

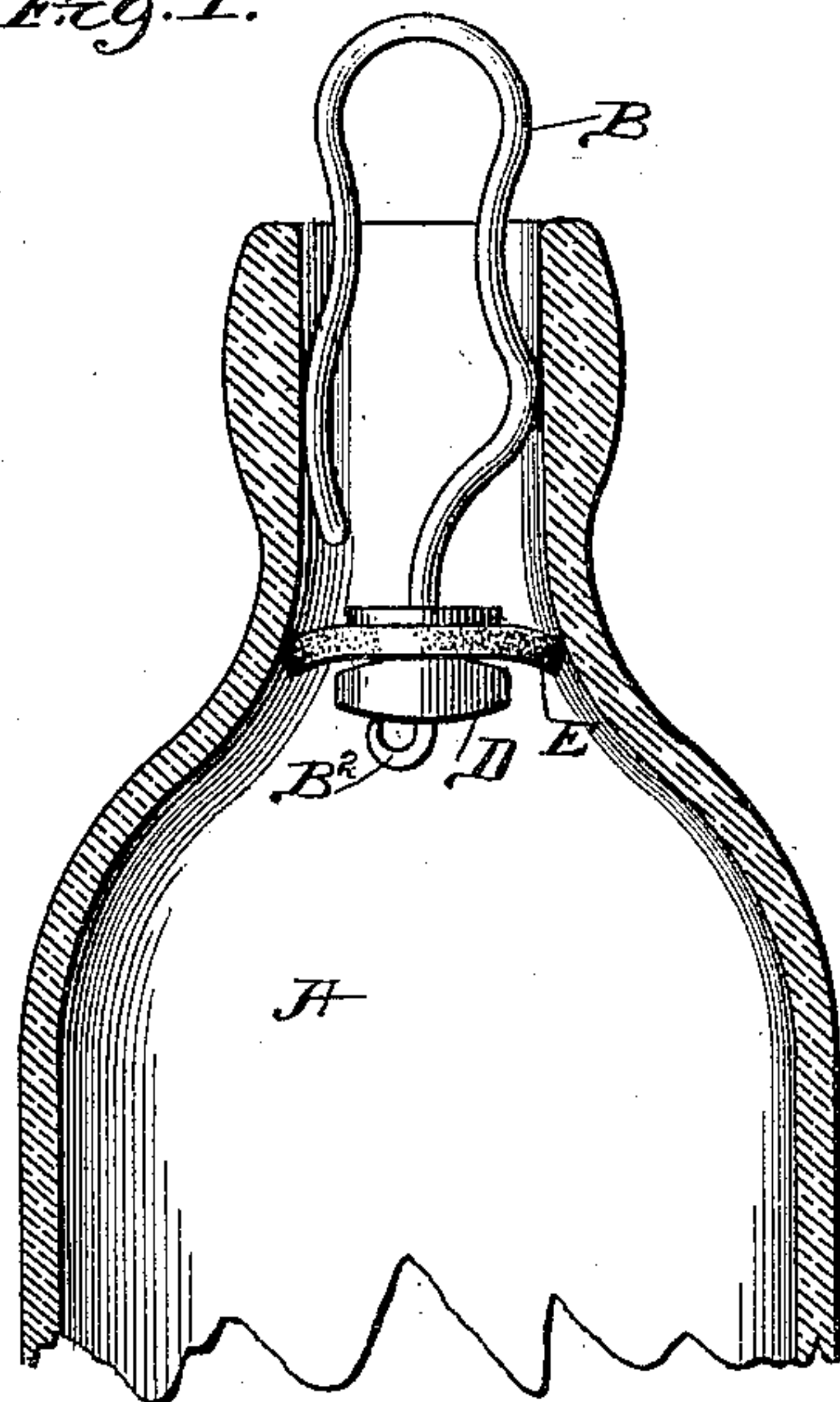
(No Model.)

F. HENKEL.  
BOTTLE STOPPER.

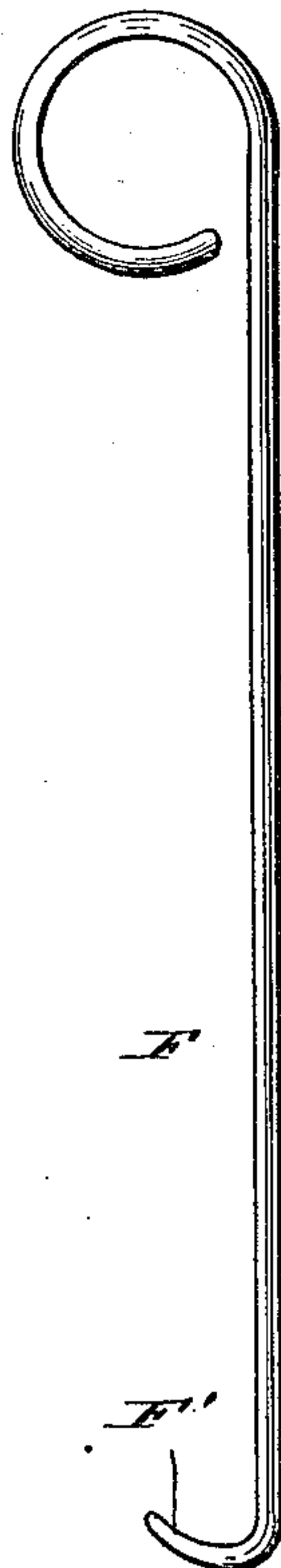
No. 427,864.

Patented May 13, 1890.

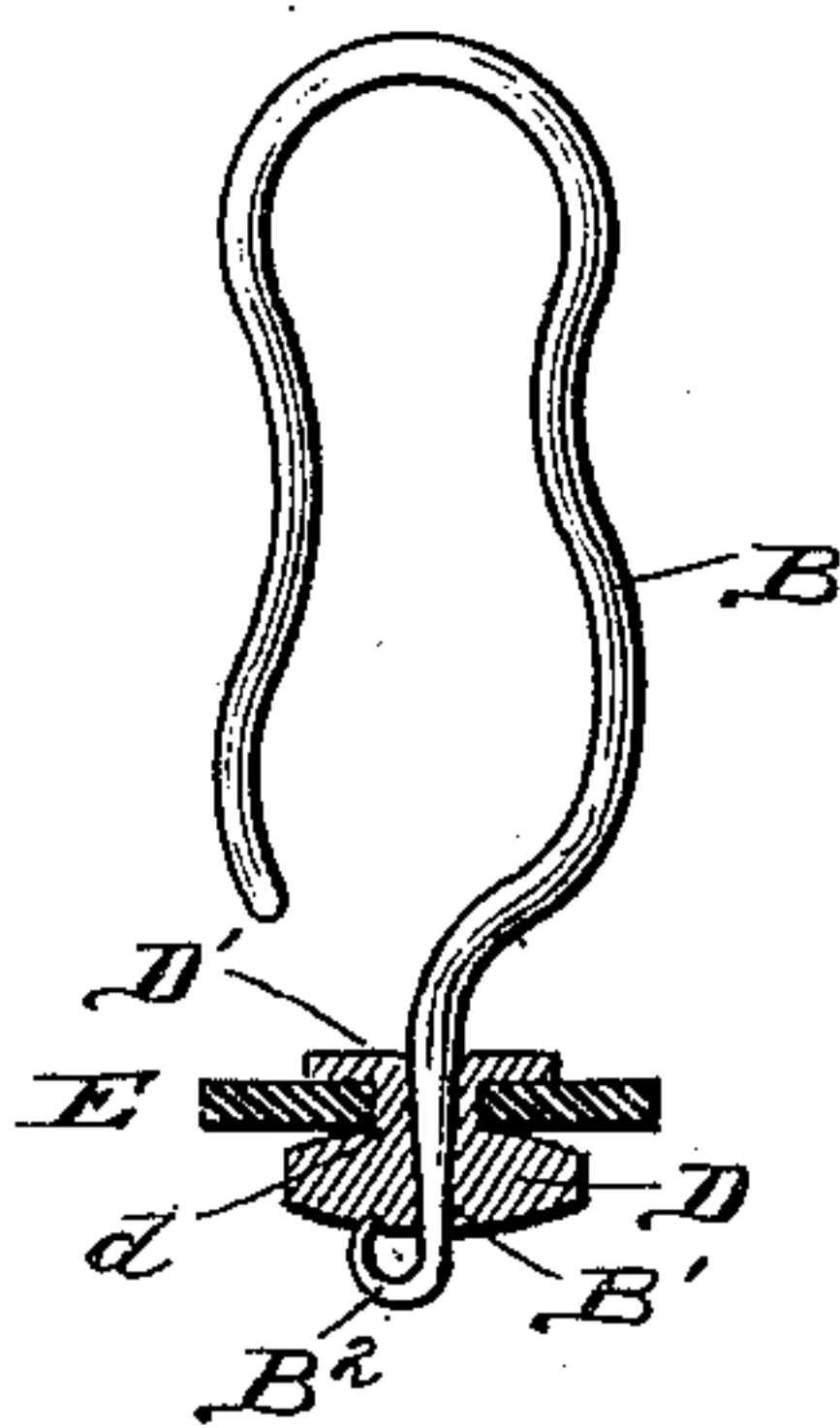
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

FREDERICK HENKEL, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
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## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 427,864, dated May 13, 1890.

Application filed October 29, 1889. Serial No. 328,580. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK HENKEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to that class of bottle-stoppers intended to be forced downward into the neck of a bottle a distance sufficient to allow the liquid to be contained in such bottle to flow over the stopper into the bottle as it is flowed or forced therein, and when such bottle is thus filled such stoppers are adapted to be drawn upward into position, closing the neck of the bottle. Stoppers of this description are generally used for the purpose of closing the neck of a bottle containing "pop," as it is termed, or other effervescing liquid containing a gas exerting a force tending to force the walls of the bottle and the stopper therein outward, the stopper being thus held in position against the lower edge of the neck of the bottle.

My device consists of mechanism adapted to strengthen such stoppers in their construction, to increase their durability, and to afford means whereby when the bottle has been emptied of its contents the stopper may be withdrawn from the bottle without injury thereto or to the bottle.

The object of this invention is to construct a bottle-stopper of the character named provided with a loop or eye on the under side of the button forming a part thereof, and into which loop or eye a hooked wire may be readily inserted for the purpose of wholly withdrawing the stopper from the bottle when such stopper has been completely pushed into the bottle, with the under side of such button emerging first from out the neck of the bottle.

A further object of my invention is to obtain a loop or eye upon the under side of the button less bulky and unwieldy in appearance than can otherwise be constructed on wire of the diameter and strength desirable and employed by me in forming the loop which engages with the neck of the bottle, where such withdrawing eye or loop is formed

up or bent up upon one end of the wire constituting the loop engaging with the neck of the bottle.

A still further object of this invention is to avoid the necessity of doubling the wire forming the loop engaging with the neck of the bottle, of placing shoulders or abutments upon the wire above the button thereon, or of returning the free end of the wire forming the loop engaging with the neck of the bottle to the upper side of the abutment, as has been heretofore done.

For the purpose of accomplishing the several objects sought by me my invention consists of a wire extending through a button adapted to hold a rubber ring or washer thereon in a suitable manner to engage with the neck of the bottle upon the inner side thereof and to close such neck, the portion of the wire upon the upper side of the button being looped in the ordinary manner to suitably engage with the neck of the bottle, the other end of the wire forming a loop or eye on the under side of the button and that portion of the wire embedded in such button tapering from the diameter thereof upon the upper face of the button to a lesser diameter at the under face thereof.

I have illustrated my invention by the drawings accompanying and forming a part of this specification, in which—

Figure 1 is a section of the neck of a bottle having therein a stopper embodying my invention, which is shown in elevation. Fig. 2 is a sectional view of the stopper, and Fig. 3 is an elevation of a hook employed to withdraw the stopper from a bottle.

Like letters refer to like parts throughout the several views.

A is the bottle.

B is the bent wire, to the lower part whereof the button D D' is rigidly secured, usually by being cast thereon—that is to say, the wire is inserted in a suitable mold and the molten metal constituting the button D D' is then poured into such mold.

B' is that part of bent wire B which is embedded in the button D D', and is tapered off in the manner illustrated in Fig. 2.



B<sup>2</sup> is that part of the bent wire B which extends through the lower side of the button D D' and is turned into a loop or eye.

F F' is a hook.

5 E is the rubber ring inclosed by and attached to button D D'. By inspection of button D D' it will be observed that part D thereof is of larger diameter than is part D', and that the two parts D and D' are connected by a neck or body portion, which is lettered *d*. When the stopper is inserted in the neck of the bottle, the rubber E may turn backward over the button D'; but when the stopper is forced outward either by the contents of the bottle or by the insertion of the hooked end F' of the hook F F' and the applying of force thereto part D of the button D D' is of sufficient diameter to present great resistance, and the bottle is closed thereby.

10 In the device embodying my invention the tapering of the wire from the diameter thereof illustrated upon the upper side of the button to the diameter thereof illustrated upon the under side of the button, and the part of such wire forming the eye B<sup>2</sup>, serves a very important purpose, as in casting the button D D' around such tapering portion of the wire the button is held in position and prevented from sliding upward on the wire when the hook is inserted in the eye B<sup>2</sup> and pulled from the bottle, and such eye obviously serves

as a loop, into which a hook may be inserted to withdraw the stopper from the bottle in a manner that the rubber ring may turn back over part D' of the button D D' in the same way that such rubber ring turns back over the part D' in inserting stoppers of this kind as ordinarily made into the neck of the bottle.

Having thus described my invention, what I claim is—

40 The combination, in a bottle-stopper, of a double-headed button having one of such heads larger than the other thereof, a rubber ring held on such button between the heads thereof, a single wire extending through the button and beyond the heads thereof, the longer end of the wire being bent to suitably conform to the neck of the bottle, the wire tapering in the part thereof embedded in the button, and the end of the wire having the smaller diameter extending through the button on the side thereof having the larger head and looped into an eye adapted to receive a hook thereon, whereby the stopper may be drawn from the bottle with the larger head of the button thereof first entering the neck of the bottle, substantially as described.

FREDERICK HENKEL.

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