

May 22, 1923.

1,455,978

J. L. WENTZ

STOPPER

Filed Dec. 22, 1921

Fig. 1.

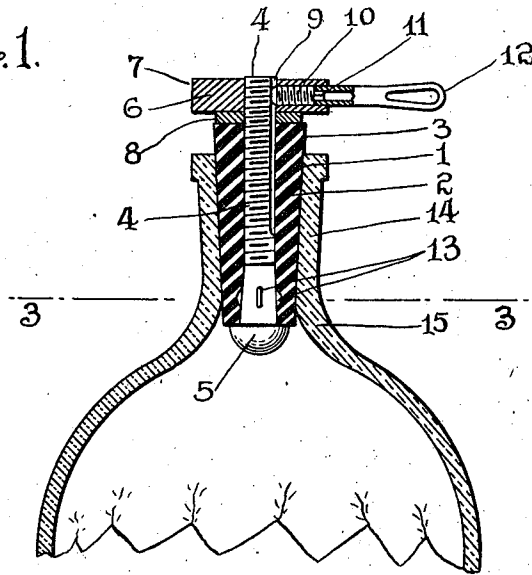


Fig. 3.

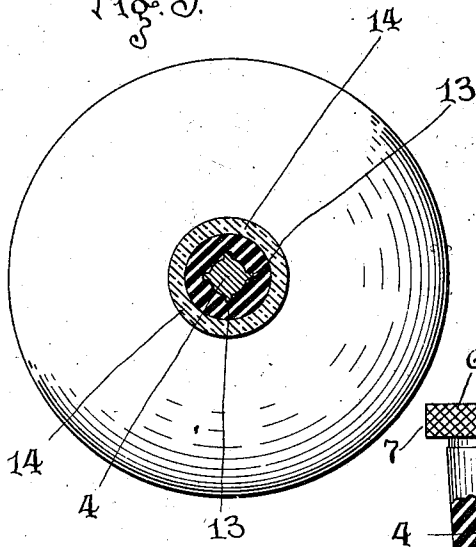


Fig. 4.

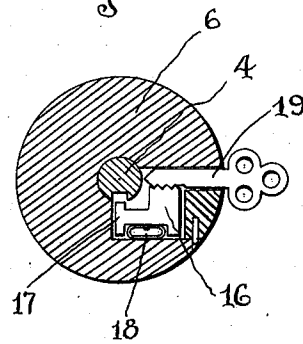
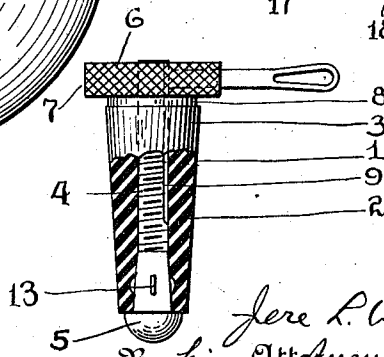


Fig. 2.



Jere L. Wentz Inventor
By his Attorney
Arthur J. Smith

UNITED STATES PATENT OFFICE.

JERE L. WENTZ, OF PASSAIC, NEW JERSEY.

STOPPER.

Application filed December 22, 1921. Serial No. 524,121.

To all whom it may concern:

Be it known that I, JERE L. WENTZ, a citizen of the United States, and resident of the city of Passaic, in the county of Passaic and State of New Jersey, have invented a certain new and useful Stopper, of which the following is a specification.

My invention relates to improvements in stoppers for receptacles and the like and an object of my invention is to provide an air tight stopper, another object of my invention is to provide a stopper which may be expanded after being inserted in a bottle or the like and another object of my invention is to provide a stopper which may be locked to prevent removal.

I accomplish these objects by the device illustrated in the accompanying drawings, in which

Figure 1 is a vertical section of the stopper inserted in the neck of a bottle,

Figure 2 is a view of the stopper, partly in section,

Figure 3 is a section on the line 3—3 in Figure 1, and

Figure 4 is a section of a modified form of the device with parts broken away.

Similar characters of reference refer to similar parts throughout the several views.

My improved device includes a tapered stopper 1 of rubber or like material having a longitudinal bore in which is provided a screw threaded bolt 4 having a head 5. The end of the bolt 4 projects through the top face of the stopper 1 and carries an internally screw threaded nut 6 which is preferably in the form of a circular disc having a milled periphery 7 to serve as a finger hold. Between the nut 6 and the stopper 1 I preferably provide a washer 8.

My improved locking device includes one or more longitudinal key slots 9 in the bolt 4 and a screw threaded pin or set screw 10 set radially in a screw threaded socket in the nut 6 and having a key hole 11 adapted to receive a suitable removable key 12 by which the pin 10 may be rotated and thereby depressed to engage the key slot 9 in the bolt 4.

I prefer to form one or more teeth or burs 13 on the bolt 4 to rest in corresponding seats in the neck section 2 of the stopper to prevent the rotation of the bolts in the stopper.

My device being thus assembled, the stopper 1 is inserted in the neck of a bottle or

like receptacle 14, the annular nut 6 is screwed down on the bolt 4 and the head 5 of the bolt is thereby drawn upward compressing the neck 2 of the stopper and causing it to expand against the interior walls of the neck of the bottle 14 whereby the stopper is securely set in the neck of the bottle. I prefer to construct the neck 2 of the stopper 1 somewhat longer than the neck of the bottle 14 so that the stopper may be expanded against the shoulder 15 at the base of the neck of the bottle to more securely hold the stopper in the bottle.

The stopper 1 being expanded within the neck of the bottle 14, the set screw 10 is rotated by means of the key 12 and depressed into the key slot 9 whereby the nut 6 is secured against rotation and the stopper locked in the neck of the bottle, when the key 12 may be removed. It is desirable that the length of the set screw 10 be such that it is entirely concealed within its seat when depressed so that it may not be rotated except by a key which fits the key hole. Any desired form of key or the like device for operating the set screw 10 may be used. I have shown in Figure 1 a watch key type as a preferred form of key, but any desired form of lock may be used without departing from my invention.

In the form of the device illustrated in Figure 4 is shown an optional locking device which comprises a locking member 16 having a pin 17 normally pressed into engagement with the key slot 9 by means of a spring 18. A key 19 inserted in the key hole will engage and depress the bolt section 16 and thereby release the bolt 4 from engagement with the pin 17.

Having thus described my invention, what I claim is:

1. In a device of the character described, the combination of an expansible stopper, a bolt therein provided with a bur to prevent its rotation in the stopper and having a longitudinal key slot, a nut on the bolt adapted to expand the stopper and a locking device concealed within the nut and including a pin adapted to engage the key slot and means for releasing the pin.

2. In a device of the character described, the combination of an expansible stopper, a bolt therein having a longitudinal key slot, a nut on the bolt adapted to expand the stopper and a locking device concealed with-

in the nut and including a pin adapted to engage the key slot and means for moving the pin to and from its operative position.

3. In a device of the character described,
5 the combination of an expansible stopper, a bolt therein having a longitudinal key slot, a nut on the bolt adapted to expand the stopper and a locking device concealed within

the nut and including a pin and a spring normally pressing the pin into the key slot 10 and means for releasing the pin.

Signed at Passaic, in the county of Passaic and State of New Jersey this 15th day of December A. D. 1921.

JERE L. WENTZ.