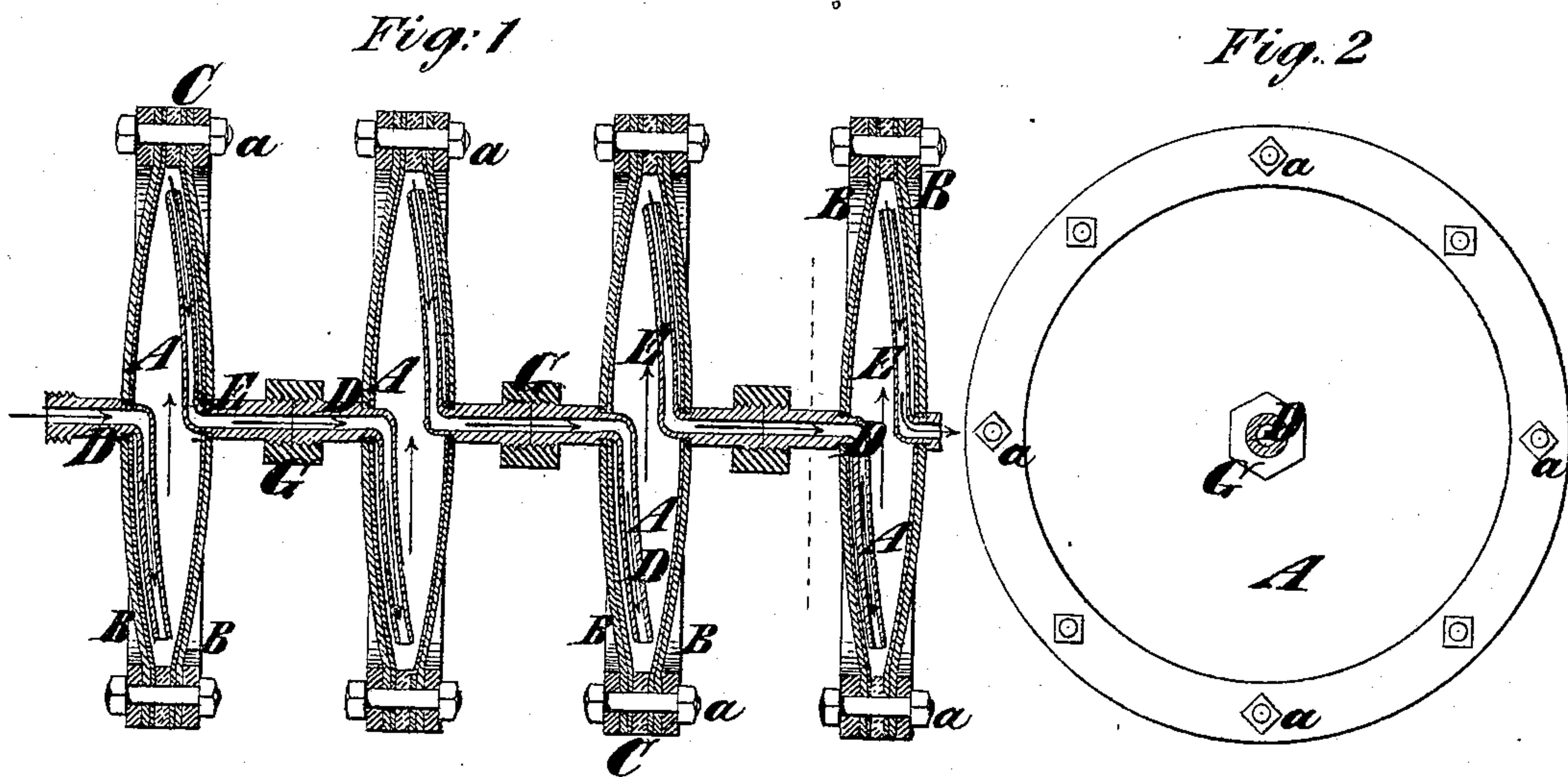


W. GEE.

Coolers for Soda-Water, &c.

No. 141,133.

Patented July 22, 1873.



Witnesses:  
Thos Haynes  
D. H. Hall

William Gee  
by his Attorneys  
Brown & Allen

# UNITED STATES PATENT OFFICE.

WILLIAM GEE, OF NEW YORK, N. Y.

## IMPROVEMENT IN COOLERS FOR SODA-WATER, &c.

Specification forming part of Letters Patent No. **141,133**, dated July 22, 1873; application filed March 27, 1873.

*To all whom it may concern:*

Be it known that I, WILLIAM GEE, of the city, county, and State of New York, have invented an Improved Cooler for Soda-Water, &c., of which the following is a specification:

Although more particularly designed for cooling soda-water and similar beverages, this cooler is applicable generally for the purpose of cooling liquids. It consists of a series of chambers composed of convex disks and pipes, connecting them in such manner that the liquid to be cooled is conveyed from the upper part of each chamber to the lower part of the next. The cooler is arranged horizontally and embedded in ice, and the liquid as it is delivered into each chamber courses up the cold sides, and, owing to the peculiar construction of the chambers, is first expanded out, and then, before being conveyed to the next, is contracted again, and thereby effectually cooled.

In the accompanying drawing, Figure 1 is a longitudinal section of a cooler made according to my invention, and Fig. 2 is an end view of the same.

Similar letters of reference indicate corresponding parts in both figures.

A A are the series of chambers through which the liquid to be cooled courses. They consist simply of pairs of convex disks of copper or brass, which are secured together by means of clamping-rings B B, which are fastened together by bolts *a a*. Between the disks there are interposed washers C C, of rubber, leather, or other packing material, to preserve the joint and obviate leakage.

These chambers have to be lined with tin; otherwise the soda-water, by acting on the copper or brass, would be rendered unfit for use.

The lining is effected by simply taking circular pieces of tin and impressing them so as

to conform to the contour of the disks constituting the walls of the chambers. The chambers so formed are furnished each with two pipes, D E, one, D, leading from the middle of one side or wall to the bottom of the chamber, and the other, E, leading from the top of the chamber to the middle of the opposite side. The ends of these pipes project some distance from the chambers, and are connected by coupling-nuts G G with the opposite pipes of the chambers next adjacent. By this means any number of chambers may be employed, according to the temperature to which it is desirable to reduce the liquid.

The cooler is arranged horizontally in an ice-box, and is embedded in ice or immersed in ice-water, so that it is constantly cool. The liquid to be cooled courses through it, in the direction indicated by the arrows, from the top of one chamber into the bottom of the next. The liquid being conveyed to the chambers through the pipes D aforesaid enters in small streams, and as it fills the chambers gradually expands or spreads out until it reaches the middle, and afterward is gradually contracted toward the top, whence it is conducted by the pipes E to the pipes D of the adjacent vessels, and thence into the bottom of the latter, as before.

This cooler is very simple and efficient, and withal can be manufactured very cheaply.

What I claim as my invention is—

The reversed pipes D E, in combination with the centrally-connected, vertically-arranged chambers A A, essentially as and for the purpose herein set forth.

WILLIAM GEE.

Witnesses:

C. F. SMITH,  
FRED. HAYNES.