



# UNITED STATES PATENT OFFICE.

BENJAMIN F. POWELSON, OF BUFFALO, NEW YORK.

## PHOTOGRAPHIC SILVER-BATH HEATER.

SPECIFICATION forming part of Letters Patent No. 256,592, dated April 18, 1882.

Application filed November 19, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. POWELSON, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented a new and useful Photographic Silver-Bath Heater, of which the following is a specification.

The object of my invention is to provide the means for keeping a photographic silver bath at the proper temperature for use in cold weather in any climate; and it consists of a case or box provided with a door at the top, through which (when opened) the bath or baths may be reached or used; also, of a suitable room or warming-apartment and the means for holding the bath at an angle or incline, in combination with a lamp or other equivalent heating device arranged in the lower part of the box or case, and a deflector and heat-radiator above the heater, the lower part of the case being provided with a door, so that the heating device or other parts may be reached, as will be more clearly hereinafter shown by reference to the drawings, in which—

Figure 1 is a perspective view; Fig. 2, a vertical central section through the case and its several parts, the door being left off. Fig. 3 represents a top view of the case and its interior below the upper cover, and Fig. 4 is a horizontal section through line X X, Fig. 1.

A represents the case or box; A', the lower door; and B is the door or cover hinged to the top of the case so as to swing over (when opened) into the position shown by the dotted lines B', Fig. 2. Near the bottom of the case, on each side and at the back, are two holes, C, a sufficient number only being used to allow the necessary ventilation. If there be not enough ventilation the light would not burn well. If there is too much, by having too many openings, C, the light would be instantly put out by dropping the cover B down suddenly.

C' represents a lamp for producing the heat. It may be of any ordinary construction, or a gas-jet would answer.

D is a deflector arranged directly over the heating device. It is fastened to a flat sheet-metal plate, D', having an opening, E, through

it. This plate forms a partition which divides the chambers E' and F, and upon which the chemical bottles *i* (which require the same temperature) are placed.

F' represents a radiator or heat-distributer. It consists of a thin sheet-metal pan, and is set loosely on the plate D', so as not to fit airtight, and can also be easily removed. Its object is to distribute the heat evenly and prevent it from being concentrated at any one point, so as to be liable to break the baths. Another object in making it easily removable is that it may be taken out at any time when it is desired to have a higher temperature in the upper chamber.

The letters G represent two cross braces or bars for supporting the lower end of the large bath G', and the blocks H H prevent it from touching the side of the case A, so as to leave an opening, H', through which the heat can pass up in the direction of the arrows *f*. The other side of the chamber F being open, the heat passes up between the cross-bars G in the direction of the arrows *f'*. A bar, H<sup>2</sup>, keeps the top of the bath G' from touching the case A.

I is a removable bar set at an angle, so as to hold the upper part of the small bath J, its lower end being supported by a cross-bar, J', which is formed so as to leave an opening, K, between the case and the bar, so as to allow the heat to pass up in the direction of the arrows *g*.

L represents an ordinary thermometer for indicating when the proper temperature is reached, which, as will be readily seen, can be easily adjusted by the lamp-wick adjuster L'. The lamp shown is provided with an ordinary chimney, M. The box or case being of wood or other non-conducting material, the temperature can be kept very even within it, although the temperature outside may vary. While operating with the device the cover B is thrown open, so that either bath may be reached.

I claim—

1. A photographic silver-bath heater consisting of a case, A, having doors A' and B, in combination with a heating device arranged in the lower chamber, E', a heat-distributer,

F', and a suitable means, substantially as specified, for holding the baths in the upper chamber, as and for the purposes described.

5 2. A photographic silver-bath heater consisting of a case, A, having a heating device, C', or its equivalent, in the lower part of the case, and a suitable means, substantially as

described, for supporting the bath in an inclined position in the upper part of the case.

B. F. POWELSON.

Witnesses:

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