

F. M. HARRISON.

BOTTLE STOPPER.

APPLICATION FILED NOV. 18, 1909.

978,449.

Patented Dec. 13, 1910.

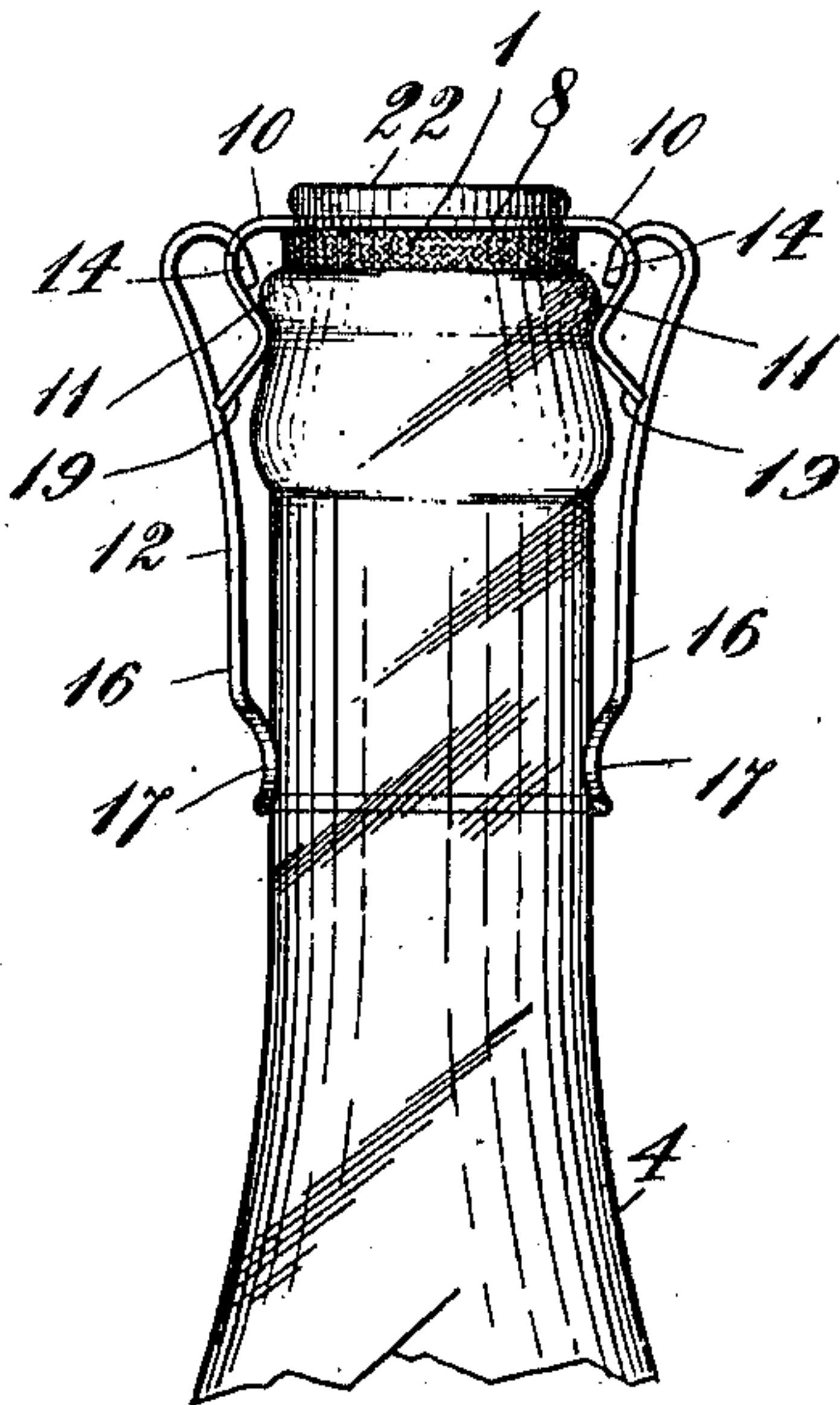


FIG. 1.

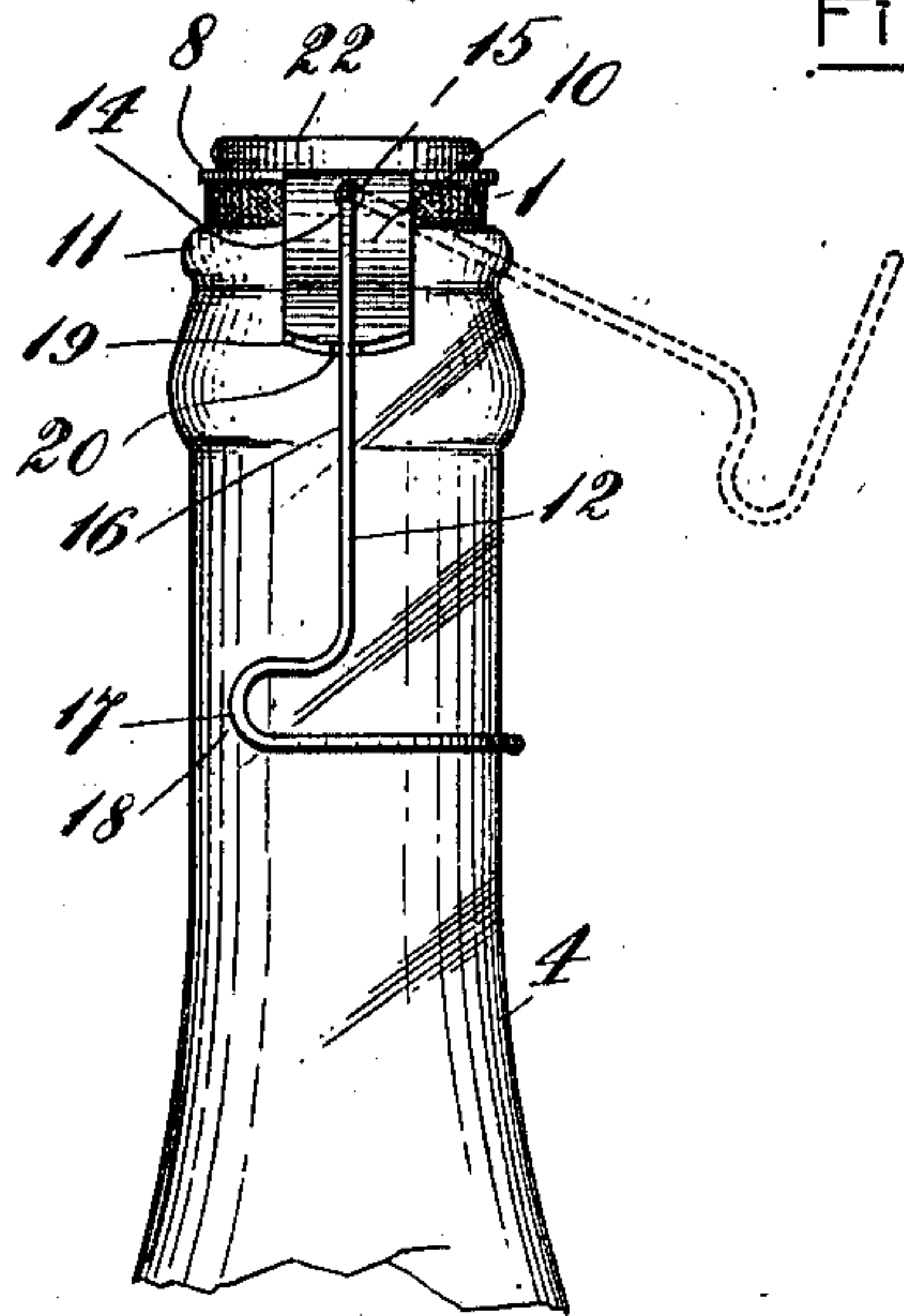


FIG. 2.

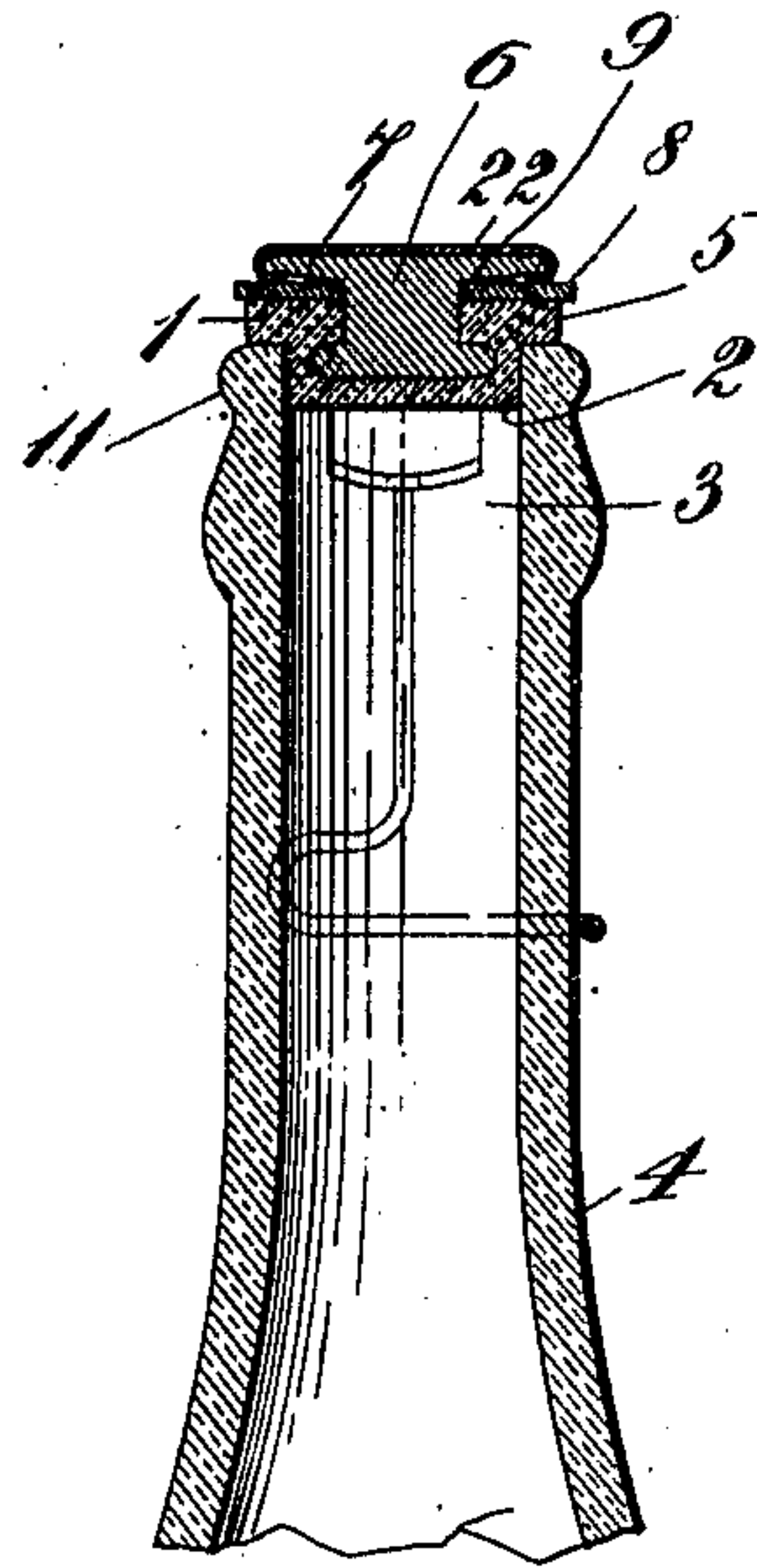


FIG. 3.

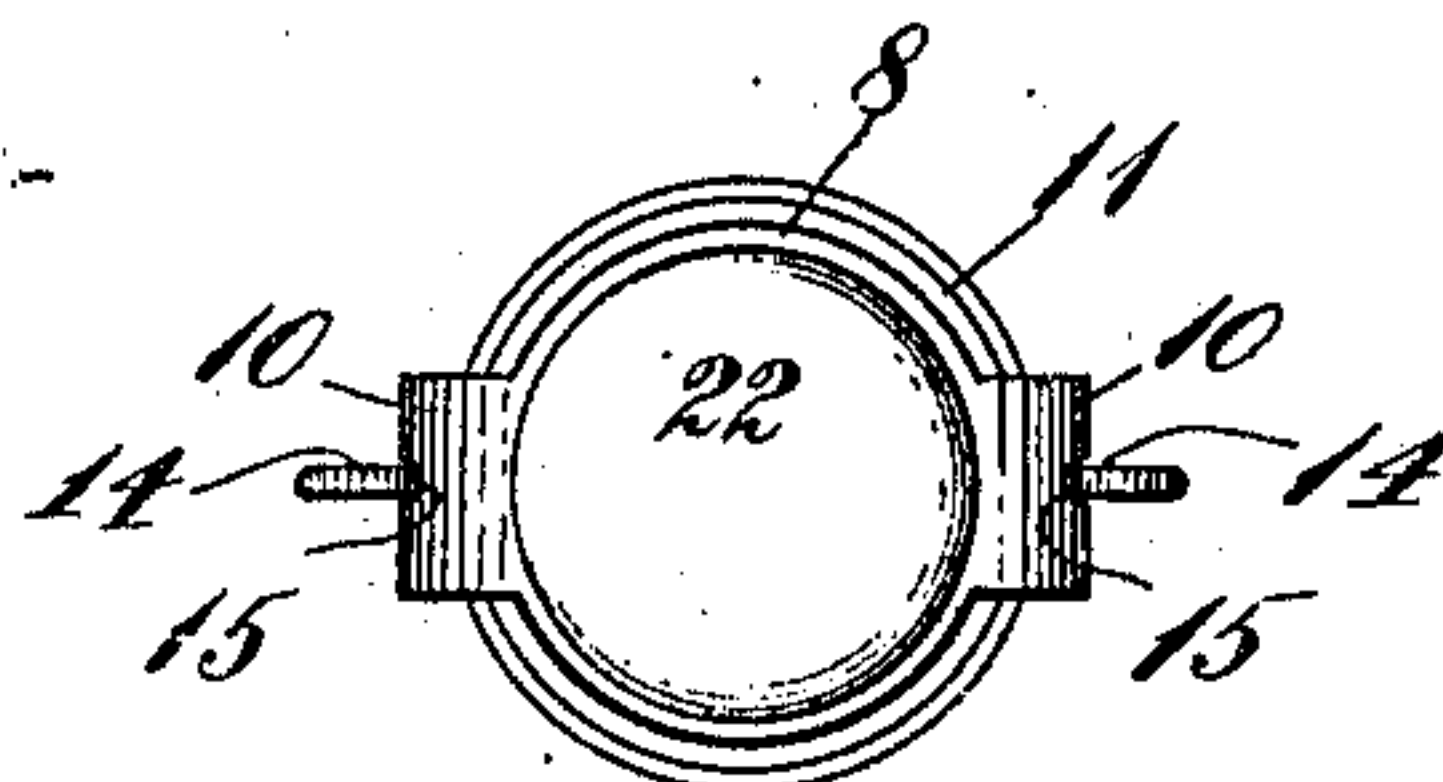


FIG. 4.

WITNESSES:

W. M. Brewster  
E. J. Cronan.

INVENTOR:

Fred M. Harrison.  
By Chas. F. Horne,  
his Atty.



# UNITED STATES PATENT OFFICE.

FRANK M. HARRISON, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO CHARLES H. McDERMOTT, OF MALDEN, MASSACHUSETTS.

## BOTTLE-STOPPER.

978,449.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed November 16, 1909. Serial No. 528,331.

*To all whom it may concern:*

Be it known that I, FRANK M. HARRISON, a citizen of the United States, residing in Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to bottle stoppers and more particularly to that class of bottle stoppers which are adapted to be readily applied to and removed from the neck of a bottle.

One object of the invention is to provide an improved bottle stopper which is adapted more particularly for use in temporarily closing the mouth of a bottle after a portion of the contents of the bottle has been dispensed therefrom, to preserve the quality and flavor of that portion which remains, and also to prevent the entrance of germ life, and one which may be quickly applied to and readily removed from the neck of the bottle.

A further object of the invention is to provide a bottle stopper which is neat in appearance, simple and durable in construction, and which lends itself readily to advertising purposes.

Other features of the invention will be referred to in connection with the specific description of the illustrated embodiment of the invention.

With the above objects in view the invention consists in the improved bottle stopper hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art from the following description.

The several features of the invention will be clearly understood from an inspection of the accompanying drawing in which—

Figure 1 is a front elevation of a portion of the neck of a bottle with the stopper secured in position thereon to close the mouth of the bottle; Fig. 2 is a side elevation of the same; Fig. 3 is a central vertical section; and Fig. 4 is a top plan view.

As shown in the drawing the stopper comprises a plug 1 of rubber, or other suitable material formed with a reduced end 2 which enters the mouth 3 of the bottle 4, and with an enlarged portion or head 5 which is adapted to bear against the upper end of the

bottle to close the mouth thereof. The plug 1 is mounted about a button 6 which is made of metal. The outer end 7 of the button 6 is enlarged to form a head or shoulder between which and the plug 1 a yoke 8 is held. The yoke 8 is formed of resilient sheet metal and is provided at its central portion with a hole 9 through which the body portion of the button 6 passes. The ends of the yoke 8 comprise two substantially S-shaped spring arms 10 which are shaped to engage the underside of a bead 11 formed at the upper end of the neck of the bottle. These spring arms yield readily to allow the stopper to be applied to or removed from the mouth of the bottle, and spring under the bead 11 to automatically clamp the stopper securely in place upon the bottle.

In order to more securely clamp the stopper upon the bottle and also to provide a convenient handle by the aid of which the stopper may be readily pulled from the bottle, I provide a lever 12 formed of wire having its ends bent to form hooks 14 which pass through holes 15 in the arms 10, and the middle portion of the lever comprises a substantially U-shaped bend which extends at substantially right angles to the plane of the side arms 16 of the lever, and having the ends of this U-shaped portion merged into U-shaped bends 17 substantially parallel and spaced apart a distance slightly less than the diameter of the adjacent portion 18 of the neck of the bottle. By this construction it will be observed that when the lever 12 is pushed down from the dotted line position shown in Fig. 2, the arms 16 move across the rounded ends 19 of the arms 10 and enter notches 20 therein. While the arms 16 bear upon the lower curved edges of the arms 10 considerable pressure must be applied to the U-shaped bend by the thumb of a person in the act of pushing the lever into the position in which the stopper is clamped upon the bottle. The engagement of the arms 16 with the rounded edges of the arms 10 forces the upper or hooked ends 14 apart until the ends of the hooks encounter the inner surfaces of said arms, as is clearly shown in Fig. 1. Further pressure upon the lever 12 brings the bends 17 into engagement with the neck of the bottle, and causes them to frictionally engage the same. The arms 16 of the lever 12 yield sufficiently



to enable the bends 17 to pass over the neck at the region 18, and then to approach each other slightly so that the lower end of the lever partially embraces the neck and aids the notches 20 in preventing said lever from becoming accidentally moved from clamping position, the clamping pressure on the arms 10 increasing continually until the arms 16 enter the notches 20. By pushing the lower end of the lever 12 in the opposite direction, as by the engagement of the thumb with either of the bends 17, the spring arms are freed from the clamping action of the lever which then assumes the dotted line position shown in Fig. 2, and may then be grasped to pull the stopper from the bottle.

The outer face of the enlarged end 7 of the button 6 is finished with a cap 22 which may be made of celluloid or any other suitable material, and may display advertising matter such as a trade-mark or the like. Thus it will be noted that the stopper is capable of repeated use and is adapted for use in hotels, clubs, hospitals and the like, in fact in any place in which it is desirable to dispense only a portion of the contents of a bottle and preserve the quality of the remainder, and protect it against the entrance of germs or any other foreign matter.

Having thus described my invention what I claim is:—

1. A bottle stopper, comprising a yoke having members arranged to engage the neck of a bottle; a plug carried by the yoke for closing the mouth of the bottle; and means engaging the ends of said members for clamping the yoke in position, substantially as described.

2. A bottle stopper, comprising a yoke having resilient arms adapted to engage the neck of a bottle; means carried by the yoke for closing the mouth of the bottle; and means engaging the ends of said arms for clamping the yoke in position, substantially as described.

3. A bottle stopper, comprising a yoke

having resilient arms adapted to engage the neck of a bottle; means carried by the yoke for closing the mouth of the bottle; and a lever engaging the lower ends of said arms for clamping the yoke in position, substantially as described.

4. A bottle stopper, comprising a yoke having yielding arms for engaging the neck of a bottle; means carried by the yoke for closing the mouth of the bottle; and a lever arranged to engage said yielding arms and adapted to partially embrace and frictionally engage the neck of the bottle, substantially as described.

5. A bottle stopper, comprising a yoke having arms adapted to engage the neck of a bottle, and provided with notches; means carried by the yoke for closing the mouth of the bottle; and means for clamping the yoke in position, said clamping means being held in said notches, substantially as described.

6. A bottle stopper, comprising a yoke arranged to engage the neck of a bottle; means carried by the yoke for closing the mouth of the bottle; a lever pivotally connected to said yoke and having a substantially U-shaped portion arranged to partially embrace and to frictionally engage the neck of the bottle, substantially as described.

7. A bottle stopper, comprising a yoke having resilient arms provided with notches in their lower ends; means carried by the yoke for closing the mouth of the bottle; and a lever carried by said yoke arranged to engage said notches and having a substantially U-shaped portion arranged to partially embrace and frictionally engage the neck of the bottle, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANK M. HARRISON.

Witnesses:

CHAS. H. McDERMOTT,  
H. P. ROBERTS.