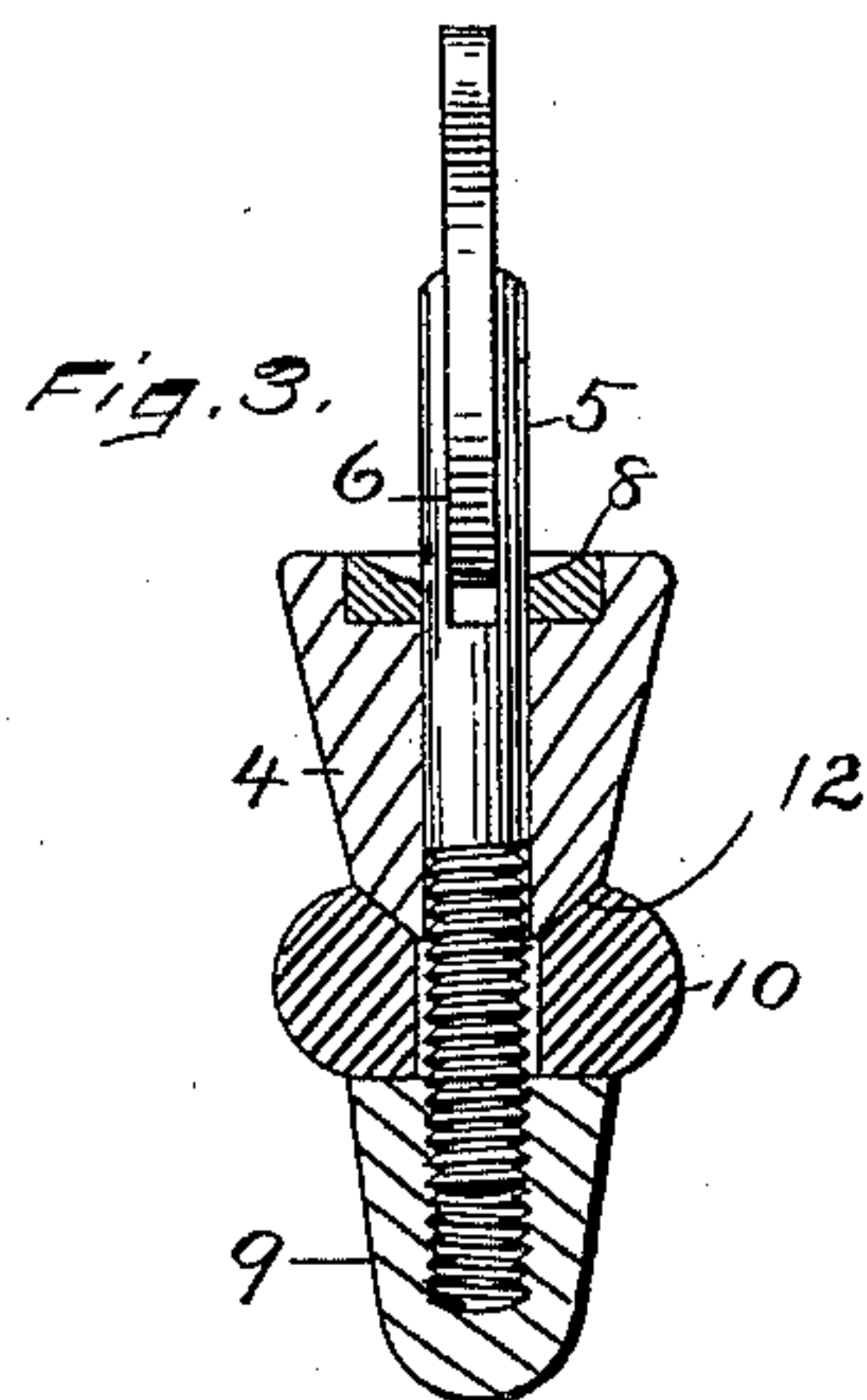
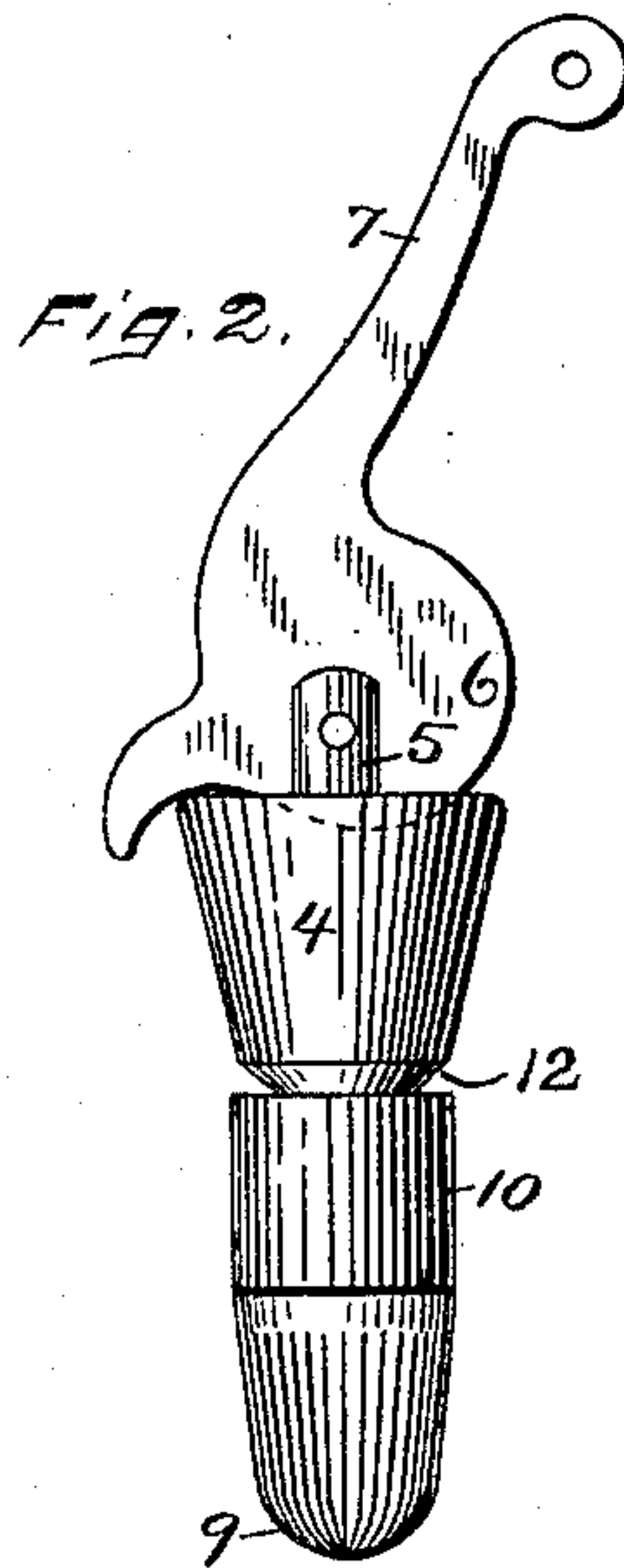
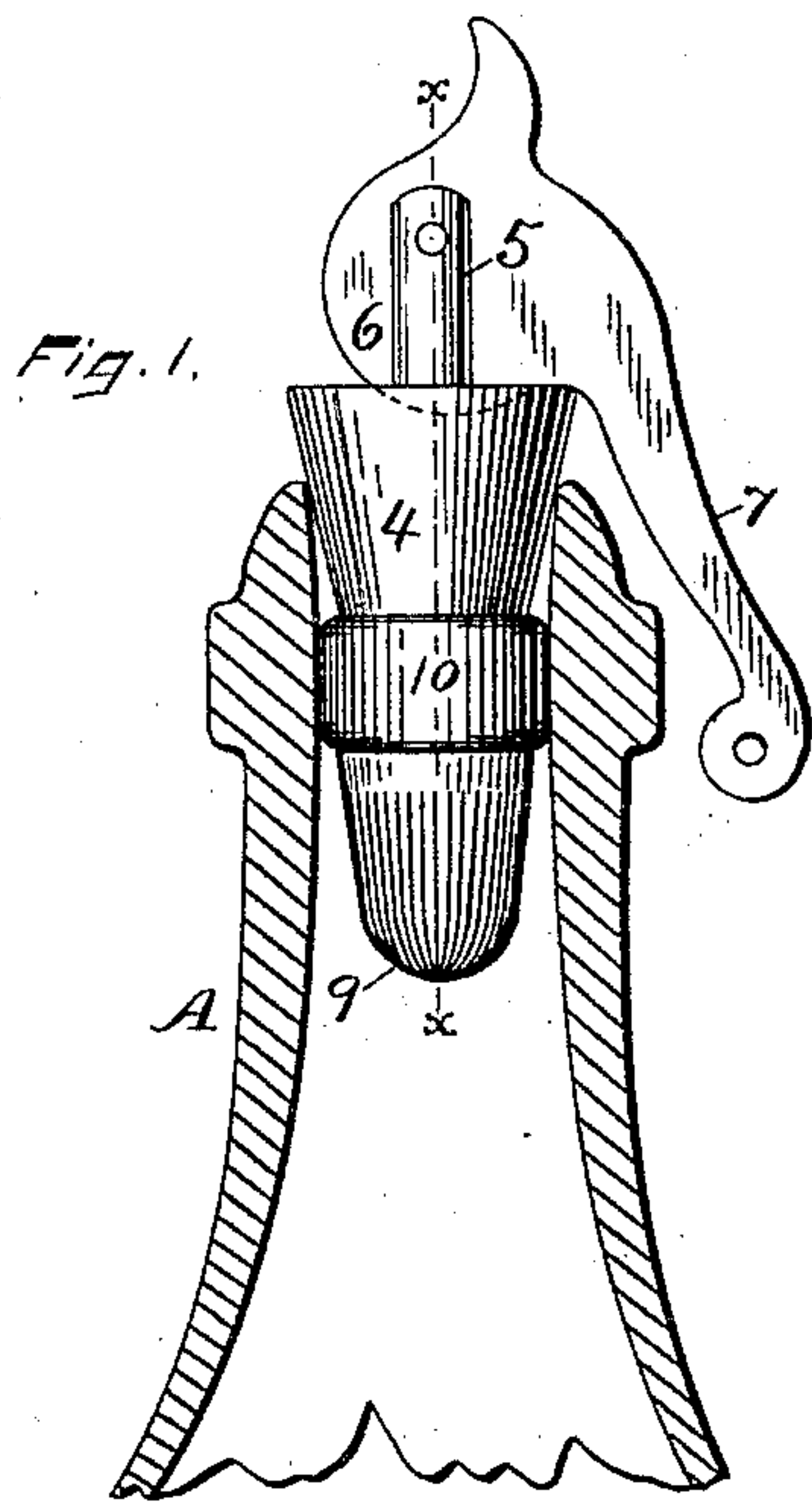


(No Model.)

J. A. TRAUT.  
BOTTLE STOPPER.

No. 397,449.

Patented Feb. 5, 1889.



WITNESSES.

John Edwards Jr.  
John I. Legros

INVENTOR.

Justus A. Traut.  
By James Shepard.

Atty.

# UNITED STATES PATENT OFFICE.

JUSTUS A. TRAUT, OF NEW BRITAIN, CONNECTICUT.

## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 397,449, dated February 5, 1889.

Application filed November 17, 1888. Serial No. 291,087. (No model.)

*To all whom it may concern:*

Be it known that I, JUSTUS A. TRAUT, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to improvements in bottle-stoppers of the class in which a portion of the stopper is expanded within the neck of the bottle, and the main objects of my invention are to prevent the stopper from being expanded in the attempt to remove it when it adheres to the neck of the bottle, and in general to improve the convenience and efficiency of the stopper.

In the accompanying drawings, Figure 1 is a side elevation of my stopper as expanded within the neck of a bottle, said neck being shown in vertical section. Fig. 2 is a side elevation of my stopper with the expansible portion contracted; and Fig. 3 is a vertical section, partly in elevation, on line *xx* of Fig. 1, with the expansible portion expanded.

A designates the neck of a bottle having my stopper secured therein.

4 designates the upper section of my stopper, which is made tapering in form, and its upper end is intended to be of a size that will fill the mouth of the bottle and form a rest to determine the position of the stopper when it is placed therein. The lower end of this section 4 is provided with a conical face, 12, as shown in Figs. 2 and 3. This upper section is also perforated axially and the rod 5 passes through said perforation. The upper end of this rod is slotted, and has pivoted within it the cam 6, which cam is provided with a lever-handle, 7, as shown. If the upper section, 4, is formed of wood or other soft substance, I prefer to face its upper end with a metal piece, 8, Fig. 3, for the cam to work against, so as to decrease the wear. The lower end of the rod 5 is screw-threaded and provided with an adjusting-nut, 9, the upper end of which is flat, as shown in Figs. 2 and 3. This nut is preferably made of hard rubber or other non-corrosive material, and its threaded hole does not extend entirely through the nut, whereby said nut is provided with a solid lower end that excludes the entry of any

material through the nut to the metallic rod upon which it is screwed. The lower end of this nut is milled or knurled to facilitate turning it.

Between the cone face 12 of the upper section, 4, and the opposing upper flat face of the nut 9, I arrange a perforated cylindrical block, 10, of soft rubber, the perforation extending longitudinally. The flat upper end of the nut 9 should be of a diameter which equals that of the perforated cylindrical rubber block 10 when it is not expanded, as shown in Fig. 2. I prefer, also, to make the upper section, 4, of hard rubber or wood or other non-corrosive material; but, inasmuch as said section is above the perforated cylindrical rubber block 10, its material is not so important as is the material of which the nut 9 is composed.

In use the cam-lever is lifted into the position illustrated in Fig. 3, and the complete stopper is placed within the neck of the bottle until the upper section, 4, comes to a rest, as shown in Fig. 1. The lever 7 is then depressed to elevate the nut 9, thereby forcing the opposing faces of the upper section, 4, and nut together, when the cone face 12 of the section 4 expands the perforated cylindrical rubber block 10, so that it snugly fills the neck of the bottle, as illustrated in Fig. 1. In case one motion of the lever and cam is not sufficient to expand the perforated cylindrical rubber block 10, so as to stop the bottle firmly, the stopper may be removed and the nut 9 screwed farther upon the rod 5 to give a greater degree of expansion. A less degree of expansion may be attained, if desired, by unscrewing the nut.

My stopper will be generally used in bottles which are opened after transportation in order to save such portion of the contents as may not be used upon first opening the bottle. In case, however, it should be desired to use this stopper in bottles during transportation a string or wire may be passed through the perforation in the outer end of the lever-handle 7 and around the neck of the bottle to prevent an accidental movement of said lever.

In case the stopper shall remain expanded within the mouth of the bottle until it becomes quite dry and adheres to the neck of



the bottle even after the pressure of the cam is removed, it may readily be pulled out, because the upper face of the nut is flat and of a size equal to the normal size of the perforated cylindrical rubber block, and therefore  
5 pulling upon the stopper to remove it does not further expand the rubber and bind it firmly upon the neck of the bottle.

I am aware that a prior patent shows a  
10 bottle-stopper consisting of a ring-shaped rubber cushion, central rod, a cam, and two opposing cone faces drawn together by said cam, and other patents show a central rod, operating mechanism, and a cone face for imping-  
15 ing against the lower end of a rubber stopper, and still another shows a central rod, cam, and opposing faces, with a barrel-shaped

tube of elastic rubber, the lower end of which rests in a concave seat. All of said prior art is hereby disclaimed. I also disclaim the em- 20 ployment in bottle-stoppers of a non-corrosive material.

I claim as my invention—

The combination of the upper section, 4, having a lower conical face, 12, the rod 5, cam 25 6, perforated cylindrical block of soft rubber, and the nut 9, screw-threaded upon the lower end of the rod 5 and having a flat upper face, substantially as described, and for the purpose specified.

JUSTUS A. TRAUT.

Witnesses:

JAMES SHEPARD,  
JOHN EDWARDS, Jr.