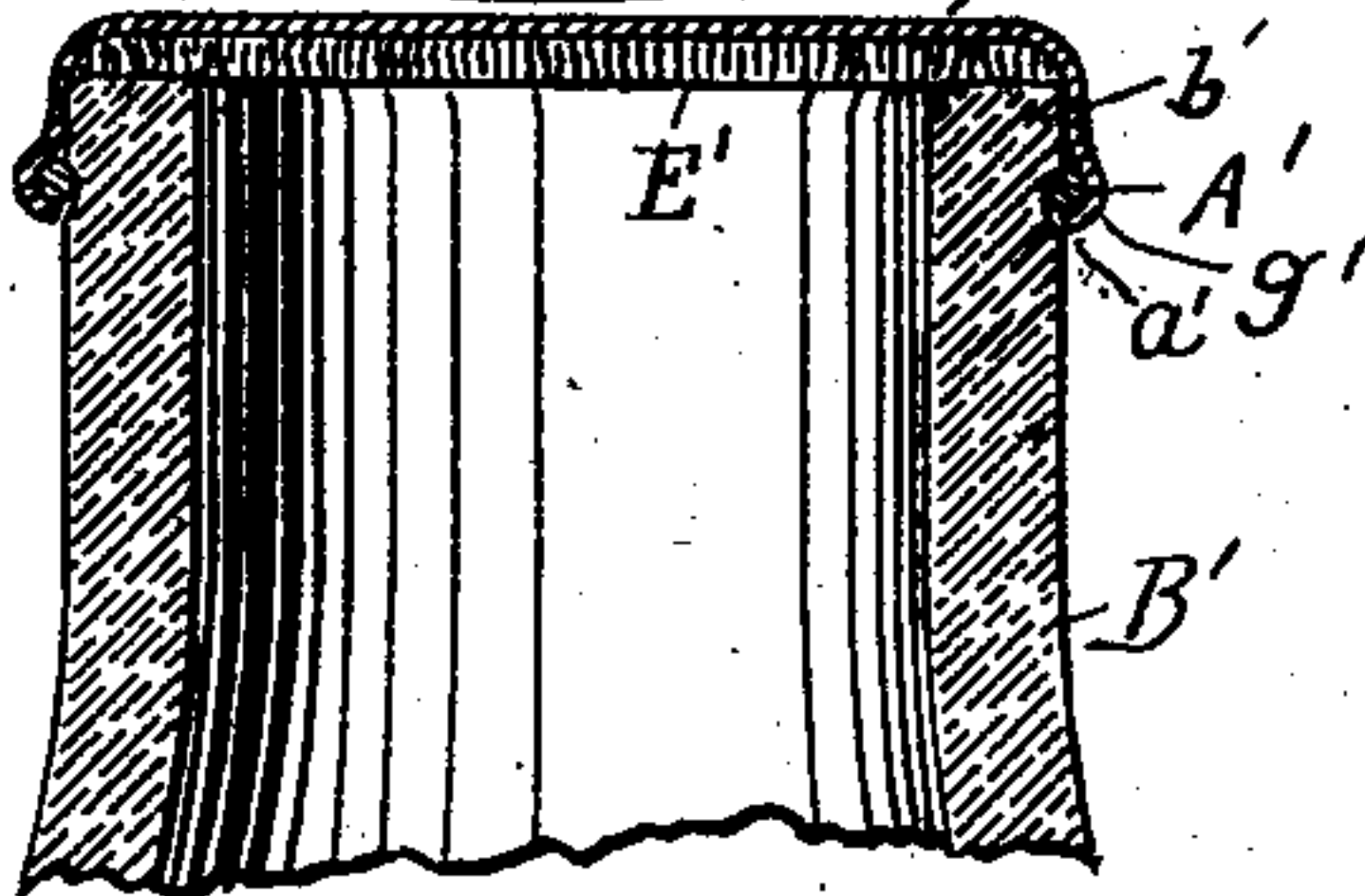


Fig. 6.



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# UNITED STATES PATENT OFFICE.

FREDERICK RECHT, OF BROOKLYN, NEW YORK, ASSIGNOR TO REX CAP AND CORK COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## CAP FOR BOTTLES.

**SPECIFICATION** forming part of Letters Patent No. 707,978, dated August 26, 1902.

Application filed December 13, 1900. Renewed February 21, 1902. Serial No. 95,038. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK RECHT, a citizen of the United States of America, and a resident of the borough of Brooklyn, in the city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Caps for Bottles, of which the following is a specification.

This invention is an improvement on the invention shown in my Letters Patent of the United States No. 646,627, dated April 3, 1900, wherein a flanged cap covers the mouth of the bottle and is locked thereto by a wire which is intermediate between the neck of the bottle and the flange of the cap and engages matching grooves in both by lying partly in each groove. In the forms shown in that patent a space or opening is left between the edge of the flange of the cap and the wall of the bottle-neck through which the wire can be withdrawn upon a slight yielding of one of the parts with respect to the other. In this invention herein claimed no opening is required between the flange of the cap and the bottle-neck for the withdrawal of the wire, and instead there are one or more openings through the flange of the cap into its groove through which the locking-wire is withdrawn from its locking position with both grooves in order to release the cap from the bottle. The locking-wire may completely or sufficiently encircle the bottle-neck in either one or two branches and be the only connecting means between the cap and bottle. A second part of my invention consists in the use of a wire to lock one side only, in which case the opposite side of the cap will be held to the bottle by engaging lips on the neck of the bottle and flange of the cap. In this latter combination the wire may be withdrawn, either as herein shown and claimed or as shown in my patent above noted.

In the accompanying sheet of drawings, which form a part of this specification, Figure 1 is a perspective view of the form of my invention wherein the cap is held to the bottle on one side by the locking-wire and on the opposite side by lips on the bottle-neck and flange of the cap, which directly en-

gage. Fig. 2 is a top view of the cap of the form of Fig. 1 with the wire in place. Fig. 3 is a vertical section through the axis of the cap and bottle shown in Fig. 1. Fig. 4 is a perspective view of another form of my invention wherein the cap is held to the bottle by two branches of the locking-wire which engage matching grooves on opposite sides of the bottle-neck. Fig. 5 is a top view of the cap of the form of Fig. 4 with the wire in place. Fig. 6 is a vertical section through the axis of the cap and bottle shown in Fig. 4.

In the forms shown in Figs. 1, 2, and 3 a wire A serves as a lock between the neck of a bottle B and the flange of a cap C. An annular groove *a* and projecting lip *b* are formed at the top of the bottle-neck, the lip and groove being each the result of the presence of the other. Between the cap and the top of the bottle is a cork disk E. The cap has a flange *f*, which projects below the lip and in front of the groove in the bottle-neck. A groove *g* is formed in the edge of the flange, and the locking-wire lies partly in this groove and partly under the lip and in the groove of the bottle-neck, thereby locking one side of the cap to the bottle. For the convenient removal of the wire a portion is formed into a loop *h*, and there is an opening or notch *i* through the flange into the groove through which the wire projects and through which the wire is withdrawn when it is to be removed. This opening is shown as a notch with a width equal to one-sixth of the circumference of the cap; but it is not necessary that it should be so wide, and it may be a round hole. In this form the groove extends about a third of the distance around the circumference of the flange, and the locking-wire secures the cap on one side only. On the opposite side the cap is held down by a lip *k*, which is formed by turning the edge of the flange inward to engage the lip on the bottle-neck.

In the forms shown in Figs. 4, 5, and 6 the cap is held on both sides by the locking-wire instead of being held on one side by the locking-wire and on the opposite side by the engagement of a lip on the flange with a lip on the bottle-neck, as in the form first discussed.



The loop *h'* is formed at the middle point of the wire A, and one end lies in the matching grooves on one side of the cap C', and the other end lies in the matching grooves on the other side of the cap, and it is held to the bottle B' entirely by the two branches of the wire.

In carrying out either form of the invention the caps are preferably made up without the grooves and lips or with these but partially formed, and these are formed in a machine by means of jaws which close in at the sides or by spinning-rolls while the cap is clamped on the bottle and the wire is in place. However, it is also practicable to apply a cap of either form which is fully formed by clamping the cap on the bottle and inserting the wire through the opening while it is clamped; but the first method is preferable, since a slight variation in the size of bottle-necks is unavoidable and an accurate fit can be insured only by setting up the grooves and lip while the cap is in place.

It is obvious that many modifications may be made without departing from the spirit of my invention. Thus, for example, in locking the cap to the bottle wholly by the wire only one branch or end of the wire need be used if it extends more than half-way around the bottle-neck. The loop in the wire is not essential, since if it is omitted the wire may be withdrawn by other means, as by twisting it around a key. While in defining the structure the wire is said to engage with matching grooves, it is not intended to indicate that these grooves are more than suitable opposing seats for the wire, and at the lines of contact with the wire one or both seats may actually present a convex surface without in any way changing the principle of the invention.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a bottle, of a flanged cap for the mouth thereof, the neck of the bottle and the flange of the cap being provided with matching grooves, a wire intermediate between the neck and cap and locking the cap to the bottle by lying partly in each groove, and an opening through the flange of the cap into its groove through which the wire can be withdrawn from its locking position with both grooves, substantially as described.

2. The combination with a bottle, of a flanged cap for the mouth thereof, the neck of the bottle and the flange of the cap being provided on one side with engaging lips and on the opposite side with matching grooves, and a wire intermediate between the neck and the cap and locking the cap to the bottle by engaging the grooves in both, substantially as described.

3. The combination with a bottle of a flanged cap for the mouth thereof, the neck of the bottle and the flange of the cap being provided on one side with engaging lips and on the opposite side with matching grooves, an opening through the flange of the cap into the groove, and a wire passing through the opening and lying intermediate between the neck and the cap and locking the cap to the bottle by engaging the grooves in both, substantially as described.

Signed by me in New York city, borough of Manhattan, this 11th day of December, 1900.

FREDERICK RECHT.

Witnesses:

SAMUEL W. BALCH,  
FRANCIS H. SHEPARD.