

No. 875,397.

PATENTED DEC. 31, 1907.

E. M. WILLIS.
BOTTLE STOPPER.

APPLICATION FILED JAN. 28, 1907.

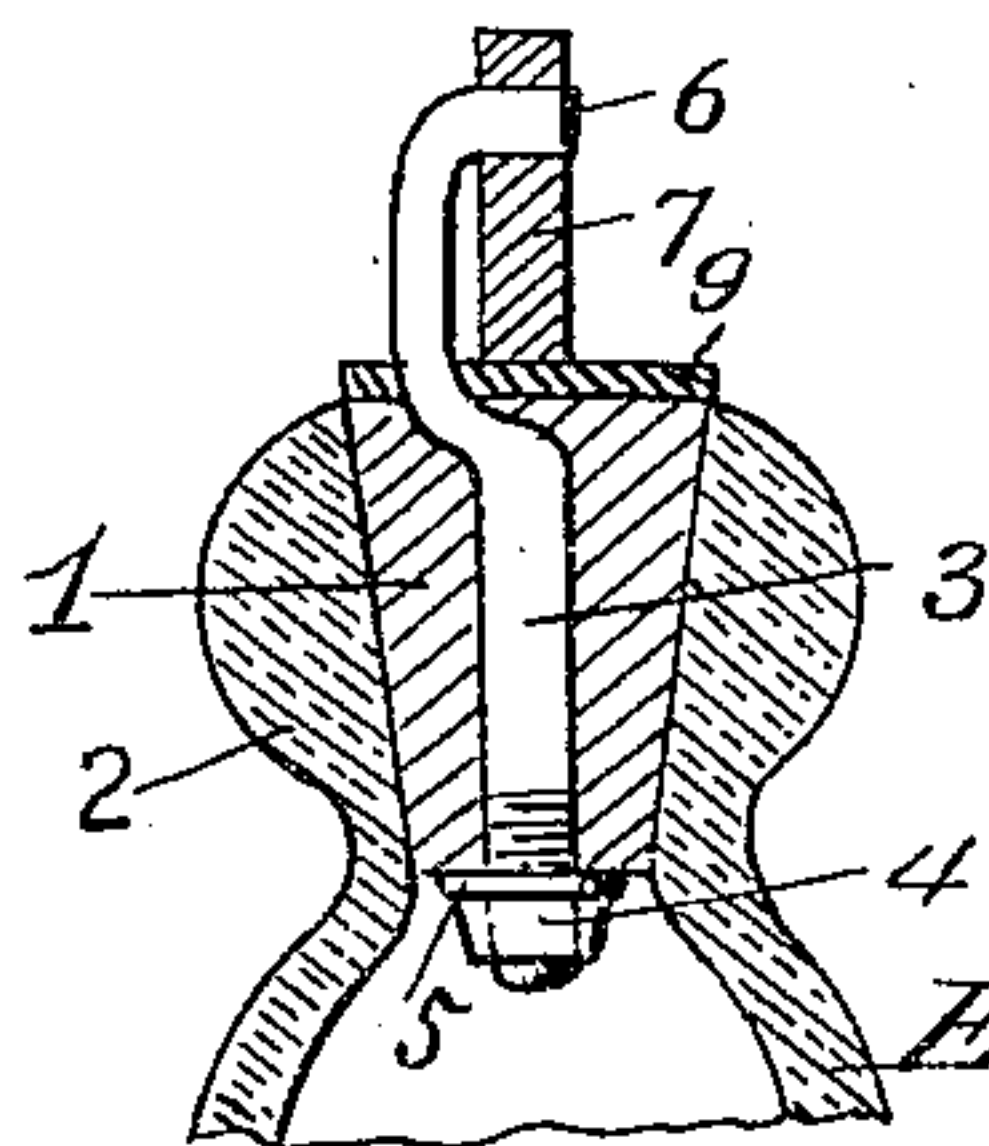
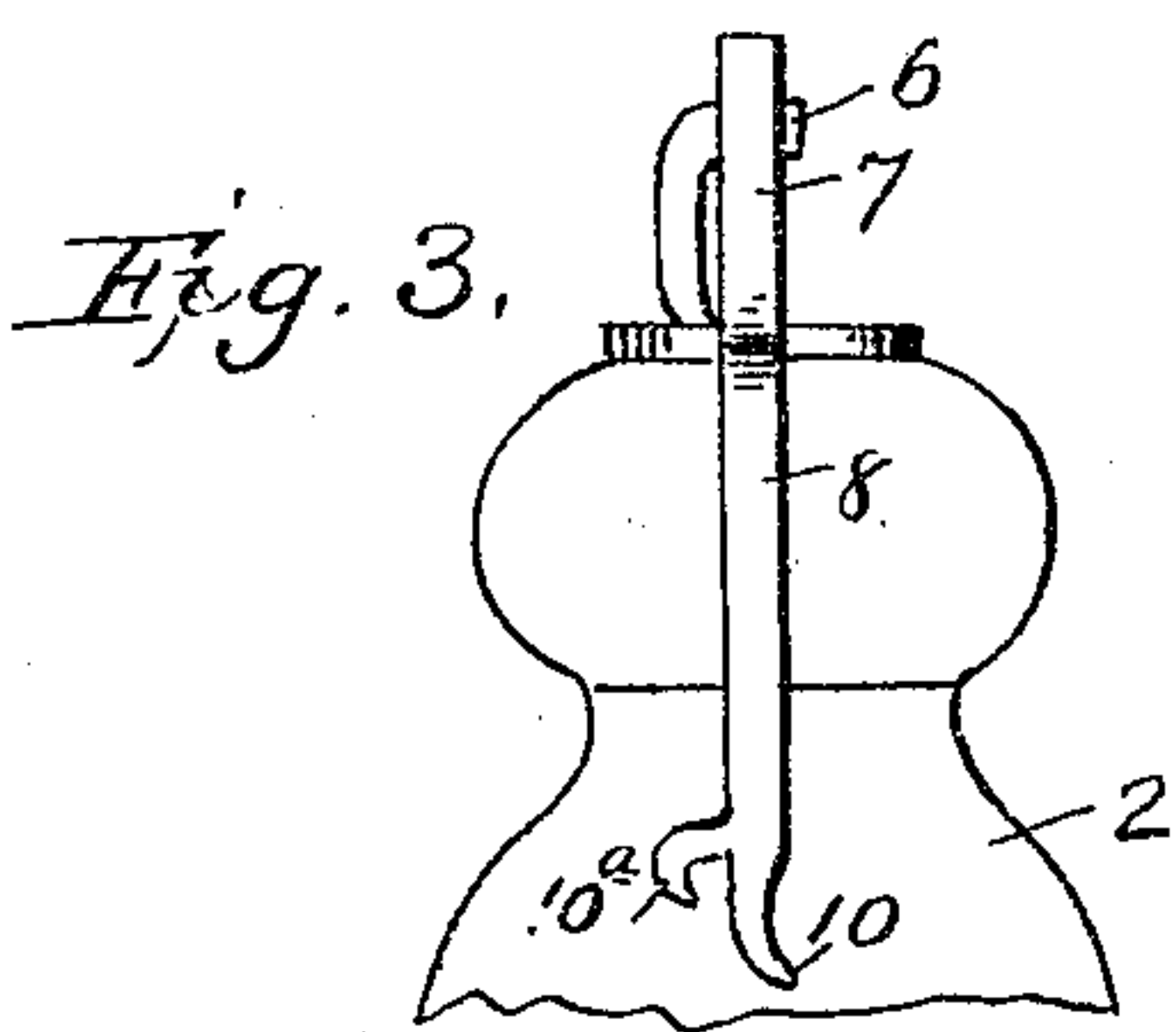
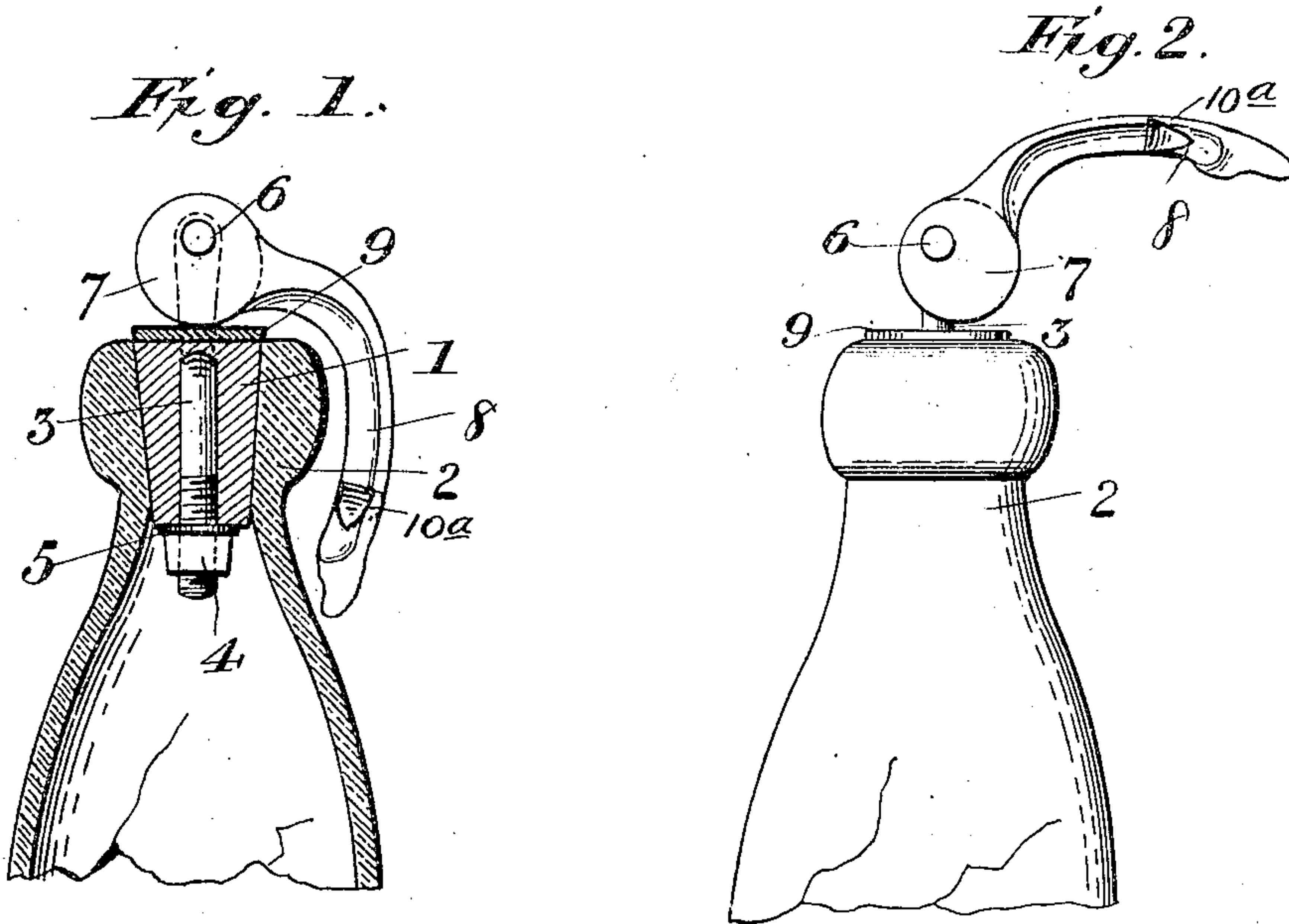


Fig. 4

Witnesses:
L. L. Buckner
H. T. M. Reeves.

Inventor:
Edward M. Willis,
By *Lawson* Attorney.

UNITED STATES PATENT OFFICE.

EDWARD M. WILLIS, OF KENTON, OHIO.

BOTTLE-STOPPER.

No. 875,397.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed January 28, 1907. Serial No. 354,511.

To all whom it may concern:

Be it known that I, EDWARD M. WILLIS, a citizen of the United States, residing at Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention pertains to improvements in bottle stoppers or valves. Its objects are to guard effectively against the accidental escape of the gases of certain liquids from their containing vessel or bottle as when in shipment or storage; also to carry out that end in a simple, economic and expeditious manner.

Said invention consists of certain features and instrumentalities substantially as hereinafter fully disclosed and specifically pointed out by the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention—Figure 1 is a broken vertical section thereof as applied to a bottle-neck. Fig. 2 is a side elevation of the same with the eccentric or locking lever in unlocked position. Fig. 3 is a view of the device at right angles to either Fig. 1 or Fig. 2. Fig. 4, is a sectional view of Fig. 3.

In the disclosure of my invention, I provide a plug or valve 1 preferably of solid rubber and tapered inward or downward as disclosed, and fitting the corresponding interior surface of the bottle-neck 2. Said plug or valve has inserted centrally through it a bolt or stem 3 having screwed upon its lower projecting end a nut 4 between which latter and the plug or valve is inserted a washer 5, said end of bolt or stem being thus secured in place. Said stem or bolt has its upper end-portion projecting some distance beyond said plug or valve; and upon a lateral projection or fulcrum 6 of said bolt or stem, at the extreme upper end of the latter, is eccentrically pivoted the cam-ended formation 7 of a cam-lever 8 which cam-formation is effective to engage a washer 9 arranged upon the stem or bolt 3, next to the upper end of the plug or valve 1.

The lever or handle 8 takes an abrupt curve at about a relatively right-angle to a horizontal line drawn tangentially to the effective edge of the cam-formation 7 whereby, when the cam-lever is in locked or effective position the latter may occupy a practically parallel position and depend close to the bottle-neck, with its outer extremity

resting against the bottle-neck, as shown by Fig. 1. The extreme outer end of the lever or handle is tapered or pointed somewhat after the fashion of a bird's talon, as at 10, particularly as seen in Fig. 3, adapting it especially for use as a cork-extractor, as is obvious. Also said lever or handle has laterally projecting therefrom a pointed or hooked stud 10^a in order to provide, by suitably applying the lever to a "crown"-type of cap for bottle-corks, for instance, for the engagement of said hook or stud with the lower crimped edge of said cap and by then prying upward effect the displacement or removal of said "crown" or cap, as will be readily appreciated.

It will be noted that, after the insertion of the plug or valve 1 into the bottle neck, the lever or handle at that time being disposed in the position indicated by Fig. 2, by now forcing said lever downward, bringing its outer end in contact with the bottle-neck, the major axis of the cam-formation 7 will be brought into forcible engagement with the washer 9, and thus cause the lateral expansion of said valve or plug which will have the effect to tightly wedge the latter in said bottle-neck as against any possible escape of any gases from the liquid contained in the bottle, as is apparent.

This invention is exceedingly simple in construction, economic in manufacture and readily applied for use, as well as being highly effective for its intended purpose.

I claim—

1. A device as described, comprising a downward-tapering elastic plug, a stem extending through said plug, a plate arranged upon said stem and adjustably held to the lower end of said plug, said stem also extending above and overhanging the upper end of said plug, a lever having a cam-ended formation eccentrically pivoted upon the upper end overhanging portion of said stem, said lever being curved to bring it close, and cause it practically to conform to the upper portion of the bottle-neck.

2. A device as described, comprising a downward tapering elastic plug, a stem extending through said plug and having fitted upon its lower end an adjustably held plate fitting against the lower end of said plug, a plate applied to the upper end of said plug and having said stem passing through it, said stem extending beyond and overhanging the

upper end of said plug, and a cam-ended lever eccentrically pivoted upon the overhanging portion of said stem and effective for engagement with the latter-referred to
5 plate, said lever having a curved handled portion adapted to rest close and conform to the upper end portion of the bottle-neck.

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

EDWARD M. WILLIS.

Witnesses:

HENRY NOHR,
A. M. TIDD.