No. 609,271. Patented Aug. 16, 1898.

C. H. GOEBEL.

NON-REFILLING BOTTLE.

(Application filed Jan. 13, 1897. Renewed Jan. 31, 1898.)

(No Model.)

Fig. 4.

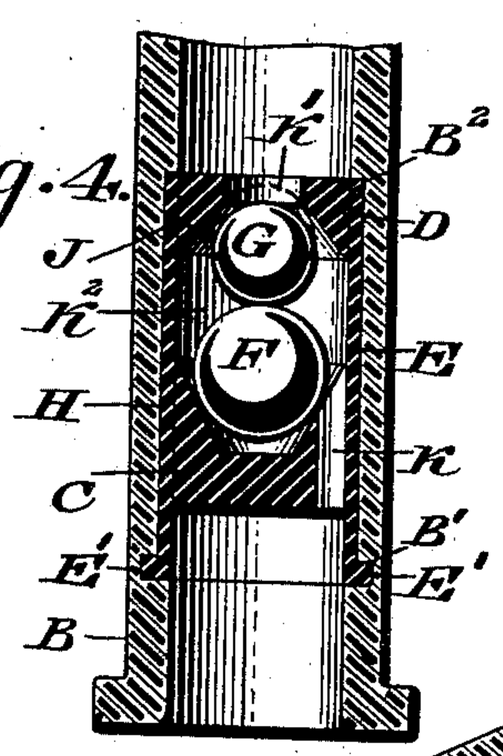


Fig. 1.

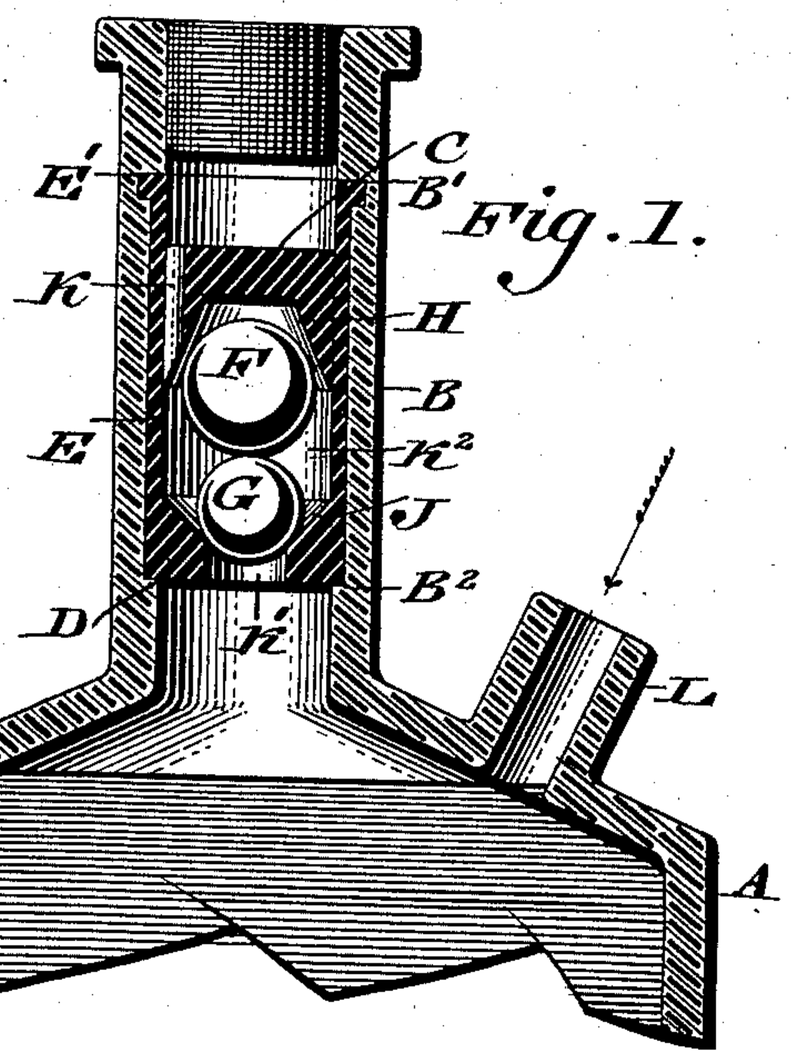


Fig. 3.

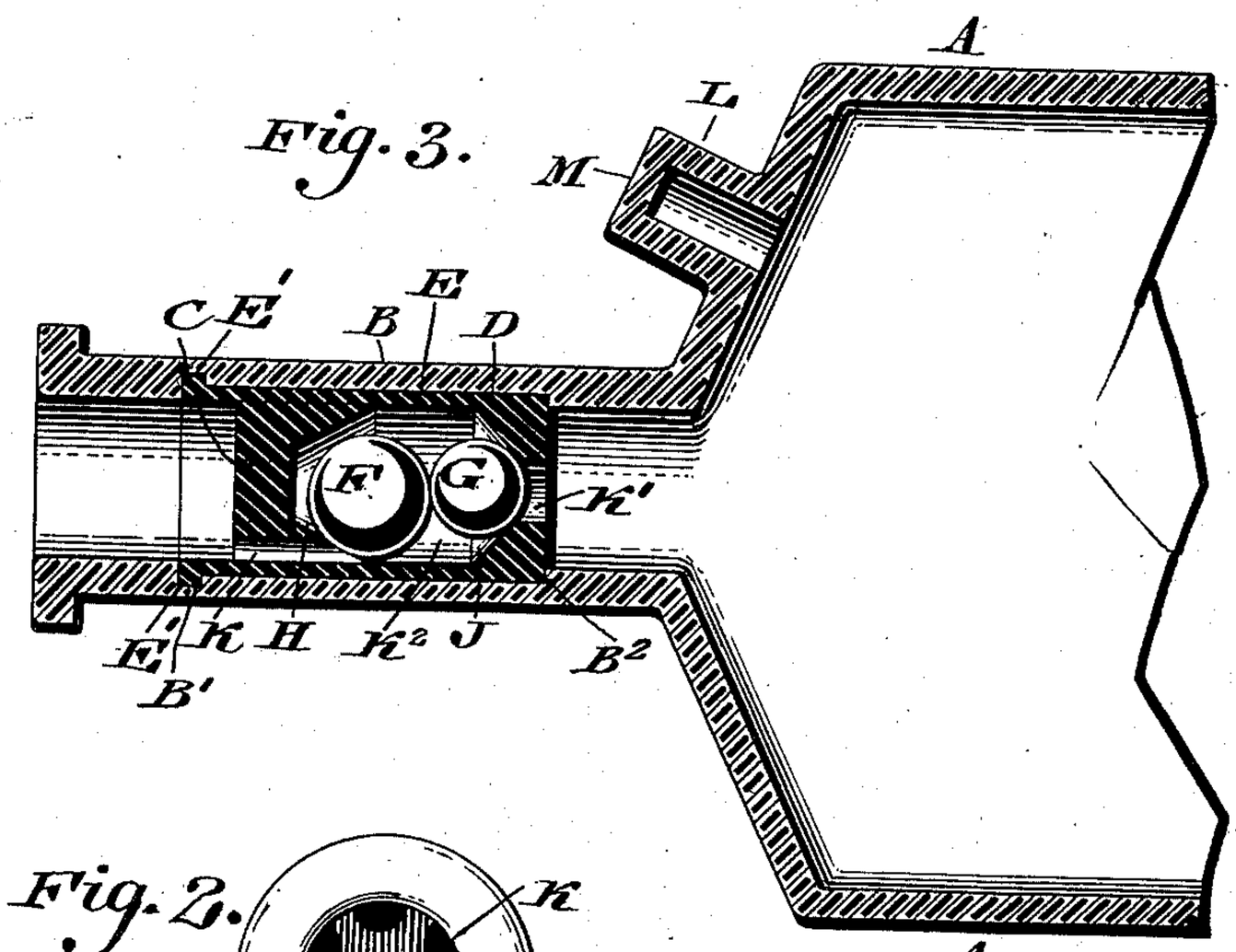
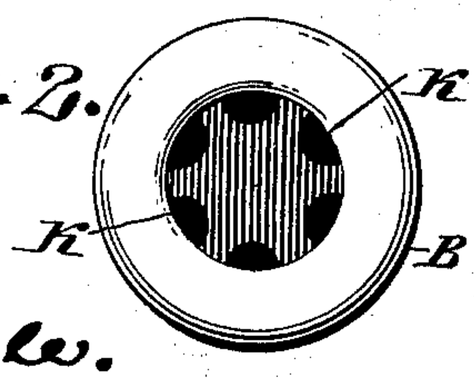


Fig. 2.



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NON-REFILLING BOTTLE.

SPECIFICATION forming part of Letters Patent No. 609,271, dated August 16, 1898.

Application filed January 13, 1897. Renewed January 31, 1898. Serial No. 668,673. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN H. GOEBEL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Non-Refilling Bottles, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of the construction of a bottle with means whereby the same cannot be refilled, said means embodying valves which remain closed under ordinary circumstances, so as to prevent the introduction of fluid into the bottle, but which open when the contents are to be removed.

Figures 1, 3, and 4 represent vertical sections of portions of a bottle with my invention applied thereto, the same being in different positions. Fig. 2 represents a top view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates portions of the body of a bottle, and B the neck thereof. Within the neck are the separated diaphragms C and D, which are firmly secured to or formed with the sleeve E, the latter being closely encircled by said neck and having at one end a flange E′, which occupies a recess B′ in the neck, thus preventing movement or displacement of the sleeve and consequently of the diaphragms C D, it being noted that the upper diaphragm C is located below the level of said flange, thereby reducing the height thereof and enabling the bottle to be more readily emptied when inverted, owing to the short ports in said reduced diaphragm. The opposite inner faces of said diaphragms are recessed, forming the seats H and J of the ball F and valve G, it being noticed that the ball F, as a preferred construction, is larger than the valve G, and the seats are correspondingly proportioned, and the space between the diaphragms forms the valve-chamber.

In the diaphragm C are the ports K, which extend in the present instance longitudinally of the neck of the bottle, and in the diaphragm D is the port K′, it being noticed that the ports K form communication between the valve-chamber and the exterior of the bottle, and the port K′ forms communication between said chamber and the interior of the bottle.

On the side or breast of the bottle is the nozzle L, which is primarily adapted for the filling of the bottle, said nozzle being afterward closed by the cap M, which forms an integral portion of the same.

When it is desired to remove the contents of the bottle, the same is overturned, as shown in Fig. 4. In this case the valve G uncovers the port K′, and the fluid may pass through said port, the valve-chamber K^2, and the ports K and so reach the mouth, now inverted, and flow out.

When the bottle is in upright position, (shown in Fig. 1,) the valve G closes on its seat and consequently covers the port K′, whereby fluid is prevented from being introduced into the bottle through the latter. Should the bottle be tilted or decanted sidewise, as in Fig. 3, the ball F will drop from its seat and rest on the side of its seat, it being heavier than the valve G, whereby the latter will be held against its seat, closing the port K′, preventing fluid from passing therethrough.

When the bottle is in upright position, the weight of the ball F is superimposed on the valve G, preventing the latter from being raised by a wire introduced through the ports K, and the shaking of the bottle will keep said valve and ball in contact, owing to the tendency of the upper ball to roll on the lower one.

The sleeve and diaphragm will be preferably formed of opaque or dark material, so as to conceal the position and movements of the valves from without, it being noticed that said sleeve and diaphragms, with the valves, are placed in position in the neck of the bottle prior to the filling of the latter through the open nozzle L, so that said sleeve is a fixture and cannot be withdrawn through the mouth of the bottle or driven into the body thereof, owing to the horizontal groove or recess B′ and shoulder B^2, on which the upper and lower ends of the sleeve E are seated and which lock the sleeve in the neck.

As the valve G is lighter than the ball F, it may float, and so close on its seat when the bottle is overturned, as shown in dotted lines

in Fig. 4, should attempts be made to fill the bottle from below; but in any case it will be moved upwardly by the pressure of the introduced fluid and pressed against said seat.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A non-refillable bottle, having a neck provided with a recess in its upper portion, in combination with a sleeve located in said neck, diaphragms secured to said sleeve forming a valve-chamber, said diaphragms having ports therein, a flange on the upper portion of said sleeve seated in said recess, the upper of said diaphragms being located below the level of said flange, a valve controlling the port in the lower diaphragm and a weight normally bearing on said valve.

2. A non-refillable bottle having a neck with a shoulder in its lower portion and a recess in its upper portion, in combination with a sleeve in said neck, diaphragms secured to said sleeve forming a valve-chamber, said diaphragms having ports therein, a flange on the upper portion of the sleeve, a valve controlling the port in the lower diaphragm, a weight normally bearing on said valve, the lower end of said sleeve being seated in said shoulder and a nozzle projecting from the side of said bottle, said nozzle being primarily adapted for the filling thereof and also adapted to be closed by a cap forming an integral portion of the same.

CHRISTIAN H. GOEBEL.

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