

J. E. McCLURE & D. H. AINSWORTH.
Blow-Pipes.

No. 144,345.

Patented Nov. 4, 1873.

Fig. 1.

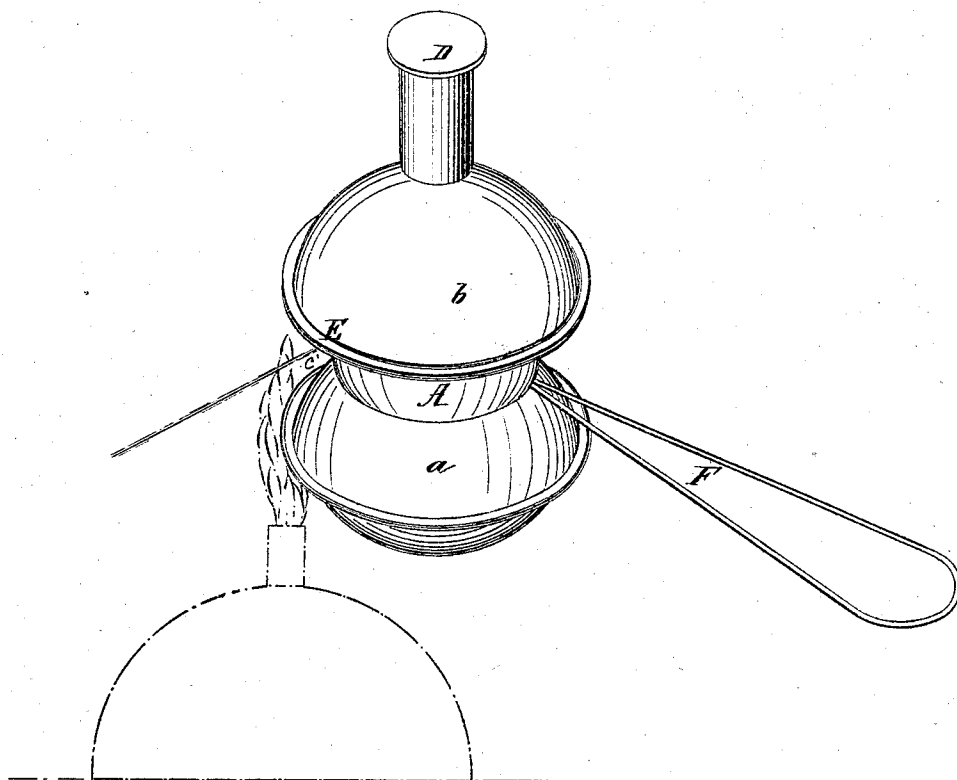
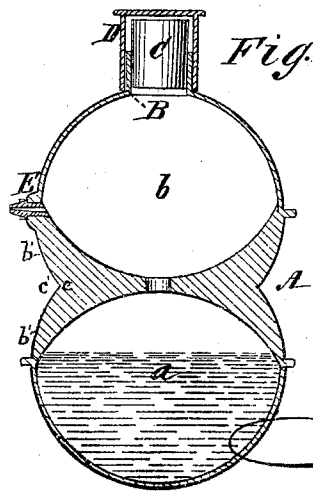


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN E. McCLURE, OF SAN FRANCISCO, AND DANFORTH H. AINSWORTH,
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IMPROVEMENT IN BLOW-PIPES.

Specification forming part of Letters Patent No. **144,345**, dated November 4, 1873; application filed
August 30, 1873.

To all whom it may concern:

Be it known that we, JOHN E. McCLURE, of San Francisco, in the county of San Francisco and State of California, and DANFORTH H. AINSWORTH, of Salinas, in the county of Monterey and State of California, have invented a new and Improved Blow-Pipe; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification.

The invention relates to a peculiar construction of that class of blow-pipes which are used in connection with a lamp whose flame is expected both to vaporize the liquid in vessel, and to be forced upon and melt metals or solder.

The figures of drawing are side elevations, the second being in section.

A represents the blow-pipe, having an upper chamber, *b*, and a lower chamber, *a*, connected by an intermediate aperture. C is a cork, and D a thimble, which may be made to form a vapor-tight joint with the neck of vaporizer.

I am well acquainted with the blow-pipe which has the ejector passing through the vessel obliquely. If there is a large flame it is liable to blow out the stopper, and if there is a small one not to vaporize sufficiently. Placed in front of the vessel is the ejector E, through which the expansive steam or vapor forces its way, strikes the flame of lamp, and causes it to impinge upon the solder or metal that is to be melted. On the opposite and rear is placed the handle F.

The great object in the construction of these vessels is, first, to bring the lower part of flame fully against the liquid-chamber *a*, so as to transmit as much heat as possible thereto;

second, to make the upper part of flame come directly across the mouth of nozzle, so that it may be carried in the direction of the vapor-current; third, not to allow the heat from flame to impinge upon the vapor-chamber, as this would quickly overheat the vapor and blow out the stopper.

In order to accomplish this threefold purpose, we make the liquid-chamber and the vapor-chamber entirely distinct, round each of them in their fronts *b'*, and cause these curves to unite at an inner point, *c*, placing the ejector on the convexity *b'*. This produces an open air-space, *c'*, between the convexities *b'* *b'*, so that while the flame bears fully at its lower part against convexity *b'*, and with the upper part directly crosses the projecting mouth of ejector E, the heat radiated into space *c'*, instead of reaching the vapor-chamber *b*, is carried off mainly by the air passing through said space *c'*.

This construction, then, meets the exact desideratum of a blow-off for the purpose of melting metals, or other analogous uses.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A blow-pipe consisting of two connected chambers, *a* *b*, having the front convexities *b'* and the intermediate air-space *c'*, the ejector E being located on the upper, and the flame impinging upon the lower, of said convexities, as and for the purpose specified.

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