

J. TRAGESER.

Apparatus for Cooling and Condensing Beer, Alcohol, &c.

No. 55.746.

Patented June 19, 1866.

FIG. 2.

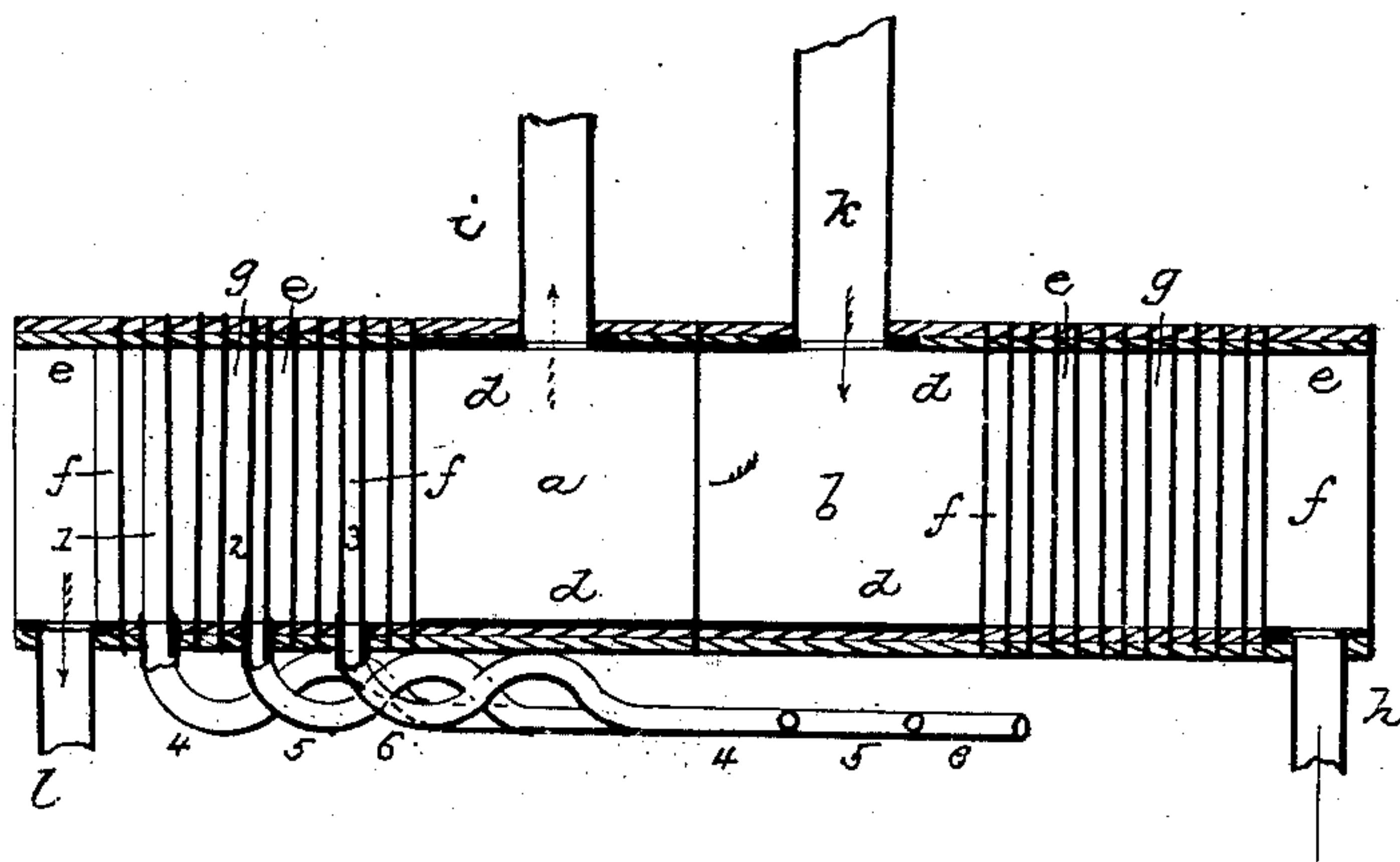
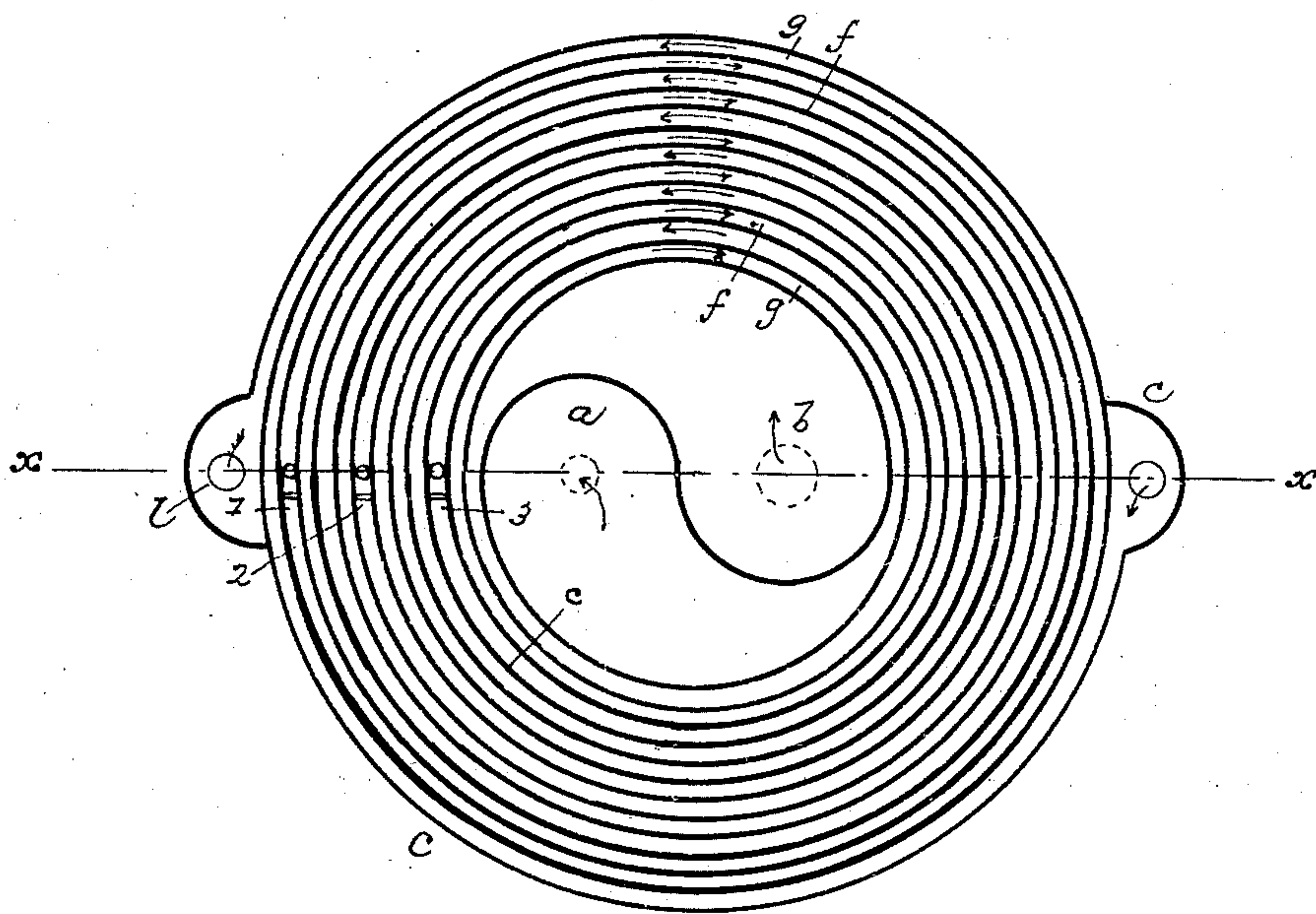


FIG. 1.



WITNESSES:

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INVENTOR.

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UNITED STATES PATENT OFFICE.

JOHN TRAGESER, OF NEW YORK, N. Y.

IMPROVED APPARATUS FOR COOLING AND CONDENSING BEER, ALCOHOL, &c.

Specification forming part of Letters Patent No. 55,746, dated June 19, 1866.

To all whom it may concern:

Be it known that I, JOHN TRAGESER, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Condensers or Coolers for Beer, Alcohol, &c.; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a sectional plan of my condenser, the top portion being removed, and Fig. 2 is a vertical section of the same at the line *x x*.

Similar letters denote the same parts.

Condensers and coolers have heretofore been made in the form of a coiled pipe, and also as a volute tube or chamber. These, however, are difficult to construct, and if any leak takes place the condensing waters may run into the vapor-space and mix with the alcohol.

My invention relates to an improved mode of constructing a double-volute chamber so that there is no possibility of leakage from the water-space into the vapor-space.

I take a sheet or sheets of copper or other metal and commence in the middle of the apparatus to form the chambers *a* and *b*, by the sheet of metal *c* forming the division. I introduce pieces of sheet-metal, *d*, cut out in the proper shape, so that when soldered upon the sides of the sheet *c*, near the edges thereof, and the sheet *c* brought around the edges of *d*, a double chamber shall be formed with nearly a circular exterior. I then make use of a strip of sheet-lead or other material that will bend easily, and of a width corresponding to the distance between the volutes formed by the sheet *c*. I attach the end thereof to the point of the metal piece *d*, and proceed to solder it all along or at intervals, so as to secure the same firmly between the convolutions of the sheet *c* near the edges thereof, and proceed until the condenser or cooler is formed with the double-volute chambers of the desired size. The edges of the sheet *c* will project above the plates *d* and filling-strips *e*. I then cast or melt solder in between said edges, so as to fill up the spaces level, or nearly so, with the said edges, so as to make the parts perfectly tight, and so long as the sheet-metal division *c* is

made from perfect metal there cannot be any leak from the water-spaces *f* into the spaces *g*, and should there be any leak it will show itself upon the outside and can be repaired, and by this mode of construction very thin metal can be used for the sheet *c*.

If it is desired to leave the tops of the chambers open, as in a cooler for beer, it may be done, the bottom only being constructed as aforesaid, or one of the volutes may be closed and the other open.

The water is to be introduced through the pipe *h*, and, after passing through its volute chamber, (colored blue,) be led away by an overflow or pipe, *i*, from the chamber.

The vapor to be condensed is introduced by the pipe *k* into the chamber *b*, and travels through its volute chamber in the opposite direction to the water, and the pipe *l* is provided for conveying away the uncondensed vapors and liquid; or in cases where this apparatus is used for beer the same passes off in a cooled state from said pipe.

Where this apparatus is employed for condensing alcoholic vapors I introduce small dams, as at 1, 2, and 3, and near them pipes 4, 5, and 6, so that the condensed liquids of different strengths shall be kept separate and conveyed to suitable receptacles.

If this apparatus is employed for cooling beer, the central part may be made deeper than the edges, so as to give a descent for causing the beer to flow more freely. To effect this it is only necessary that the volute division *c* be made widest at the middle part of the apparatus.

What I claim, and desire to secure by Letters Patent, is—

The mode herein described of constructing volute condensers or coolers, by the introduction of a strip of metal between the edges of the sheet-metal divisions, and soldered together in the manner specified.

In witness whereof I have hereunto set my signature this 25th day of April, A. D. 1866.

JOHN TRAGESER.

Witnesses:

CHAS. H. SMITH,
GEO. D. WALKER.