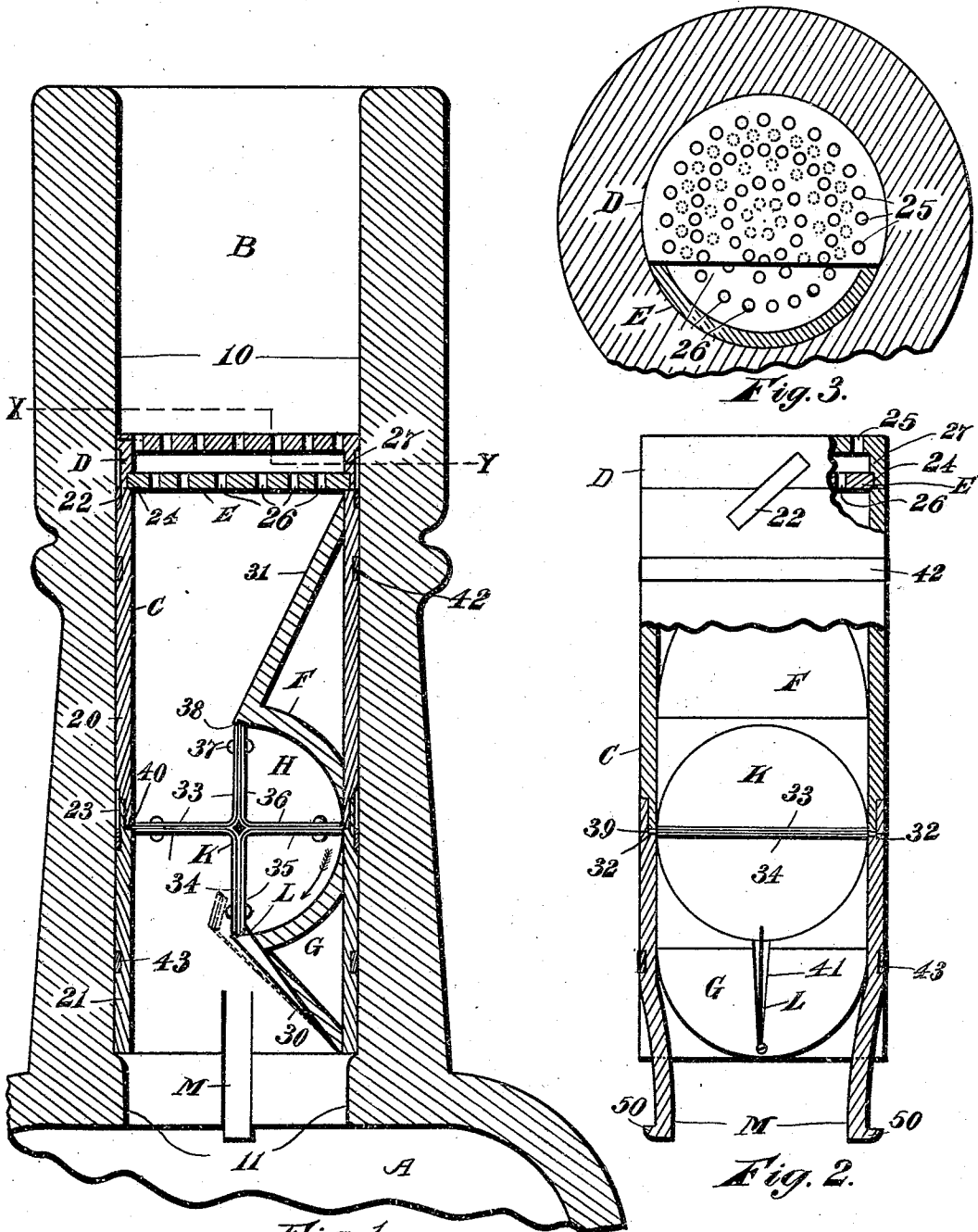


F. W. HERBERT.
NON-REFILLABLE BOTTLE.
APPLICATION FILED APR. 28, 1909.

940,687.

Patented Nov. 23, 1909.



WITNESSES:
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NON-REFILLABLE BOTTLE.

940,687.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed April 28, 1909. Serial No. 492,720.

To all whom it may concern:

Be it known that I, FRED W. HERBERT, a citizen of the United States, residing at Pelham, in the county of Hillsboro and State of New Hampshire, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to what are known as non-refillable bottles.

The purpose of such bottles is to provide a receptacle which can be filled in the first place with a certain liquid and will permit such liquid to be poured therefrom, but is so constructed that thereafter no liquid can be introduced thereinto.

I am aware that a great many devices for the above purpose have been tried with some success, and the special purpose of my invention is to provide a cheap and simple construction and one in which the flow of the liquid from the bottle will be obstructed very slightly, if any. My device is also so strong and well protected that it cannot be removed from the bottle or broken without destroying the neck of the bottle.

In the drawings, Figure 1 is an enlarged sectional view of the neck of a bottle in which is placed my device. Fig. 2 is a sectional view of my tube at right angles to Fig. 1. Fig. 3 is a top view of the shields on line X Y of Fig. 1.

A represents the body of a bottle of any ordinary construction. B represents the neck thereof. This neck is of any ordinary construction except that its interior walls are preferably straight forming a perfect cylinder for the reception of my tube C. At the bottom of neck B adjoining body A, I form an annular shoulder 11 for the purpose hereinafter to be described.

My device comprises an outer casing or tube C which in the drawings is shown divided into three parts, the cap D, the top section 20 and the bottom section 21. These parts are connected by connecting plates 22 and 23 which sit into grooves in the respective parts shaped like the plates and registering one with the other.

On top of section 20 rests the inner shield E. Outer shield D is preferably shaped like a cap with a rim 27 in which is an annular groove 24 in which shield E rests, so that it is held firmly in place in groove 24 between shield D and section 20. Outer shield D

is perforated with a plurality of holes 25 and inner shield E is perforated with a plurality of holes 26. These holes 25 and 26 must not be opposite to each other but must be out of alinement so that it will be impossible to introduce a wire into the interior of cylinder C.

To the wall of section 20 is attached an extension F and to the wall of section 21 is attached an extension G so that a hemispherical depression is formed between them constituting the paddle box H. This occupies about one half of the entire diameter of tube C. The outer wall 30 of extension G slopes away as shown, and the outer wall 31 of extension F preferably slopes away in a similar manner.

Pivoted on suitable bearings which may be grooves 32 between sections 20 and 21, is my paddle wheel K which is of such size that it fits closely inside cylinder C and in paddle box H. It is preferably made by bending four circular sheets of metal 33, 34, 35 and 36 at right angles and riveting them together by rivets 37 with a thin strip of rubber 38 between. A pivot rod 39 passes through the center of wheel K and rests in grooves 32. Preferably the rubber strip 38 should extend slightly beyond the curved edges so that it will be doubled back as paddle wheel K revolves, and preferably I leave a ratchet groove 40 opposite paddle box H into which the rubber packing ring 38 will rest thus making an absolutely tight joint. Groove 40 is square at its lower side and slants upward so that it tends to allow wheel K to revolve in the direction of the arrow but not in the opposite direction.

Cut into surface 30 is a deep slot 41, in which I place and attach at its lower end, a spring L which projects slightly beyond the end thereof into the path of paddle wheel K. It is evident that this spring will give as shown by the dotted lines and permit paddle wheel K to revolve in the direction of the arrow, but will stop it from revolving in the opposite direction. It is so placed as to stop paddle wheel K at such a point that ring 38 will rest in groove 40 and paddle wheel K will thus positively seal the opening in cylinder C and prevent the introduction of any liquid through neck B into body A.

The whole of my cylinder C is slipped into neck B which it must fit very closely until it rests upon annular shoulder 11. At

the same time that it strikes shoulder 11, the spring tangs or catches M which project from the bottom are forced back as they pass over shoulder 11 and as soon as they pass it, the noses 50 catch underneath shoulder 11 and absolutely prevent cylinder C from being withdrawn.

To make a perfectly tight joint between neck B and cylinder C, I prefer to insert the rubber packing rings 42 and 43 in suitable grooves in cylinder C whereby the liquid is prevented from percolating through between the neck and cylinder.

It is apparent that after the bottle has been filled and cylinder C introduced and caught in place, liquid can be readily poured out therefrom as it will revolve paddle wheel K in the direction of the arrow and will thence pass out through holes 26 and 25 in shields E and D. When the bottle is empty, it will be impossible to refill it, as any attempt to do so, will turn paddle wheel K to the position shown in Fig. 1 where it will be held by spring L thus absolutely preventing the bottle from being refilled.

The perforated shields D and E prevent any tampering with the mechanism, as nothing but a very soft wire could be introduced into the inside of cylinder C and that would be of no use in catching or holding back paddle wheel K in an inoperative position.

What I claim as my invention and desire to cover by Letters Patent is:—

1. The combination in a bottle, of a cylindrical outlet therefor, a hemispherical paddle box formed on one side thereof, a slanting outer wall for said paddle box in which is a groove, a spring which rests in said groove and projects into the paddle box, and a revoluble paddle wheel which fits in the paddle box and in said outlet.

2. A bottle formed with a body, and a cylindrical outlet therefor with an annular shoulder at the bottom, combined with a cylinder which fits said outlet, spring catches which project below said cylinder and engage said shoulder, projections from one side of the cylinder to the axis thereof formed with a hemispherical depression and with a slanting lower wall in which is a groove, a spring in the groove which projects into said depression, and a revoluble paddle which closely fits said depression and said cylinder as described.

3. A bottle formed with a body, and a cylindrical outlet therefor with an annular shoulder at the bottom, combined with a cylinder which fits said outlet, spring catches

which project below said cylinder and engage said shoulder, projections from one side of the cylinder to the axis thereof formed with a hemispherical depression and with a slanting lower wall in which is a groove, a spring in the groove which projects into said depression, a plurality of metal shields proximate the top of said cylinder so perforated that no two perforations register, and a revoluble paddle which closely fits said depression and said cylinder as described.

4. A bottle formed with a body, and a cylindrical outlet therefor with an annular shoulder at the bottom, combined with a cylinder which fits said outlet, elastic packing rings set into the outer wall of the cylinder, spring catches which project below said cylinder and engage said shoulder, projections from one side of the cylinder to the axis thereof formed with a hemispherical depression and with a slanting lower wall in which is a groove, a spring in the groove which projects into said depression, a plurality of metal shields proximate the top of said cylinder so perforated that no two perforations register, and a revoluble paddle which closely fits said depression and said cylinder as described.

5. The combination in a bottle, of a cylindrical outlet therefor, a hemispherical paddle box formed on one side thereof, a slanting outer wall for said paddle box in which is a groove, a spring which rests in said groove and projects into the paddle box, a ratchet groove opposite the paddle box in the wall of the outlet, and a paddle wheel revoluble in said paddle box and outlet formed of a plurality of angularly bent disks riveted together with rubber packing between and projecting therefrom.

6. A bottle formed with a body, and a cylindrical outlet therefor, combined with a cylinder which fits said outlet, means for holding the cylinder in said outlet, projections from one side of the cylinder to the axis thereof formed with a hemispherical depression and a slanting lower wall in which is a groove, a spring in the groove which projects into said depression, and a revoluble paddle wheel which closely fits said depression and said cylinder as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

FRED W. HERBERT.

Witnesses:

GARDNER W. PEARSON,
FISHER H. PEARSON.