

T. W. MURRAY.
Corks for Gaseous Liquids.

No. 151,713.

Patented June 9, 1874.

Fig. 1.

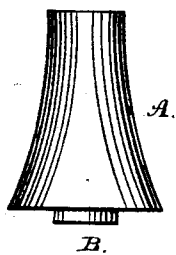


Fig. 2.

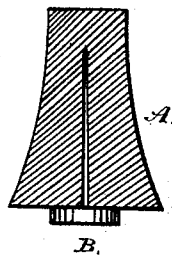
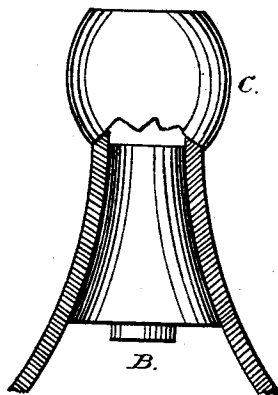


Fig. 3.



Witnesses,

*H. Van der Beek
S. H. Van Pelt*

Inventor,

Thos W. Murray

UNITED STATES PATENT OFFICE.

THOMAS W. MURRAY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS
RIGHT TO HENRY VAN DERBECK, OF SAME PLACE.

IMPROVEMENT IN CORKS FOR GASEOUS LIQUIDS.

Specification forming part of Letters Patent No. **151,713**, dated June 9, 1874; application filed
December 5, 1873.

To all whom it may concern:

Be it known that I, THOS. W. MURRAY, of the city, county, and State of New York, have invented certain new and useful Improvements in the Manufacture of Corks for Aerated-Water Bottles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the cork with its ballast attachment. Fig. 2 is a vertical section of the same, showing the manner of attaching the ballast. Fig. 3 represents the head and neck of an aerated-water bottle, partly in section, showing the position of the cork when the bottle is filled.

This invention relates to a novel and peculiarly-shaped self-acting cork, designed to be used in and adapted to any of the aerated-water bottles now in use, the cork acting and remaining inside of the bottle, which it closes, on being filled, by its own buoyancy, the pressure of the gas contained in the liquid keeping the cork in its proper place until the contents are required for consumption.

In the accompanying drawings, A represents the cork, B the ballast, and C the neck, of a bottle.

It has heretofore been impracticable to use the ordinary-shaped corks in aerated-water bottles, for the reason that the pressure of the gas not only exerts itself upon the base of the cork, but upon the sides to a greater or less extent. The result of this is, that the cork soon cracks and splits, and leakage of the contents of the bottle ensues; hence the use of ordinary corks in the inside of bottles has been discarded.

In my invention the cork is purposely made bell-shaped, as shown, to obviate this objection. Its formation is such that every part of its circumference is in direct contact with the inner neck of the bottle. It is impossible for the gas to exert its influence anywhere except upon the base of the cork, and it is equally impossible that the cork should crack or split, because it is confined within the neck of the bottle, and the tendency of the gas-pressure

is to drive it upward, where it is compressed in its seat, thus filling entirely the neck of the bottle.

To the base or larger end of the bell-shaped cork is secured a circular piece of block-tin. In the drawings I have shown such piece of tin attached to the cork by a pin run upward through its center; but it is manifest that the pin may be curved spirally and screwed into the cork for more securely attaching the ballast thereto. It may be here mentioned that block-tin is used because acids do not affect it. This weight B serves to ballast the cork in such a manner that when the bottle is being filled the small end of the cork invariably rises uppermost.

The objects of the invention are manifold, the most important of which are, first, to economize in the expense of corks as now used, one cork of my invention being equal to many gross as now employed, thereby saving the manufacturer of aerated waters nearly ninety per cent. in the expense of corks alone; second, to economize in time, labor, and expense of bottling and securing the corks, as by my mode bottling can be done much more rapidly than by the present method, and with half the labor; likewise, the expense of wires and strings for securing the corks is saved.

No new machinery for bottling is required, but a good portion of that now in use can be dispensed with; and, further, no leakage of bottles can occur.

The bottles are opened by a smart rap on a wooden plunger, which is surrounded by a wooden cup. When the bottle is turned to pour out its contents the cork floats away from the neck, thus giving the liquid free egress.

The corks are shaped by a novel machine invented by me; but as this will be the subject of an application for Letters Patent, no description of it need be here given. They are also prepared by dipping them into paraffine fused by steam, the melted substance thoroughly permeating the cork and filling all its perforations. I have, however, filed an application for Letters Patent for the preser-

vation of corks, of even date herewith, embodying the process I have adopted.

I am aware that india-rubber, both alone and in combination with other substances, has been used as inside stoppers for gaseous liquids; but experience has shown its impracticability, as it impregnates the liquid with a disagreeable taste and smell—an objection which cork-wood is free from.

I make no claim to the mode of stopping bottles containing gaseous liquids from the in-

side of the bottle by gravitating stoppers, as I am aware that this is not new; but

I claim as my invention—

The bell-shaped cork A, provided with ballast, as shown, and acting in the manner and for the purpose herein set forth.

THOS. W. MURRAY.

Witnesses:

AUGUSTUS LELAND,
HENRY VAN DERBECK.