(No Model.)

A. HOBERECHT.

CONDENSER.

No. 596,876. Patented Jan. 4, 1898.

Fig. 2.

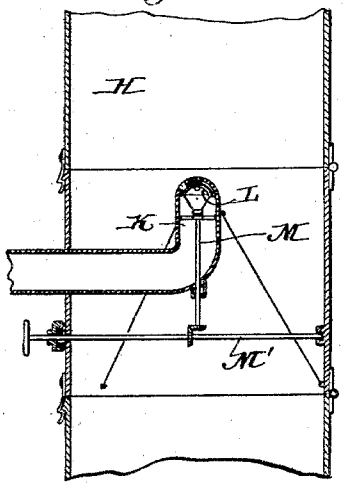


Fig. 1.

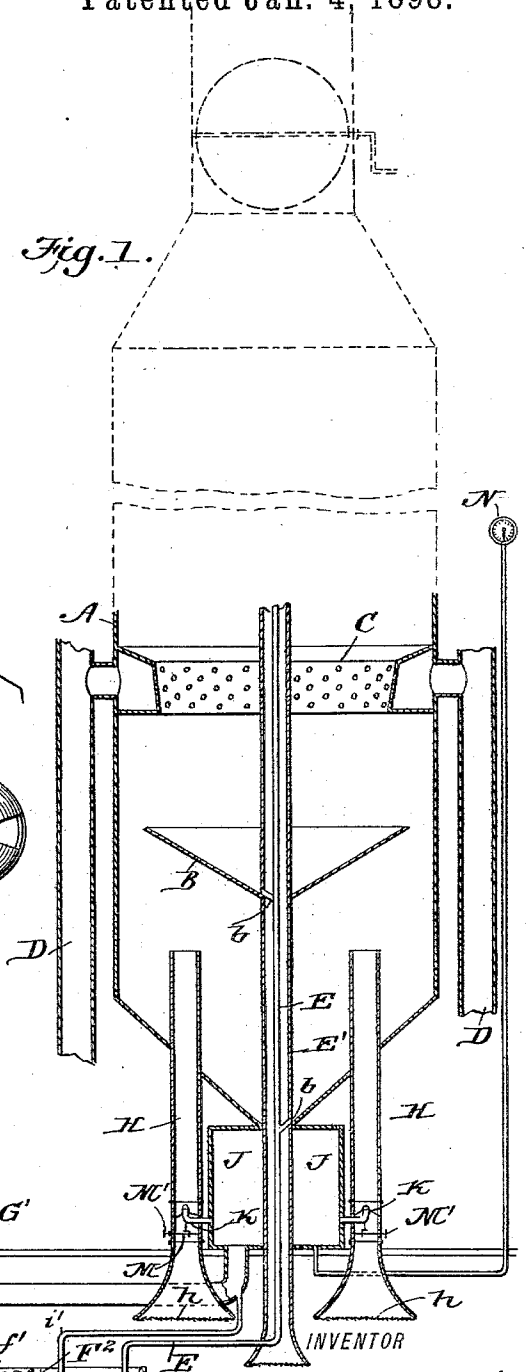
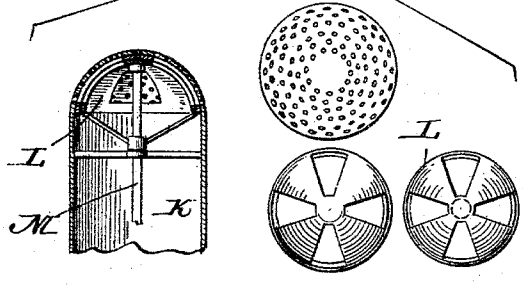


Fig. 3.



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ALBERT HOBERECHT, OF ENSANADA, MEXICO.

CONDENSER.

SPECIFICATION forming part of Letters Patent No. 596,876, dated January 4, 1898.

Application filed April 10, 1897. Serial No. 631,588. (No model.)

To all whom it may concern:

Be it known that I, ALBERT HOBERECHT, residing at Ensanada, Lower California, Mexico, have invented a new and useful Improvement in Condensers, of which the following is a specification.

My invention is an improvement in condensers for condensing the vapors from steam or other vapor generators; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is an elevation, part in section, of an apparatus embodying my invention. Fig. 2 is an enlarged detail view of the steam-inlet and surrounding air-pipe, and Fig. 3 shows the steam-nozzle in detail.

In Fig. 1 I have illustrated the apparatus as applied for use in connection with a stationary engine, but manifestly it may be adapted and applied to any other source of vapor-supply. The condensing-chamber A may have baffle-plates B and air-circles C, and where desired may have side draft-flues D. The baffle-plates B are arranged to discharge at *b* into an outlet-pipe E, which is arranged within a cold-air pipe E′ and leads down and out of the condensing-chamber into the tank or hot-well F. The well F is shown as formed with an inlet-compartment *f*, an intermediate filtering-compartment *f′*, and an outlet-compartment f^2. The filtering-compartment is supplied with the filtering material held in a removable wire basket F′, held in place when in the well by lugs F^2 or other suitable guides. A feed-pipe *g* leads from the outlet-compartment f^2 to the boiler feed-pump G, having exhaust-pipe G′, a suitable pipe *g′* leading from said pump G to supply the condensed water to the boiler (not shown) and a steam-pipe g^2 leading from the boiler to the boiler feed-pump. In the pipe g^2 I arrange a controlling-valve G^2, to which is connected a float G^3, operating in the outlet-compartment f^2 of the well or tank, so the feed-pump will have absolute control of the feed-water as the same is condensed. The pipe g^2 also has a suitable throttle-valve which may be used in stopping and starting the pump.

One or more air-inlet tubes H open into the lower end of the chamber A. These inlet-tubes H open at their ends *h* in the air and are covered at such ends by suitable protecting netting or gauze, the tubes extending thence into and opening within the chamber A.

The exhaust-steam is conducted from the engine I by pipe I′ into a drum J, the pipe I′ having a branch or pipe *i′* leading to the compartment *f* of the tank or well, so any water condensed in the pipe I′ may be conducted to the tank or well.

The drum J preferably encircles the cold-air pipe E, and steam or vapor discharge pipes K lead from the drum J into the inlet-tubes H, extend upwardly therein, and may be steadied by suitable braces. The pipes K constitute what may be termed "steam or vapor siphons," and have at their discharge ends nozzles provided with damper-valves L, by which they may be controlled. These dampers may be turned into open or closed position or to any intermediate position and are carried by shafts M, suitably journaled and arranged to be turned by hand-shaft M′, such shaft M′ being under the control of the operator.

A pressure-gage N is connected by a suitable pipe with the vapor or steam drum J and indicates the pressure at all times.

The differential or graduated siphon-nozzles enable the operator to readily control and regulate the passage of vapor to the condenser proper according to the pressure indicated by the gage or according to the discharged products of condensation, or otherwise, as may be desired.

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

1. The combination of the condenser proper, a cold-air pipe the vapor-drum encircling said cold-air pipe, the vapor-supply pipe leading to said drum, the air-inlet pipe leading to the condenser proper and the vapor-pipe leading from the drum into the air-inlet pipe substantially as described.

2. An improvement in condensers comprising the air-inlet pipe, the vapor-nozzle therein, the damper-valve for said nozzle, the shaft

supporting said valve and the shaft geared with and adapted to turn said supporting-shaft substantially as described.

3. The combination of the condenser proper having a cold-air pipe, the vapor-drum encircling said cold-air pipe, the vapor-pipe discharging from the drum into the condenser and the vapor-supply pipe leading to the drum substantially as described.

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Witnesses:
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