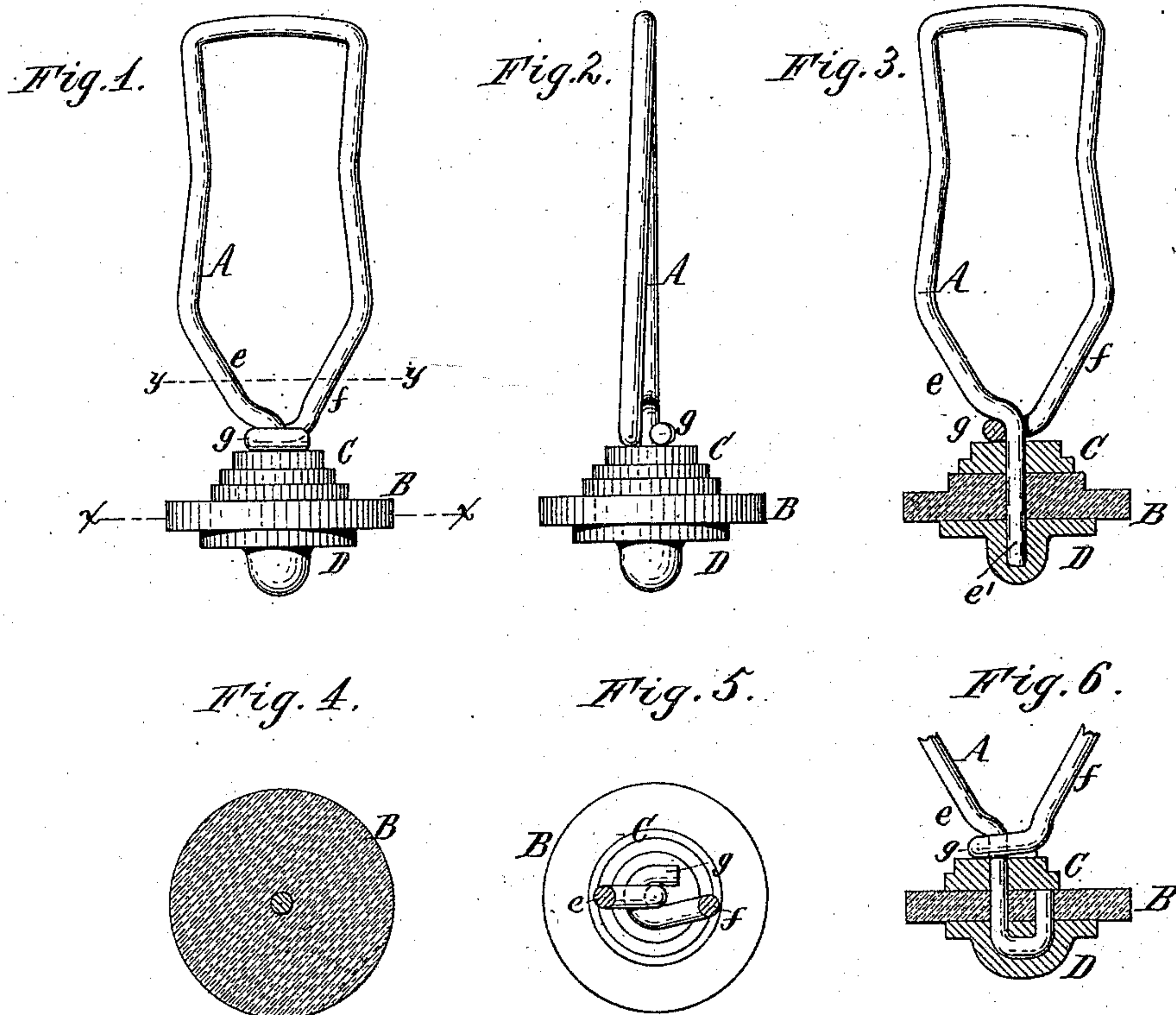


(No Model.)

J. M. LEWIN.
BOTTLE STOPPER.

No. 290,897.

Patented Dec. 25, 1883.



Witnesses:

Geo. E. Pitman
Theo. L. Popp.

J. M. Lewin Inventor.
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UNITED STATES PATENT OFFICE.

JOHN M. LEWIN, OF LOCKPORT, NEW YORK, ASSIGNOR OF ONE-HALF TO
SAMUEL S. MUTTON, OF TORONTO, ONTARIO, CANADA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 290,897, dated December 25, 1883.

Application filed September 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. LEWIN, of Lockport, in the county of Niagara and State of New York, have invented a new and useful
5 Improvement in Bottle-Stoppers, of which the following is a specification.

This invention relates to an improvement in that class of internal bottle-stoppers in which the stopper is composed of a flexible disk,
10 generally of rubber, secured between two metallic disks, the latter being secured to the ends of a looped wire which is seated in the neck of the bottle, and which permits of the requisite movements of the stopper to fill and
15 empty the bottle, and prevents the stopper from falling to the bottom of the bottle.

Previous to my invention the looped wire has been secured either with both ends or only with one end to the stopper-button. When
20 secured with one end only, the free end of the wire is liable to be bent out of shape by a pull applied to the wire, and when secured with both ends the elasticity of the wire is impaired. My invention has the object to remedy this
25 difficulty; and it consists, to this end, of the improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 represent elevations of my improved
30 stopper at right angles to each other. Fig. 3 is a vertical section of the same. Figs. 4 and 5 are horizontal sections in lines *xx* and *yy*, Fig. 1, respectively. Fig. 6 is a vertical section, showing a modified construction of the
35 wire.

Like letters of reference refer to like parts in the several figures.

A represents the looped wire; B, the flexible disk of the stopper; C, the upper metallic disk,
40 and D the lower metallic disk, between which the flexible disk is confined. The stopper is

secured to the branch *e* of the looped wire A, and the end of the opposite branch, *f*, is bent around the branch *e* above the stopper in the form of an open hook, *g*, as represented in
45 Figs. 1 and 5, so that the free branch *f* of the wire A can move freely inwardly or toward the branch *e*, while its outward movement is limited by the hook *g*. The wire A possesses, therefore, the elasticity found in a wire hav-
50 ing one branch disconnected from the stopper, while the hook *g* prevents the free end of the wire from being drawn outwardly or away from the branch *e* to such an extent as to bend the wire out of shape, and the wire is in this
55 respect as durable as a wire having both ends secured to the stopper. The metallic disk C is cast on the end of the branch *e* of the wire A, below the hook *g*, so as not to interfere
60 with the movement of the hook.

I claim as my invention—

1. The combination, with a stopper, of a looped wire secured with one end to the stopper and having its free end loosely connected with its fixed end, to permit the free end to
65 move freely inwardly or toward the fixed end, while preventing the outward movement of the free end, substantially as set forth.

2. The combination, with a stopper, of a looped wire secured with one end to the stopper and having its free end constructed with a hook or bend embracing the fixed end and permitting the free end to move freely inwardly, while preventing it from moving outwardly, substantially as set forth.
75

Witness my hand this 29th day of August, 1883.

JOHN M. LEWIN.

Witnesses:

W. S. DENROCHE,
E. COATSWORTH, Jr.