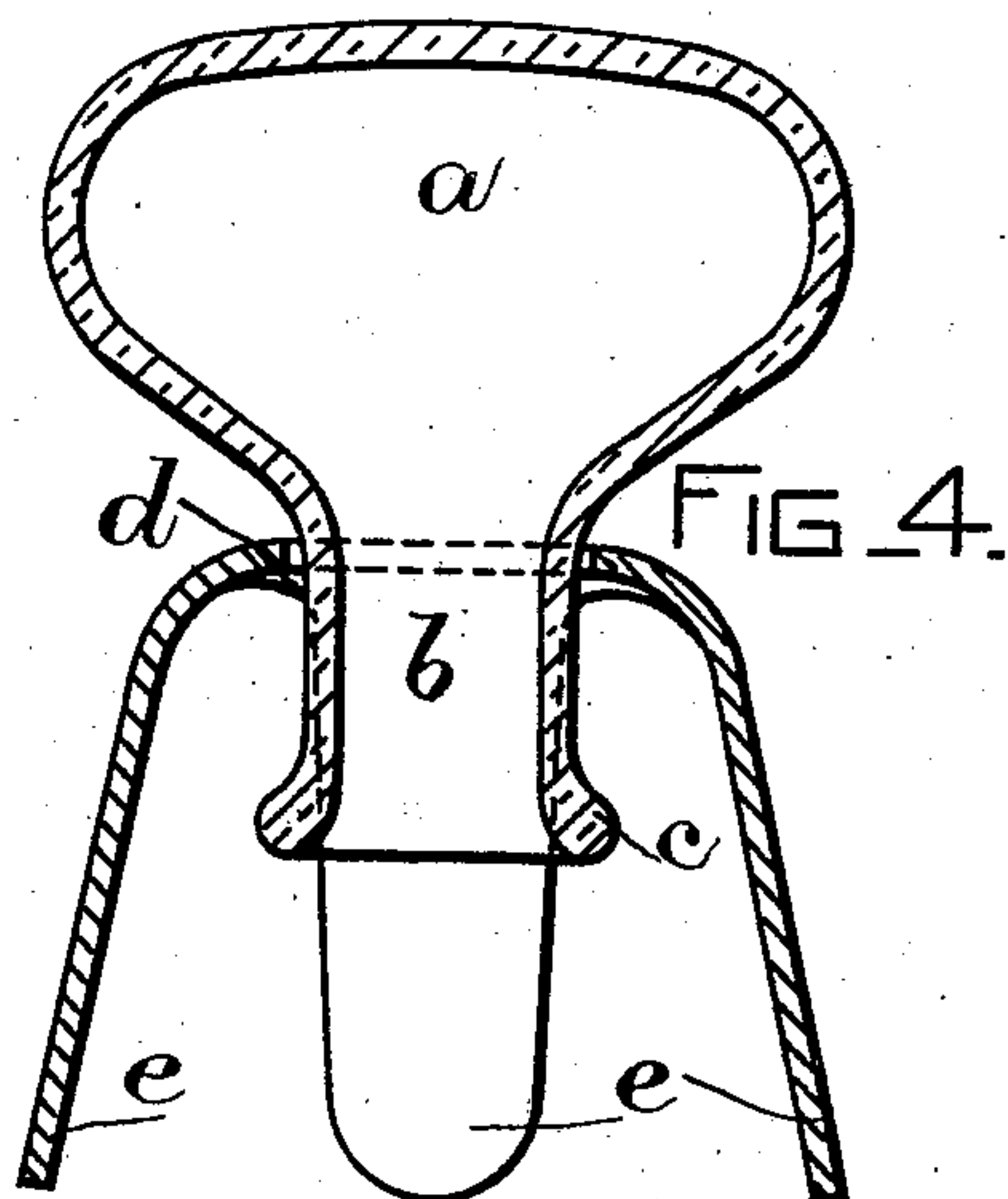
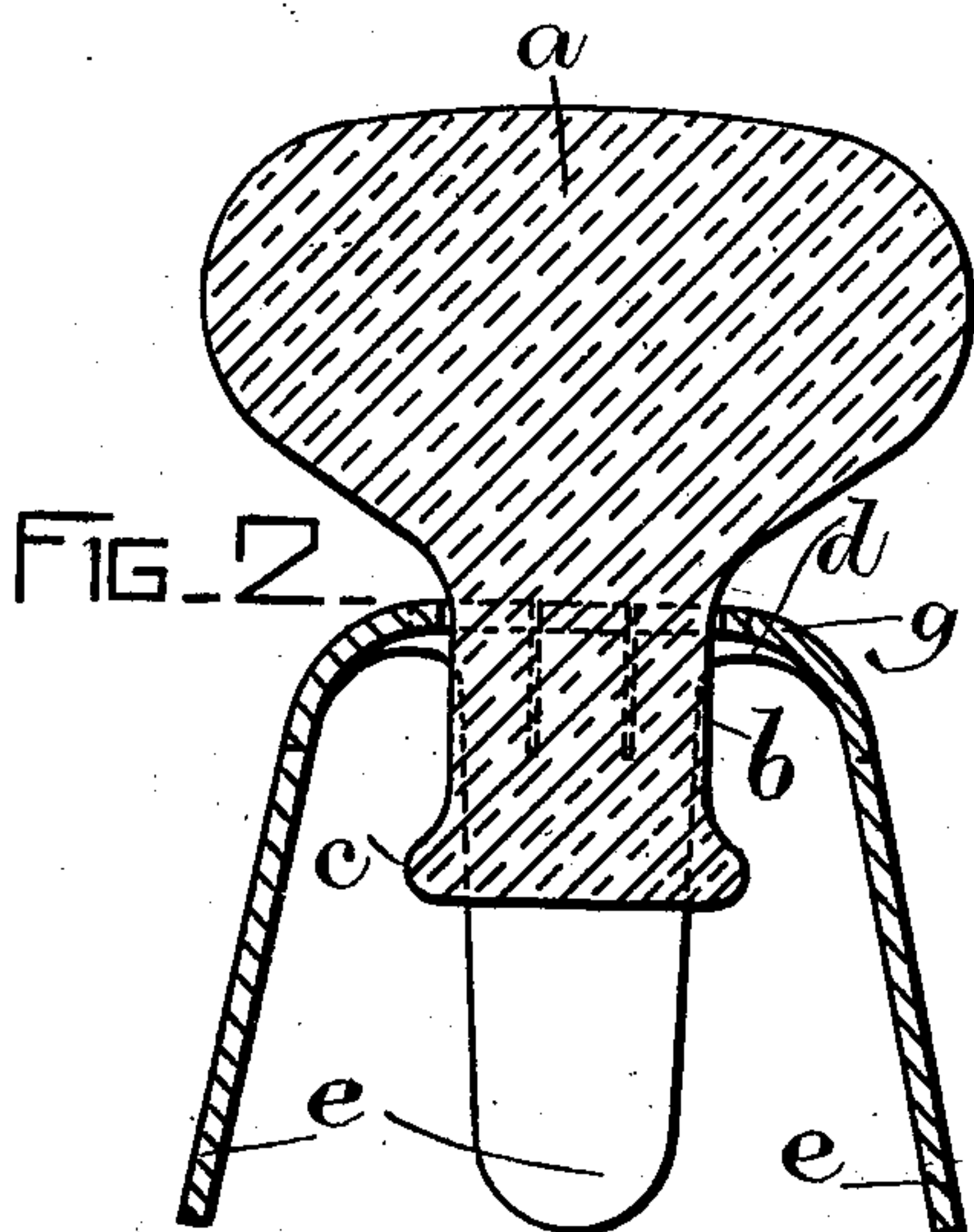
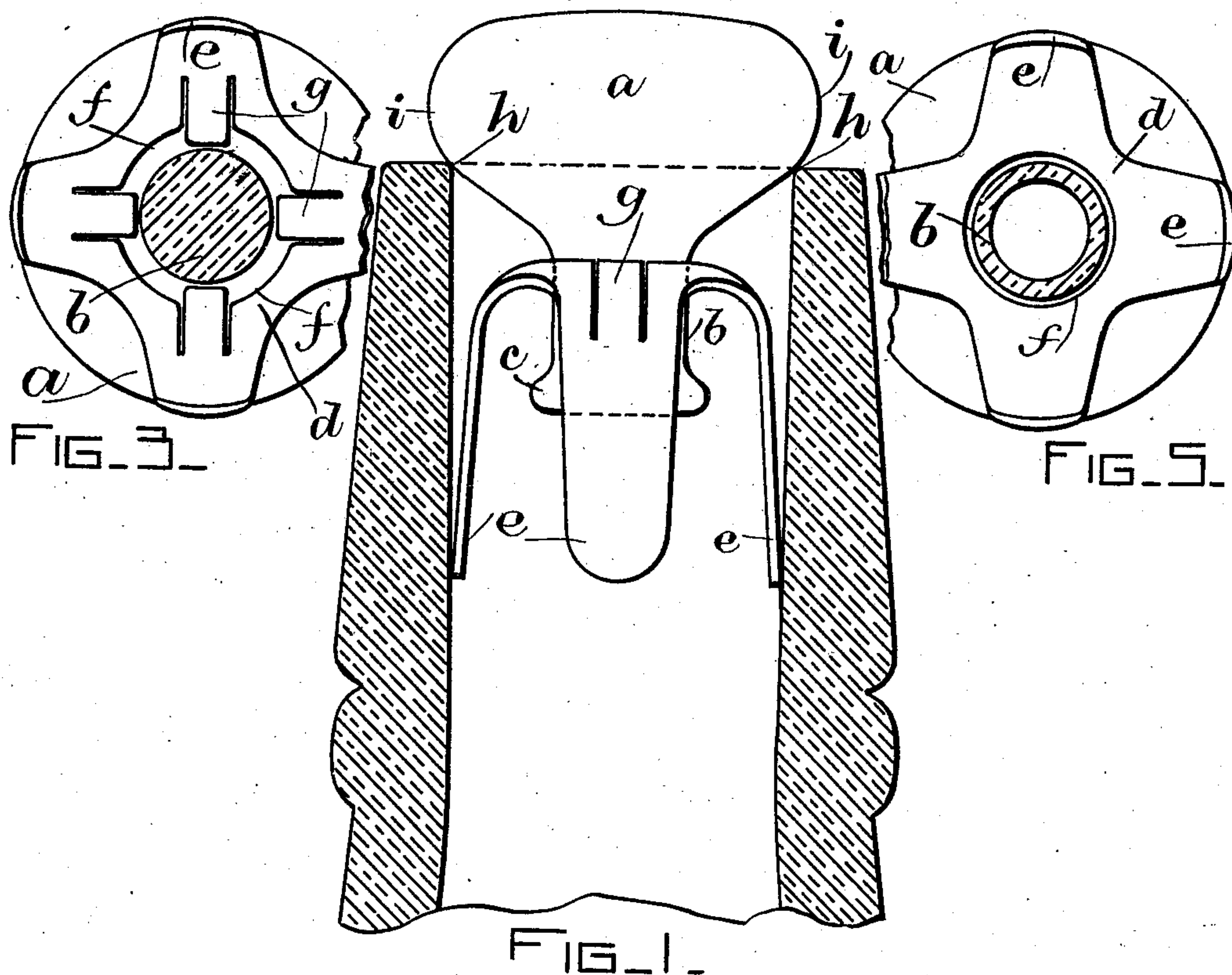


No. 889,636.

PATENTED JUNE 2, 1908.

H. P. ROBERTS.
BOTTLE CLOSURE.

APPLICATION FILED SEPT. 5, 1907.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY P. ROBERTS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO CHARLES H. GODDARD, OF BOSTON, MASSACHUSETTS.

BOTTLE-CLOSURE.

No. 889,636.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed September 5, 1907. Serial No. 391,424.

To all whom it may concern:

Be it known that I, HENRY P. ROBERTS, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Bottle-Closures, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to bottle closing devices that will operate automatically to close the mouth of the bottle when placed upright, and open it when turned sidewise, or inverted.

Many articles of food, beverages, or the ingredients for making the same, are used as required from a bottle or other like receptacle, which cannot conveniently be closed by a tightly fitting stopper. Hence, it often happens that no closure is applied to the mouth of the bottle, and, as a consequence, foreign matter, dirt, or insects may obtain entrance to the bottle, resulting in objectionable conditions that may even be unsanitary.

It is the object of this invention to provide devices that may be readily applied to bottles, after removing the cork, which will act automatically to open or close the mouth of the bottle, according as the bottle may or may not be in position for pouring out its contents. With this end in view, I have devised a construction that is convenient in use, effectual, cheaply made, and applicable to any ordinary bottle.

The invention consists in a stopper having devices to retain it at the mouth of a bottle, means to permit limited motion of the stopper sufficient to open or close the mouth of the bottle, and in such arrangements and combinations of parts as may be more particularly pointed out.

The drawings show in: Figure 1, a section of a bottle neck with my devices illustrated in elevation therein. Fig. 2, a vertical section of my bottle closure. Fig. 3, an inverted plan of my device. Figs. 4 and 5, a vertical section and an inverted plan of a modification of the invention.

In my preferred embodiment of the invention, I mold a stopper *a* of glass, having attached thereto the elongated neck *b*, and at the extremity of the neck and shoulder, or rim, *c* is bulged outward from the neck. The spider *d* is made from spring metal, and it is found that brass well coated with nickel is

well adapted to this device. The long legs *e* of the spider are bent toward the axis of the spider, and act to frictionally retain the spider in the neck of the bottle. A central hole *f* is broached in the spider, sufficient to admit the shoulder *c* of the stopper, and tongues as *g* project toward the center of the spider to nearly touch the surface of the neck *b* of the stopper. My closure is assembled by forcibly pressing the shoulder *c* of the stopper against the tongues *g*, which, yielding, permit the shoulder *c* to pass through the hole *f*, and thereafter the tongues *g* will prevent separation of the stopper and spider, as the weight of the stopper is not sufficient to spring the tongues *g*. The closure is inserted in the bottle by compressing the legs *e* of the spider toward its axis, then the closure is pushed into position in the bottle neck as illustrated in Fig. 1. While the bottle is in positions near the vertical, the weight of the stopper will keep the mouth of the bottle closed, but, if the bottle is considerably inclined, the weight of the stopper will cause it to fall away from its seat *h* at the bottle mouth, opening a clear passage from the bottle. Attention is called to the position of the stopper *a* outside of the bottle, as the bulging sides *i* of the stopper overlap upon the top of the bottle mouth and act to prevent lodgment of foreign matter about the seat *h* at the bottle mouth.

In the form illustrated in Figs. 4 and 5, the hole *f* in the spider fits the neck *b* of the stopper, and after the neck of the stopper is passed through the hole in the spider, it is warmed in a flame until the softened glass can be molded over to form the shoulder *c*.

Having described my invention, I claim and desire to secure by Letters Patent of the United States:

1. In a bottle closure, a stopper having a neck and shoulder, combined with a spider having resilient legs, and tongues on the spider preventing passage of the shoulder of the stopper beyond the spider, substantially as described.

2. The combination with a bottle having a seat, of a stopper resting on the seat, a spider frictionally retained in the bottle neck having tongues embracing the stopper, said stopper having a shoulder touching the tongues to limit motion of the stopper from its seat, substantially as described.

3. In a bottle closure, a stopper having a

neck and a shoulder at the extremity of the neck, combined with a spider arranged about the neck of the stopper, said spider having devices to frictionally locate it in a bottle and means on the spider limiting motion of the stopper, substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

HENRY P. ROBERTS.

Witnesses:

GEORGE W. JACKSON,
CHAS. F. HOWE.