

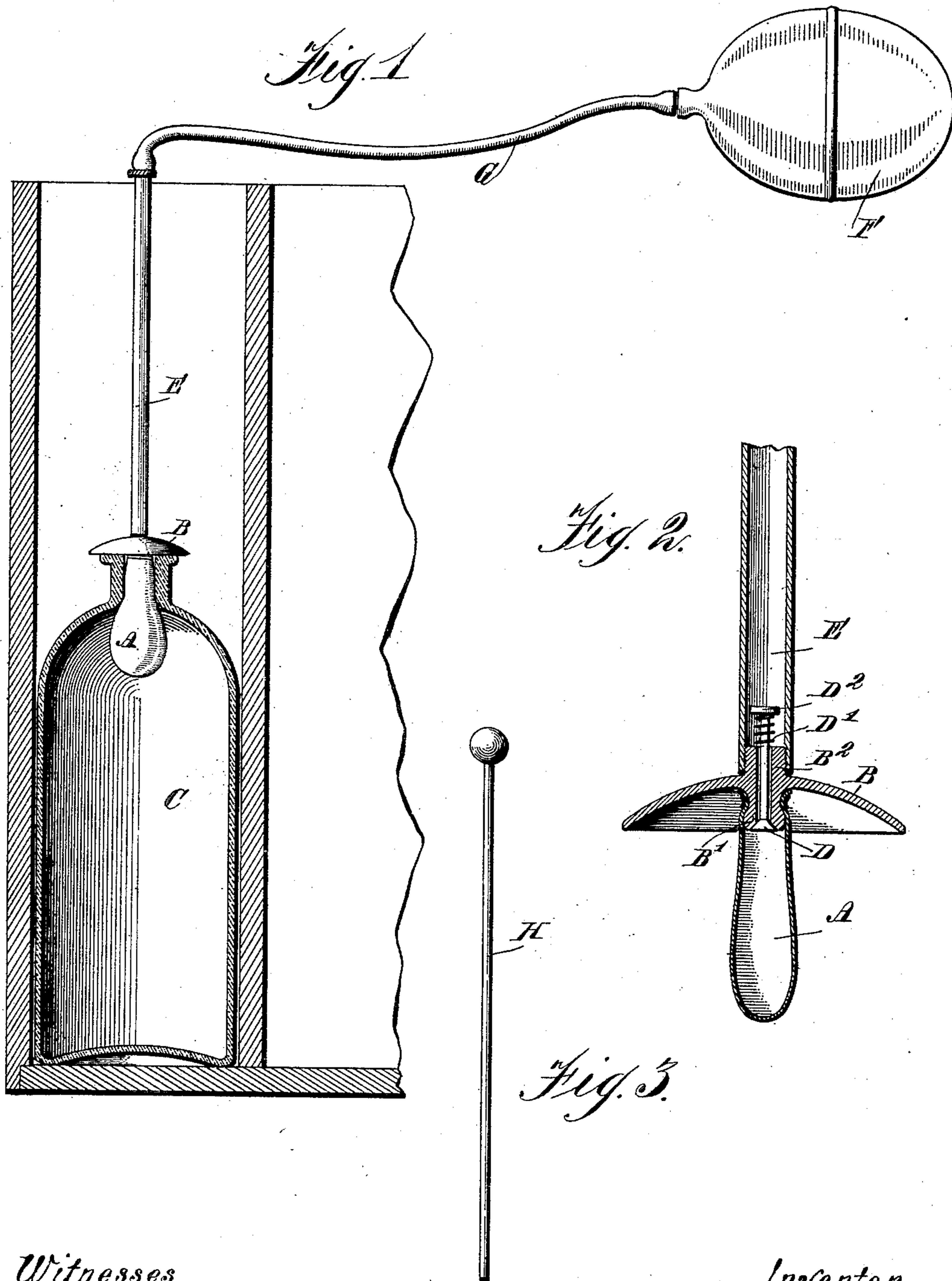
No. 713,708.

Patented Nov. 18, 1902.

W. G. SPIRE.
STOPPER.

(Application filed Aug. 16, 1902.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM G. SPIRE, OF SHERIDAN TOWNSHIP, POWESHIEK COUNTY, IOWA.

STOPPER.

SPECIFICATION forming part of Letters Patent No. 713,708, dated November 18, 1902.

Application filed August 16, 1902. Serial No. 119,910. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. SPIRE, a citizen of the United States, residing at Sheridan township, in the county of Poweshiek and State of Iowa, have invented certain new and useful Improvements in Stoppers, of which the following is a specification.

The object of this invention is to produce a temporary stopper adapted for the closing of holes in places more or less difficult of access.

The nature of the invention will more fully appear from the description and claims following, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of a device embodying my invention as applied to a bottle set in a deep receptacle. Fig. 2 is a central section of the device detached. Fig. 3 shows a pin for opening the valve to release the stopper.

In the drawings, A designates the stopper itself, which is an inflatable rubber nipple. The open end of this is attached to the central stud B' of a cap B. The cap is preferably concaved on the nipple side, so as to fit neatly over the mouth of a bottle C or other part to which it may be applied. The cap is fitted with a valve D of simple construction, held normally in closed position by a spring D' under the head D². To the convex side of the cap is attached a removable section of tube E, as by screwing to a stud B². At the other end of the tube is connected a bulb F by a short piece of flexible tubing G.

In the operation of the device the stopper is first deflated, as by detaching the flexible tube from the stiff one and inserting the push-pin H against the head of the valve. The stopper may then be easily inserted in the orifice. The bulb is then connected to the tube E, when the stopper may be inflated by the expulsion of the air in the bulb in a familiar

way. The distension of the stopper not only tends to stop the orifice closely, but also to draw the cap down closely over the mouth thereof, and thus effectually seal the same. The bulb and tube or tubes may then be detached from the stopper and replaced when necessary.

It will be seen that the nature of the stopper is such that pressure tending to drive it out but makes it fit the more tightly.

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

1. A stopper, comprising an inflatable nipple, a cap to which it is secured, a valve in said cap, with an orifice communicating with the nipple, and means substantially as described for inflating and deflating said nipple.

2. In a stopper, the combination of an inflatable nipple, a cap attached thereto, said cap being provided with a hole communicating with the nipple and a valve to open and close the same, a section of tubing connecting with the cap opposite the nipple, and an inflating-bulb attached to said tube, the tube and bulb being either or both detachable, substantially as described.

3. In a stopper, the combination of an inflatable nipple, a concavo-convex cap attached thereto, a valve in said cap communicating with the nipple, a detachable section of tube removably attached to the opposite side of the cap, a bulb attachable to said tube, and adapted to inflate the nipple, and a pin adapted to pass down said tube and open the valve, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM G. SPIRE.

Witnesses:

JAMES W. WILLETT,
WM. S. WILLETT.