

(Model.)

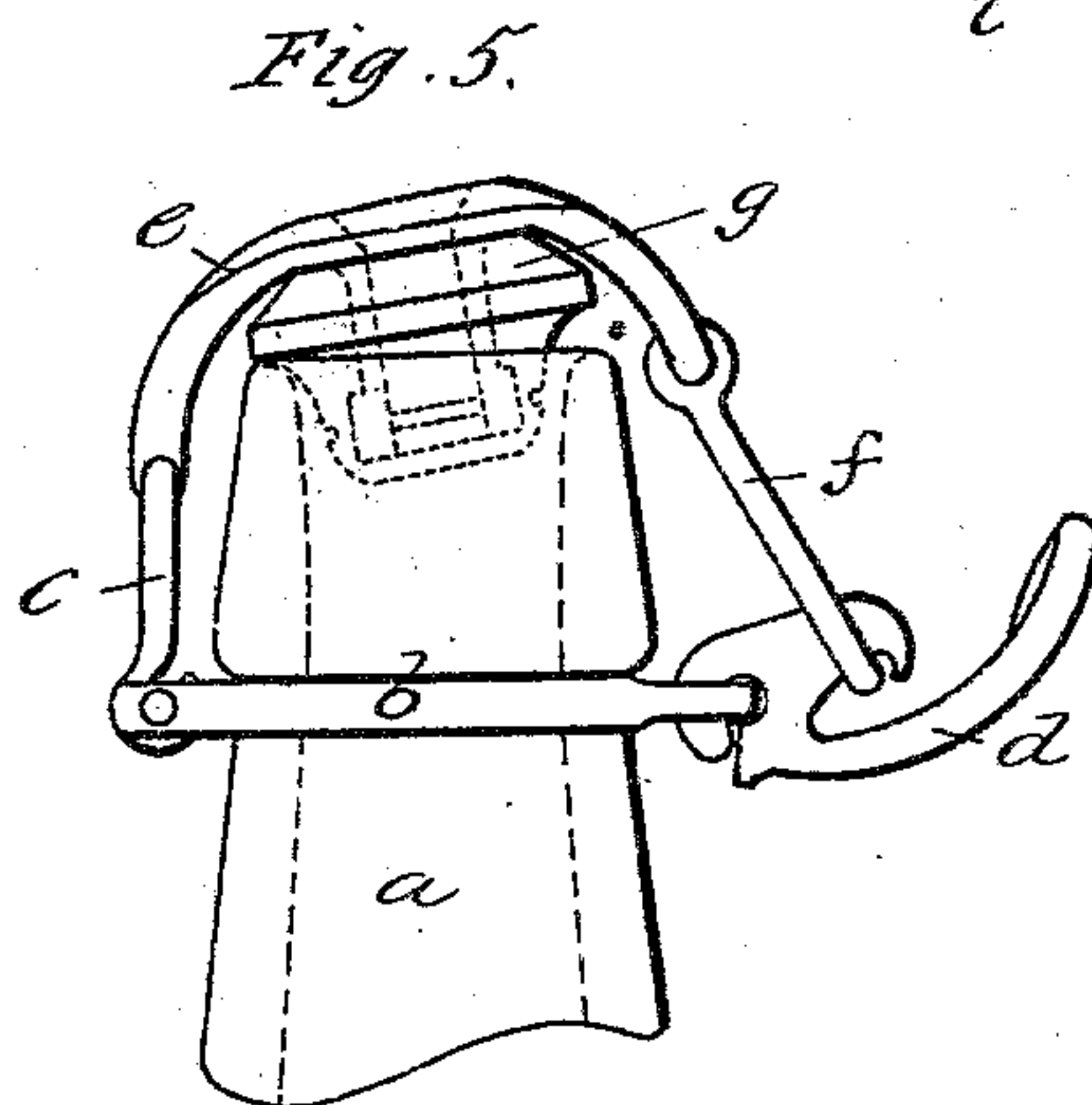
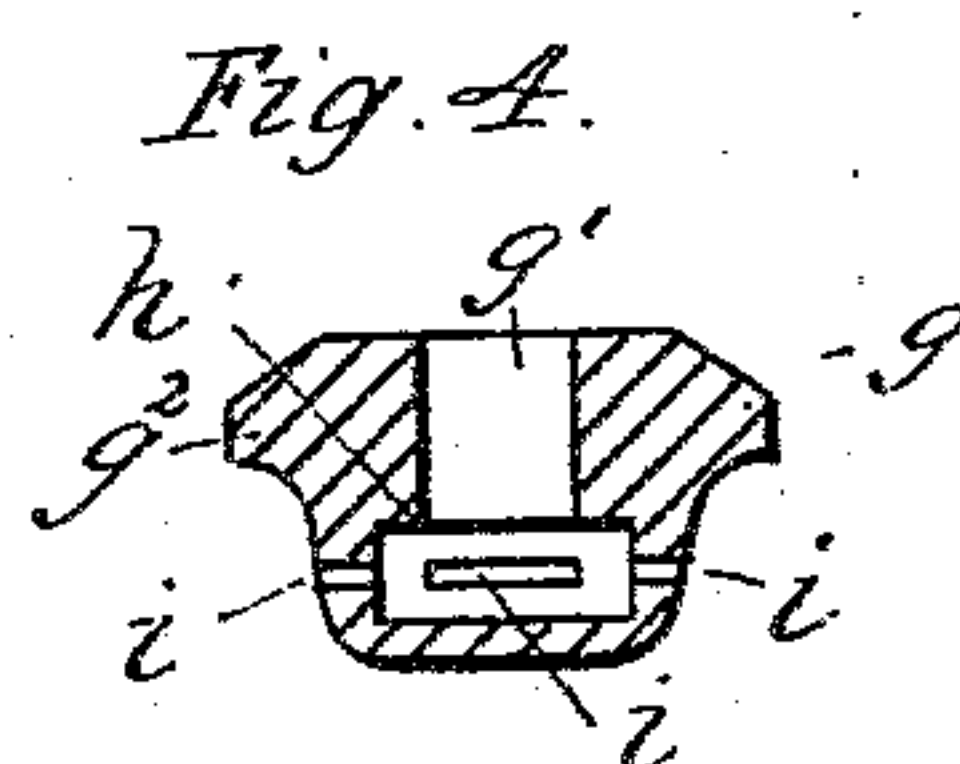
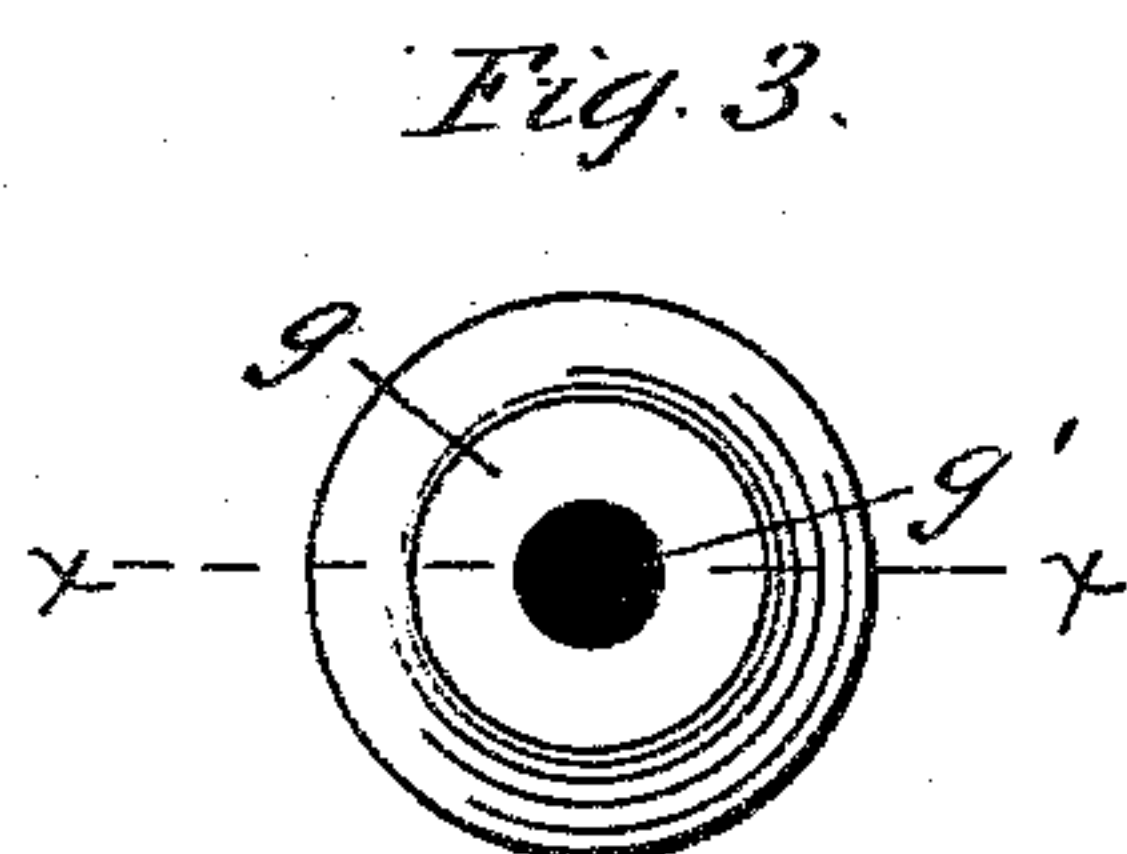
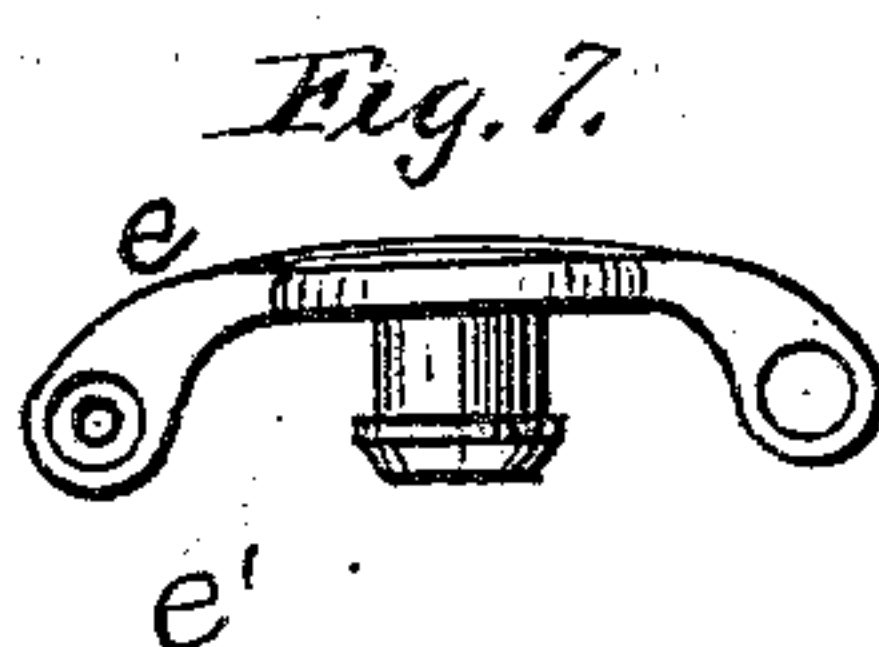
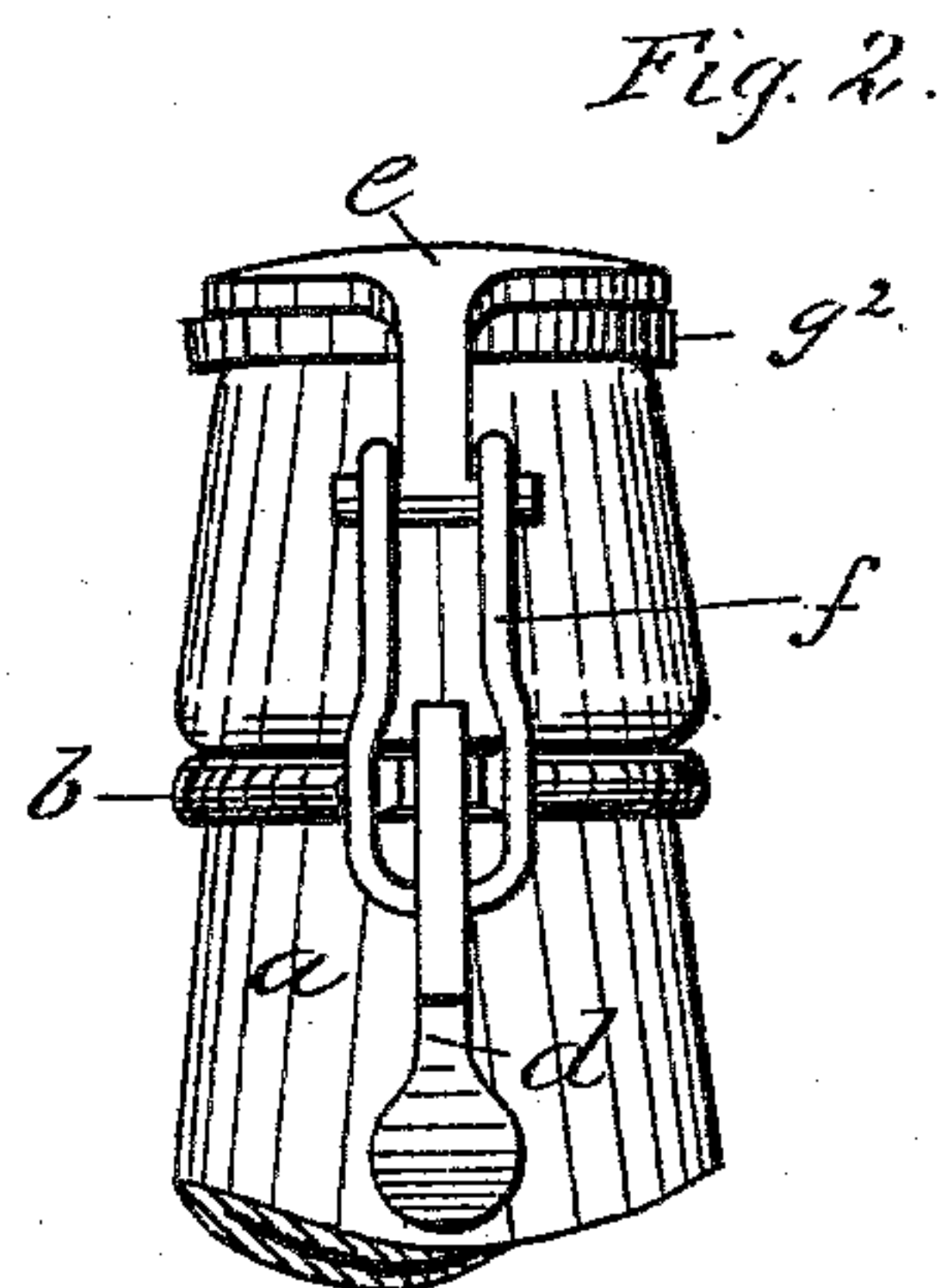
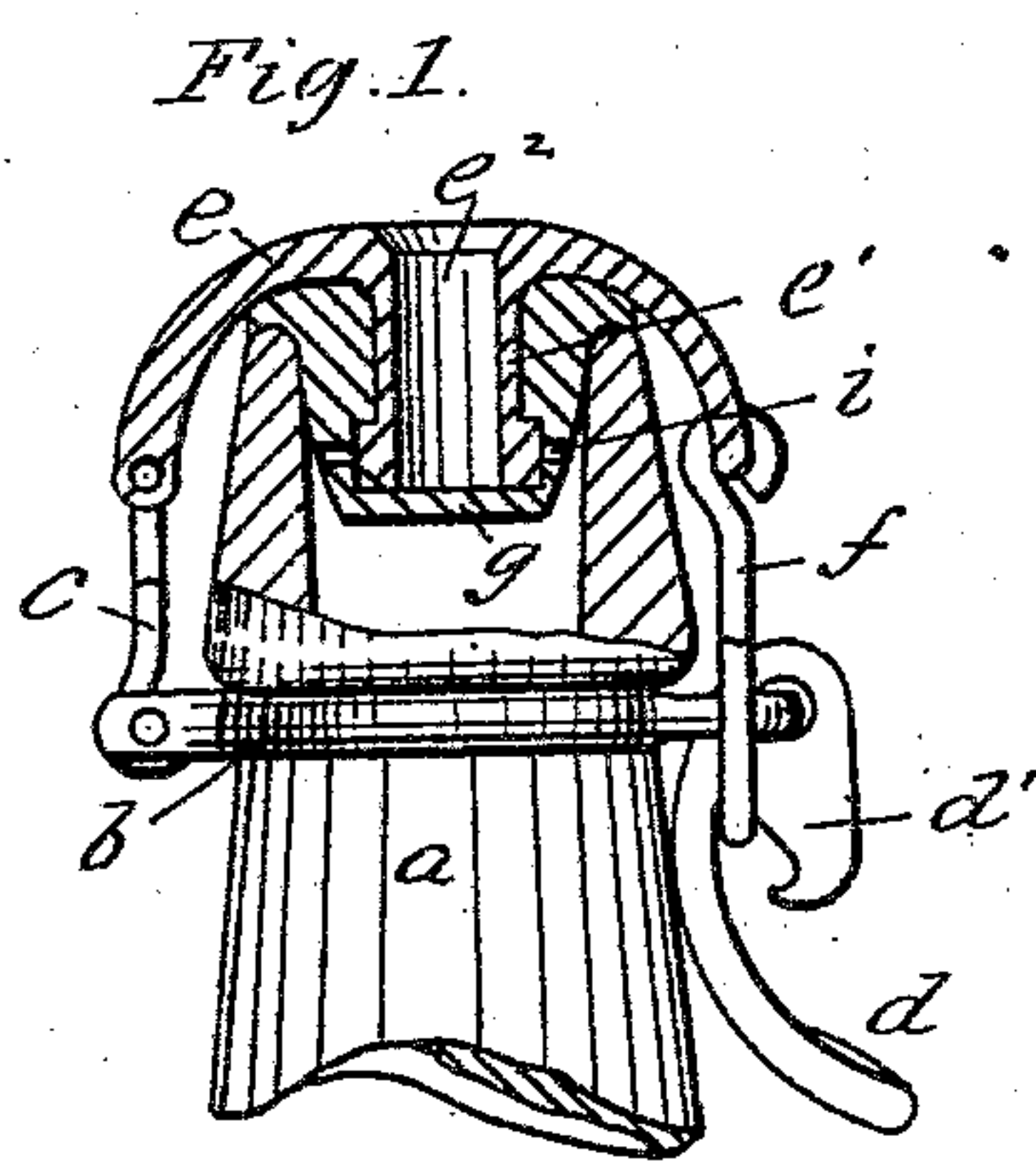
2 Sheets—Sheet 1.

F. B. THATCHER & J. W. JOHNSON.

BOTTLE STOPPER.

No. 283,436.

Patented Aug. 21, 1883.



Witnesses:
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2 Sheets—Sheet 2.

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Fig. 6.

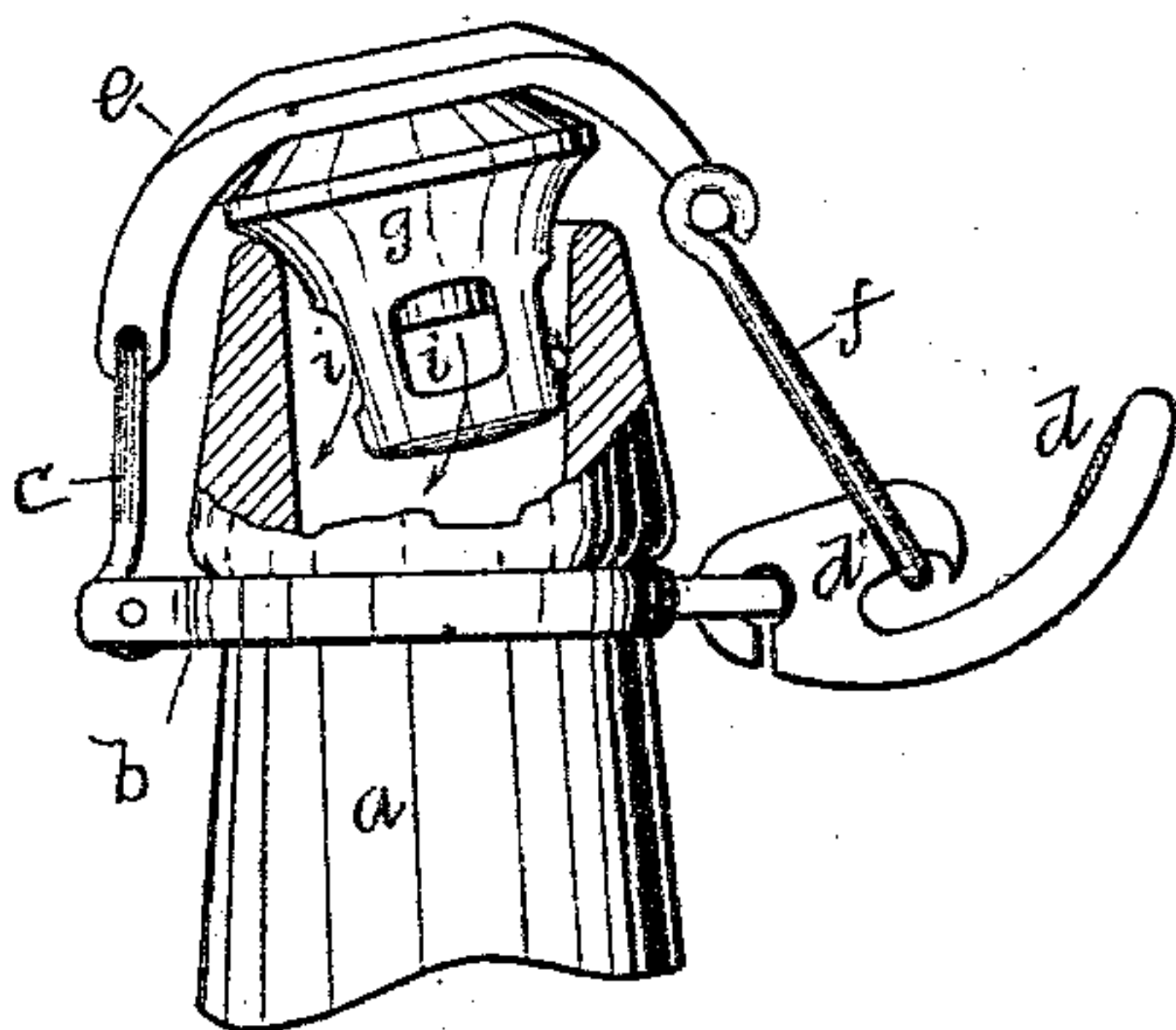


Fig. 8.

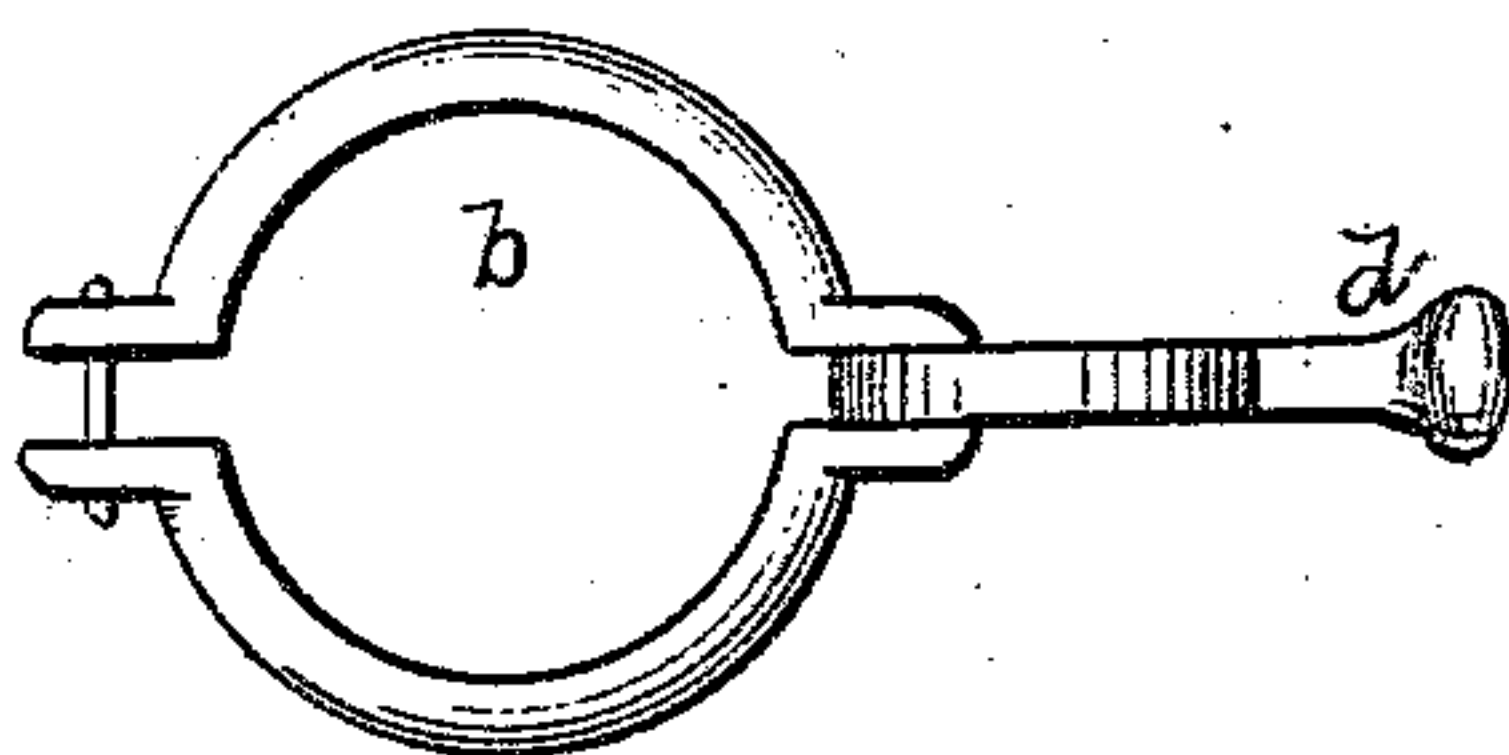


Fig. 9.



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UNITED STATES PATENT OFFICE.

FREDERICK B. THATCHER AND JOSEPH W. JOHNSON, OF NEW BRITAIN, CONNECTICUT, ASSIGNORS OF ONE-FOURTH TO ARTHUR L. MOFFITT, OF SAME PLACE, AND WM. F. HURD, OF BRIDGEPORT, CONNECTICUT.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 283,436, dated August 21, 1883.

Application filed December 4, 1882. (Model.)

To all whom it may concern:

Be it known that we, FREDERICK B. THATCHER and JOSEPH W. JOHNSON, both of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a side view of our device as applied to a bottle, the stopple closing the bottle and being partly in section. Fig. 2 is a front view of the same, showing fastener. Fig. 3 is a top view of our elastic stopple. Fig. 4 is a view of same in central cross-section on plane xx of Fig. 3. Fig. 5 is a view of our device in position as when the bottle is filling. Fig. 6 is a similar view, the neck of the bottle being shown in section, showing the rubber in the position it assumes when the liquid is passing into the bottle. Fig. 7 is a side view of the perforated cap-plate or cover. Fig. 8 is a plan view of the neck-band and cam-lever, and Fig. 9 is a side view of the cam-lever.

This invention relates to that class of bottle stoppers and fasteners which employ, essentially, a metal cap-plate having a rubber plug or stopple or packing with a valve, a neck-band, and fastening means for holding the stopper part in the mouth of the bottle; and it has for its main object to remove defects in the devices that have heretofore been used or suggested, and to make a better, if not a perfect, seal for a bottle containing soda or carbonated liquid.

With these and other objects in view our improvements consist in the special construction and form of the elastic plug or stopple with a valve, and in the construction, combination, and arrangement of parts, as will be hereinafter more fully set forth, and pointed out in the claims.

In the accompanying drawings, the letter a denotes a bottle of ordinary form and material, having secured about its neck a metallic band, b , to which is pivoted on one side a link, c , usually of wire, and diametrically opposite to this is pivoted a cam-lever, d .

To the link c is pivoted the metallic cover e , which has a central downward-projecting stem,

e' , with a central perforation, e^2 . The yoke or link f is pivoted to this cover in such position as to enable its lower loop to engage the hook d' of the lever when its handle is turned upward.

The elastic plug or stopple g is made, preferably, of india-rubber, and it has a central mortise, g' , contracted in its upper part to form the shoulder h , and adapted to fit closely upon and conform to the stem e' of the cover. This plug is raised near the center of its top (which is flat, with chamfered edge, as shown, or hemispherical) above the plane of the upper edge of the rim, which edge is undercut or formed to fit the contour of the mouth of the bottle, forming flange g^2 . About midway of the body of the plug g its lateral walls are perforated by one or more (in the form shown by four) vents, i , and through these and the stem the bottle is filled on the ordinary bottle-filler.

The various parts of our device, when the bottle is filling, are arranged about as shown in Figs. 5 and 6, the inwardly-turned point of the cam-hook d' holding the yoke, the liquid and gas forcing the flat bottom of the plug away from the bottom rim of the stem, and passing up to and through the lateral vents into the bottle. As soon as the filling is completed the lever is forced down against the bottle and locked there by the upward pull of the yoke, as seen in Fig. 1. The elastic plug is forced into the mouth of the bottle as the lever is thus depressed, the pressure coming first upon the upper part of the plug near its center, and this crowds the material into the mouth, packing it firmly into the space between the bottle and the stem of the cap. As the cap is further depressed in locking, it compresses the flange g^2 between the cap and the bottle, and also draws the flat bottom of the plug tightly against the lower rim of the stem, forming a perfect stopper against gas and liquid. The pressure of the gas in the closed bottle tends to shut the passage through the vents and under the rim even more closely. The complete closing of the bottom of the plug and the lateral location of the vents, in combination with the central packing feature of the plug, form the main features of our invention.

We are aware that perforated elastic plugs have been used in bottle-stoppers, and do not claim them, broadly.

It is obvious that our stopper may be used on bottles of various forms and containing other than gaseous liquids, and also on fruit jars or cans.

We claim as our invention—

1. As an improved article of manufacture, the elastic plug or stopple *g*, with the central mortise, *g'*, contracted at its upper end to form shoulders, and formed with the flange *g''* and the lateral vents *i*, adapted for use as described.

2. The combination, substantially as herein-before described, of the cap-plate having an elastic plug connected thereto, with the neck-band, the connecting-link pivoted to both neck-band and cap-plate, the yoke or link *f*, pivotally connected to the cap-plate, and the cam-lever *d*, pivotally attached to the neck-band for engaging with said yoke or link *f*, as set forth.

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Witnesses:

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