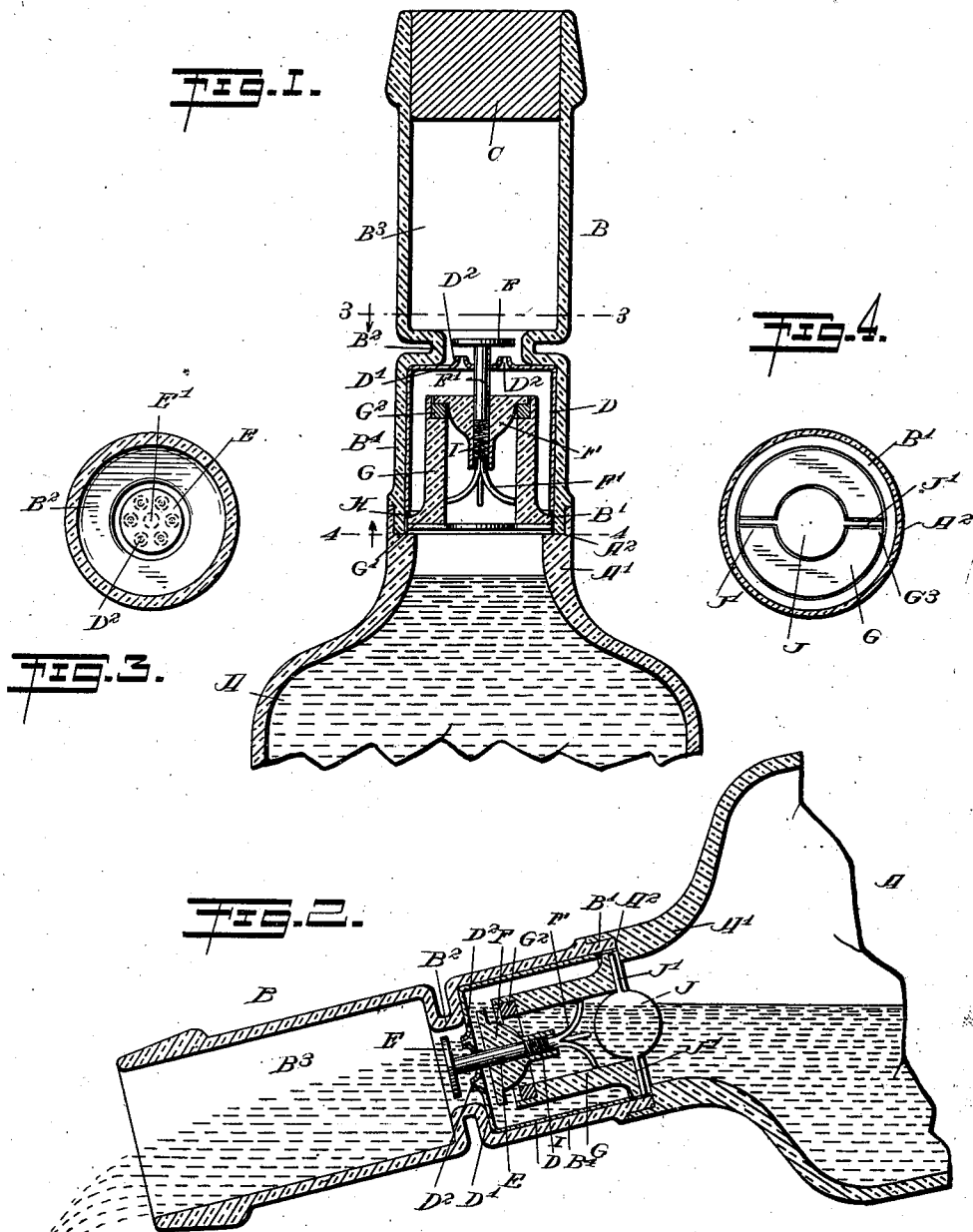


J. S. BROMHEAD.
NON-REFILLABLE BOTTLE.
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1,018,960.

Patented Feb. 27, 1912.



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JOHN S. BROMHEAD, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

1,018,960.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed March 1, 1911. Serial No. 611,550.

To all whom it may concern:

Be it known that I, JOHN S. BROMHEAD, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Non-Refillable Bottle, of which the following is a full, clear, and exact description.

The invention relates to non-refillable bottles, such as shown and described in the Letters Patent of the United States, No. 936,860, granted to me on October 12, 1909.

The object of the present invention is to provide a new and improved non-refillable bottle, which is simple in construction and arranged to permit a free outflow of the contents of the bottle on tilting the latter, and to prevent refilling of the bottle by unauthorized persons after the bottle is once emptied of its original contents. For the purpose mentioned, use is made of a neck attached to a stub neck of a bottle and having a contracted portion intermediate the ends, and an apertured plate extending across the under side of the said contracted portion, a valve seat in the neck below the said plate, and a valve adapted to be seated on the said valve seat and adapted to close the apertures in the said plate.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the non-refillable bottle; Fig. 2 is a like view of the same showing the bottle tilted for emptying the contents thereof; Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 1; and Fig. 4 is an inverted sectional plan view of the same on the line 4—4 of Fig. 1.

The bottle A is provided with a short or a stub neck A', having an interior angular rabbet A² into which fits the lower end B' of the main bottle neck B, secured in place after the bottle is filled by cementing the lower end B' in the rabbet A² of the stub neck A'. The main neck B is provided intermediate its ends with a contracted por-

tion B² to form an upper compartment B³ and a lower compartment B⁴, of which the upper compartment B³ is normally closed by a stopper C. Into the lower compartment B⁴ fits snugly a shell D provided with a top plate D' abutting against the under side of the contracted portion B² and extending across the opening thereof, and the said top plate D' is provided with upwardly pointing spouts D², through which the liquid contents of the bottle A are passed from within the shell D into the compartment B³ and finally into a glass on tilting the bottle A, as indicated in Fig. 2.

A protecting disk E extends in the opening of the contracted portion B² a distance above the spouts D², and the said disk E is provided with a shank E' secured to the top plate D' and extending downwardly to form a guide for a valve F adapted to be seated on a cylindrical valve seat G extending concentrically within the shell D and having its base G' fitting into the lower portion of the neck B to rest on the rabbet A², as plainly indicated in Figs. 1 and 2. A packing ring H, of rubber or other suitable material, is preferably interposed between the lower edge of the shell D and the top of the base G'. The upper end of the valve seat G is preferably provided with a packing ring G², of rubber or other suitable material, and on which the valve F is adapted to be seated to hermetically close the bottle. The lower end of the valve F is provided with guide arms F', slidably engaging the inner surface of the bore of the valve seat G, so as to guide the valve F in its opening and closing movement, as will be readily understood by reference to Figs. 1 and 2. The shank E' extends into a central opening of the valve F, and in the said opening is arranged a spring I to normally hold the valve F to its seat on the packing or cushion G², but when the bottle is tilted then the liquid pressing against the valve F forces the same into an open position against the tension of the spring I (see Fig. 2), so that the liquid can flow through the valve seat G and spouts D² into the compartment B³ and out of the same into a glass or other vessel to be filled. When the bottle is returned to vertical posi-

tion the valve F immediately moves into a closed position, partly on account of its own weight and partly by the action of the spring I.

5 The entrance to the bore of the valve seat G is adapted to be closed by a disk valve J having trunnions J' mounted to turn in recesses G³ formed on the under side of the base G', it being understood that
10 when the bottle is tilted the liquid turns the disk J into an open position, as shown in Fig. 2, for the passage of the liquid from the bottle A into and through the valve seat G.

15 In manufacturing the device, the neck B, shell D, valve F and seat G are preferably made of glass, and the parts contained in the lower compartment B⁴ of the neck B are placed in position therein prior to fastening the main neck B in position on the
20 stub neck A' of the bottle, as previously explained, and hence the parts contained in the compartment B⁴ cannot be tampered with by unauthorized persons by way of the compartment B³ and the contracted portion B².

It is understood that when the bottle A is tilted, the valve F moves sufficiently far off the valve seat G as to allow the liquid
30 to pass through the seat, but the valve F on moving into an open position does not reach the top plate D' owing to the spring I, and hence the liquid is free to flow through the spouts D² into the compartment B³. In
35 case an unauthorized person tries to refill the bottle A after the same has been emptied of its original contents, then the valve F prevents refilling.

40 Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A non-refillable bottle having a neck provided with a contracted portion intermediate the ends, a shell fitting into the
45 lower portion of the neck and having a top plate extending across the under side of the said contracted neck portion, the said top plate having upwardly-extending pouring spouts, a valve seat held in the lower
50 portion of the said neck and spaced from the said shell top, a valve adapted to be seated on the said valve seat, and a protecting disk in the contracted portion of the neck over the spouts a distance from the tops
55 thereof, the said protecting disk having a shank attached to the said top plate and depending therefrom to form a guide for the said valve.

2. A non-refillable bottle having a neck
60 provided with a contracted portion intermediate the ends, a shell fitting into the lower portion of the neck and having a top plate extending across the under side of the said contracted neck portion, the said top

plate having upwardly-extending pouring 65 spouts, a valve seat held in the lower portion of the said neck and spaced from the said shell top, a sliding and spring pressed valve adapted to be seated on the said valve seat and having a central opening, a protecting 70 disk in the contracted portion of the neck over the spouts a distance from the tops thereof, the said protecting disk having a shank attached to the said top plate and extending into the opening of the said valve, 75 and a spring arranged in the opening of the said valve below the said shank to normally hold the valve to its seat.

3. A non-refillable bottle, comprising a bottle having a stub neck provided with an 80 interior annular rabbet, a main neck fitting into and fastened to the said rabbet, the said main neck having a contracted portion between its ends, a shell fitting into the lower portion of the said main neck and having a 85 top plate provided with upwardly-extending spouts, a cylindrical valve seat within the said shell and of less diameter than the shell and having its upper end terminating a distance from the said top plate, the said valve 90 seat having a base resting on the said rabbet, and a valve adapted to be seated on the said valve seat and provided with guide arms slidably engaging the said valve seat.

4. A non-refillable bottle, comprising a 95 bottle having a stub neck provided with an interior annular rabbet, a main neck fitting into and fastened to the said rabbet, the said main neck having a contracted portion between its ends, a shell fitting into the 100 lower portion of the said main neck and having a top plate provided with upwardly-extending spouts, a cylindrical valve seat within the said shell and of less diameter than the shell and having its upper end 105 terminating a distance from the said top plate, the said valve seat having a base resting on the said rabbet, a valve adapted to be seated on the said valve seat and provided with guide arms slidably engaging the said 110 valve seat, a disk extending over the said spouts and having a depending shank attached to the said top plate, the said valve slidably engaging the said shank, and a spring interposed between the said valve 115 and the said shank.

5. A non-refillable bottle, comprising a bottle having an internal shoulder in its neck, a shell fitting in the lower portion of the neck and having an apertured top plate 120 fitting against the shoulder of the neck, a tubular valve seat in the shell with its upper end terminating short of the top plate of the shell, the main portion of the valve seat being of less diameter than the shell, 125 a valve on the valve seat and having an opening therein and provided with guide arms engaging the inner wall of the valve

seat, a disk above the top plate of the shell
in the contracted portion of the neck formed
by the shoulder and having a shank secured
to and projecting through the top plate of
the shell into the opening of the valve, and
a spring in the opening of the valve.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

JOHN S. BROMHEAD.

Witnesses:

THEO. G. HOSTER,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."