T. L. JONES.

Steam-Condensers.

No. 148,564. Patented March 17, 1874.

Fig. 1.

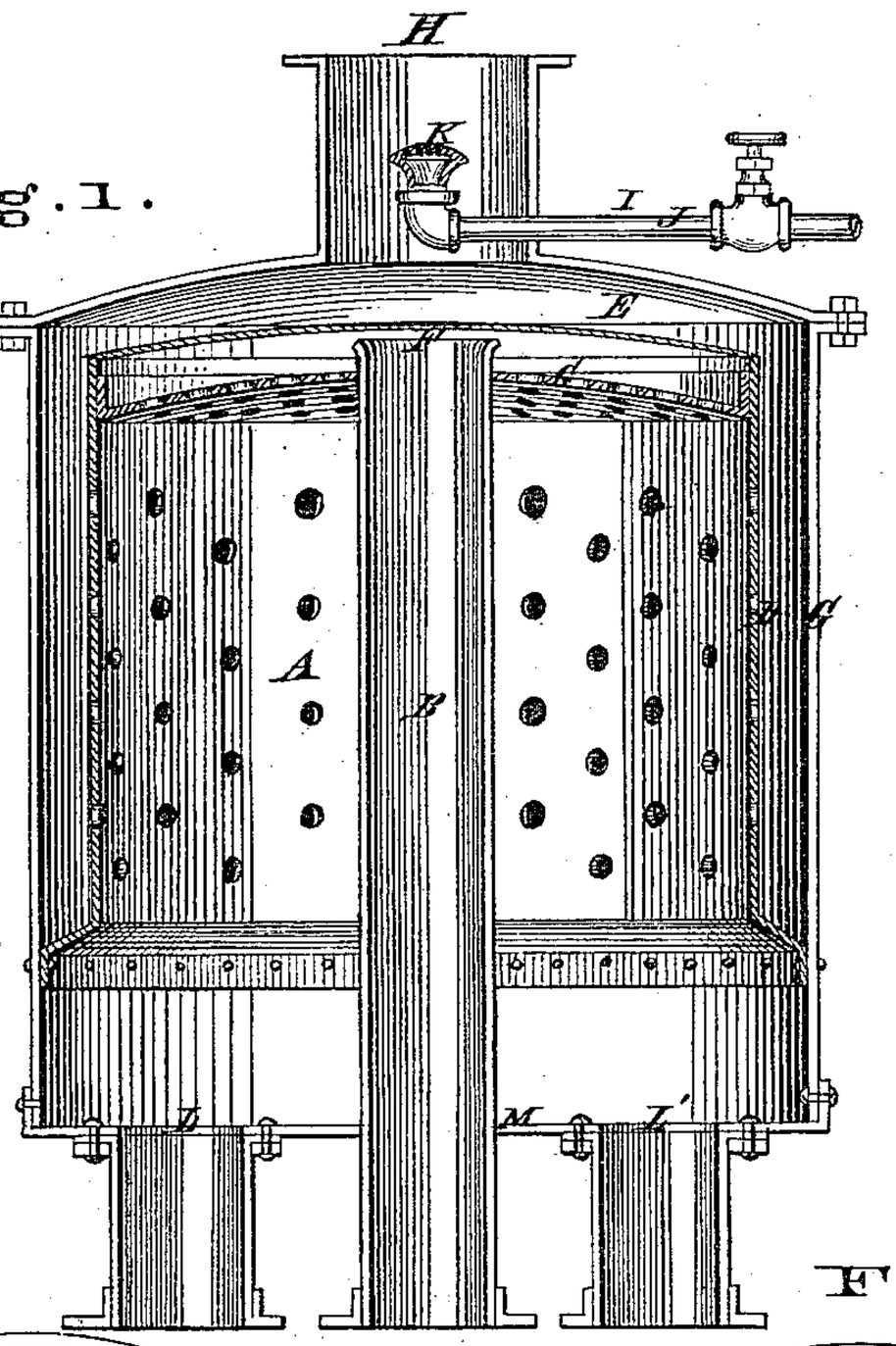


Fig. 2.

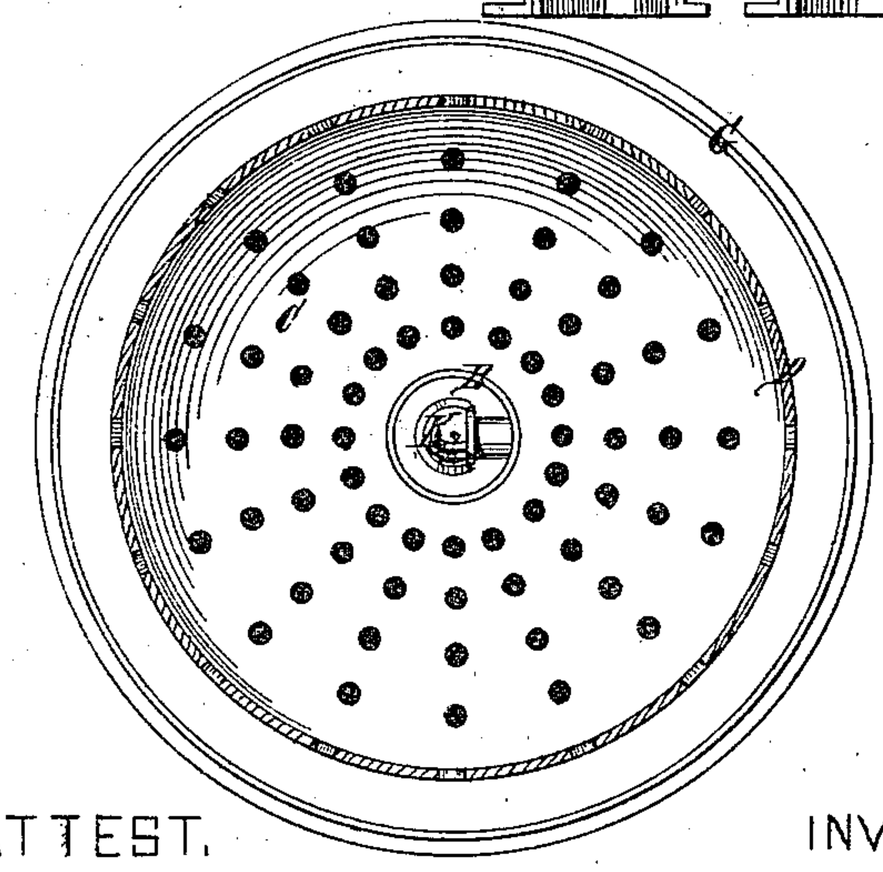
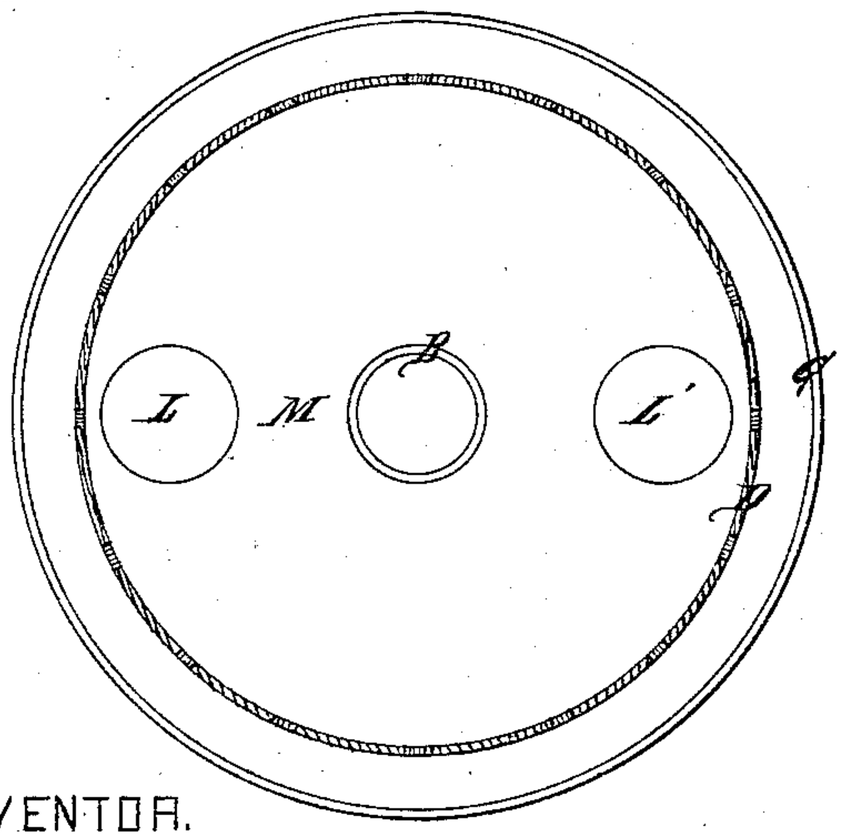


Fig. 3.



ATTEST.

Chas. D. Moody.
Emil. S. Boyd

INVENTOR.

Thos. L. Jones.

UNITED STATES PATENT OFFICE.

THOMAS L. JONES, OF NATCHEZ, MISSISSIPPI, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO ANTHONY PAULY AND THOMAS P. LEATHERS, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN STEAM-CONDENSERS.

Specification forming part of Letters Patent No. **148,561**, dated March 17, 1874; application filed November 13, 1873.

To all whom it may concern:

Be it known that I, THOMAS L. JONES, of Natchez, Mississippi, have invented new and useful Improvements in Steam-Condensers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making a part of this specification, and to the letters of reference thereon marked, in which—

Figure 1 is a central sectional elevation. Fig. 2 is a cross-section looking upward to the perforated crown-sheet. The cover above is removed to show the jet. Fig. 3 is a cross-section looking downward to the bottom of the condenser.

Like letters of like kind indicate like parts.

The object of the present invention is to provide a condenser that is simple in construction and operation, compact, accessible; that is operative at a point several feet above the level of the water-supply used in condensing; and that readily brings the steam in contact with the cooling agent.

In the accompanying drawing, A represents a condensing-chamber. In its general form it is cylindrical, and is arranged vertically. B represents an inlet water-pipe extending from the water-source below upward through the chamber A at the center thereof, and through the top C of the chamber, which is made convex, as shown in figure. The top C, as well as the side wall D of the chamber, is perforated. E represents a tight cover, also, preferably, convex, that fits closely down onto the upper end of the side of the chamber A, but leaving a space, F, above the perforated top C. A casing, G, incloses the chamber A and cover E, extending down the side of the chamber as far as the perforations therein, and, if preferred, to the bottom M of the chamber. A space, however, is left above the cover E, and an annular space around the wall D. From the center of the casing above a neck, H, extends upward, connecting with the pipe leading to the engine. I represents what I term an auxiliary spray, consisting of a tube, J, leading down from a water-tank above, (not shown,) and an upturned jet, K, arranged in the neck H. L L′ represent discharge water-pipes, through which the water in the condenser is drawn down and off into a hot-well by means of suitable pumps.

The operation of the above-described invention is as follows: Steam being turned down through the neck H, it encounters a spray from the jet K. This spray is used only in starting a vacuum. Once started, the vacuum is maintained by the condensation of the steam in the chamber A. Owing to the vacuum the water rises in the inlet-pipe B, and flows over the perforated crown-sheet C. By reason of the convexity of the top C, the water not only spreads freely over it, but tends to collect at its circumference. Falling through the top of the chamber, it descends in a heavy shower therein. At the same time the steam, passing over the cover E and down into the annular space around the side of the chamber and through the perforations therein, is rapidly condensed. Owing to the plentiful supply of cool water, and its descending freely through the condensing-chamber, and the introduction of the steam all around the chamber, it is found practicable (this condenser having been in successful use for a considerable time on the steamer Natchez, on the lower Mississippi) to condense a very large quantity of steam in a very compact apparatus. Moreover, as the condenser supplies itself with water, it can be located above the water-line, and in an accessible position, and in a place where its heat will not be prejudicial to the cargo, as is the case frequently when a condenser is located in the hold of the steamer. Further, as the condenser can be placed on deck, the outer casing, being chilled by the surrounding atmosphere, operates as an additional cooling surface.

Having described my invention, what I claim as new therein is—

The hereinbefore-described condenser, consisting of the chamber A, provided with the inlet-pipe B, crown-sheet C, side wall D, and cover E, and discharge-pipes L L′, the casing G, provided with the neck H, and the auxiliary spray I, all arranged and operating substantially as described and shown.

Witnesses: THOS. L. JONES.

SAML. S. BOYD,

CHAS. D. MOODY.