

No. 820,469.

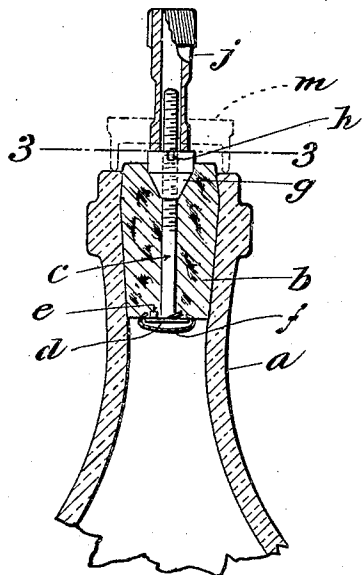
PATENTED MAY 15, 1906.

E. W. BENNETT.

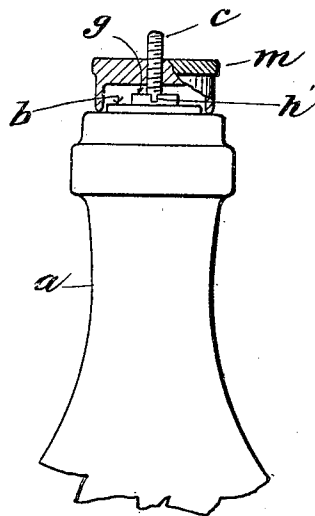
STOPPER EXPANDING AND EXTRACTING DEVICE.

APPLICATION FILED OCT. 21, 1904.

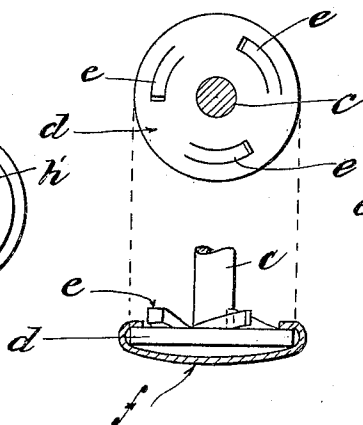
*Fig. 1.*



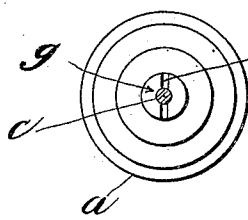
*Fig. 2.*



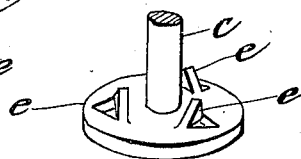
*Fig. 4.*



*Fig. 3.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

EDWIN W. BENNETT, OF SPRINGFIELD, MASSACHUSETTS

## STOPPER EXPANDING AND EXTRACTING DEVICE.

No. 820,469.

Specification of Letters Patent.

Patented May 15, 1906.

Application filed October 21, 1904. Serial No. 229,434.

*To all whom it may concern:*

Be it known that I, EDWIN W. BENNETT, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Stopper Expanding and Extracting Devices, of which the following is a specification.

This invention relates to bottle-stoppers, and has special reference to stopper expanding and extracting devices, the object of the invention being to provide an improved construction whereby a cork or other stopper may be expanded in the neck of a bottle and easily extracted therefrom when the expanding devices are not in operation, the stopper being practically secured against extraction when expanded in the neck of the bottle, the extracting device and means for operating the expanding device being separate pieces.

The invention is illustrated in the accompanying drawings, which show the preferred form of construction, and in which—

Figure 1 is a vertical sectional view of a portion of the neck of a bottle having a cork therein to which the improved expanding device has been applied, the key for operating the expanding device being shown partly in section. Fig. 2 is a side elevation of the neck of a bottle, showing the cork and the expanding devices in position therein and the extracting device in operative position, this last-named device being shown partly in section. Fig. 3 is a sectional view on line 3 3, Fig. 1. Fig. 4 is an enlarged view in plan and elevation of the lower end of the stem of the expanding device. Fig. 5 is an enlarged perspective view of the lower end of the stem of the expanding device, showing a slight modification of the construction of that member.

Referring to the drawings, *a* indicates the neck of the bottle, in which is inserted the usual stopper *b*, which may be an ordinary cork or any composition suitable for the purpose and it is bored out lengthwise axially thereof to receive the screw-threaded stem *c* of the expanding device, the lower end of said stem having a head *d* thereon, out of which projections *e* are punched, which extend above the inner surface of said head and enter the end of the stopper to prevent the rotation of the stem *c*. If desired, this head *d* may be covered with a suitable shield or cap of rubber or some substance which will protect the head *d* from the action of any liquid

of a corrosive nature which the bottle may contain. Screwed onto the upper threaded end of the stem *c* is a tapered nut *g*. Fitting loosely over the upper end of the stem *c* is a key *j*, having on its lower end one or more lugs *h*, which fit the transversely-located slots *h'* (see Fig. 3) in the upper end of the tapered nut *g*, whereby by means of the key this nut may be screwed down and forced into the stopper to expand the same within the neck of the bottle. The stopper should preferably be flush with the top of the bottle-neck and the nut flush with the top of the stopper when in operative position.

When the nut *g* has been screwed down far enough to properly expand the stopper, the key may be withdrawn. In like manner this key serves to unscrew the nut *g* far enough to permit more or less retraction of the stopper, and to extract the latter a cap *m* is provided which has a screw-threaded hole through the closed end thereof, whereby it may be screwed onto the stem *c*, the depending rim of the cap bearing upon the edge of the bottle, as shown in Figs. 1 and 2, whereby by screwing down the cap onto the stem the latter may be drawn upward until the top of the nut *g* comes in contact with the under side of the cap, thus loosening the stopper sufficiently to permit its complete withdrawal by pulling on the cap. As the nut is screwed down and sunk into the stopper to expand it the projections *e* on the head *d* of the stem will be forced into the lower end of the stopper, thus preventing the rotation of the stem, and the edges of the cap *f*, which protect this head *d*, will also be clamped tightly between the head and the lower end of the stopper, thus preventing contact of any liquid contained in the bottle with the metal head *d*, even though the bottle should be laid on its side.

The construction described herein affords a very convenient means to securely seal a bottle, and the key *j* and the cap *m* being separate pieces can be carried in the pocket or placed out of reach if it is desired to guard against the surreptitious opening of the bottle, one key and one cap serving obviously for any number of corks provided with the stems *c* and expander-nuts *g*.

In Fig. 4 the projections *e* are shown as portions of the head concentric with the stem having one end raised above the surface of the head. In Fig. 5 these projections *e* are shown as triangular portions extending prac-

tically at right angles to the head and punched out of the latter in the same way. Either form may be used or some other, if desired, if found more practical.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. An attachment for bottle-stoppers comprising a stem adapted to extend axially  
10 through the stopper and adapted to have an interlocking engagement therewith, said stem having a threaded portion adapted to project above the stopper, and an expanding-nut mounted on the threaded portion of the stem  
15 and having a tapered body arranged to be forced into the stopper-body.

2. An attachment for bottle-stoppers comprising a stem adapted to extend axially  
20 through the stopper-body and provided at its lower end with a head having a plurality of shoulder projections arranged to be drawn

into interlocking engagement with the stopper-body, said stem also having a threaded portion, and a tapered nut mounted on the threaded portion of the stem and adapted to  
25 engage in the top portion of the stopper-body.

3. An attachment for bottle-stoppers comprising a stem adapted to be arranged axially through the stopper-body and provided with holding projections adapted to be interlocked  
30 with the stopper-body, said stem being further provided with a threaded portion adapted to project above the top of the stopper-body, an expanding device carried by the threaded portion of the stem, and an extracting device  
35 rotatably engaging the threaded portion of the stem above, the extracting device adapted to have a bearing on the bottle-neck.

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