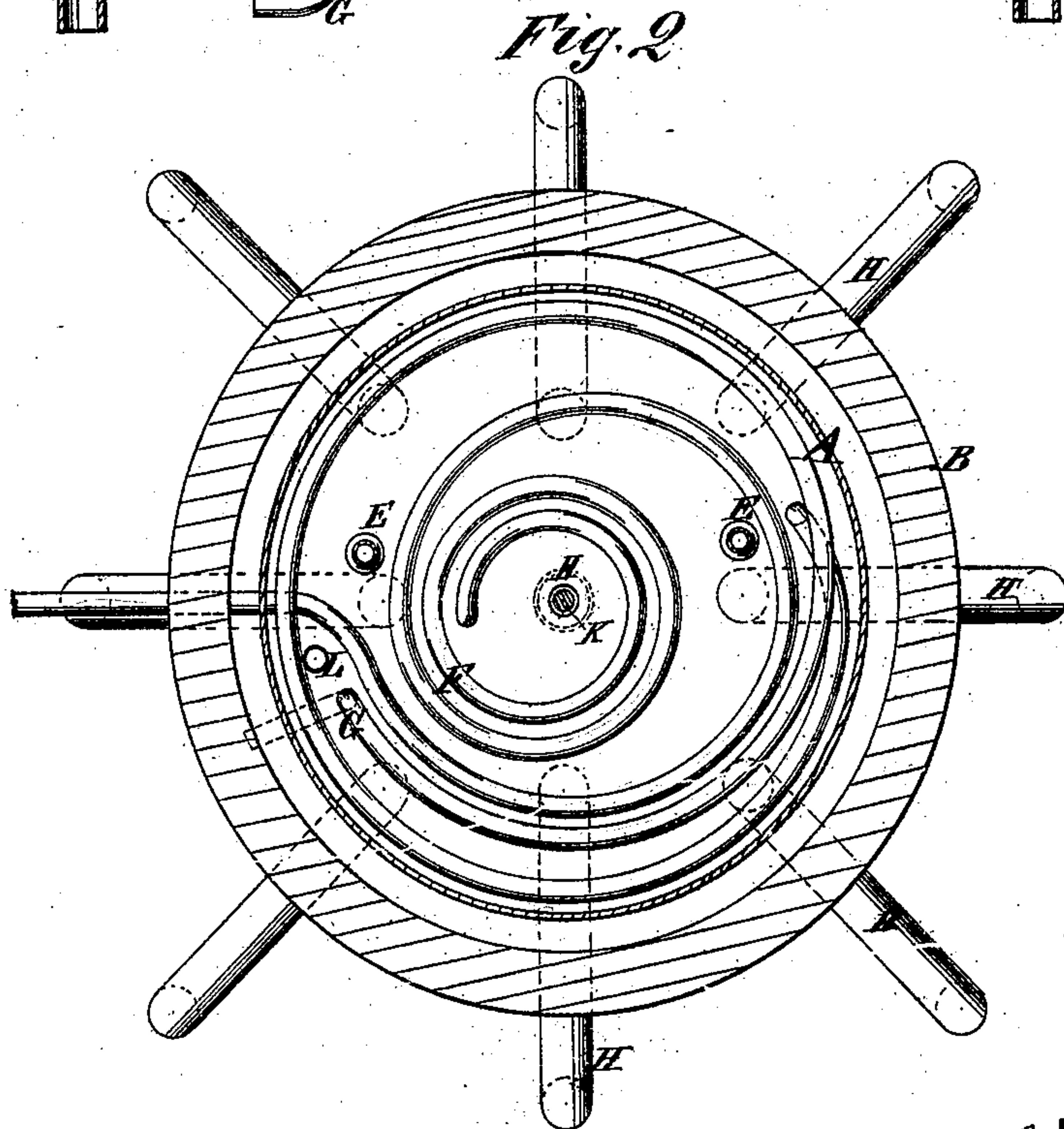
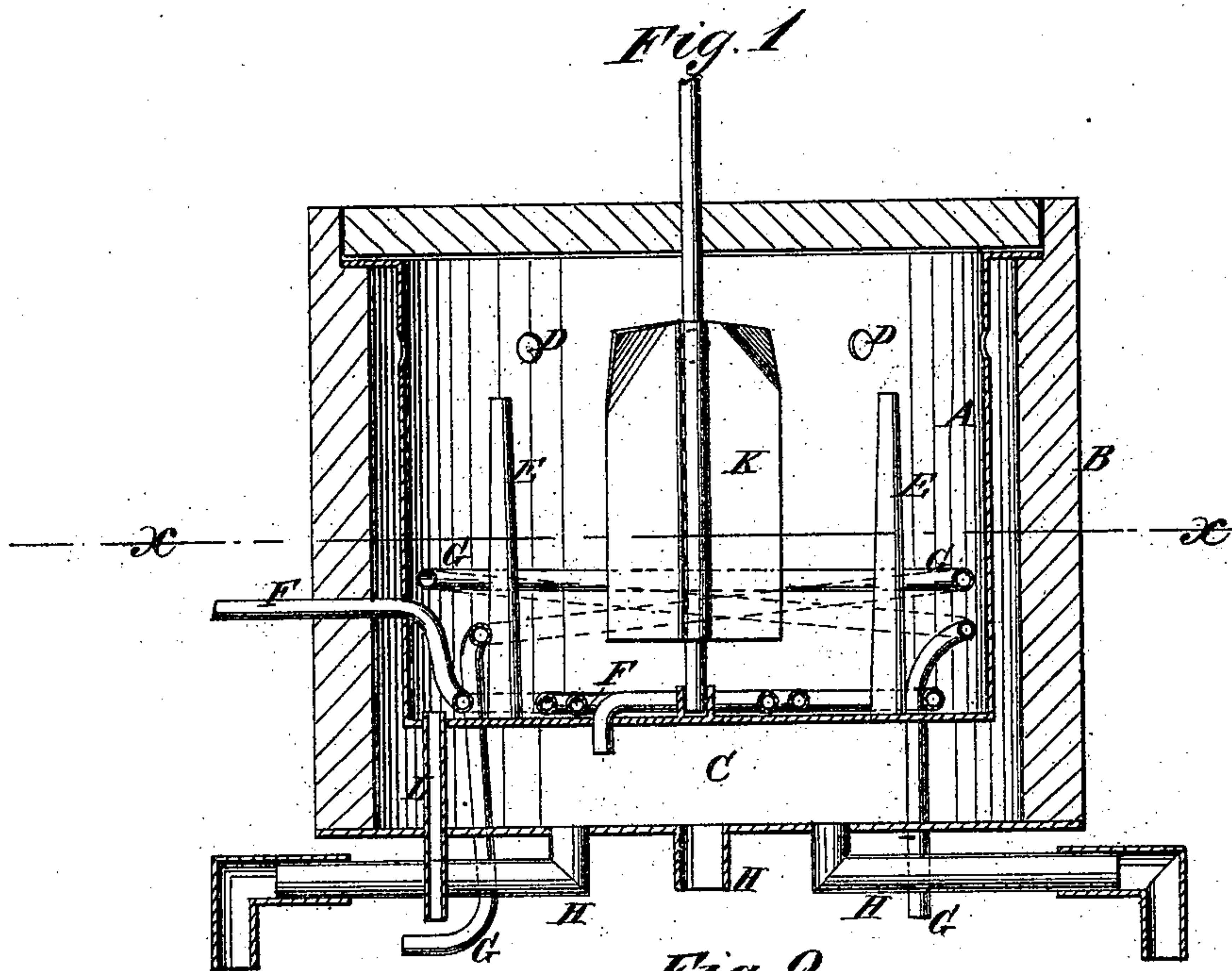


W. E. RICHARDSON.

AIR-COOLER.

No. 178,958.

Patented June 20, 1876.



WITNESSES:

*H. W. Armgvist*  
*John Goethals*

INVENTOR:

*W. E. Richardson*

BY

*Wm. H. L.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

WILLIAM E. RICHARDSON, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN AIR-COOLERS.

Specification forming part of Letters Patent No. **178,958**, dated June 20, 1876; application filed May 1, 1876.

*To all whom it may concern:*

Be it known that I, WILLIAM E. RICHARDSON, of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Cooler, of which the following is a specification:

My invention consists of a pan or tube to contain ice or other cooling medium, arranged in a surrounding case of non-conducting material, with a space between the two, into which cold air from within the pan may pass through openings in the sides or tubes in the bottom of the latter, and also from a coil of pipe entering the pan from outside, and discharging into said space, from which it may be conducted to cellars or other rooms or places for cooling, and said pan also has another coil entering from and returning to outside.

Air or water may be used, as preferred, being impelled through the coils by a fan or pump, if necessary.

Figure 1 is a sectional elevation of my improved cooler, and Fig. 2 is a horizontal section taken on line *x x* of Fig. 1.

A is the pan or tube for holding the cooling medium; B, the inclosing-case, of non-conducting material; C, the cool space between the pan and case; D, openings through the pan near the top; E, tubes communicating with the space C through the bottom of pan A; F, coil in pan A, entering from outside of

case B, and discharging into space C; G, coil in pan A, entering from the outside, and returning to same through the bottom; and H, pipes connecting with cool chamber C, for conducting air or water to or from it.

This apparatus is designed for cooling rooms of any kind in warm weather, by air to be forced through the cooler by a fan, through coils G and F, and to be conducted to and used in the room in any approved way. It is a simple and cheap contrivance, that may be easily located in the ceiling or floor of a room, and may be otherwise placed.

K is a stirrer, fixed in the pan A, with its shaft extending through the top, for agitating the ice or cold water in the pan, to increase the cooling effect. L is a pipe for drawing off the cooling liquid from the pan when required.

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

The cooling-pan A and non-conducting inclosing-case B, combined and arranged with the space C between them, and the pan being provided with coils F G, and passages D, and tubes E, and the case being provided with pipes H, substantially as specified.

WM. E. RICHARDSON.

Witnesses:

H. J. HARVEY,

CHAS. E. BENEDICT.