W. F. CLASS.

Apparatus for Supplying Beer-Barrels, &c., with Air.

No. 212,898. Patented Mar. 4, 1879.

Fig. 1.

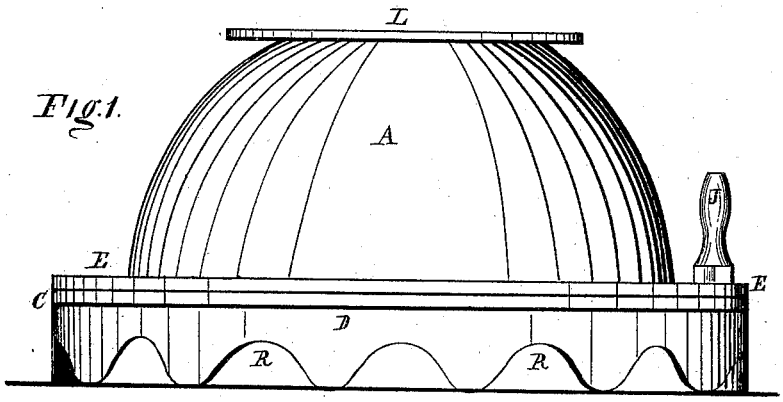
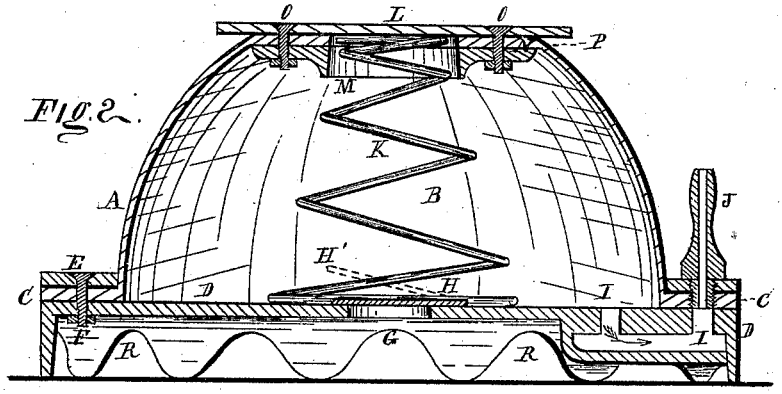


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM F. CLASS, OF CLEVELAND, OHIO, ASSIGNOR TO JAMES GAY, OF SAME PLACE.

IMPROVEMENT IN APPARATUS FOR SUPPLYING BEER-BARRELS, &c., WITH AIR.

Specification forming part of Letters Patent No. **212,898**, dated March 4, 1879; application filed February 3, 1879.

To all whom it may concern:

Be it known that I, WILLIAM F. CLASS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Apparatus for Supplying Beer-Barrels, &c., with Air; and I do hereby declare that the following is a full, clear, and complete description of the same.

The nature of my improvement consists of a semi-spherical chamber made of india-rubber or other suitable elastic material, and connected at the base with a frame or stand having an outlet and an inlet valve-opening. Within the chamber is a spiral spring extending from the base to the top of the chamber. By means of said spring the chamber is expanded after being compressed. The said valve-opening admits the air, and the valve closes on compressing the chamber to force the air out through the eduction-opening into the barrel, keg, &c.

For a more full and complete description of said invention, reference will be had to the following specification and to the annexed drawings, in which—

Figure 1 is a side view of the apparatus, and Fig. 2 is a transverse vertical section.

Like letters of reference refer to like parts in the several views.

The elastic walls A of the chamber B may be either semi-spherical, as seen in Fig. 1, or other form suitable for the purpose. Connected with the chamber wall or walls at the bottom is a flange, C, Fig. 2, which rests upon the floor or base D. This flange encircles the said walls. Upon the top of the flange is an annular ring, E, through which and the flange C are passed screw-bolts. One of the bolts is seen at F, by means of which the flange is firmly and tightly attached to the base D. This mode of attachment by means of the annular ring and bolts renders the chamber air-tight, and admits of the parts being easily and readily separated for admission to the interior thereof for any desired purpose.

In the base or floor is an inlet-opening, G, provided with a valve, H. The outlet from the chamber is through the conduit I and pipe-nozzle J, as seen in Fig. 2. The lower end of the nozzle passes through the annular ring and flange, and is in open relation with the conduit. In the interior of the chamber is placed a spiral spring, K, or its equivalent, the lower end of which rests on the floor of the chamber, and is of sufficient diameter to admit of the inlet-opening G and valve H to be within the circumference of the spring. The upper end of the spring rests against the lower side of the foot-plate L; and to hold the spring in place, and to keep it in proper position at all times when in operation or at rest, the upper end is retained in the socket M of the head-plate N. The tension of the spring prevents its slipping or moving from the socket.

The foot and head plates are secured together by means of screw-bolts *o*, otherwise, with top P of the elastic walls between, as seen in Fig. 2. The base may be raised from the floor a short distance by means of the skirting R, or other proper means, to admit the air to freely pass under and through the inlet G into the chamber.

By placing the foot on the plate L, and forcing down the elastic walls, the air is forced out from the chamber B through the conduit I and pipe-nozzle J into the barrel, keg, &c., by attaching to said nozzle a pipe leading into the barrel, &c. On removing the pressure from the foot-plate, the reaction of the spring, which has been compressed by the pressure aforesaid on the plate, raises up the foot-plate and also the walls of the chamber to their original position, and by the admission of air into the chamber through the inlet G raises the valve from H to H′, Fig. 2, and expands the elastic walls of the chamber. By this means the chamber is filled with air, and in forcing it out into the vessel, &c., through the outlets set forth, the valve H closes the inlet G during such compression of the chamber in forcing out the air. Thus alternately the valve H opens and closes in receiving the air into and forcing it from the chamber.

The difficulty attending the drawing of liquids from casks without proper vent or pressure is well known. To avoid this difficulty is the object of the described apparatus, which is readily operated by the foot while drawing beer, &c., from the barrel.

I do not claim *per se* a chamber having elastic walls capable of expansion and contraction on receiving air and forcing it out; nor do I claim, broadly, a spring operating in connection with a chamber to expand and contract it for receiving and discharging air for the purpose set forth. What is considered as an improvement in my apparatus for supplying air to barrels is the construction and arrangement of the several parts as herein set forth and claimed.

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

1. In an apparatus for supplying casks with air, the elastic wall or walls of the chamber B, provided with a flange, and secured to the base or floor D by an annular ring and screw-bolts, in combination with the spring B, foot-plate D, and head-plate P, provided with a recess to secure the upper end of said spring, substantially as described, and for the purpose set forth.

2. In an apparatus for charging casks, &c., with air, an air-chamber having elastic semi-spherical wall or walls, with a flange at its base, secured to the floor of the chamber by means of an annular ring and screw-bolts, in combination with an inlet-valve and an outlet in the base of said chamber, and provided with a spring extending from the floor to the top of said chamber, substantially as set forth.

3. In an apparatus for supplying barrels with air, the base D, provided with an inlet-valve and opening and an outlet for the air, and having attached thereto the semi-spherical elastic walls of the air-chamber by means of a flange extending from said walls between the base and annular ring, secured together by means of screw-bolts, substantially as described, and for the purpose specified.

4. In an apparatus for supplying casks with air, an improvement consisting of the curved elastic walls of the air-chamber, with its top clamped between the foot and head plates, with the bottom of said wall or walls also clamped air-tight to the floor of the base, provided with an inlet-opening and valve and an outlet, and having a spring within said chamber extending from the floor to the top thereof, substantially as described, and for the purpose set forth.

5. In an apparatus for forcing air into casks, the base provided with the inlet-valve H and outlet-conduit I, in combination with the curved elastic walls secured to said base, and clamped between the foot-plate L and head-plate P, with the spring K, having its lower end resting upon the floor of the air-chamber and the upper end in the recess of the plate P, substantially in the manner as described.

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Witnesses:
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