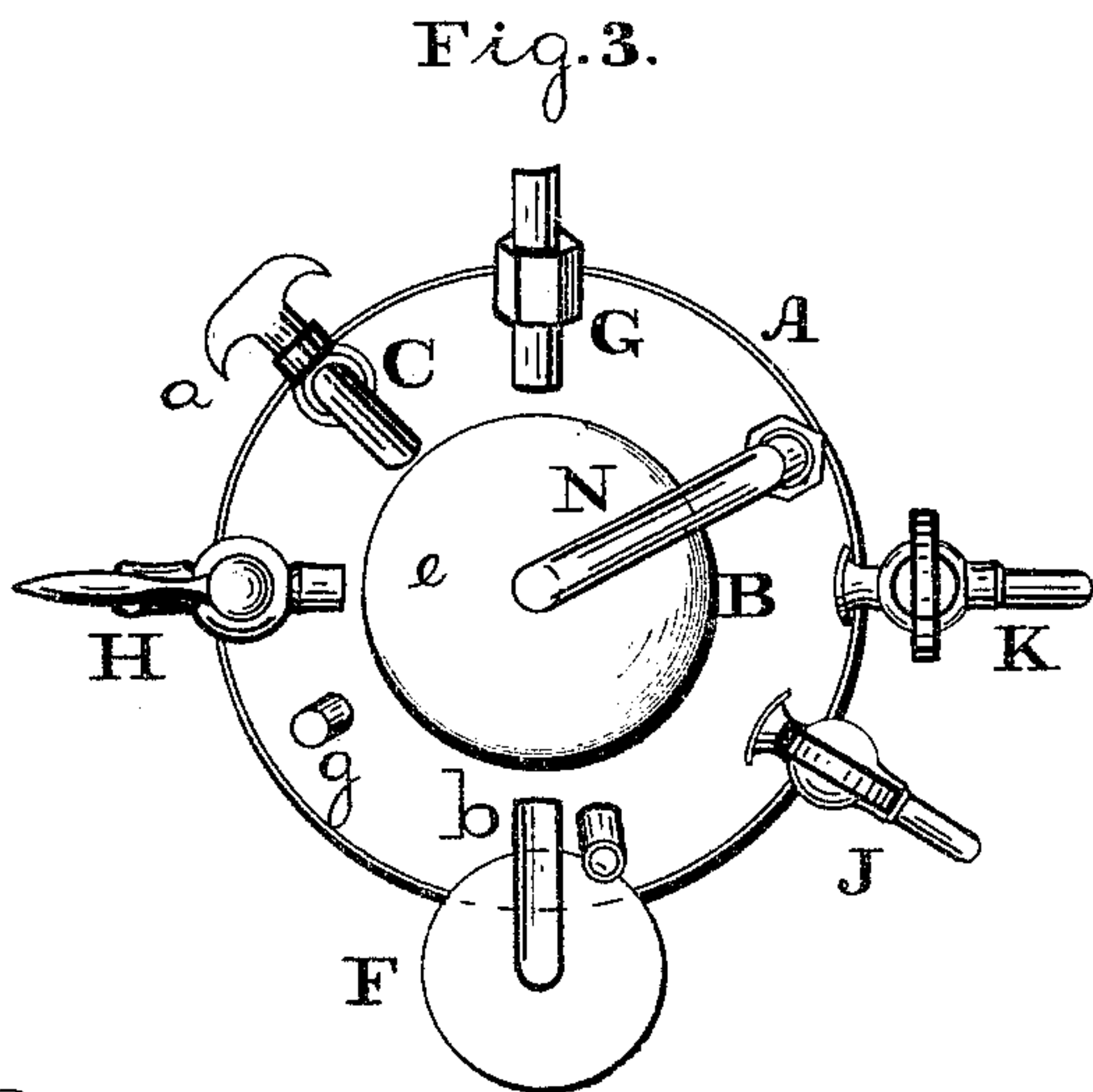
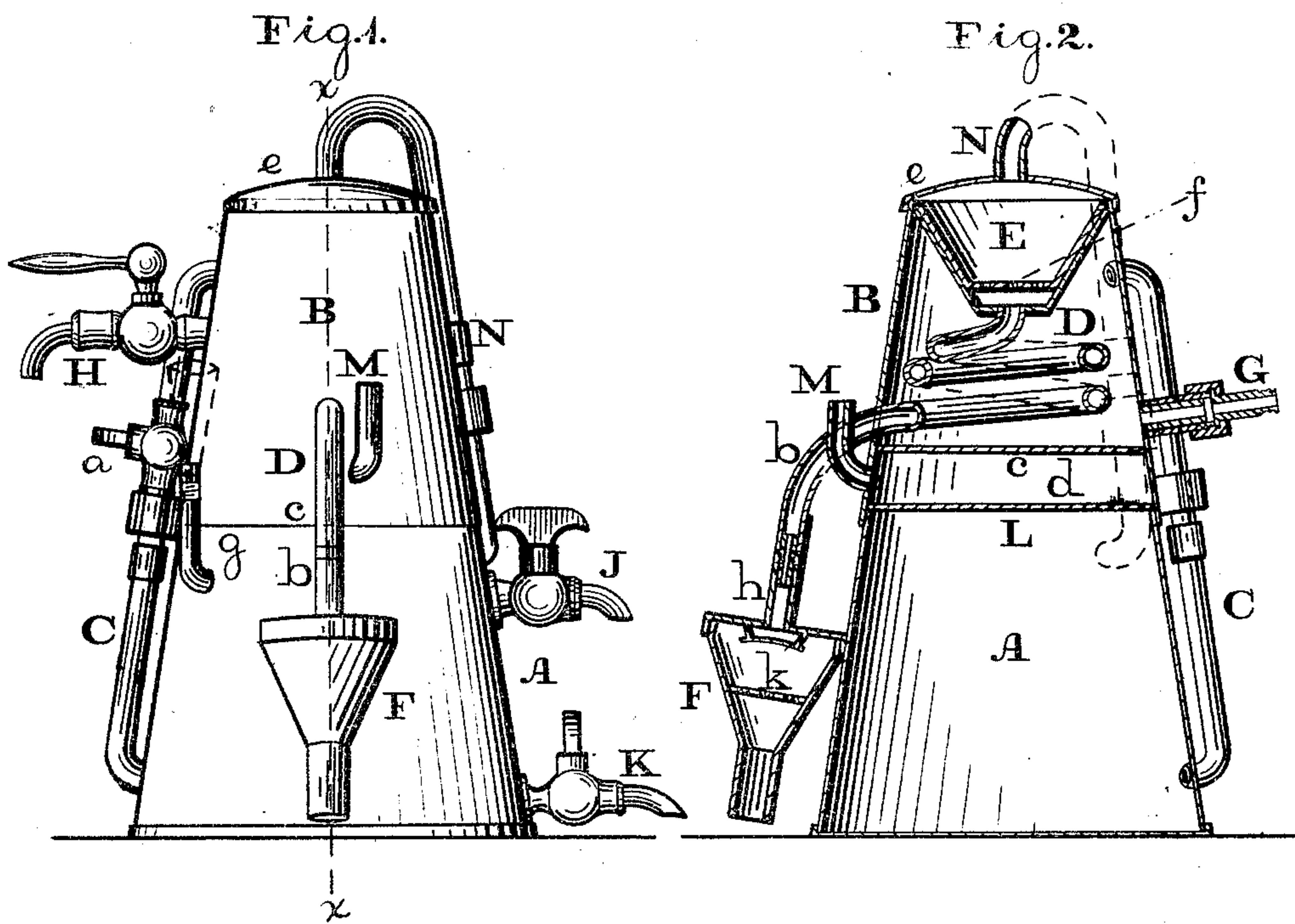


DeW. C. ANTHONY.

APPARATUS FOR DISTILLING FRESH WATER FROM SALT.

No. 176,260.

Patented April 18, 1876.



Witnesses:

L. F. Brown,
H. P. Grant.

Inventor:

DeWitt C. Anthony,
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Att'y.

UNITED STATES PATENT OFFICE

DEWITT C. ANTHONY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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IMPROVEMENT IN APPARATUS FOR DISTILLING FRESH WATER FROM SALT.

Specification forming part of Letters Patent No. 176,260, dated April 18, 1876; application filed
July 30, 1875.

To all whom it may concern:

Be it known that I, DEWITT C. ANTHONY, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Distilling Fresh Water from Salt, &c.; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of the device embodying my invention. Fig. 2 is a transverse section in line *x x*, Fig. 1. Fig. 3 is a top or plan view.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in a condensing apparatus especially designed for producing pure and fresh water, which may be used for various purposes. A boiler supports a condensing-chamber, and from the chamber passes a feed-pipe which communicates with the boiler, and from the boiler passes a steam-pipe which communicates with a coil or worm in the condensing-chamber. A filtering-chamber is arranged between the steam-pipe and coil or worm, to prevent impurities entering the latter. Between the boiler and condenser is a space for preventing the heat of the boiler reaching the condenser. A pot communicates with the worm and has a perforated bottom or strainer for holding articles to be cooked, or otherwise treated, by the hot water or steam from the coil, the whole forming a convenient and portable condensing apparatus, which may be carried together in one, and is especially designed for ship-board, the boiler to be supported on an ordinary stove or other heating apparatus, and the condenser supported on the boiler, the condenser also supporting the filtering-chamber.

Referring to the drawings, A represents the boiler, on which is supported the condensing-chamber B, which communicates with the boiler A by means of a feed-pipe, C, which is provided with a stop-cock, *a*. Within the condensing-chamber B there is arranged a

worm or coil, D, one end of which communicates with a conical or other shaped vessel, E, at the upper end of the chamber B, and its other end passes out of said chamber B, as at *b*. F represents a pot, which is adapted to be fitted on the outer end of the worm D and to communicate therewith. G represents a supply-pipe leading into the condensing-chamber B, and H represents a waste-pipe leading from said chamber B. The boiler A will have a gage-cock, J, and blow-off cock K. L represents a bottom, which is secured to the lower end of the chamber B below the bottom proper *c* thereof, so that a space, *d*, is left between the two bottoms, and communicating with said space is a pipe, M, which opens into the atmosphere. Leading into the boiler A is a steam-pipe, N, which opens into the vessel E, so as to form a communication between the boiler A and worm D, the top of said vessel being closed by a cap, *e*, and the interior of the vessel having a strainer, *f*, for preventing impurities and improper substances passing into the worm, a filtering material being placed within said vessel E on the strainer *f*.

The operation is as follows: The water from a tank or place of supply is passed into the chamber B through the pipe G. If the water is to be converted into steam, heated or distilled, the pipe H will be closed, and the stop-cock *a* of the pipe C opened. The water then enters the boiler A, which is placed over a suitable furnace, stove, or other heating apparatus, and when the water reaches the gage-cock J the stop-cock *a* may be shut off. The steam that is formed in the boiler rises in the pipe N, and is directed to the vessel E, from whence it enters the worm D, and, owing to the cool water surrounding the worm, the steam is condensed, and the water of condensation escapes at the outer end *b* of the worm, and may there be collected, thus providing a supply of pure and fresh water. This operation may be repeated as long as required. In the event of employing salt water the salt that settles may be blown out of the boiler through the cock K. If desired, a pipe, *g*, may communicate with the boiler and support a fog-horn, so as to sound alarm or signal, if

cases of fog. The pot F has a pipe, *h*, which is to be attached to the end *b* of the worm, and a strainer, *k*, on which will be placed coffee, tea, or other article of food or drink, so that the pure water, passing from the worm, will act on the articles and subject them to the boiling or heating effects of the water. The space *d*, between the bottoms *L c*, prevents the heat from the boiler reaching the bottom proper of the condensing-chamber, so that the water surrounding the worm will not be heated from the boiler, but the heat that radiates through the additional bottom *L* into said space *d* will escape through the pipe *M* into the atmosphere.

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

1. The boiler A, condensing-chamber B, and worm D, in combination with the filtering-vessel E between the steam-pipe and condensing-worm, substantially as and for the purpose set forth.

2. The combination, with the boiler A, of the condensing chamber B, provided with the two bottoms *L c*, and the pipe *M*, communicating with the space between the bottoms, substantially as and for the purpose set forth.

3. The boiler A, and condensing-chamber B supported thereon, in combination with the filtering-vessel E supported on the condensing-chamber, and interposed between the steam-pipe N and condensing-worm D, substantially as and for the purpose set forth.

4. The combination, with the condensing-worm D, of the pot F attached thereto, and communicating therewith, and having a perforated bottom or strainer. K, substantially as and for the purpose set forth.

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Witnesses:

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