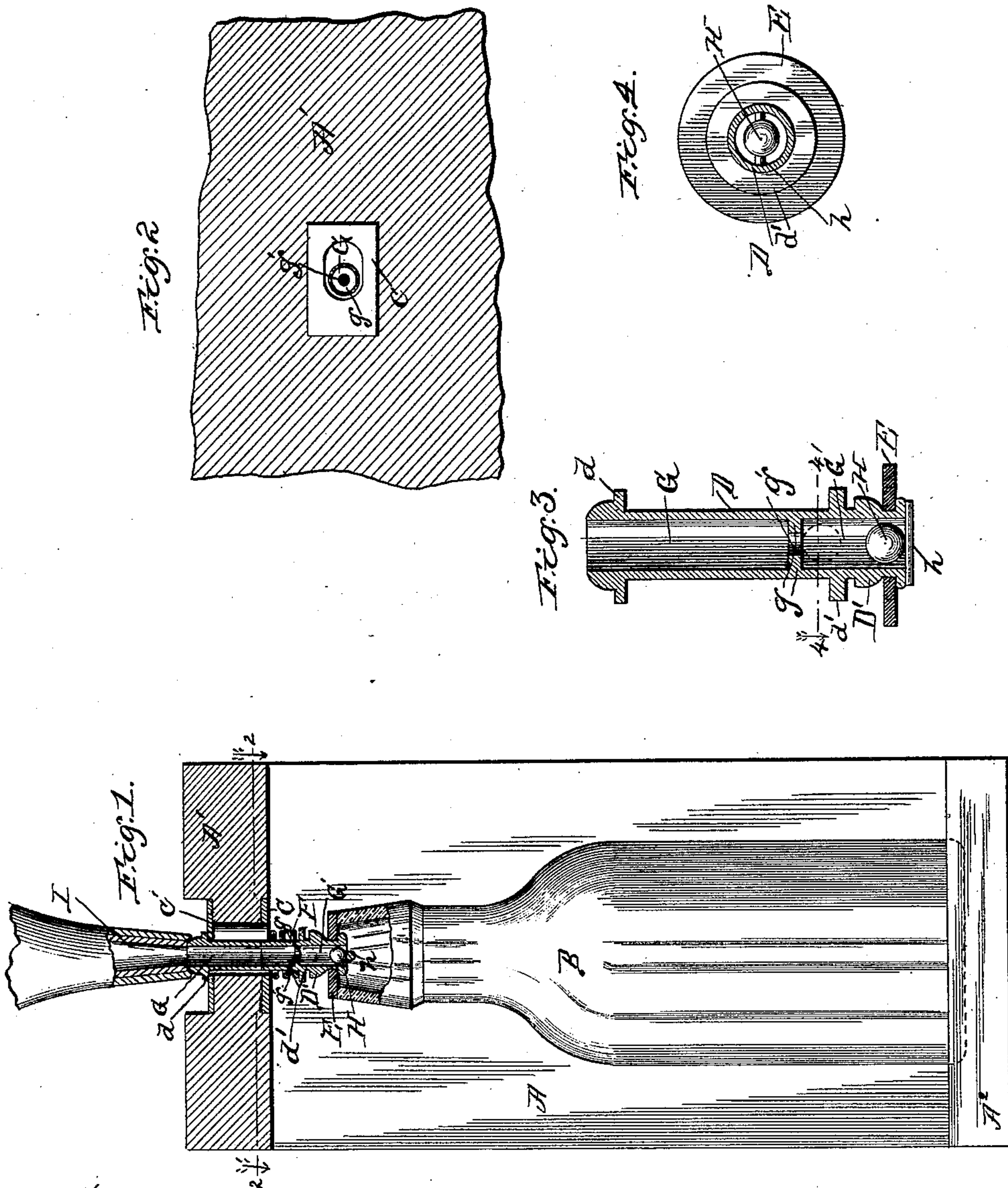


(No Model.)

W. A. HAUSBURG & F. HENKEL.
BOTTLE RECEPTACLE AND STOPPER.

No. 427,862.

Patented May 13, 1890.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM A. HAUSBURG AND FREDERICK HENKEL, OF CHICAGO, ILLINOIS.

BOTTLE RECEPTACLE AND STOPPER.

SPECIFICATION forming part of Letters Patent No. 427,862, dated May 13, 1890.

Application filed March 10, 1890. Serial No. 343,230. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. HAUSBURG and FREDERICK HENKEL, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Combined Receptacle and Stopper for Soda-Water Bottles, of which the following is a description.

The principal object of our invention is to obtain a receptacle into which empty soda-water bottles may be placed and corked or stoppered in the placing of them therein, and a receptacle in which while so contained therein in such corked condition the empty bottles may be filled from a soda-water fountain adapted therefor in the manner in which soda-water bottles containing internal stoppers of the kind now in common use are at the present time filled from such fountains.

A further object of our invention is to obtain a bottle cork or stopper permanently attached to the receptacle in which the bottle corked by such stopper is contained, so that such stopper cannot be accidentally or willfully removed from the receptacle and thereafter lost or destroyed, through which cork or stopper the bottle can be filled.

By our invention a receptacle is obtained adapted to receive empty soda-water bottles, to permit filling thereof, and to hold the filled bottles in a corked or stoppered condition while being transported to the place where and until the time when the contents thereof are to be consumed in a manner that when the bottles are removed from the receptacle such removal will at the same time uncork or unstopper them and allow the contents thereof to be taken therefrom.

We have illustrated our invention by the drawings accompanying this specification, in which—

Figure 1 is a cross-section of the receptacle and stopper, showing a bottle in the receptacle corked by the stopper, the neck of such bottle being also in cross-section. Fig. 2 is a horizontal cross-section on line 2 2 of Fig. 1 and viewed in the direction of the arrow. Fig. 3 is an enlarged longitudinal sectional view of the stopper. Fig. 4 is a horizontal sectional view of the stopper on line 4 4 of

Fig. 3 and viewed in the direction of the arrow.

Like letters refer to like parts throughout the several views.

A is the receptacle. A' is the top board thereof, and A² the bottom board.

B is a bottle contained in the receptacle.

C and C' are metal plates having holes therein forming bases, which are secured to the top board or cover A' of the receptacle, and through these bases the stem of the stopper passes, and the stopper is thereby secured to the receptacle.

D D' is the stopper.

D is the portion thereof constituting the stem of the stopper, and D' the head.

d is a ring or washer rigidly secured to the upper end of stopper-stem D, and d' is a like ring or washer rigidly secured to the stem D near the head D' thereof.

E is a rubber washer secured on head D' of the stopper.

F is a spiral spring surrounding stopper-stem D, one end of such spring abutting against base C and the other end thereof abutting against washer d' on stopper-stem B. When no bottle is contained in the receptacle A, the spring F tends to hold washer d against metal plate C'.

G is a hole in stopper-stem D, extending from the top of the stopper-stem downward to the internal ring g, which is rigidly secured within the stopper-stem or forms an integral part of such stopper-stem.

g' is a hole through the internal ring g.

G' is a hole extending from the hole g' in the internal ring g, through the stopper-stem D and through the head D' of the stopper to the lower end of such stopper-head. Hole G' is of less diameter than hole G. It will be observed that the several holes G, g', and G' constitute a longitudinal way or passage of varying size extending entirely through stopper-stem D and stopper-head D'. In the portion G' of this way there is placed the rubber ball H, which is of less diameter than the hole G' and of greater diameter than hole g'. This ball H is prevented from dropping out of the stopper at the bottom of the hole G' by bar h, which is rigidly secured across the hole in the stopper-head. Portion G of the

passage $G\ g'\ G'$ is of greater diameter than is portion G' thereof, and is therefore of greater area in the cross-section thereof than portion G' of such way.

5 The manner in which our invention operates is as follows: The bottle B is inserted in the receptacle A, with the rubber washer E and stopper-head D' over the mouth of the bottle. The spring F will thereby force the
 10 washer and stopper-head into or against the open mouth of the bottle with sufficient force to close the same, in the manner heretofore fully set out in application, Serial No. 331,524, now pending in the United States Patent Office
 15 for a patent for a combined receptacle and stopper for bottles, invented by Frederick Henkel, one of the inventors herein. The bottle B being empty, and it being necessary to fill the same with soda-water, the nozzle I (indicated
 20 by dotted lines in Fig. 2) is brought downward upon the top of the stopper-stem D' , so that the way $G\ g'\ G'$ forms a continuation of the passage of the nozzle I from the soda-water fountain in which is contained under pressure soda-
 25 water to be transferred therefrom into the bottle. Soda-water is then admitted from the nozzle I into passage $G\ g'\ G'$, and passing around the rubber ball H, which rests against bar h , such soda-water enters the bottle B, and will
 30 continue to so enter such bottle until the soda-water contained therein and the air contained in the bottle and compressed by the entrance of such soda-water exerts a pressure equal or about equal to the pressure of the soda-water
 35 in the fountain. In practice we find this equilibrium is established when the bottle B is about half-filled with soda-water. The nozzle I is then slightly raised off the stopper-stem D and an escape allowed to the air,
 40 or a portion thereof, contained in the bottle. The nozzle is then brought into close contact with the top of the stopper-stem D and more soda-water admitted into the bottle B in the

manner hereinbefore described. The lifting off of the nozzle I is repeated, with the re- 45
 peated admission of soda-water through such nozzle into the bottle, as often as is required until the bottle is sufficiently full of soda-
 water, when the nozzle is quickly taken from off the stopper-stem D. The pressure of the 50
 contents of the bottle B will then force the rubber ball H upward against the ring g in the stopper-stem, thereby closing the portion g' of the passage $G\ g'\ G'$ through such
 stopper-stem, and the contents of the bottle 55
 B are thereby retained in such bottle. To remove the contents of the bottle therefrom, such bottle is taken from the receptacle, the stopper remaining in the receptacle as a part
 thereof, and the bottle is thereby uncorked. 60

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

The combination of a receptacle having a retaining device for the base of a bottle at 65
 one end and a stopper-stem base secured to the other, a stopper-stem passing through such base and secured therein, a stopper-head at the lower end of such stopper-stem adapted to close the opening of a neck of a bottle, a 70
 spiral spring interposed between the stopper-head and the stopper-stem base, a passage of varying diameter through such stopper stem and head, and a rubber ball moving
 freely in the lower portion of such passage 75
 and inclosed therein, such ball being adapted to close the passage by being forced upward against a portion of such passage having less diameter than the diameter of such ball, substantially as described.

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