

H. G. DAYTON.
Liquid Condenser.

No. 44,712.

Patented Oct. 18, 1864.

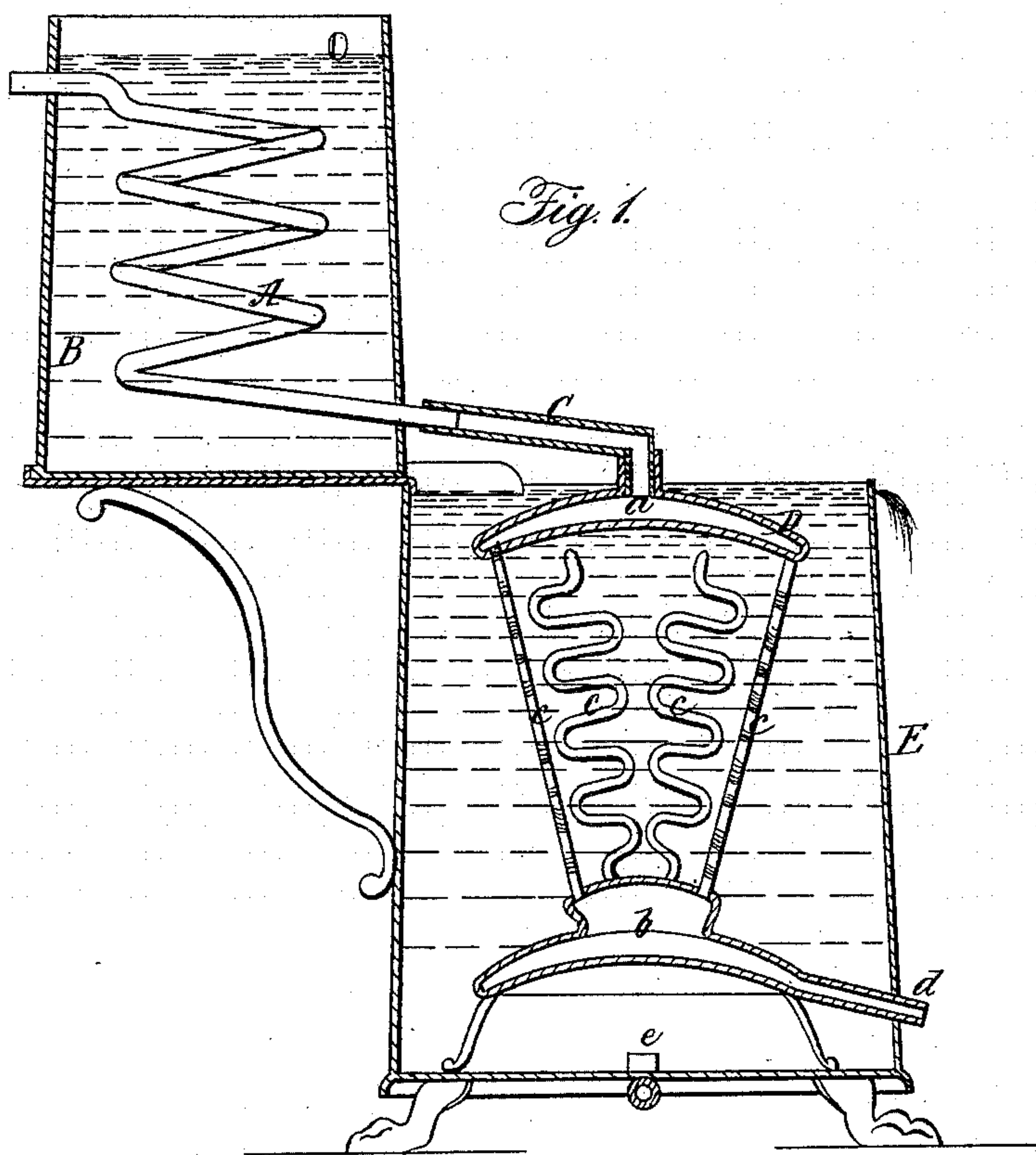
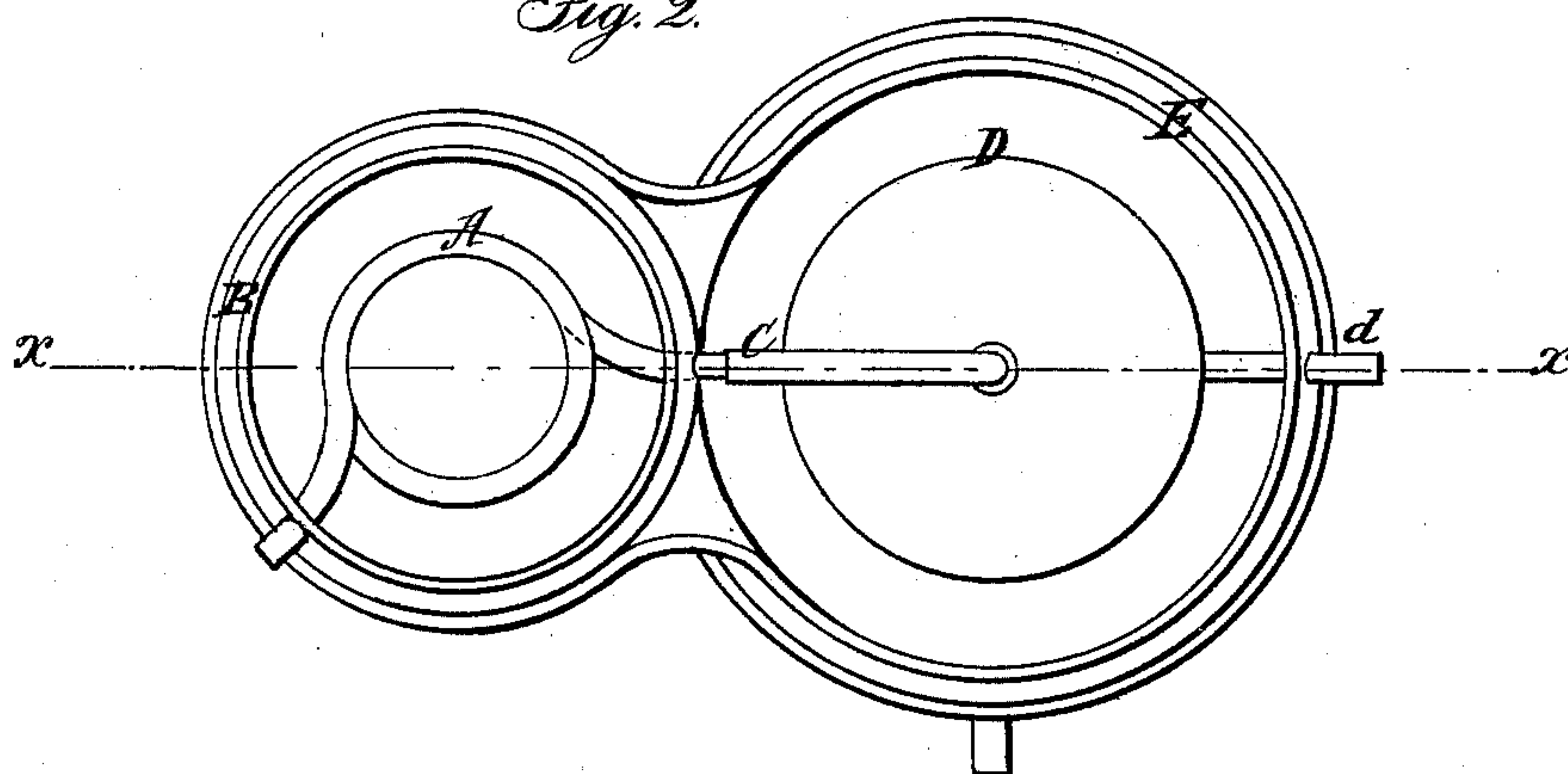


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

H. G. DAYTON, OF MAYSVILLE, KENTUCKY.

IMPROVED APPARATUS FOR COOLING DISTILLATES.

Specification forming part of Letters Patent No. 44,712, dated October 18, 1864.

To all whom it may concern:

Be it known that I, H. G. DAYTON, of Maysville, in the county of Mason and State of Kentucky, have invented a new and Improved Cooler; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical central section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention consists in two crescent-shaped hollow vessels which are connected to each other by a series of serpentine pipes passing from the bottom of the upper vessel to the top of the lower one, in combination with an ordinary condensing-coil and with a tank, through which a continuous flow of water passes in such a manner that the products of distillation, after passing from the still through the condensing-coil, are brought in contact with the cold sides of the upper crescent-shaped vessel, from which the same run down through the serpentine pipes to the lower crescent-shaped vessel, the bottom of which is kept quite cool by coming in direct contact with a continuous stream of water, and by these means said products of distillation are condensed and cooled without loss and without requiring any attention of the operator.

A represents the condensing-coil, which is inclosed in a tank, B, and to which the products of distillation pass from the still in the usual manner. A continuous stream of water passing through the tank B keeps the coil A cool, and causes the products of distillation passing through the same to condense. The lower end of the condensing-coil connects by a bent pipe, C, with the cooler D, which is situated in a tank, E. Said cooler consists of

two crescent-shaped hollow vessels, *a b*, which are connected with each other by four (more or less) serpentine pipes, *c*. The condensed products of distillation, on passing from the pipe C into the cooler, drip down upon the center of the convex bottom of the upper vessel, *a*, and in coming in contact with this bottom the liquid is spread in a thin sheet and runs off toward the lowest part or edge of the bottom, whence it passes down into the serpentine pipes *c*. These pipes terminate in the top of the lower vessel, *b*, and the liquid passing down through them is discharged on the convex bottom of said vessel, and after having spread on said bottom it runs down and discharges through the pipe *d*. The tank E, which contains the cooler, is continually filled with cold water, which is admitted through a pipe, *e*, at the bottom and overflows through a suitable aperture or spout at the top. The current of water thus admitted comes in immediate contact with the bottom of the lower vessel, *b*, and keeps the same perfectly cool, and the bottom of the upper vessel, *a*, may be kept cool by placing a chunk of ice under it and between the serpentine pipes *c*. By this arrangement the products of distillation are first condensed in the coil and afterward cooled, and finally discharged at such a low temperature that the loss by evaporation is reduced to the lowest possible degree.

I claim as new and desire to secure by Letters Patent—

The cooler D, composed of two crescent-shaped hollow vessels, *a b*, connected by serpentine pipes *c*, in combination with the condensing-coil A and tanks B E, constructed and operating substantially as and for the purpose herein shown and described.

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Witnesses:

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