Dec. 7, 1926. 1,610,158

M. H. ROBERTS

BOTTLE STOPPER

Filed August 16, 1924

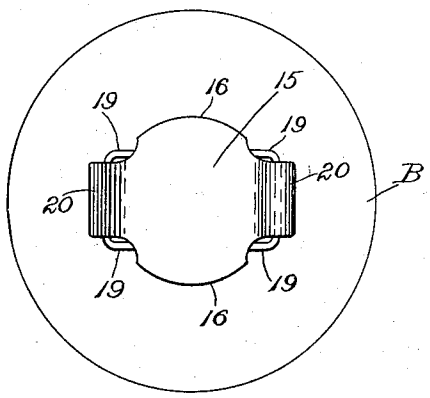


Fig. 6.

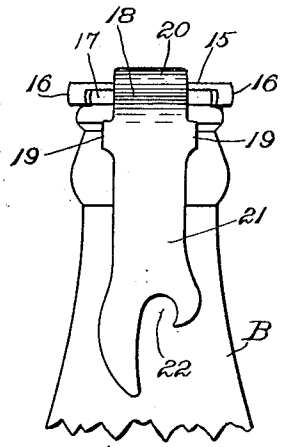


Fig. 5.

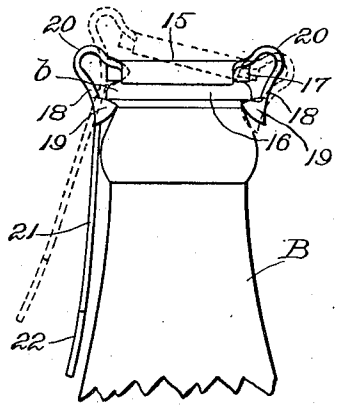


Fig. 4.

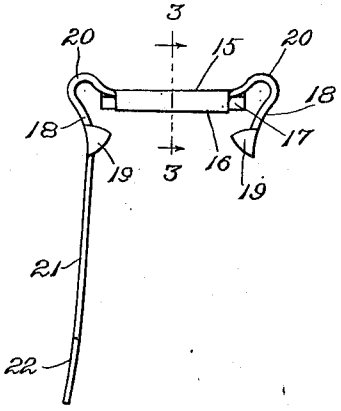


Fig. 2.

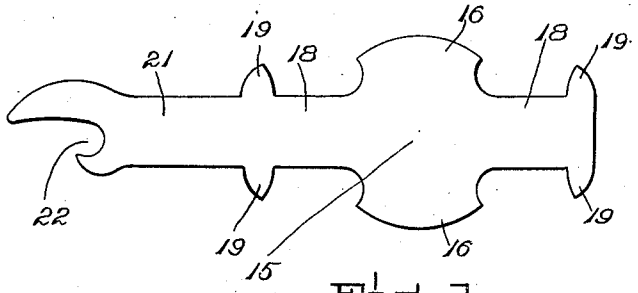


Fig. 1.

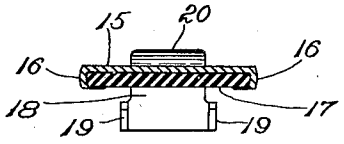


Fig. 3.

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UNITED STATES PATENT OFFICE.

MAURICE H. ROBERTS, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ROBERTS SPECIALTY MANUFACTURING COMPANY, INC., OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

BOTTLE STOPPER.

Application filed August 16, 1924. Serial No. 732,361.

This invention relates to a device for use in connection with bottles having closures of the well-known crown cap or seal type. A closure of this type comprises a cap having a disk of cork or other packing material for sealing the mouth of the bottle, and a crimped flange for engaging a bead formed on the bottle neck and surrounding said mouth. As is well known, such closures cannot be readily removed without a special appliance, and after having been removed cannot be replaced so as to seal the bottle securely. The present invention has for its general object to provide a simple and inexpensive appliance for removing closures of this type as well as for temporarily closing and sealing the mouth of the bottle after the original closure has been removed. The more particular objects of the invention, together with means whereby the latter may be carried into effect, will best be understood by the following description of a preferred embodiment thereof illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of the blank from which the device embodying the invention is formed.

Fig. 2 is a side elevation of the blank after being bent and shaped to form the device.

Fig. 3 is a detail section taken substantially on line 3—3, Fig. 2.

Figs. 4 and 5 are side elevations taken substantially at right angles to one another, showing the application of the device to a bottle.

Fig. 6 is a plan view of the bottle with the closure applied thereto.

As shown, the device or appliance embodying the invention comprises a body composed of resilient sheet material, preferably sheet metal, and formed from a blank of substantially the shape shown in Fig. 1 which may be stamped or died out from the sheet metal stock in accordance with the usual, well-known die stamping process. Said body comprises a closure portion 15 having at its lateral edges segmental extensions 16 which are bent to form flanges adapted to retain, in permanently assembled relationship with said closure portion, a cap or gasket 17 composed of rubber or other suitable packing material adapted to fit tightly over the mouth of the bottle B so as to close and seal the same. The closure portion 15 is also formed between the extensions 16, and substantially at right angles thereto, with elongated extensions 18 each having, at its opposite lateral edges adjacent its outer end, a pair of projecting, substantially triangular lugs 19. Adjacent the closure portion 15, the extensions 18 are bent to form upwardly and outwardly inclined spring loops 20, thereby forming of the extensions 18 spring fingers connected with the closure portion 15 by said spring loops. The lugs 19 of each spring finger 18 are bent inwardly into parallel positions so as to engage under the bead or flange *b* of the bottle neck at spaced points. The extension forming one of the spring fingers 18 is projected beyond the lugs 19, as shown at 21, and is shaped, as shown at 22, to constitute a crown seal remover or bottle opener of well-known type.

In operation, the end 22 of the projection 21 is employed to remove the crown seal from the bottle to be opened. When it is desired to close the bottle again, the lugs 19 of the spring finger 18 opposite the projection 21 are engaged under the bead *b* of the bottle neck, as shown in dotted lines in Fig. 4, after which, by pressure of the thumb upon the closure portion 15, the lugs 19 of the other spring finger are caused to snap into position beneath said bead, as shown in full lines in said figure, thereby firmly seating the cap or gasket 17 upon the mouth of the bottle and sealing the latter. It will be noted that the lugs 19, by reason of their triangular form, react upon the bead *b* with a cam action, thereby spreading the spring fingers and facilitating the application of the device. It will also be seen that, when the closure is in place, and by reason of the upwardly and outwardly inclined position of the spring loops 20, the pressure exerted by said loops upon the lugs 19 has an upward component tending to seat the cap or gasket 17 upon the mouth of the bottle with considerable firmness. It will further be seen that the pointed ends of the lugs 19 are firmly engaged with the under or inner side of the bead *b*, and that, by reason of the fact that said lugs engage said bead at four spaced or separated points, the closure is securely

retained on the bottle. It is found in practice that, by reason of the construction described, the device is held in place with greater firmness and security than in any similar appliance of which I am aware, and that it will remain seated without leakage against any pressure which, in ordinary use, it is called upon to withstand. Said device may, nevertheless, be easily removed at any time by pulling outwardly upon the projection 21 which constitutes an operating lever for spreading the spring fingers and thus disengaging the lugs 19 at that side of the device from the bead *b*.

It will be obvious that the particular embodiment of the invention above described is capable of considerable modification in practice without departure from the spirit and scope of the invention as defined by the following claims.

Having thus described my invention, I claim:

1. A bottle closure body formed from a single blank of resilient sheet material and comprising a closure portion having at its sides extensions bent to form flanges to retain a cap of packing material to seal the mouth of the bottle and extensions disposed substantially at right angles to said first named extensions and bent to form spring fingers, said last named extensions being formed with lateral lugs bent inwardly into parallel position to engage the bottle neck.

2. A bottle closure body formed from a single blank of resilient sheet material and comprising a closure portion having at its sides extensions bent to form flanges to retain a cap of packing material to seal the mouth of the bottle and extensions disposed substantially at right angles to said first named extensions and bent to form spring fingers, said last named extensions being formed with lateral lugs bent inwardly into parallel position to engage the bottle neck, one of said last named extensions being projected beyond the lateral lugs thereon and shaped to constitute a crown seal remover.

In testimony whereof I affix my signature.

MAURICE H. ROBERTS.