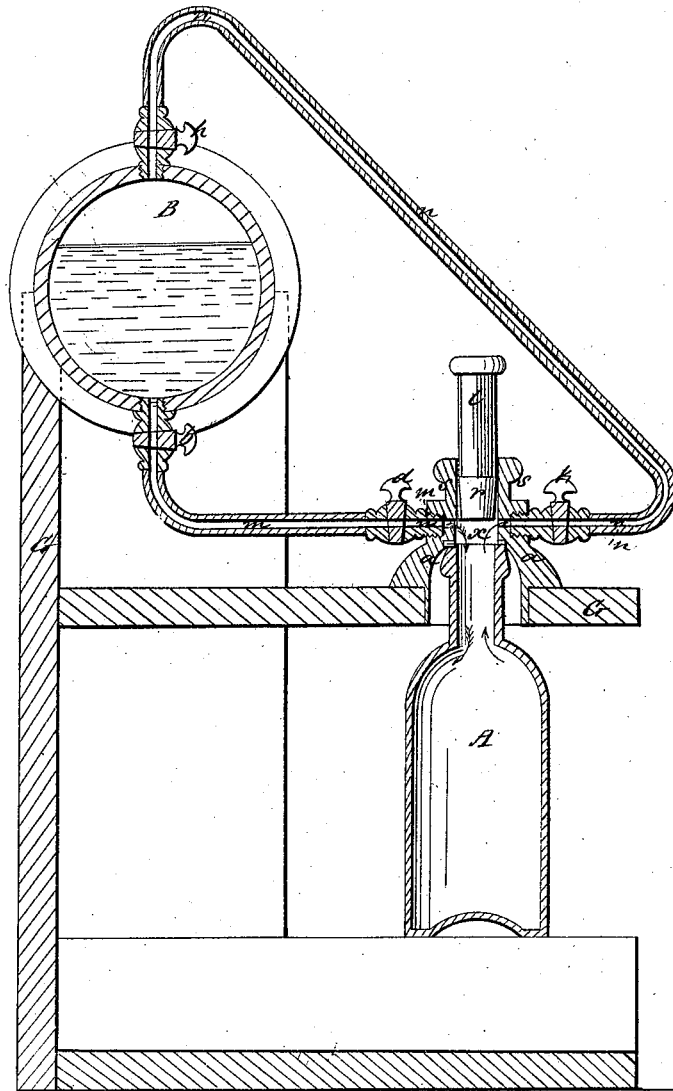


J. Matthews Jr,

Filling Bottles,

Nº 53,019.

Patented Mar. 6, 1866.



Witnesses
J. H. Coombs
Attest

Inventor
John Matthews Jr

UNITED STATES PATENT OFFICE.

JOHN MATTHEWS, JR., OF NEW YORK, N. Y.

IMPROVED APPARATUS FOR BOTTLING LIQUIDS.

Specification forming part of Letters Patent No. 53,019, dated March 6, 1866.

To all whom it may concern:

Be it known that I, JOHN MATTHEWS, JR., of the city, county, and State of New York, have invented a new and useful Improvement in Apparatus for Bottling Liquids under Pressure; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, which is a vertical section of an apparatus for bottling soda-water constructed according to my invention.

This invention is designed more especially for bottling soda-water or other gaseous liquids in which process, as heretofore conducted, a large quantity of the carbonic-acid gas contained in the liquid has been lost by escaping from the bottling apparatus into the atmosphere along with the air which is expelled from the bottle by the entering liquid.

My invention is designed to prevent this waste of gas; and it consists in so constructing the apparatus that the air which is expelled from the bottle by the entrance of the liquid, together with any quantity of gas that may pass out therewith, are conducted into the reservoir or fountain which contains the liquid to be bottled, the air from the bottle taking the place of the liquid drawn from the reservoir or fountain to fill the bottle, and maintaining a more nearly constant pressure in and upon the liquid therein.

To enable those skilled in the art to understand the nature and operation of my invention, I will proceed to describe it with reference to the drawing, which represents an ordinary soda-water fountain and bottling apparatus with the invention applied.

A represents the bottle, which is held up to the filling-head *x* in the usual manner, this part of the apparatus being of the ordinary character.

B is the fountain in which the soda-water or other liquid to be bottled is contained, and which is connected with the filling-head *x* by a pipe, *m*, extending from its under side to the said head *x*. This pipe *m* is provided with two stop-cocks, one of them, *b*, being situated near the reservoir, and the other, *d*, near the filling-head *x*.

Another pipe, *n*, bent in the manner clearly shown in the drawing, extends from the top of the fountain to the filling-head, where it terminates opposite the end of the pipe *m*. This pipe *n* also has two stop-cocks, which, like those of the pipe *m*, are situated, one,

h, near the reservoir, and the other, *k*, near the filling-head *x*. Above the filling-head is a small stationary cylinder, *s*, provided with a plunger, *l*, and also holding the cork *r* in the ordinary way. By pushing the plunger downward the cork *r* is forced into the bottle, when the process of filling is completed.

The operation is as follows: The bottle A being in the position shown in the drawing, with its mouth in communication with the filling-head *x*, the stop-cocks of the two pipes *m* and *n* are turned, so as to open communication with the reservoir throughout the entire length of the said pipes. By preference this is done by first opening or turning the cocks *h k*, and afterward the cocks *b d*. On this the liquid passes, by gravitation, through the filling-head *x* into the bottle. The air and gas expelled from the bottle passes through the pipe *n* into the fountain above the liquid contained therein, thus taking the place of the liquid that has entered the bottle. By this means the gas is entirely prevented from escaping from the apparatus; and inasmuch as the pressure upon the liquid as it passes into the bottle is the same as upon that in the fountain, the liquid does not foam in passing into the bottle, and uniformity in the amount of gas contained in the liquid furnished to the different bottles is maintained. When the bottle is full the cork *r* is forced into its mouth by pushing the plunger *l* downward, the stop-cocks *d k* having been previously turned in such manner as to shut off communication through the pipes *m* and *n*. The bottle is then removed and another put in its place, and the process of filling, as hereinbefore set forth, is repeated.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The method herein described of bottling liquids under pressure, by which constant and uniform pressure is maintained upon the liquid, as well when passing into the bottle as when in the fountain, and by which the escape of gas during the process of bottling is prevented, all substantially as herein set forth.

2. The pipe *n*, applied and arranged with reference to the fountain B, pipe *m*, and filling-head *x*, substantially as and for the purpose herein set forth.

JOHN MATTHEWS, JR.

Witnesses:

A. LE CLERC,
J. W. COOMBS.