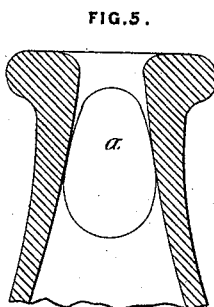
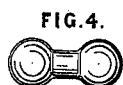
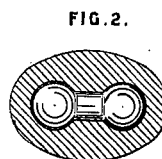
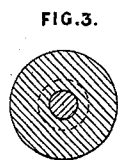
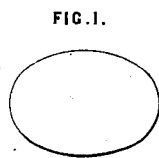


T. RULE.  
Apparatus for Stopping Bottles, &c.  
No. 196,936. Patented Nov. 6, 1877.



*Witnesses*  
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*attys*

# UNITED STATES PATENT OFFICE.

THOMAS RULE, OF DURHAM, ENGLAND.

IMPROVEMENT IN APPARATUS FOR STOPPERING BOTTLES, &c.

Specification forming part of Letters Patent No. **196,936**, dated November 6, 1877; application filed May 22, 1877.

*To all whom it may concern:*

Be it known that I, THOMAS RULE, of Durham, in the county of Durham, England, have invented Improvements in Apparatus for Stoppering Bottles for Containing Gaseous and Aerated Liquids, of which the following is a specification:

My said invention consists in certain improvements in the construction of apparatus belonging to the class of arrangements for stoppering bottles in which the stopper is contained within the bottle and below the neck thereof.

The stopper is formed of soft india-rubber or other suitable elastic material, and of an oval, oblong, or conical form, the same being hollow, and having in the interior thereof an oval elongated, or, by preference, a dumb-bell-shaped core or center-piece of any suitable and desired size, the same being formed of vulcanite, glass, metal, stone, earthenware, or any other suitable heavy material.

The stopper, being of an elongated form, and so shaped as to possess a larger amount of india-rubber or other elastic material around the center thereof, is readily compressed, so as to be easily passed through the neck into the interior of the bottle, and having been so introduced into the latter it is forced by the gaseous or aerated liquid contained in the same, or the gas or fixed air liberated therefrom, into the lower portion of the neck of the bottle, or against the shoulder or seat formed at the junction of the neck of the bottle with the lower and larger part thereof.

The stopper, being of an elongated shape, and the central core of a hard substance, is easily forced downward, and thereby all necessity for an "opener" obviated, while it falls by reason of its own gravity, and readily adjusts itself in position upon the requisite pressure of liquid, gas, or air being exerted thereon.

The external elastic portion of the stopper may be of any desired color; but when india-rubber is employed it is preferred to use white india-rubber, as being cleanly in appearance and comparatively free from smell and taste.

I will now refer to the annexed drawings, from which the nature of my said invention will be more clearly understood.

Figure 1 is an oval-shaped stopper, shown in elevation. Fig. 2 is a longitudinal section of the same, showing a dumb-bell-shaped core. Fig. 3 is a cross-section of the same, and Fig. 4 is a detached view of the dumb-bell-shaped core. Fig. 5 shows the oval-shaped stopper *a* in position in the neck of a bottle.

I claim as my invention—

The bottle-stopper described, adapted to be contained in the bottle and forced into the neck of the same by pressure from within the bottle, consisting of an oval-shaped india-rubber shell, and an inelastic core, constructed and arranged substantially as described and shown.

THOMAS RULE.

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