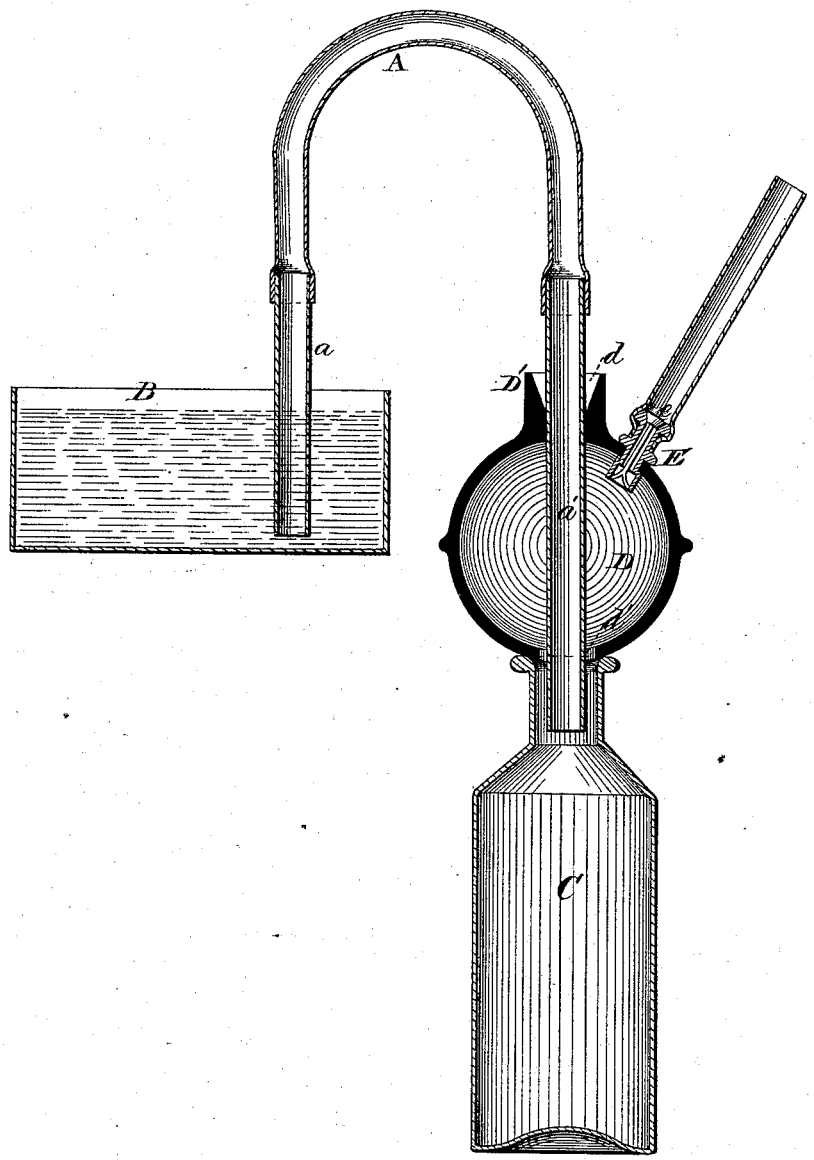
A. P. STORRS, Jr.
Siphon-Exhaust.

No. 215,488. Patented May 20, 1879.



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IMPROVEMENT IN SIPHON-EXHAUSTS.

Specification forming part of Letters Patent No. **215,488**, dated May 20, 1879; application filed February 3, 1879.

To all whom it may concern:

Be it known that I, AARON P. STORRS, Jr., of Owego, county of Tioga, State of New York, have invented certain new and useful Improvements in Siphon-Exhausts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification, and which represents a vertical section through a siphon having my improved siphon exhaust or starter applied.

The invention relates to an improved device for exhausting the air from a siphon and starting the flow of the liquid through the same for filling bottles and other purposes where siphons are applicable; and consists, first, in the application to the siphon of an exhaust-chamber, of rubber or other elastic material, provided with suitable openings or apertures for the reception of the longer or lower leg of the siphon and for the reception and discharge of the air from the siphon, as hereinafter explained.

It further consists in providing the flexible exhaust-chamber with a discharge pipe or tube, through which the air can be withdrawn from the siphon or receptacle by any suitable means for that purpose, as hereinafter explained.

It further consists in providing the air-outlet to the siphon exhaust-chamber with a check-valve, which, while it permits the discharge of the air from the exhaust-chamber, prevents its return, except as it is drawn from the siphon or vessel or receptacle to be filled thereby.

In the accompanying drawing, representing a vertical section, A represents a siphon, composed in the present instance of the flexible pipe, (indicated by the letter named,) provided at its ends with tubes *a a'*, of metal, glass, hard rubber, or other suitable material, according to the nature of the liquid to be operated upon; but the siphon may be of any usual or suitable form or construction, and of any material suitable for the purpose for which it is intended.

B represents a vessel or receptacle containing the liquid to be drawn off through the siphon, and C the bottle or receptacle to be filled therefrom. D is an exhaust-chamber, made in bulb form, of rubber or other suitable elastic material, and provided at its upper side or end with an aperture or opening, *d*, for the reception of the longer leg of the siphon, as shown. The bulb or chamber around this opening is provided with a projecting neck, D', elongating the aperture, which is made to taper inward, thus adapting it, from the elastic nature of the material employed, to receive tubes or siphons of different sizes or diameters, while tightly grasping and effectually preventing the passage of air around the same. The lower side or end of the exhaust-chamber D, opposite the neck D', is provided with an aperture, *d'*, through which the leg *a'* of the siphon may pass for discharging the liquid into the bottle or receptacle to be filled. This opening where the leg passes through it is made of larger diameter than the tube or leg of the siphon, for permitting the passage of the air from the receptacle into the chamber D, but is of less diameter than the neck or mouth of the bottle or receptacle, over which the bulb or exhaust-chamber is to be placed, as shown.

The chamber D is provided with an outlet-tube, E, having a check-valve, *e*, arranged within it and opening outward, for permitting the escape of air from the chamber through the tube, but preventing its return except as it is drawn from the receptacle C or through the siphon A.

It will be seen that if the siphon be placed in position and the exhaust-chamber D pressed firmly against the neck of the vessel to be filled a close joint will be formed, preventing the admission of air into the bottle or exhaust-chamber D, except through the siphon A, and that the air may be exhausted from the chamber D, the vessel C, and the siphon A either by compressing the bulb and then allowing it to expand, or by applying any suitable means, as suction, either by the mouth or any pumping apparatus to the tube E, when the liquid from the vessel or tank B will flow in and occupy the partial vacuum, thus setting the siphon in action.

Modifications may be made in the form and arrangement of the parts; but it will be apparent that the exhaust-chamber and the neck grasping the siphon should be of rubber or other suitable elastic or flexible material, to adapt them to the performance of the functions described.

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

1. The elastic bulb or exhaust-chamber D, provided with the aperture *d d'*, adapting it to receive and surround one leg of, and to operate in connection with, a siphon for exhausting the same, substantially as described.

2. The elastic bulb or exhaust-chamber D, surrounding the siphon A, and operating in combination therewith, substantially as described.

3. The elastic bulb or exhaust-chamber D, provided with the perforations permitting the insertion of the siphon, and with a tube, E, through which the air may be exhausted, substantially as described.

4. The combination, with the elastic bulb or exhaust-chamber D, adapted to receive the siphon, as described, of the exhaust-tube E and check-valve *e*, substantially as and for the purpose described.

5. The combination, with the siphon A, of the exhaust-chamber D, surrounding the siphon and provided with the exhaust-tube E and valve *e*, arranged and operating substantially as described.

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