

(No Model.)

2 Sheets—Sheet 1.

A. E. DAIN.
BOTTLE STOPPER.

No. 450,993.

Patented Apr. 21, 1891.

Fig. 1.

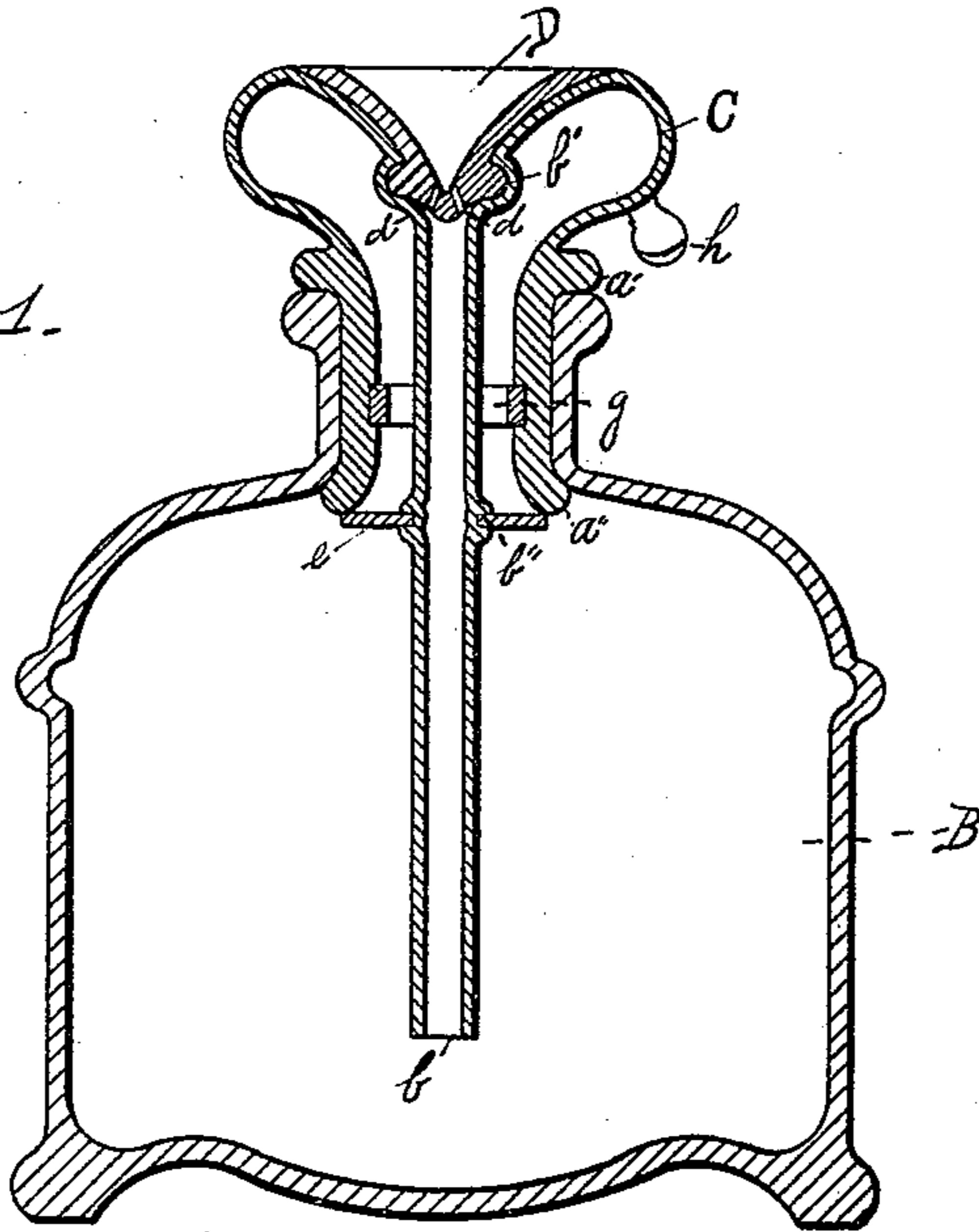
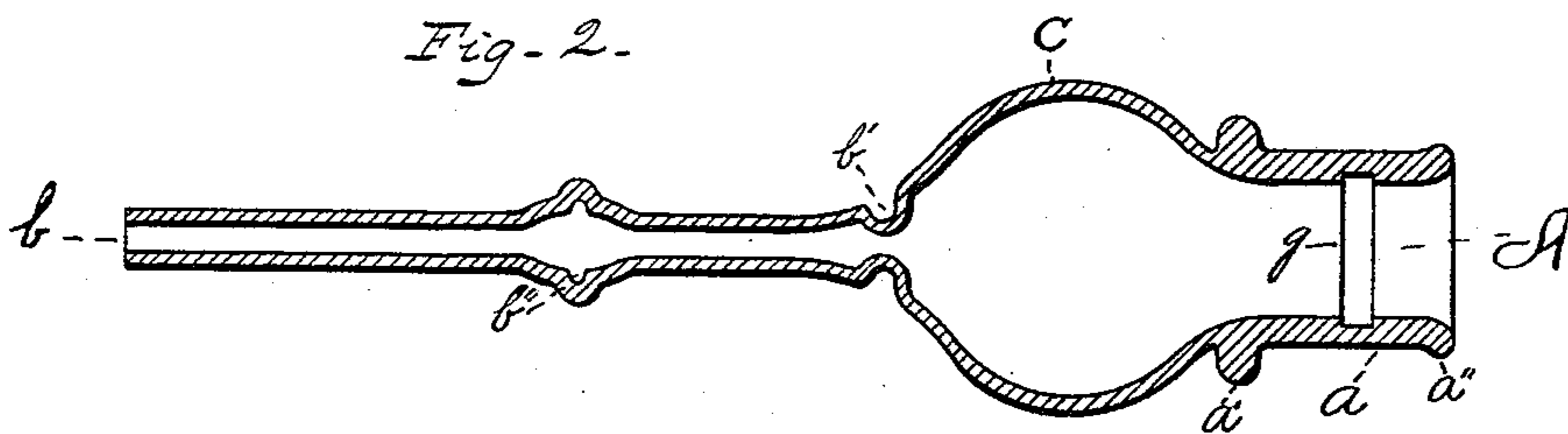


Fig. 2.



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BY

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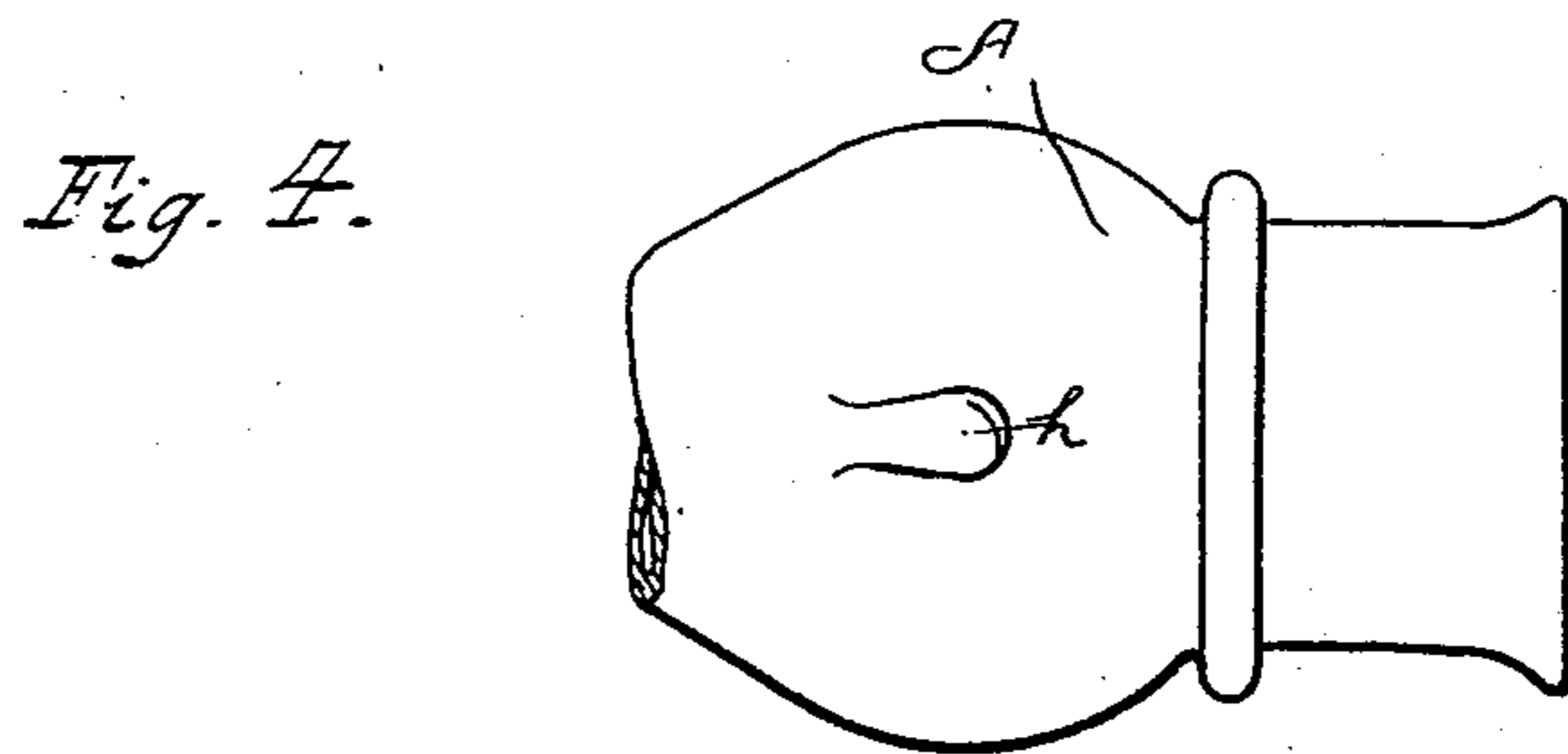
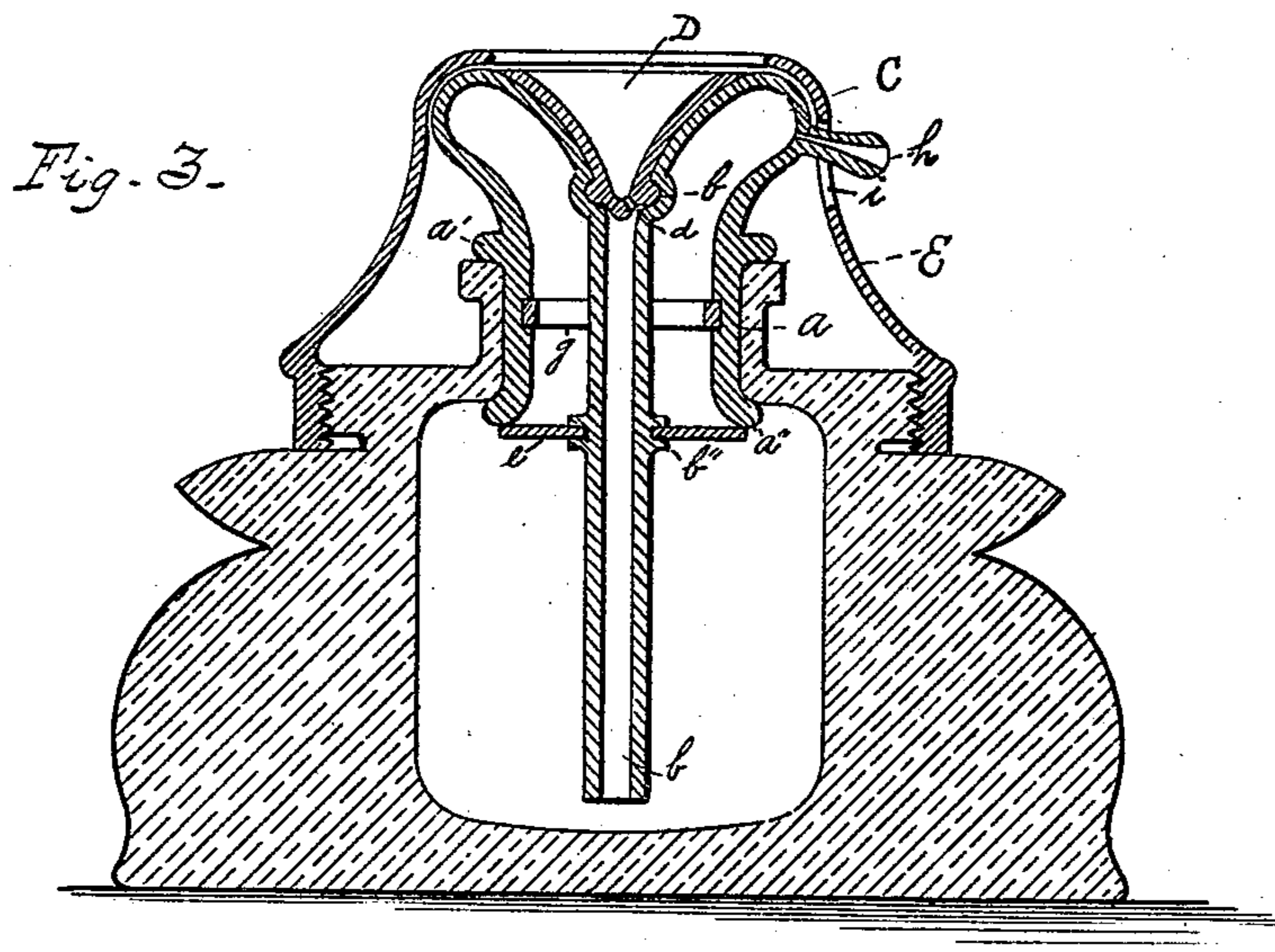
(No Model.)

2 Sheets—Sheet 2.

A. E. DAIN.
BOTTLE STOPPER.

No. 450,993.

Patented Apr. 21, 1891.



Witnesses:

H. E. Harrison.
R. J. Postwick

Inventor.
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UNITED STATES PATENT OFFICE.

ALBERT E. DAIN, OF PITTSBURG, PENNSYLVANIA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 450,993, dated April 21, 1891.

Application filed August 11, 1890. Serial No. 361,741. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. DAIN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Stoppers; 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, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 indicates a vertical central section of an ordinary bottle provided with my improved bottle-stopper. Fig. 2 is a longitudinal section of said stopper. Fig. 3, Sheet 2, is a vertical central section of an inkstand provided with my improved stopper. Fig. 4, Sheet 2, is a section of said stopper, showing air-valve on side thereof.

My invention relates to air-tight stoppers, and is peculiarly adapted to inkstands of the automatic or fountain type; and it consists of a soft-rubber tube of irregular diameter, and adapted, when the stem or most contracted portion thereof is reversed or drawn through the globular or portion of the greatest diameter, to fit into the neck of a bottle, said stem projecting into the bottle or vessel, as shown in the drawings.

I will now more specifically describe my invention, reference being had to the accompanying drawings, forming part hereof, in which like letters indicate like parts wherever they occur.

In said drawings, A is a tube of irregular diameter, consisting of a neck or collar *a* of greater cross-sectional thickness than the balance of said tube and provided with the beads *a'* and *a''* and adapted to fit into the neck of the bottle B or other vessel, as shown in Figs. 1 and 3. A stem *b*, which when reversed or drawn through the globular portion C of said tube, projects through the same into the vessel or bottle, as shown in Figs. 1 and 3. Said stem is formed with the grooves *b'* and *b''*, respectively external and internal, before the stem of said stopper is reversed; but after said reversal and when said stopper is applied to a bottle internal and external, respectively, as shown in Figs. 1 and 3, said groove *b'* be-

ing formed at the juncture of said stem, with the globular portion of said stopper when said stem is drawn through said globular part, is located at the bottom of the funnel-shaped mouth of said stopper formed thereby, and is adapted to receive the lower beaded end of the mouth-piece D, formed of glass or other suitable material, which is removably secured in said funnel-shaped mouth to protect the same from injury by thrusting a pen therein when said stopper is applied to an ink-bottle, as shown in Fig. 3, the lower end of said mouth-piece being provided with openings *d d* for the purpose of permitting ink or other liquid to pass through said stem into said mouth-piece. Said groove *b''* is formed in said stem about midway its length, or, more accurately, at a point (when said stopper is applied to a bottle) slightly below the plane of the lower end of the collar or neck *a*, in order that the disk *e*, formed of hard rubber or other suitable material, secured therein, may impinge against said lower end of said collar and prevent said stem drawing upward through the collar and globe.

g is an annular ring, formed of spring-steel, adapted to fit within said neck or collar and to aid in maintaining the same within the neck of the bottle.

h is a valve adapted when pressed to admit air into said vessel or bottle, whereby the same may be filled through the mouth of the stem without disconnecting said stopper from the bottle or vessel to which it may be applied.

E is a cap of hard rubber or other suitable material, the upper end of which is provided with an orifice and the inside lower end with a thread to engage a corresponding thread upon the neck of the bottle and is adapted to fit over and protect the upper portion of said stopper, as shown in Fig. 3. Said cap is also provided with a slot *i*, in which said valve projects, and of sufficient length to permit said valve some play therein at each successive depression of said stem.

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

1. A bottle-stopper, substantially as described, consisting of a neck or collar adapted to fit in the neck of a bottle, a globe, and a stem provided with external and internal

grooves, said stem being adapted when reversed through the globular portion of said stopper to project into the bottle or other vessel to which said stopper may be applied, 5 substantially as and for the purpose herein set forth.

2. The combination of a tube consisting of a neck or collar, a globe, and a stem adapted when reversed to project into a bottle, a 10 mouth-piece provided with an opening at its lower end and adapted to fit into the upper funnel-shaped portion of said tube, a disk secured in a groove on said stem, an annular

ring adapted to fit within the collar of said tube, a cap provided with an internal thread 15 at its lower end, an orifice at its upper end, and a slot in its side near the upper end thereof, and a bottle, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing I 20 hereunto affix my signature this 19th day of July A. D. 1890.

ALBERT E. DAIN. [L. S.]

In presence of--

C. C. LEE,

C. S. REA.