

UNITED STATES PATENT OFFICE.

BENARD F. BRADY, OF NEW YORK, N. Y.

BOTTLE.

1,053,779.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed July 3, 1912. Serial No. 707,436.

To all whom it may concern:

Be it known that I, BENARD F. BRADY, a citizen of the United States, residing in the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented a new and useful Improvement in Bottles, of which the following is a specification.

My invention relates to improvements in bottles; and the object of my improvement is to make it impossible to refill the bottle after it has been once emptied, without breaking the neck off the bottle, in order that the same may not again be used as it was in its original state. I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a central section of the neck of the bottle containing the two sections of the "cork." Fig. 2 is a central section of section B of the "cork." Fig. 3 is the central section of section C of the "cork." Fig. 4 is a top plan view of walls *j*. Fig. 5 is a plan view of sieve D. Fig. 6 is a plan view of sieve E.

Similar letters and numbers refer to similar parts throughout the several views in the drawing.

In detail—the bottle is provided with neck A, the inner surface of the lower end of which beginning immediately below sieve D, hereinafter described, tapers downward to a small outlet at the extreme lower end of said neck A, thus forming tapering passage 1. Said neck A is also provided with hollow flange *a* encircling its top.

B and C are two separate sections of a "cork." B the lower section and C the upper section. Section B is provided with chamber *b* from which leads tapering passage 2 upward, the larger outlet of said passage 2 being at the top of said section B. Section B is further provided with shoulders *c* and *d* above and encircling said larger outlet of tapering passage 2. Section C of said "cork" is provided with chambers *e* and *f*, *e* the lower chamber and *f* the upper chamber, being separated by solid partition *g*, through which run four small passages 3 having one or more turns *h*, said passages 3 leading from lower chamber *e* to upper chamber *f*. Said chamber *f* is partly partitioned off into four equal portions by walls *j* in a vertical position on partition *g*, forming a Greek cross, as shown in Fig. 4. Shoulder *k* encircles the lower

outer end of section C of said "cork." Groove *m* encircles said section C near its top outer end, said groove *m* being of the same height as the inside of hollow flange *a* at the top of neck A.

D is a flat circular sieve, the diameter of which is the same as that of the inside of neck A above the larger outlet of tapering passage 1. E is also a flat circular sieve of smaller diameter than sieve D and of the same diameter as the circular space outlined by shoulder *c* immediately above the larger outlet of tapering passage 2 in section B of the "cork."

F is a hollow ball, inserted in tapering passage 1 of neck A, having a diameter sufficiently large enough to permit its surface to engage the surface of said tapering passage 1 near its top or larger outlet.

G is a hollow dumb-bell, inserted in tapering passage 2 of section B of the "cork," having two spherical ends, one larger than the other, the diameters of said spherical ends being sufficiently large enough to permit their respective surfaces to engage the surface of said tapering passage 2 in such a position as to allow the upper and larger spherical end of said dumb-bell G to be near the top or larger outlet of said tapering passage 2. The length of dumb-bell G from tip to tip should be greater than the diameter of the periphery of the top and larger outlet of tapering passage 2.

After the liquid is poured into the bottle, the hollow ball F is inserted in the tapering passage 1 of neck A. The sieve D is then placed securely above and covering the top or larger outlet of said tapering passage 1. Section B of the "cork" is next inserted, chamber *c* downward, into neck A, so that the lower end of said section B will be flush with said sieve D. The dumb-bell *g* is then placed smaller end downward within tapering passage 2 of section B of said "cork," and sieve E is placed above and covering the upper or larger outlet of tapering passage 2, fitting securely within and flush with shoulder *c*. Then follows section C of said "cork" within said neck, shoulder *k* flush with shoulder *d*, the top of said section C being flush with flange *a* of neck A, thus forming an inclosed hollow space *o* with said flange *a*. Through small hole *n* in the top of hollow flange *a* may be poured some suitable liquid cement filling said hollow space *o* formed by said hollow

flange *a* and said groove *m* at the top of section C of said "cork." Both sections B and C of said "cork" are thus made secure in the neck. Stopper H may then be inserted in the top of the bottle.

Any suitable material may be used in the construction of my invention, however, it is preferable that all of the mechanism hereinbefore described should be made of glass.

10 In the operation of pouring the liquid out of the bottle, the hollow ball F and hollow dumb-bell G, in tapering passages 1 and 2 respectively, act as valves by dropping to sieves D and E respectively and allowing
15 free space around the same through which the liquid can pass before flowing through holes in said sieves and then on through chamber *e*, passages 3, and chamber *f* respectively. On standing or holding the bottle in a vertical position, or in any position
20 not inclined sufficiently to allow the liquid to pass out of the bottle, the dumb-bell G and ball F will slip back to their original positions engaging the surface of tapering
25 passages 2 and 1 respectively, thus forming an obstruction to any liquid attempted to be poured into the bottle through the neck. When the bottle has once been emptied, no liquid can be poured back or forced into the
30 same, even if the same is placed in a horizontal position, because, if attempted, and the liquid has succeeded in getting as far as tapering passage 2 of section C of the
35 "cork" and comes in contact with dumb-bell G, the latter, which is hollow and made as light as possible, preferably of glass, will be forced back by the liquid into the position it takes when the bottle is in a vertical position, thus forming an obstruction. Hol-
40 low ball F will act in the same way as dumb-bell G and as an extra precaution in the event of any liquid passing dumb-bell G.

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

1. In a bottle, the combination of a neck with a passage near its lower end tapering to a small outlet into the bottle, a sieve covering the top and larger outlet of said
50 tapering passage; a "cork" secure within the neck and comprising two sections, one above the other, the lower section of said "cork" containing a chamber at its lower end from which leads a tapering passage
55 upward through said lower section, a sieve covering the top and larger outlet of said

tapering passage; the upper section of said "cork" containing a lower and upper chamber separated by a solid partition through which runs one or more passages leading
60 from said lower chamber to said upper chamber; a ball in said tapering passage of said neck acting as a valve; and a dumb-bell in said tapering passage of said lower section of said "cork" acting as a valve, substantially as described.

2. In a bottle, the combination of a neck with a passage near its lower end tapering to a small outlet into the bottle, a sieve covering the top and larger outlet of said
70 tapering passage; a "cork" secure within the neck and comprising two sections, one above the other, the lower section of said "cork" containing a chamber at its lower end from which leads a tapering passage
75 upward through said lower section, a sieve covering the top and larger outlet of said tapering passage; the upper section of said "cork" containing a lower and upper chamber separated by a solid partition through
80 which runs one or more passages leading from said lower chamber to said upper chamber; and a ball in said tapering passage of said neck acting as a valve, substantially as described.

3. In a bottle, the combination of a neck with a passage near its lower end tapering to a small outlet into the bottle, a sieve covering the top and larger outlet of said
90 tapering passage; a "cork" secure within the neck and comprising two sections, one above the other, the lower section of said "cork" containing a chamber at its lower end from which leads a tapering passage
95 upward through said lower section, a sieve covering the top and larger outlet of said tapering passage; the upper section of said "cork" containing a lower and upper chamber separated by a solid partition through
100 which runs one or more passages leading from said lower chamber to said upper chamber; and a dumb-bell in said tapering passage of said lower section of said "cork" acting as a valve; substantially as described.

In testimony whereof, I have hereunto
105 signed my name to this specification in the presence of two subscribing witnesses.

BENARD F. BRADY.

Witnesses:

JOHN B. DOYLE,
LAVERIO NICASTRO.