

No. 750,755.

PATENTED JAN. 26, 1904.

C. M. DRENNAN.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 15, 1903.

NO MODEL.

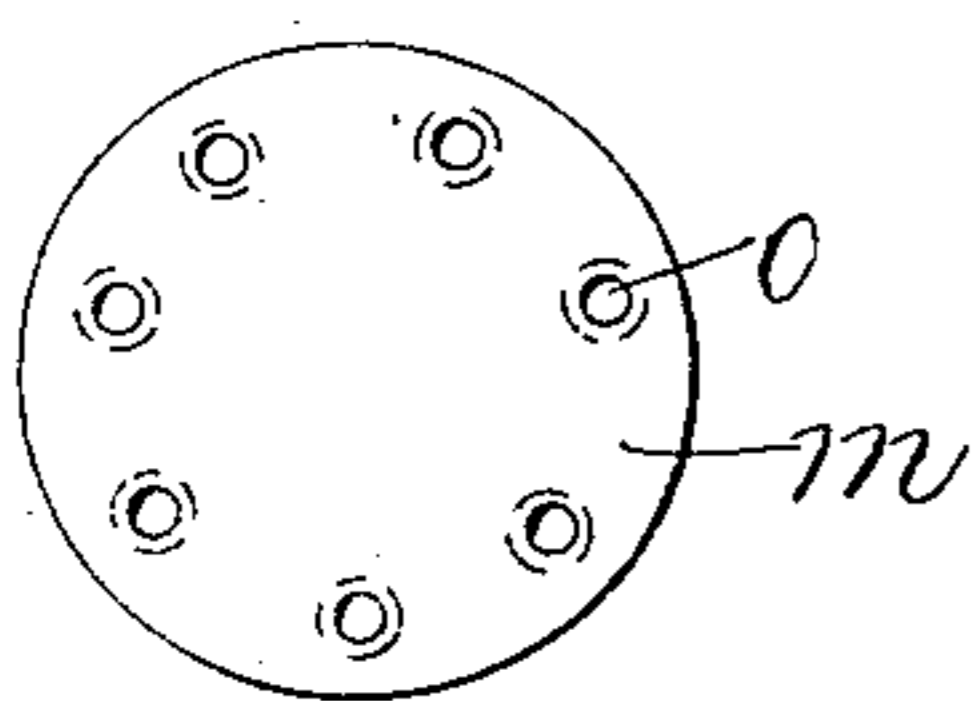


Fig. 3.

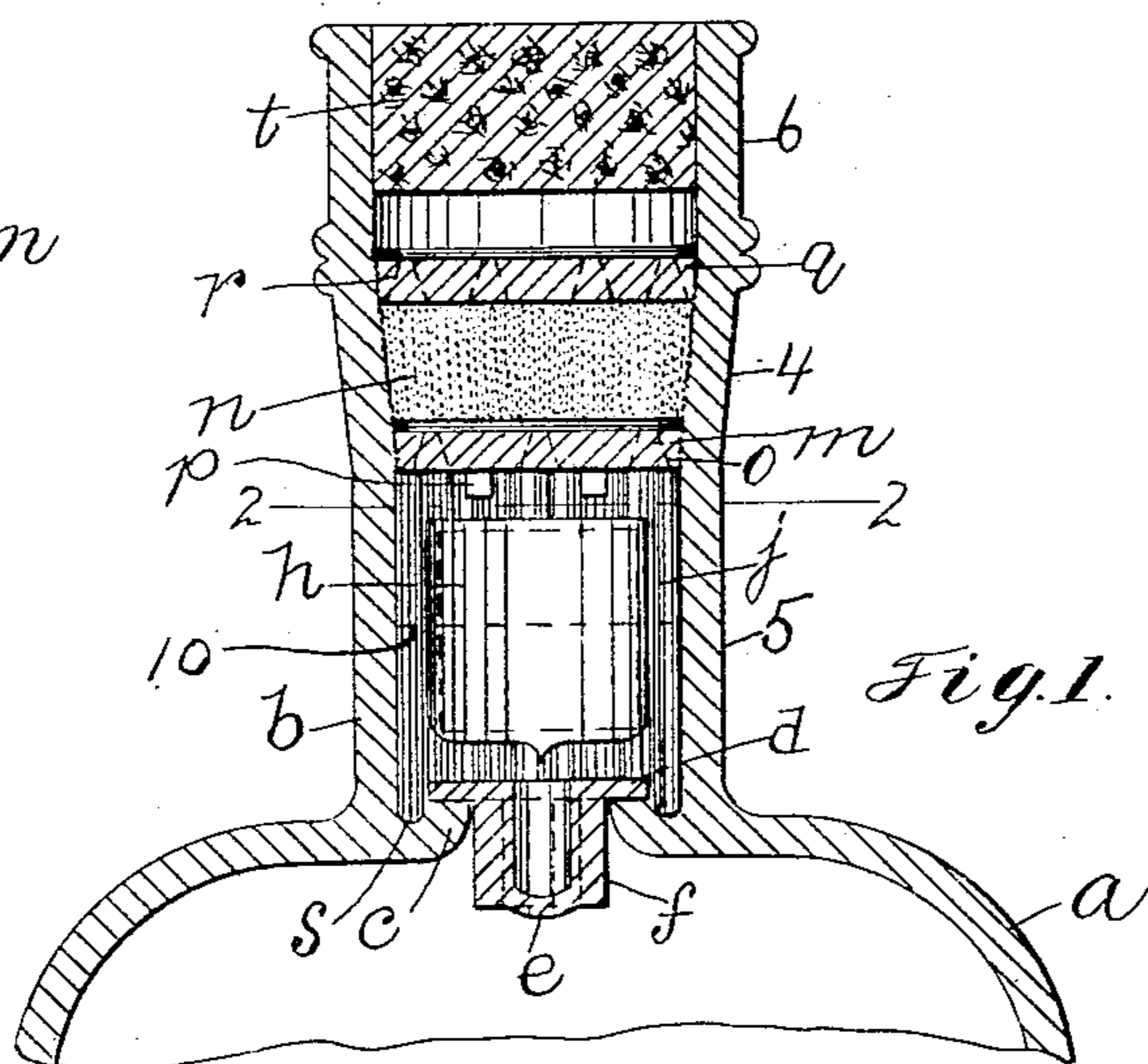


Fig. 1.

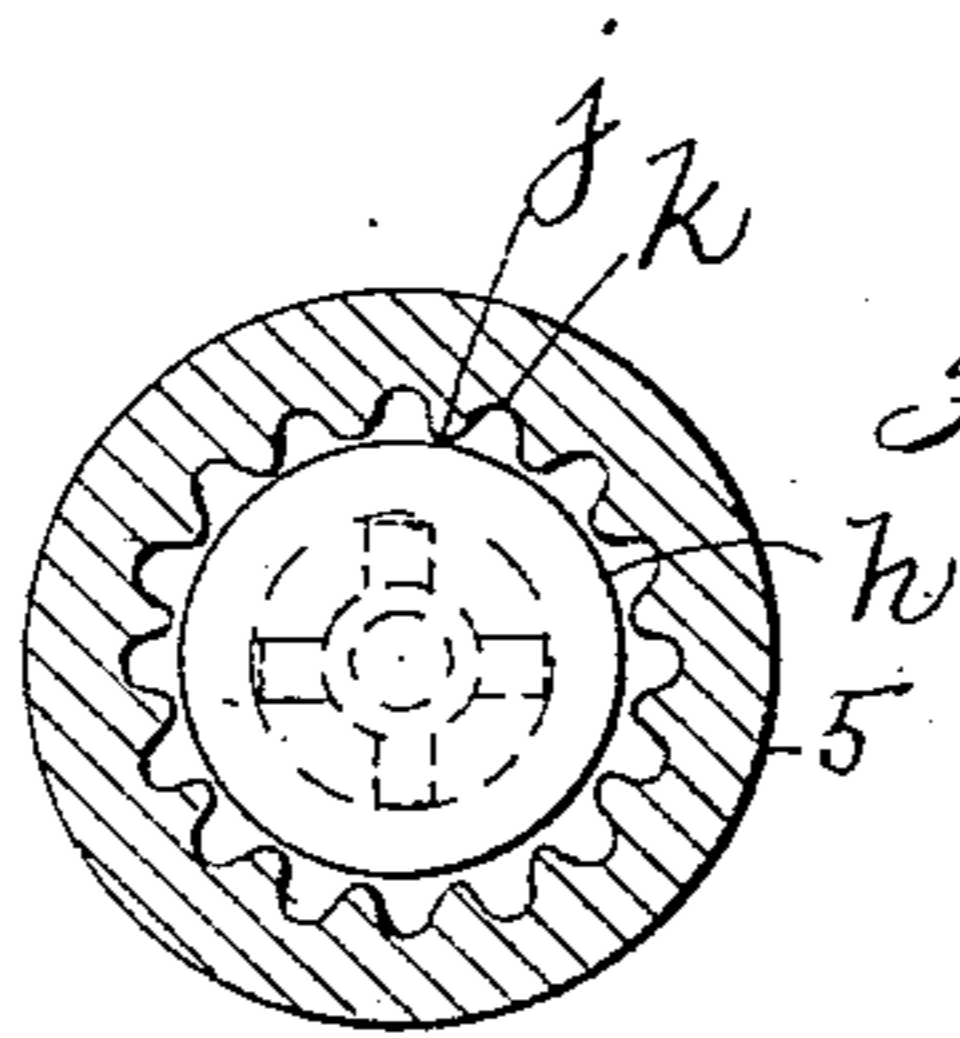


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES M. DRENNAN, OF BOSTON, MASSACHUSETTS.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 750,755, dated January 26, 1904.

Application filed June 15, 1903. Serial No. 161,453. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. DRENNAN, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Non-Refillable Bottles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a non-refillable bottle, and has for its object to provide a simple, inexpensive, and efficient bottle for the purpose specified and one which can be made wholly of glass, thereby avoiding contamination of the liquid contents of the bottle.

The particular features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 represents in vertical section, with parts in elevation, a sufficient portion of a bottle embodying this invention to enable it to be understood; Fig. 2, a cross-section on the line 2 2, Fig. 1; and Fig. 3, a detail in plan, to be referred to.

The body portion *a* of the bottle may be of any desired shape and is provided with a neck *b*, which in accordance with this invention is provided with an upwardly-inclined portion 4, intermediate cylindrical portions 5 6, for a purpose as will be described. The neck *b* is provided at its lower end with an annular inwardly-projecting and upturned flange *c*, forming a seat for a valve *d*, which is provided with a stem *e*, having laterally-extended guiding-wings *f*, which serve to guide the valve to its seat. The valve *d*, its stem *e*, and wings *f* are and may be made in one piece of glass. Above the valve *d* and within the cylindrical portion 5 of the neck of the bottle is located a hollow float *h*, preferably of glass, which is hermetically sealed and which coöperates with the valve *d* to seat the same under certain conditions, as will be described.

The float *h* is preferably substantially cylindrical in shape and of substantially the inner diameter of the cylindrical portion 5 of the bottle-neck, which portion on its interior is provided with substantially vertical corrugations or flutes *j*, (see Fig. 2,) forming outlet-channels *k* for the contents of the bottle.

Above the float *h* is located a disk *m*, preferably of glass and having its edge or circumference inclined and ground to fit the upwardly-inclined portion 4 of the bottle-neck, which inclined portion of the neck is also ground, as indicated at *n* in Fig. 1, so that when the disk *m* is placed in the neck of the bottle and practically seated it cannot be removed.

The disk *m* is provided with a plurality of holes or openings *o* through it for the passage of the liquid contents of the bottle, and the said openings are preferably conical in shape, with their apices at the upper surface of said disk. The disk *m* may be provided on its under side with nubs or projections *p*, which serve as stops to limit the movement of the float toward the disk, and thus avoid said float closing the ports or openings *o* when the bottle is tipped in the act of pouring out its contents.

I prefer to employ a second disk *q*, which is also of glass and is provided with a ground beveled or inclined circumference or edge which coöperates with the ground inclined portion *n* of the bottle-neck. The disk *q* is preferably of larger diameter than the disk *m* and is provided with conical holes or openings *r*, (see dotted lines, Fig. 1,) which are arranged out of line or staggered with relation to the openings *o* in the disk *m*, so that if a wire is inserted through an opening *r* in the disk *q* it will strike the upper surface of the disk *m* and will not pass into an opening in the lower disk *m*, thereby preventing the valve being held up from its seat by a wire, and thus avoiding one of the methods employed for filling bottles of this class.

The upturned flange *c* forms an annular groove *s*, which prevents a wire from being inserted between the valve and its seat even if it were possible to get the wire past the disk *m*. The bottle is normally closed by the cork or stopper *t*.

In Fig. 1 the bottle is shown in its upright position and is supposed to be filled with liquor up to the level represented by the dotted line 10. If now it is desired to pour out some of the contents, the bottle is tipped or inverted and the valve *d* is moved bodily from its seat

sufficiently to permit of the free escape of the liquor in the bottle, which passes through the channels *h* and through the holes in the disks *m q*.

- 5 After the bottle is emptied it cannot be filled by immersion or by means of a vacuum or by pressure, as the float *h* under these conditions carries the valve *d* to its seat. The valve-stem *e* is made of such length as to prevent its
10 withdrawal from the outlet-port of the bottle when the valve is open to its fullest extent.

The construction of the parts herein shown and described is such as to enable them to be made solely of glass, which is very desirable,
15 and while I prefer to use glass I do not desire to be understood as limiting my invention in this respect.

I claim—

1. In an article of the class described, in
20 combination, a body portion having a neck provided with an upwardly inclined or beveled inner surface intermediate the ends of the said neck, an inwardly-extended flange forming a port or opening, a valve coöperating with
25 said port and having a stem extended therein, a float in the neck coöperating with said valve, a disk having a port or opening through it and provided with a beveled or inclined edge coöperating with the beveled or inclined inner
30 surface of the neck portion, and a second disk provided with a port or opening, and with a beveled or inclined edge coöperating with said inclined inner surface of said neck, substantially as described.

- 35 2. In an article of the class described, in combination, a body portion having a neck provided with an upwardly beveled or inclined inner surface, and an annular inwardly-projecting flange forming a port or opening, a

valve coöperating with said port and having 40 a stem extended therein, a float above said valve and coöperating therewith, and a disk provided with an opening through it and with a beveled edge coöperating with the beveled inner surface of the said neck, substantially 45 as described.

3. In an article of the class described, in combination, a body portion having a neck provided with corrugations on its inner surface and with a beveled or inclined surface 50 above said corrugations, an inwardly-projecting flange forming a port or opening, a disk valve coöperating with said port and having a stem provided with laterally-extended wings movable in said port, a float coöperating with 55 said valve, and a disk having a beveled edge which coöperates with the beveled surface of the neck, substantially as described.

4. In combination, a glass bottle having a neck portion provided on its interior with an 60 inclined ground surface, and with an annular flange forming a port, a glass valve comprising a disk and a stem having wings, said valve being located in the neck of the bottle and having its stem extended into the said port, a 65 hollow glass float above the said valve, and a glass disk having a port or opening through it and provided with an inclined ground edge, which fits the ground surface of the neck, substantially as described. 70

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

CHARLES M. DRENNAN.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.