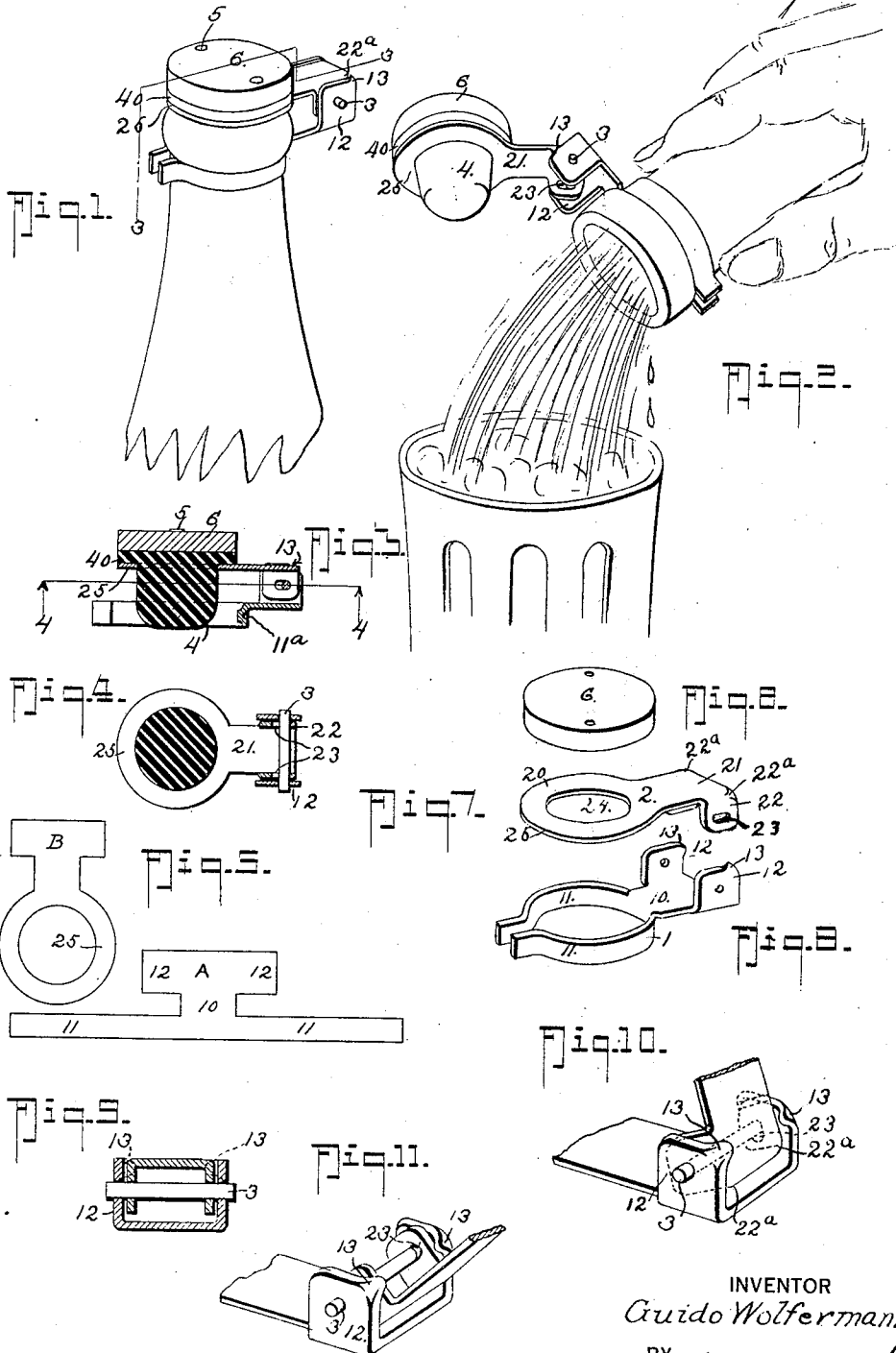


G. WOLFERMANN.
BOTTLE STOPPER.
APPLICATION FILED MAR. 5, 1918.

1,324,869.

Patented Dec. 16, 1919.

2 SHEETS—SHEET 1.



INVENTOR
Guido Wolfermann
BY
Fred G. Kretschmer
ATTORNEYS.

G. WOLFERMANN.
BOTTLE STOPPER.
APPLICATION FILED MAR. 5, 1918.

1,324,869.

Patented Dec. 16, 1919.

2 SHEETS—SHEET 2.

Fig. 12.

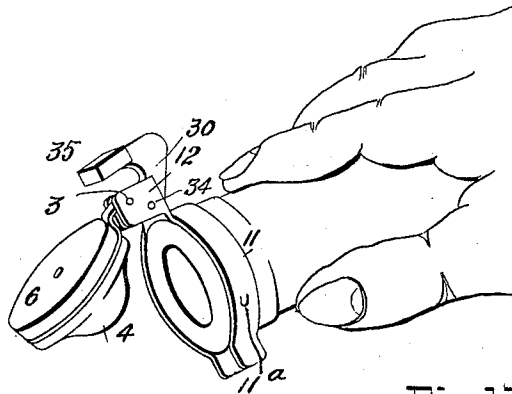
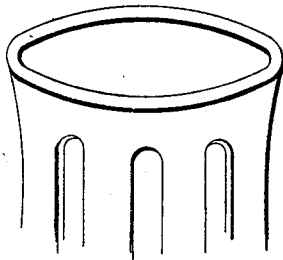
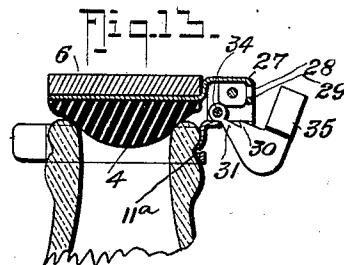
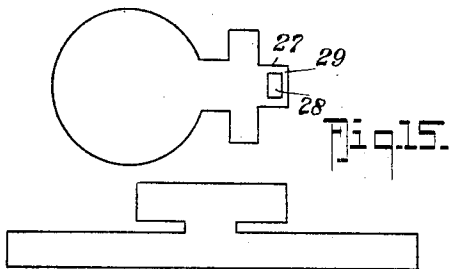
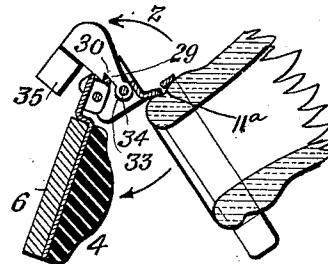
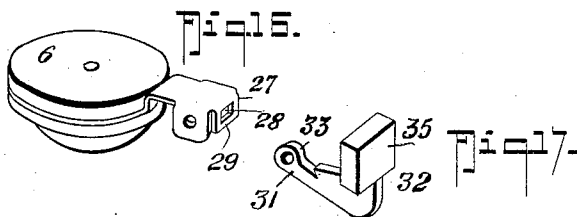


Fig. 14.



INVENTOR
Guido Wolfermann

BY
Fred Goettersch & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

GUIDO WOLFERMANN, OF ST. LOUIS, MISSOURI.

BOTTLE-STOPPER.

1,324,869.

Specification of Letters Patent.

Patented Dec. 16, 1919.

Application filed March 5, 1918. Serial No. 220,518.

To all whom it may concern:

Be it known that I, GUIDO WOLFERMANN, a citizen of the United States, residing at St. Louis, State of Missouri, have invented a new and Improved Bottle-Stopper, of which the following is a specification.

My invention has reference to improvements in bottle closures and particularly to that type of bottle stoppers designed for being used on soda, carbureted water bottles, &c., and my said invention primarily has for its purpose to provide a bottle closure device of the general character stated, simple and economical in construction, in which the parts are so designed whereby the device may be readily applied to ordinary forms of soda or other carbureted beverage holding bottles, beer bottles, catchup bottles and the like, in which is included a self-adjusting spring hinge connection for the stopper or closure member proper, whereby, when the closure member is swung open, it will be held locked to such open position while pouring from the bottle.

Another object of my invention is to provide a closure device of the particular type mentioned having body portions of such shape and adapted for such coöperative connection, whereby to provide for stamping up the said part from spring metal and for the convenient attachment thereto of the stopper portion which may be of rubber, porcelain or other suitable material.

With further objects in view that will appear in the following description, my invention is a bottle closure device that embodies the peculiar features of construction and combination of parts pointed out in the following detail explanation, specifically stated in the appended claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of my invention as applied to a bottle, the parts being at the the bottle closure position.

Fig. 2 is a similar view, the stopper proper being shown as held to the swung back position while pouring from the bottle.

Fig. 3 is a vertical section of the device taken substantially on the line 3—3 on Fig. 1.

Fig. 4 is a horizontal section thereof on the line 4—4 on Fig. 3 and looking in the direction of the arrow.

Fig. 5 is a diagrammatic plan view of the

blanks from which the neck clamp and the stopper carrying members are formed.

Fig. 6 is a perspective view of the finished clamp portion of the device.

Fig. 7 is a similar view of the cap or stopper carrying member.

Fig. 8 is a similar view of the weighted disk.

Fig. 9 is a detail cross section of the hinge connection, the several parts being at the normal or closure position and indicating the relation of the elongated slot in the hinged cap member and the hinged pintle.

Fig. 10 is a perspective view which illustrates the position of the hinged cap and the slot, when the hinged cap is brought into engagement with the spring snap on the pintle bearings.

Fig. 11 shows the position of the said parts when the cap plate is swung back to the locked position.

Fig. 12 is a perspective view that illustrates a modified arrangement of my invention, the hinged stopper being shown held locked to the open position during the act of pouring from the bottle.

Fig. 13 is a detail cross section of the bottle head and the closure device shown in Fig. 12.

Fig. 14 is a view similar to Fig. 12, the closure device being at the open or pouring position.

Fig. 15 is a diagrammatic plan view of the blank form from which the stopper disk plate and the neck clamp are bent up.

Fig. 16 is a perspective view of the stopper device.

Fig. 17 is a similar view of the locking member included in the modified structure.

In carrying out my invention, a body portion is provided, that consists of two parts, a clamping member shaped for being quickly applied to and held on a bottle neck and a cap member onto which the stopper or closure element proper is secured.

The clamping and the cap members are preferably stamped up from sheet metal blanks shaped as diagrammatically shown in Fig. 5, in which A designates the clamp blank and B the cap blank.

The clamp 1, as shown in Fig. 6, consists of a flat neck portion 10, a split clamp ring 11 and a pair of brackets 12—12 that form the bearings for the opposite ends of a fixedly secured hinged pintle 3.

To provide for firmly engaging the groove in the bottle neck, the clamp ring has inwardly extended spurs or indentations 11^a—11^a, preferably formed by stamping as indicated on Figs. 12, 13 and 14.

2 designates the cap member which includes an apertured plate 20 and a flat neck 21, the free or back end of which merges with inwardly bent ears 22, each provided with a slot 23, the said slots being elongated in parallelism with the flat neck 21, as it is best shown in Figs. 7 and 10.

3 designates a hinged pintle that connects at its opposite ends with the bearings 12—12, as is clearly shown in Figs. 8, 10 and 11, from which it will be also seen that the pintle passes through the elongated slots 23 in the ears 22, as shown.

4 denotes a stopper member proper and, in practice, the said member may be of rubber, porcelain or any suitable material.

In the drawings, I have shown the stopper as formed of a rubber nipple which projects through the aperture 24 in the plate 20 and has its upper end formed with an annular flange 40 which engages the annular rim 25 of the said plate 20, to which is firmly secured by rivets 5 that take through the flange 40, the rim 25 and a weighted disk 6, as is best shown in Fig. 1, the weight 6 serving to hold the stopper firmly at its closed position.

Referring now more particularly to Figs. 9 and 10, it will be noticed that the outer upper edges of the pintle brackets 12—12 are bent inwardly to form spring snaps 13—13 and the said snaps project in the path of movement of the ears 22 of the flat neck 21 of the cap plate 20, the outer edges of which are beveled as at 22^a to avoid undue friction between the spring snaps 13—13 and the solid ears 12—12, when swinging the cap plate 2 to close the stopper into the bottle neck.

The upper end of the inner or front edge of each of the solid ears 22 is slightly beveled as at 22^a so as to facilitate a radial interlocking of the said front edges of the ears 22 with the spring snaps 13, when the cap, with the stopper, is swung back to the open position, as shown in Fig. 2.

By providing the ears 22 with elongated slots 23, as shown, it permits sufficient free or lateral play of the cap plate relatively to the hinged pintle and it makes the said hinged connection self-adjusting as will be readily understood from Figs. 9 and 10 of the drawings.

In Figs. 12 to 17 inclusive is illustrated a modified construction of my improved stopper device and, in this latter form, the same general characteristics of the other form shown in Figs. 1 to 11 are employed.

Instead of forming the pivotal connection 65 and the bearing members with interlocking

elements that tend to hold the stopper in the open position, while pouring, as in Fig. 2, and which include the spring snaps 13 on the bearings 12 and the beveled edges 22^a as shown in Fig. 7, the pivotal end of the stopper disk member 2 in the modified form is made with a pendent member 27 provided with a slot 28 and, at one end of the said slot, is a cross hook 29 that coöperates with a locking notch 30 formed on the stem 31 of a weighted detent 32 which includes an apertured head 33 for receiving a pivot pin 34 that takes through the apertured side or bearing ears 12, see Figs. 12, 13 and 14.

When using the modified form in pouring, the weighted detent swings over in the direction of the arrows *z*, Fig. 14, until its locking notch engages with the cross hook 29 and, when thus positioned, the counterweight 35 of the detent 32 tends to swing the said detent in the direction of the arrow *z*, so that its locking notch 30 closes over and is held in a fixed locked engagement with the cross hook 29 and thereby secures the stopper in the open position shown in Figs. 12 and 13.

From the foregoing description taken in connection with the accompanying drawings, the complete construction, the combination of operating parts and the advantages of my invention will be readily apparent and need not be further defined.

What I claim is:

1. In a bottle closure in which is included a band adapted for engaging around a bottle neck and which has bearing members, a weighted stopper pivotally mounted at one end on the said band bearing member and adapted for being freely swung to its open position by a quick movement of the bottle neck and coöperating means on the stopper and the aforesaid bearing that interlock, when the stopper has been flung back to the said open position.

2. An improved closure device for bottles, consisting of a clamp band adapted for engaging around the neck of a bottle, the said band including an extension and an opposing pair of brackets at the outer end of the said extension a pivot pin secured at its ends in the said opposing pair of brackets, a weighted stopper including a metal disk with an extension having bearing portions for engaging the said pivot pin on which the stopper swings, and coöperating devices on the stopper and the band bearings that engage and hold the stopper to its open position, when it is flung back by a quick movement of the neck end of the bottle, the said devices being finger released to permit the stopper to drop to the closed position.

3. An improved closure device for bottles, consisting of a clamp band adapted to take around the neck of a bottle, the said band including a laterally extended portion hav-

ing a pair of bent up brackets at the outer
end thereof, a stopper including a metal disk
having a laterally extended portion that
terminates in oppositely disposed bent ears
5 having slots elongated in a plane with the
disk, a pivot pin that takes through the
elongated slots in the said ears and the
brackets of the clamp band, and yieldingly

engaging portions on the cooperating
brackets and the ears for holding the 10
stopper to its turned out or open position,
the said yieldingly engaging portion includ-
ing spring snaps on the apertured brackets
and beveled portions on the slotted ears for
engaging with the spring snaps.

GUIDO WOLFERMANN.