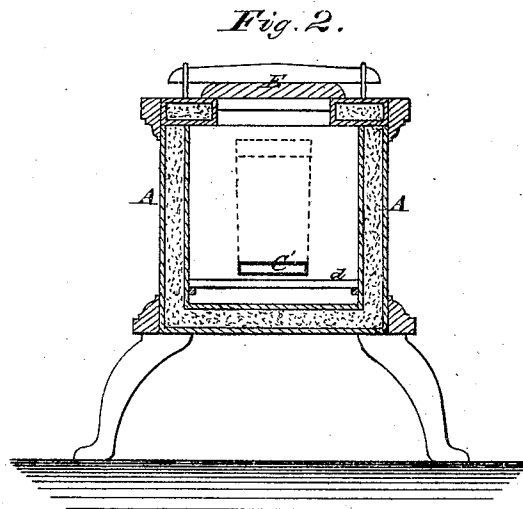
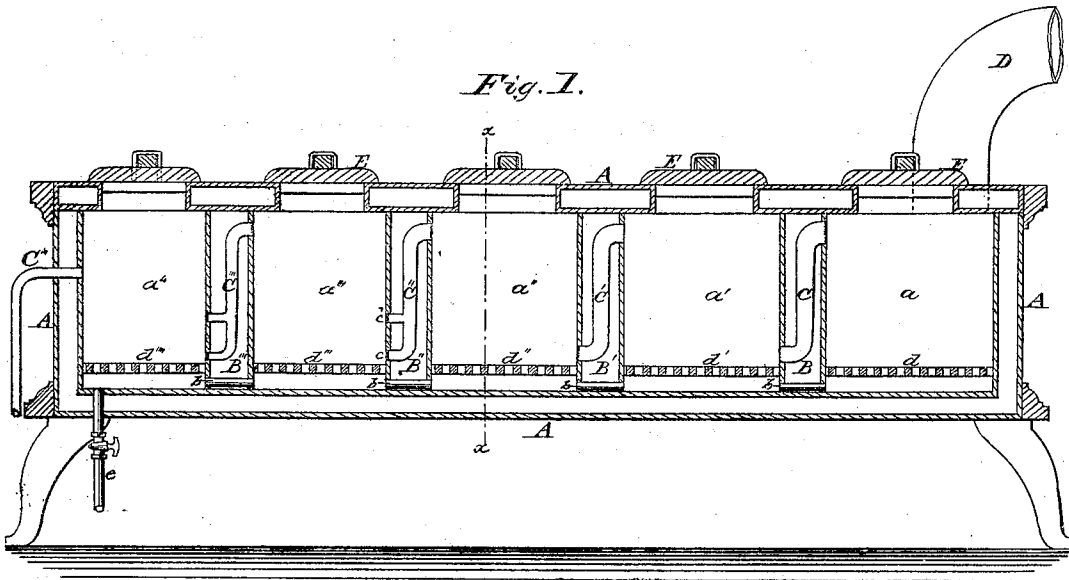


L. SCHULZE.

Improvement in Apparatus for Cooling Breweries, Cellars, Beer-Vaults, &c.

No. 127,647.

Patented June 4, 1872.



Witnesses:

O. E. Duff
R. H. Whittlesey

Inventor:

Louis Schulze.

UNITED STATES PATENT OFFICE.

LOUIS SCHULZE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR COOLING BREWERIES, CELLARS, BEER-VAULTS, &c.

Specification forming part of Letters Patent No. 127,647, dated June 4, 1872.

Specification describing certain Improvements in Portable Cooling Apparatus for Cellars, Beer and Ale Vaults, &c., invented by LOUIS SCHULZE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania.

This invention consists in an arrangement of a series of compartments containing ice, and a series of graduated pipes connected to a blower. By this blower and through the said pipes air is forced and gradually compressed, by which it is cooled more and more as it gradually approaches the exit end or outlet. It is thereby cooled to such a degree that, if the compartments were continued and it were desired, ice might be formed of the water at any season of the year.

To enable others skilled in the art to which my invention belongs to make and use the same, I will now proceed to more fully describe it, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a longitudinal section of my invention. Fig. 2 is a cross-section on line *x x*.

In the drawing, A represents a box with double sides, bottom, and top, filled with sawdust or other non-conducting material, and placed upon suitable legs. This box is divided into a number of compartments, *a a' a''*, filled with ice, (five being shown in the drawing,) between which are arranged the air-spaces B B' B'' B''', and in these the air-pipes C C' C'' are placed, connecting the ice-compartments at the top and bottom. These pipes are gradually reduced in size, being rectangular or flat in form, and in the last two compartments are divided into two or more outlets, *c c'*, so as to reduce their area and thereby compress the air, which is forced into the box from the blower (not shown) that is attached to the pipes. Each of the mouths of the graduated pipes are covered by a piece of wire cloth or perforated

metal to prevent the ice from entering the same. The compartments are lined with zinc or other metal to keep them water-tight. In the compartments near the bottom are arranged grates *d*, upon which the ice is placed, and under them the drain-pipes *b b'*, connecting the compartments, until the drip-water from the ice reaches the last one, from which it is drawn by a drip-pipe, *e*, provided with a suitable cock or spigot, *e*. The top of each compartment is provided with a hole, through which they are filled with ice, and said holes are closed by strong covers E, held firmly down by a cross-bar, whose ends are secured by staples or stirrups and wedges, as the compressed air exerts a great force. The exit-pipe C⁴ is connected to any suitable apartment or place, wherever it is desired to force the cool air.

I have shown a rectangular box with a succession of compartments, but, if preferred, any other suitable form may be adopted—such as square, round, &c.—the principle being the same, viz., that the air is cooled and compressed more in each successive compartment, being constantly forced through and over the ice.

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

1. The arrangement of a number of successive compartments filled with ice, and connected by graduated pipes and a blower, as shown, and for the purpose set forth.

2. The combination of the compartments *a a' a''* of the box A with air-spaces B B' B'', pipes C C' C'', grates *d*, and pipes *b* and D, all constructed and arranged as shown, and for the purpose set forth.

LOUIS SCHULZE.

Witnesses:

O. E. DUFFY,
R. H. WHITTLESEY.