No. 747,826. PATENTED DEC. 22, 1903.

Z. WISEMAN.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAY 1, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

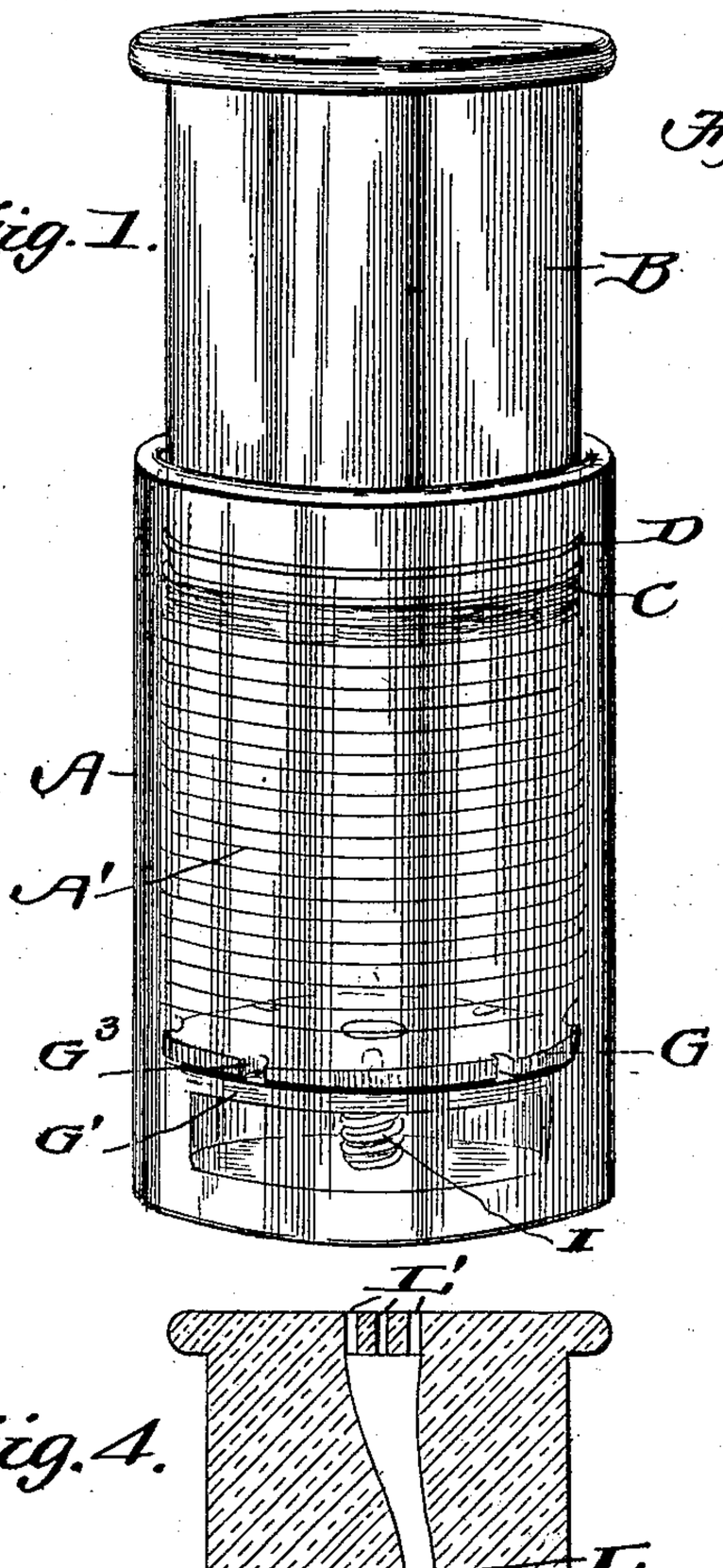


Fig. 2.

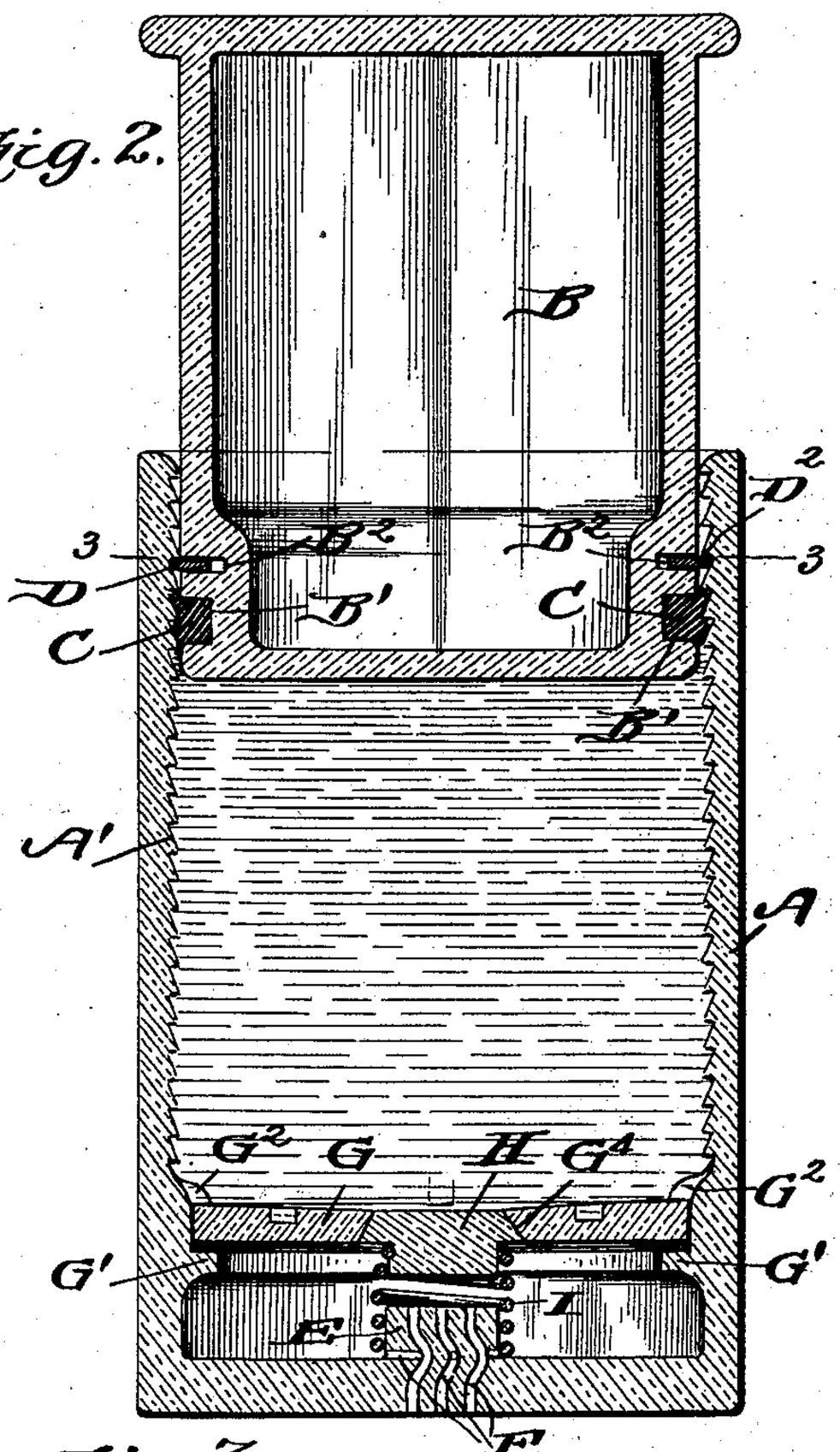
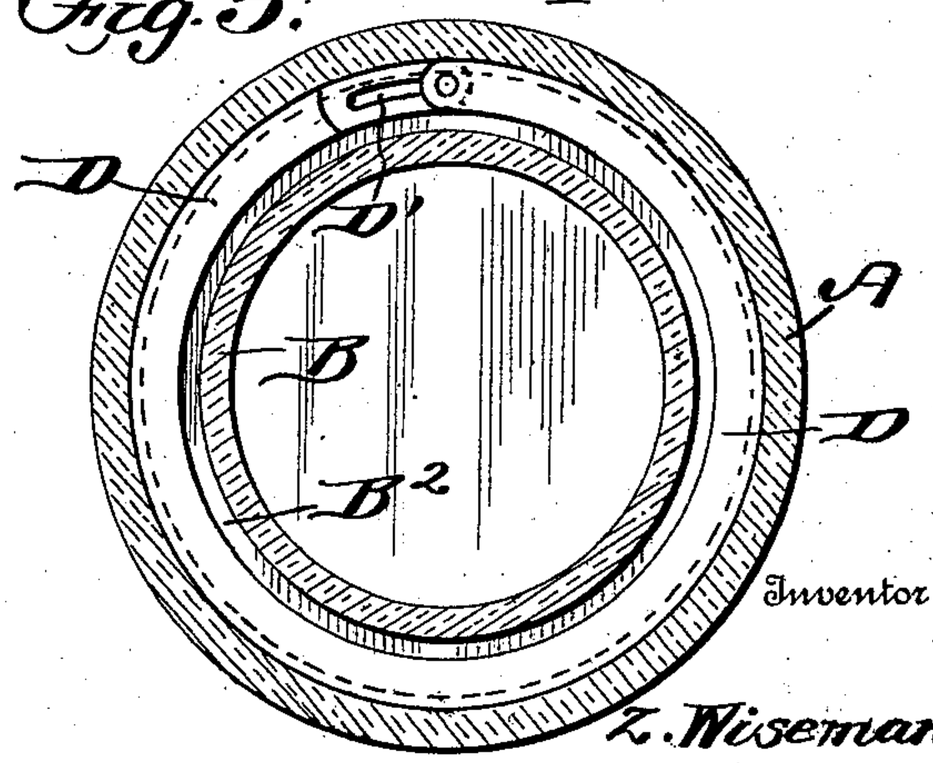


Fig. 4.

Fig. 3.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 5.

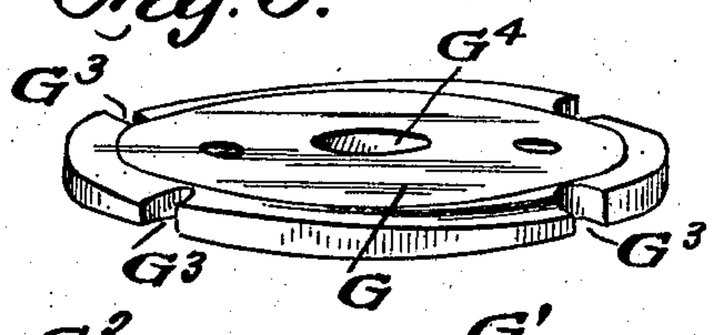


Fig. 6.

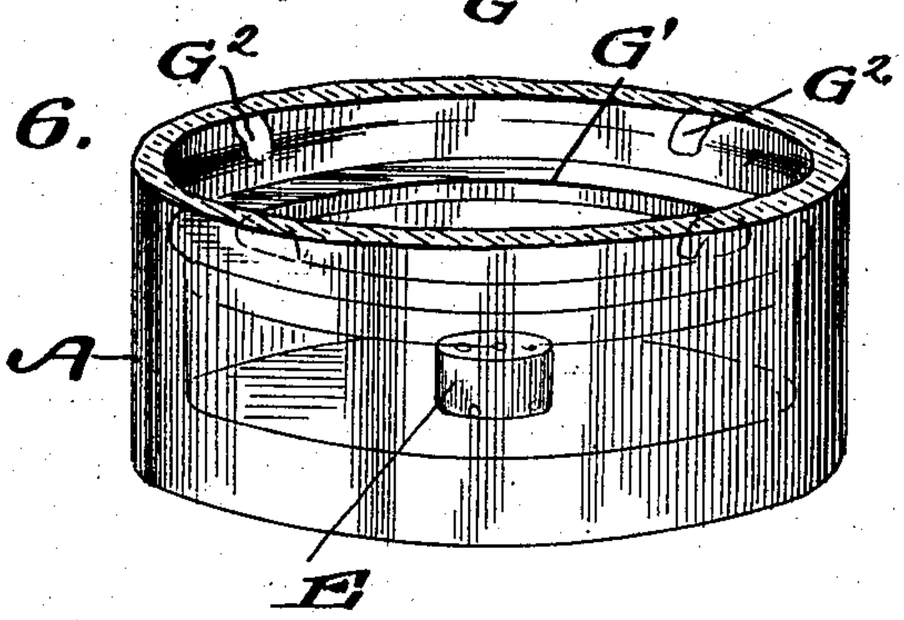


Fig. 9.

Fig. 11.

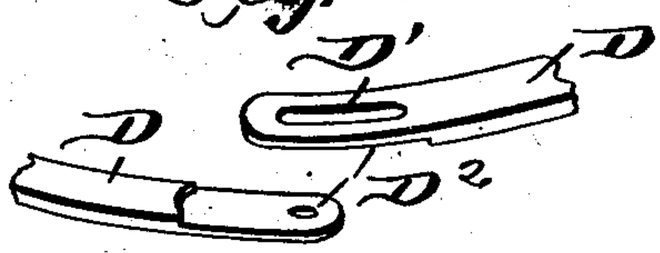
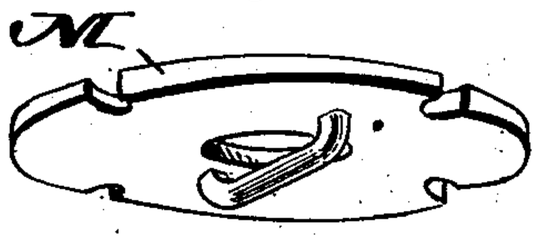


Fig. 7

Fig. 10.

Fig. 8



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No. 747,826. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

ZACHARIAH WISEMAN, OF REDSTAR, WEST VIRGINIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 747,826, dated December 22, 1903.

Application filed May 1, 1903. Serial No. 155,195. (No model.)

To all whom it may concern:

Be it known that I, ZACHARIAH WISEMAN, a citizen of the United States, residing at Redstar, in the county of Fayette and State of West Virginia, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

This invention is a non-refillable bottle or receptacle, the object being to provide a cheap and simple construction of bottle or receptacle which can be employed for holding liquid of any kind and which can be withdrawn or forced from the bottle or receptacle, as desired, and when once emptied cannot be refilled, thereby preventing the sale of a counterfeit under the genuine label and from the original bottle.

Another object of the invention is to provide a non-refillable bottle or receptacle which can be emptied from either the upper or lower end, as desired.

With these objects in view the invention consists in the novel features of construction, combination, or arrangement, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view of a non-refillable bottle constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal section on the line 3 3 of Fig. 2. Fig. 4 is a vertical sectional view showing a very slight modification. Fig. 5 is a detail perspective view of the diaphragm arranged adjacent the lower end of the bottle. Fig. 6 is a detail view illustrating said lower end. Fig. 7 is an inverted perspective view, partly in section and showing the lower end of the stopper or plunger. Fig. 8 is a detail perspective view of the diaphragm adapted to be arranged in connection with the lower end of the stopper. Figs. 9 and 10 are detail perspective views of the valve. Fig. 11 is a view illustrating the ends of the metallic packing-ring.

In carrying out my invention I employ a cylindrical-shaped bottle or receptacle A, the interior of which is formed with a series of ratchet-faced annular projections or corrugations A′. The bottle or receptacle A is open at the upper end, and fitting in said open end is the stopper or plunger B, said stopper or plunger having an annular groove B′ produced adjacent its lower end and in which fits the packing-ring C, of rubber, leather, or other suitable material, and a short distance above the groove B′ is another annular groove B^2, in which fits the metallic packing and locking ring D, said ring being adapted to engage the ratchet-faced projections or corrugations and lock the stopper or flange against upward movement. One end of the ring D is slotted, as shown at D′, and the other end carries a pin which works in the said slot, said ends being reduced, as shown at D^2, and overlapping each other. The ring D is of spring metal, and consequently will yield as the stopper or plunger is forced downwardly, and the moment the said ring is past the projection or corrugation its elasticity will cause it to spring out, engaging the lower face of the projection, and thereby locking the stopper or plunger against upward movement.

It will of course be understood that the bottle or receptacle is filled with liquid before the stopper or plunger is inserted in the upper end.

I have devised two methods of removing the liquid from the bottle or receptacle, and in one the said liquid is forced through the bottom of the receptacle, as shown in Fig. 2, while in the other the liquid is forced through the upper end of the stopper or plunger, and in both cases the emptying operation is accomplished by forcing the stopper or plunger telescopically into the bottle or receptacle.

In the construction shown in Fig. 2 the bottom of the bottle or receptacle is formed with a central boss E, and a plurality of passages F extend entirely through the bottom and said boss. A diaphragm G is secured within the bottle or receptacle adjacent the lower end, said diaphragm resting upon the annular shoulder G′ and held in position against upward movement by means of the inwardly-projecting lugs G^2, the diaphragm being notched, as shown at G^3, in order to pass over said projections or lugs and after being seated upon the shoulder B′ it is given a partial turn, thereby locking the diaphragm in the lower end of the bottle or receptacle. This diaphragm has a central opening G^4, which is ground to produce a valve-seat for the valve

H, said valve being held in position against the seat by means of a spiral spring I, which surrounds the boss E and also the stem of the valve. In order to remove the liquid from the bottle or receptacle, it is only necessary to force the stopper or plunger downwardly into the bottle or receptacle, and the pressure upon the liquid causes the valve to open and the liquid passes downwardly through the diaphragm and out through the passages F. In this manner the entire contents of the bottle or receptacle can be removed, and during such removal the stopper or plunger will be forced entirely down into the bottle or receptacle and the locking spring-ring engaging the corrugated face of the bottle or receptacle will securely hold the stopper or plug within the bottle or receptacle, and consequently prevent its removal and also the refilling of the bottle.

In the construction shown in Fig. 4 the stopper or plunger K is provided with the packing and locking rings exactly the same as the stopper or plunger B. The stopper K, however, has a central chamber K′ produced in the lower end thereof and from which leads the passage L, which extends to the upper end of the stopper or plunger and terminates in a series of small apertures L′. A diaphragm M, similar in construction to the diaphragm G, is secured in the lower end of the stopper or plunger K and carries a valve N, said valve being held to its seat by means of a spiral spring O. In this construction when the plunger or stopper is forced downwardly the valve N opens upwardly and the liquid passes up through the passage L out through the apertures L′. The locking operation is identically the same, and when the bottle has been emptied it will be impossible to refill it.

It will thus be seen that I provide an exceedingly cheap, simple, and efficient construction of non-refillable bottle or receptacle and one which can be made to empty from either the upper or lower end, as preferred.

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

1. A non-refillable bottle comprising a bottle and a stopper adapted to be forced into the said bottle or receptacle, said stopper carrying means for locking it in the bottle and a valve adapted to be opened as the stopper is forced inward.

2. A non-refillable bottle comprising a bottle having interior projections, a stopper provided with packing and locking rings, a diaphragm having a central opening and valve-seat and a valve adapted to normally close the said central opening, said valve being open as the stopper is forced into the bottle, as set forth.

3. The combination with a bottle having interior projections, a stopper having packing and locking rings, and adapted to telescope into the bottle, a diaphragm having a central opening and valve-seat, together with means for holding said diaphragm in place, a valve adapted to normally close the said central opening, a spring for holding said valve in place, as specified.

4. The combination with a bottle having interior projections, a stopper having packing and locking rings, a diaphragm arranged adjacent the bottom of the bottle, a valve and a spring for holding said valve seated, a boss arranged upon the bottom of the bottle, said boss having a plurality of outlet-passages extending therethrough, substantially as described.

ZACHARIAH WISEMAN.

Witnesses:
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CLARENCE SHAW.