

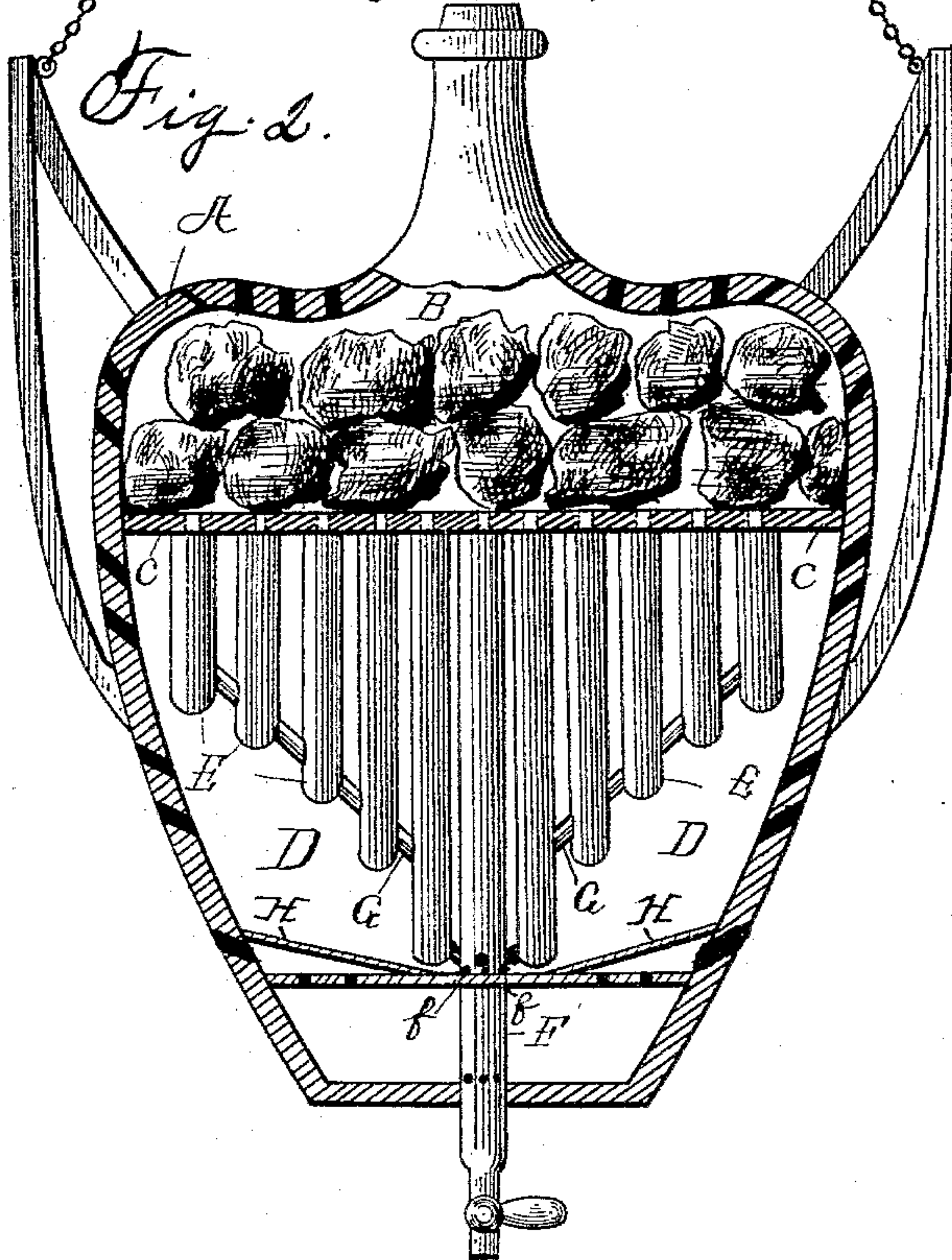
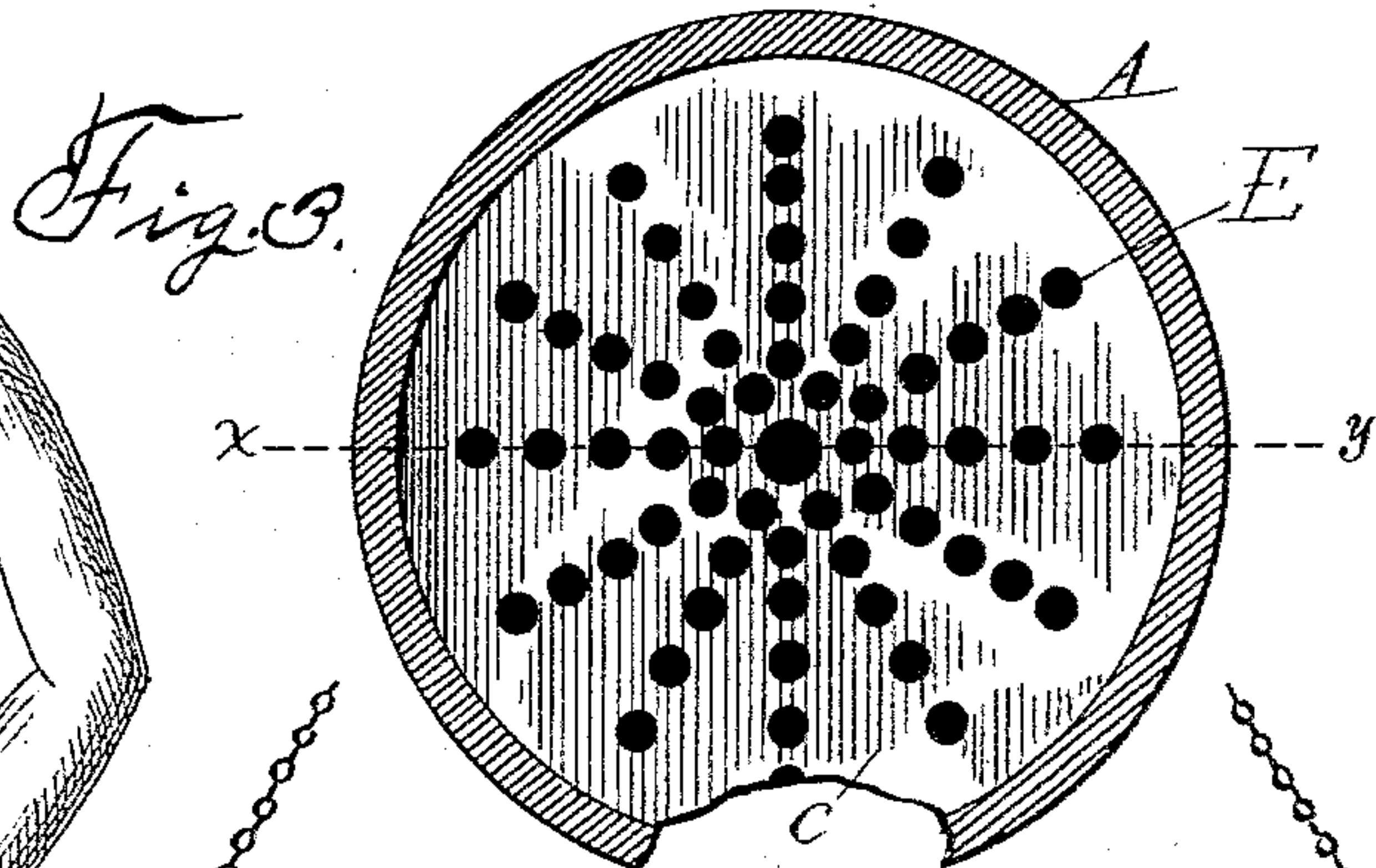
(No Model.)

R. F. HUMISTON.

PORTABLE COOLING APPARATUS FOR HOUSES.

No. 387,954.

Patented Aug. 14, 1888.



Witnesses,
E. L. Jewell,
E. C. Duffy,

Inventor,
R. F. Humiston,
By his Attorney O. E. Duffy

UNITED STATES PATENT OFFICE.

RANSOM F. HUMISTON, OF BOSTON, MASSACHUSETTS.

PORTABLE COOLING APPARATUS FOR HOUSES.

SPECIFICATION forming part of Letters Patent No. 387,954, dated August 14, 1888.

Application filed February 29, 1888. Serial No. 265,727. (No model.)

To all whom it may concern:

Be it known that I, RANSOM F. HUMISTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Portable Cooling Apparatus for Houses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to an improvement in
15 devices for cooling rooms or apartments of buildings.

During the summer season the weather often becomes so very hot and sultry that the atmosphere appears to lose all movement and to become perfectly still, and it is almost impossible for a person to keep comfortable or cool, no matter how quiet he remains. This kind of weather is especially felt by those in the large cities, for the houses are so tall and close to-
25 gether that it is exceedingly difficult to keep up the proper amount of circulation of the air, which becomes hot, impure, and dry, causing the inmates of the houses to suffer greatly.

The object of my invention is to provide a
30 cooling apparatus adapted to be located in the upper plane of a room, where the heated and impure air collects, and to allow said air to come in contact with ice and cold metallic surfaces, thus purifying and cooling the heated
35 air and keeping up the circulation in a room by constantly cooling the air as it becomes heated.

With these ends in view my invention consists in certain novel features of construction
40 and combinations of parts more fully described hereinafter, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents an elevation of my complete device, showing the cooling apparatus supported in the upper portion of a room by an ornamental figure, the waste from the ice being allowed to flow into a reservoir or tank in the pedestal for supporting the figure. Fig.
50 2 is a partial vertical section, on line *xy* of Fig. 3, of the cooling apparatus, showing the same

provided with chains or equivalent means by which it can be suspended from the ceiling; and Fig. 3 is a horizontal section of the apparatus taken just above the perforated partition
55 which supports the ice.

In the drawings the reference-letter A indicates the outer shell or casing of the cooling apparatus, which is intended to be upheld in the upper plane of a room or apartment. In
60 the upper interior of the outer shell or casing an ice receptacle or compartment, B, is formed by the horizontal transverse partition C, which forms the bottom of the ice chest or compartment, and upon which the pieces of ice rest,
65 as shown in Fig. 2.

The partition C, which forms the bottom of the ice-chest, also forms the top wall of a cold air and water chamber, D, in the lower interior of the outer shell. The partition C is ver-
70 tically perforated or reticulated, as shown, and each perforation or aperture opens into the upper end of one of the pipes or tubes E, which are secured at their upper ends to the lower side of the partition, and from thence
75 extend downwardly into the cold-air chamber and have their lower or opposite ends closed or sealed. The cold-water tubes E are preferably formed in regular order or circles
80 around a central or main pipe, F. The tubes farthest away from the central pipe, forming the outer circle of the series, are quite short, and do not extend down very far into the cold-air chamber; but the tubes forming the next
85 circle are slightly longer, and so on. Each series of tubes nearer the main tube is longer, until those tubes immediately adjoining the central tube almost, if not quite, extend to the bottom of the cold-air chamber, and the main
90 tube extends out through the bottom of the outer shell. The downwardly-extending cold-water tubes are all in communication with the main tube by means of the short transverse and downwardly-inclined pipes G, extending
95 from the lower portion of each tube to the longer tube immediately adjoining it, as clearly shown in Fig. 2.

The cold air and water chamber D is provided with the downwardly and inwardly inclined bottom H, and the main tube F is
100 preferably provided with perforations or apertures *f* in its periphery, where it passes

through the lowest part of the bottom H, so that the water of condensation from the outer surfaces of the nest of cold-water tubes will fall upon the inclined bottom and pass into the main tube through the apertures.

The outer casing or shell of the apparatus is perforated, as shown, for the admission of heated and impure air to contact with the ice in the ice-compartment and the cold air and water tubes in the cold-air chambers, and the perforations are inclined downwardly and inwardly, so that the water of condensation will run into the interior of the casing and be carried off by the main tube F.

It is evident that the outer casing inclosing the cooling apparatus can be supported in the upper plane of a room or apartment in any suitable manner, as by an ornamental figure, such as shown in Fig. 1, in which the cooling apparatus is in the form of an urn, and the ice as it melts passes into the cold-water tubes and flows from one tube to the next, and so on, into the main tube, which conducts the water down through the head and arm of the figure into a vessel, from which it is allowed to flow into a reservoir in the pedestal supporting the figure.

In Fig. 2 the cooling apparatus is provided with brackets, to which are secured chains or other suitable means by which the apparatus can be suspended from the ceiling or other suitable support. The main pipe or tube is provided with a stop-cock, so that the waste from the ice can be drawn off when desired.

I do not wish to limit myself to any particular form of outer casing, or any particular arrangement of the tubes forming the nest of cold-water tubes; and it is also evident that numerous slight changes might be made in

the form and arrangement of the various parts described without departing from the spirit and scope of my invention; hence I do not wish to limit myself to the precise construction herein set forth, but consider myself entitled to all such slight changes.

What I claim is—

1. An air-cooling apparatus adapted to be located in an upper plane of a room or apartment, and consisting of an outer inclosing shell or casing provided with an ice-chamber in its upper interior and a cold air and water chamber in its lower interior, and having perforations opening into the ice-chamber, and also perforations opening into the cold-air chamber, and water-tubes communicating with the ice-chamber and extending into the cold-air chamber, whereby the heated and impure air of the apartment passes into contact with the ice and cold surfaces of said tubes and is cooled and purified thereby.

2. In an air-cooling apparatus, the combination, with an outer inclosing perforated shell, of a perforated transverse partition forming an ice-compartment and a cold-air chamber within the shell, a nest of cold-water tubes communicating with the ice-chamber and with each other and depending from said partition into the cold-air chamber, and a main discharge-tube, which receives from said nest of tubes the water from the melting ice and discharges it into any suitable receptable.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

R. F. HUMISTON.

Witnesses:

O. E. DUFF,
HUBERT E. PECK.