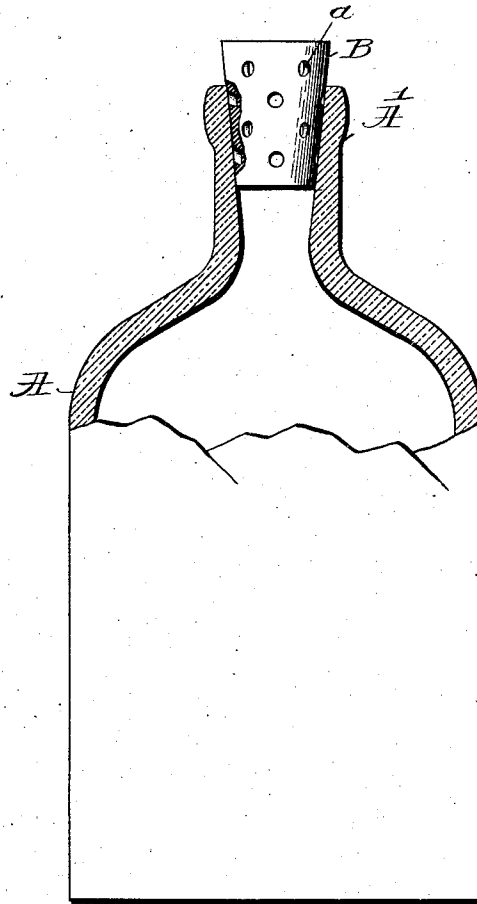


No. 851,212.

PATENTED APR. 23, 1907.

C. J. BAILEY.
INDIA RUBBER STOPPER FOR BOTTLES.
APPLICATION FILED JAN. 10, 1907.



Witnesses:
Fred. S. Grunlap
Joseph M. Ward.

Inventor.
Charles J. Bailey,
by Stanley Ruggery.
attys.

UNITED STATES PATENT OFFICE.

CHARLES J. BAILEY, OF NEWTON, MASSACHUSETTS.

INDIA-RUBBER STOPPER FOR BOTTLES.

No. 851,212.

Specification of Letters Patent.

Patented April 23, 1907.

Application filed January 10, 1907. Serial No. 351,593.

To all whom it may concern:

Be it known that I, CHARLES J. BAILEY, a citizen of the United States, residing in Newton, county of Middlesex and State of Massachusetts, have invented an Improvement in India-Rubber Stoppers for Bottles, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relating to stoppers for bottles has for its object the production of a novel stopper of india rubber or equivalent well-known yielding compounds, the stopper being so constructed that it will not of itself work out of the neck of a glass bottle.

It is a well recognized fact that conical stoppers smooth exteriorly and composed of india rubber or kindred compounds when used to stopper glass bottles containing acid and materials for which stoppers of wood, glass, or cork are unsuited, work themselves loose in the necks of the glass bottles. To obviate the rising of the india rubber stopper in the necks of glass bottles, I have provided the exterior of the stopper with a series of separate or distinct pockets or air chambers in staggered relation about the stopper between its ends, I finding in practice that such a stopper as it is forced into the neck of the bottle is so compressed that the air in the pockets is forced out more or less, causing the pockets to act as sucking points against the inner side of the neck of the bottle, thus tending to retain the cork where left when forced into the neck of the bottle.

The drawing shows one of my novel india rubber corks forced into the neck of a bottle.

Referring to the drawing, A represents a bottle and A' its neck tapered at its interior. The neck receives my novel india rubber cork B shown as provided with a series of air chambers or pockets *a* separated one from the other and arranged in staggered relation; that is, the pockets do not communicate one with the other but are each made separately and independently in the exterior of the stopper. As the stopper is forced into the

neck of the bottle, the india rubber yields and becomes somewhat compressed, and as the stopper is being fully seated, the air in the air chambers or pockets is forced out somewhat due to the contraction of the area of the pockets due to the compression of the stopper, and the material of the stopper between the different air chambers or pockets is slightly distorted or temporarily upset, as it may be termed, as shown at the left in the drawing. Now in practice the forcing of the air out of the air chambers or pockets causes the air chambers deprived of air to act as suction chambers against the inner wall of the neck of the bottle, and at the same time the india rubber of the stopper between one and the next air chamber or pocket above it is deflected in such way that the material of the stopper is made to cling closer to the inner wall of the neck of the bottle than if the exterior of the stopper was not provided with such pockets.

An india rubber stopper to be practical must close the neck of a bottle air and fluid tight, and it will be noticed that notwithstanding the stopper has a series of small air chambers or pockets, the exterior of the stopper circumferentially between one and the next circumferential row of air chambers or pockets is unbroken so that the stopper may contact with the interior of the neck of the bottle all the way around.

I am aware that stoppers have been provided with annular grooves.

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

An india rubber stopper, conical in shape, having its conical exterior provided with a series of pockets in staggered relation thereto, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES J. BAILEY.

Witnesses:

GEO. W. GREGORY,
W. A. DUNN.