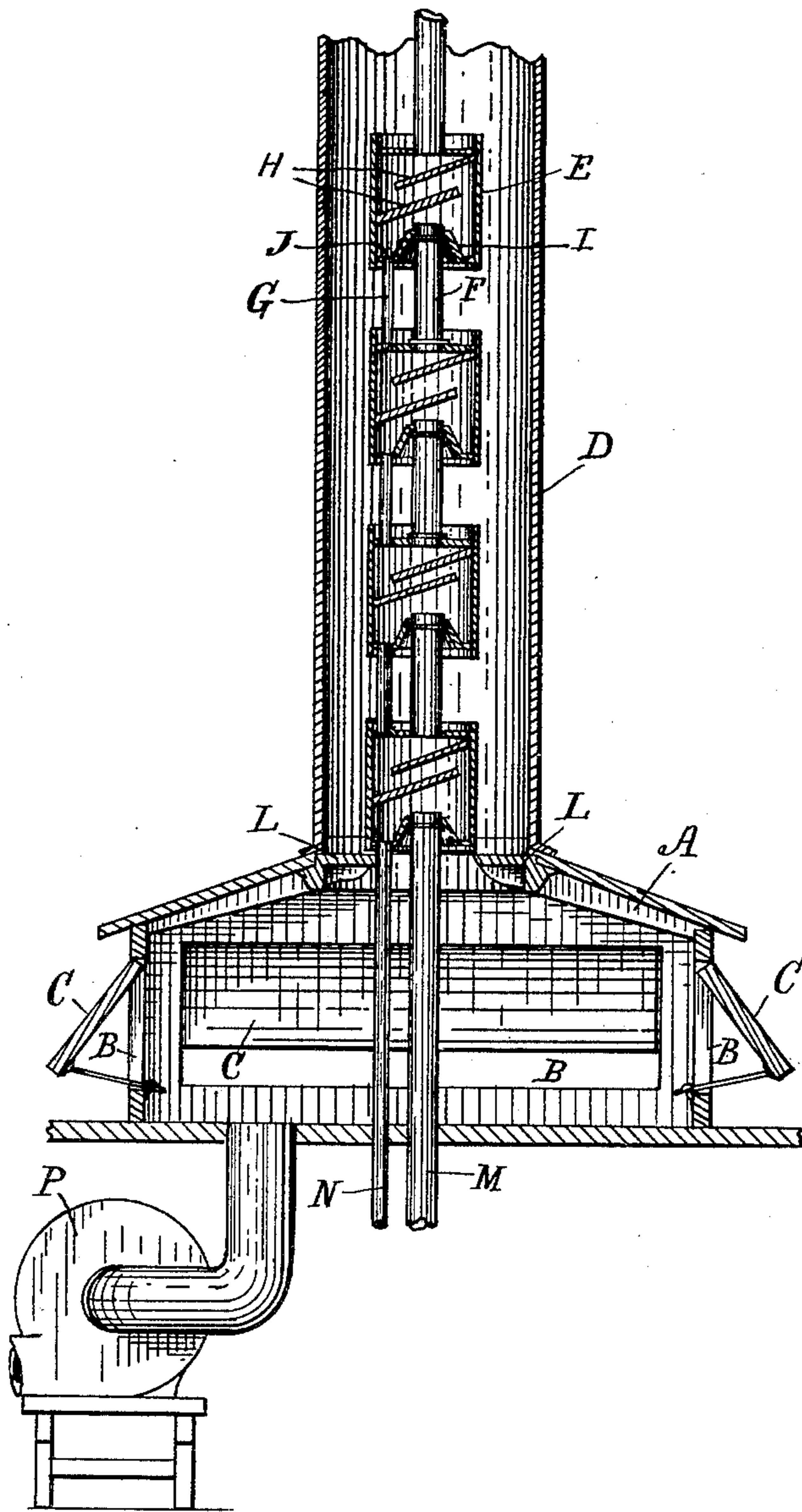


(No Model.)

F. L. McGAHAN.
STEAM CONDENSER.

No. 462,274.

Patented Nov. 3, 1891.



WITNESSES:
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FRED. L. MCGAHAN, OF INDIANAPOLIS, INDIANA.

STEAM-CONDENSER.

SPECIFICATION forming part of Letters Patent No. 462,274, dated November 3, 1891.

Application filed July 20, 1891. Serial No. 400,068. (No model.)

To all whom it may concern:

Be it known that I, FRED. L. MCGAHAN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Steam-Condensers, of which the following is a specification.

My invention relates to an improved apparatus for condensing exhaust-steam when discharged at a low pressure, the same being shown and described in my pending application, Serial No. 378,280, for United States patent for improved apparatus for condensing exhaust-steam.

The object of my improvement is to provide means for applying a current of air to the condensation of steam, and means for collecting the condense-water.

The accompanying drawing illustrates my invention.

The figure represents a vertical section of my device.

A represents an inclosed chamber, erected preferably on the roof of the building and having in its sides openings B, which may be closed at the pleasure of the operator by doors C. Extending upward from the top of chamber A is a flue D, formed, preferably, of sheet iron and extending upward a sufficient height to insure a good circulation of air through it from chamber A. Arranged centrally within the flue D are a series of closed chambers E, formed, preferably, of sheet metal arranged in series, one above the other, and connected by short sections of steam-pipe F and drip-pipes G. Each of the chambers E is provided in the interior with baffle-plates H. The central portion of the bottom of each chamber E is raised, as at I, and the connecting steam-pipes F enter said portion, while the drip-

pipes G enter the surrounding annular space J, the arrangement being such that the condense-water formed in each chamber is prevented from passing out through the steam-pipe F, but is drained through the pipe G into the next chamber below. The first of the chambers E rests upon suitable brackets L at the bottom of the flue, and is connected with the steam-pipe M and the drain-pipe N.

In operation, the steam passing upward through pipe M circulates, successively, through the chambers E, heats the air in flue D, and causes a strong upward draft therein, which may be controlled, as desired, by opening or closing the doors C in chamber A. The current of cool air coming in contact with the exterior of the chambers E, the steam therein is quickly condensed and the condense-water is drawn off through the drain-pipes G and N. In case a stronger draft is desired, the shutters C are closed and chamber A is connected with a blast-fan P.

By the use of this device the use of expensive apparatus for producing a circulation of water for cooling the condensing-chambers is avoided.

I claim as my invention—

In a steam-condenser, the combination of the chamber having adjustable openings in its sides, the flue leading from the top of said chamber, and condensing-chambers arranged in series, one above another within said flue, and connected by a steam-pipe and a drain-pipe, all arranged to co-operate substantially as and for the purpose set forth.

FRED. L. MCGAHAN.

Witnesses:

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