

(No Model.)

2 Sheets—Sheet 1.

E. MEDDEN.
HEATER.

No. 365,618.

Patented June 28, 1887.

FIG - I -

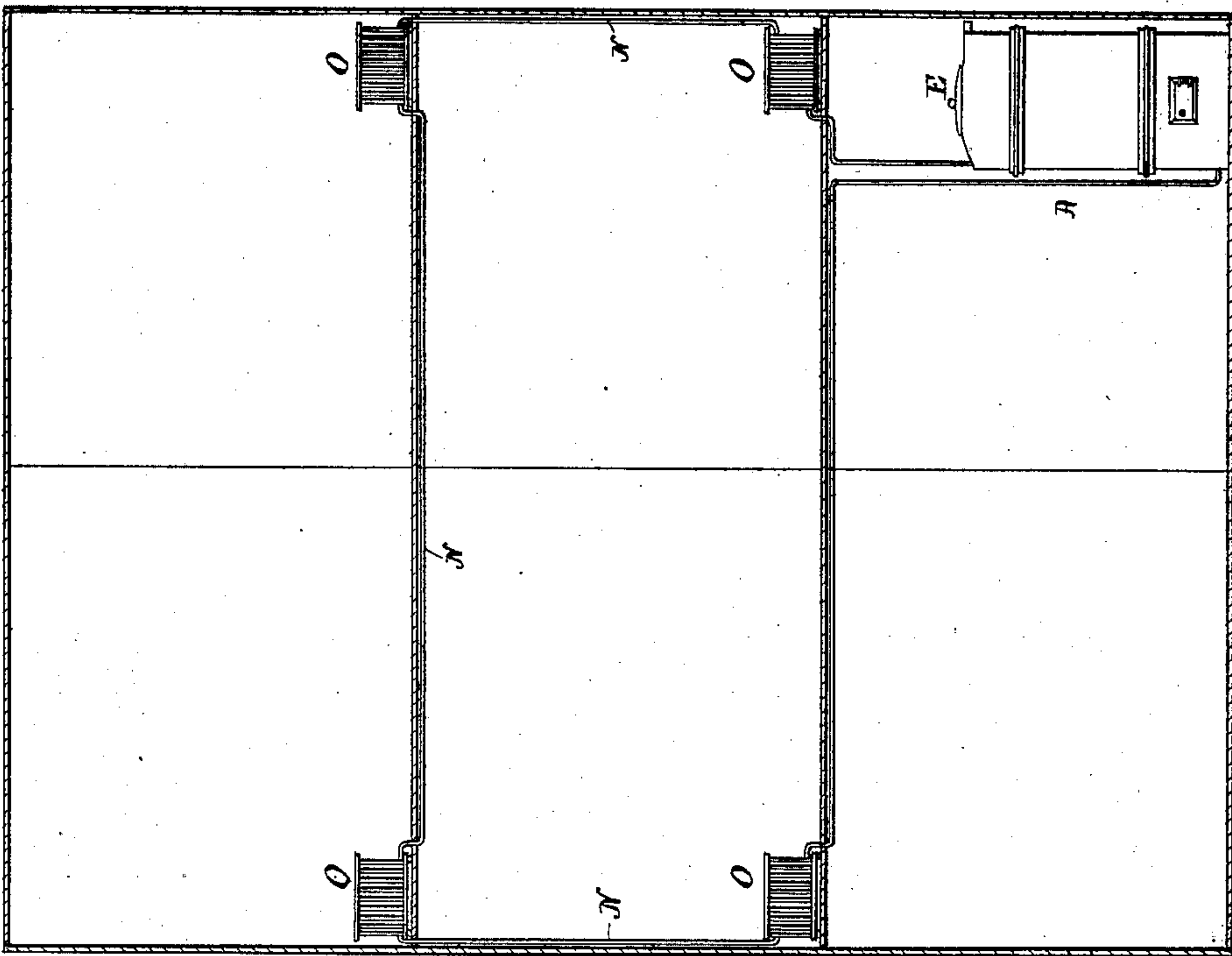
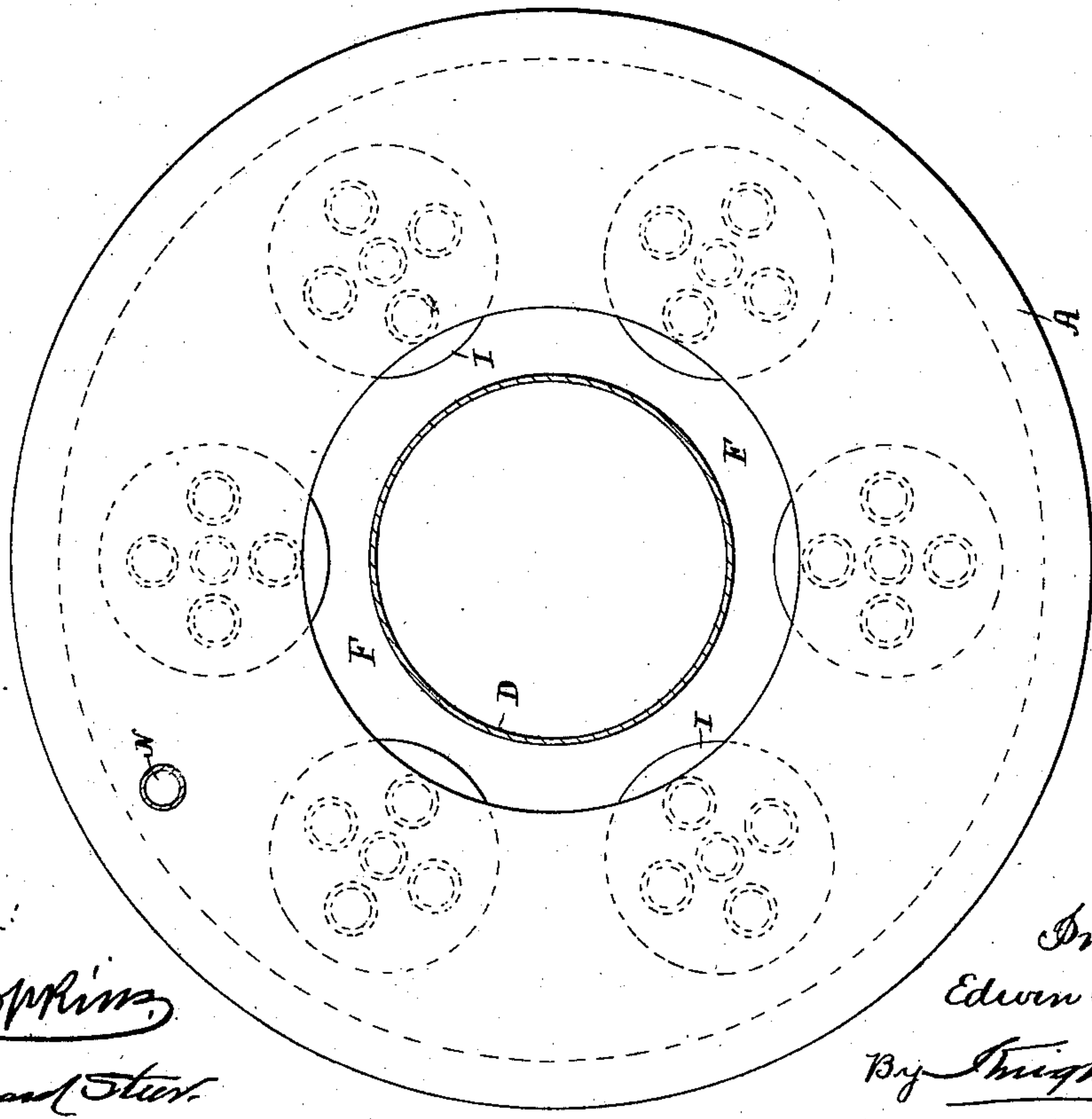


FIG - III -



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F. A. Hopkins
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Inventor:
Edwin Medden
By *Thight*
attys.

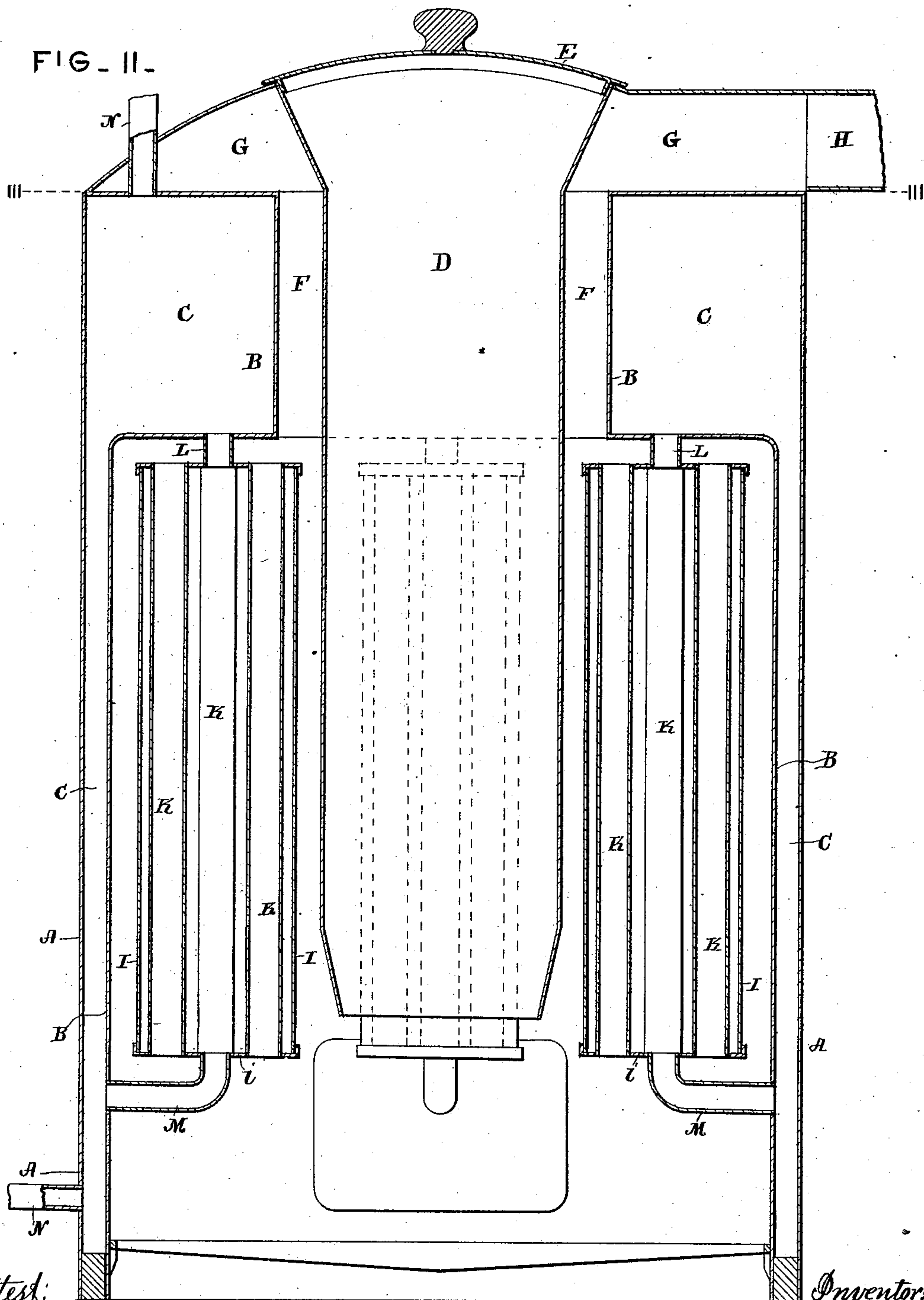
(No Model.)

2 Sheets—Sheet 2.

E. MEDDEN.
HEATER.

No. 365,618.

Patented June 28, 1887.



Attest:

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Edmund Ester,

Inventor:

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UNITED STATES PATENT OFFICE.

EDWIN MEDDEN, OF SENECA FALLS, NEW YORK, ASSIGNOR TO THE SILSBY MANUFACTURING COMPANY, OF SAME PLACE.

HEATER.

SPECIFICATION forming part of Letters Patent No. 365,618, dated June 28, 1887.

Application filed March 12, 1887. Serial No. 230,665. (No model.)

To all whom it may concern:

Be it known that I, EDWIN MEDDEN, a citizen of the United States, residing at Seneca Falls, in the county of Seneca and State of New York, have invented certain new and useful Improvements in Heaters, of which the following is a specification.

The invention relates to that class of heaters which are designed to cause a circulation of steam or hot water through a system of pipes and radiators for heating the rooms of a building; and it consists in certain features of novelty, which are hereinafter particularly pointed out in the claim, being first fully described with reference to the accompanying drawings, in which—

Figure I is an elevation showing the heater, the radiators, and the circulating-pipe connecting them, so as to form a complete circuit, the radiators being situated in the several apartments of a building. Fig. II is a view on a larger scale, illustrating the heater, some of the parts being shown in vertical section and others in elevation. Fig. III is a horizontal section on the line III III, Fig. II.

A represents the outer, and B the inner, wall of the casing, the walls being placed at such distance apart as to leave the necessary annular space C, for the circulation of the water. This space extends far down around the combustion-chamber and fire-box, and at top is enlarged by forming an offset in the inner wall, B, so that it extends inward, overhanging the combustion chamber.

D is the fuel-magazine, which projects downward within the casing of the heater, terminating at the fire-box, its upper end being covered by a cap or cover, E, of any suitable construction. The magazine is of such size as to leave an annular space, F, between it and the inner wall, B, of the casing for the passage of the smoke and spent products of combustion from the combustion-chamber to the smoke-dome G, whence it escapes by a flue, H.

I represents any desired number of large pipes or drums, constituting water-legs, situated within the combustion-chamber, each of which is closed at each end by a plate or head, i, having perforations for the reception of the extremities of open-end tubes K, the tubes being secured within the perforations by expand-

ing—a method well understood in the art. The tubes K are open at both ends, and are designed for the passage of heat for heating the water contained within the drums I, each of which is connected with the water-space C at top and bottom by short pipes L and M, respectively. It will be observed that as the temperature of the water within the drum I is elevated it rises and escapes into the upper part of the water-space C through the pipes L, its place being filled by the induction of water from the bottom of the water-space through the pipes M. A constant circulation is thus kept up within the heater, enabling a large body of water to be maintained at a very high temperature.

N is a pipe (herein called the “circulating-pipe”) which communicates at its extremities with the water-space C at top and bottom, respectively, it being in communication at intermediate points with any desired number of radiators, O, located in any desired parts of the building. It will be seen that if water be employed as the circulating medium the hot water in the space C will rise through that branch of the circulating-pipe N which communicates with the top of the heater, its place being filled by the induction of water from that end of the pipe which communicates with the heater at the bottom. If steam be employed as the circulating medium, it will rise through that branch of the pipe N which communicates with the water-space C at top, the major part of the water of condensation being returned through that branch which communicates with the water-space at the bottom. A constant circulation may thus be kept up through the circulating-pipe N, radiators O, and water-space C, subject to control by valves or cocks arranged in any desired manner.

If desired, the number of circulating-pipes may be increased and the number of radiators placed in each circuit reduced.

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

The combination, with the radiators O and the pipe N, with which they communicate, of the heater having the annular water-chamber C, with which the extremities of said pipe communicate at top and bottom, respectively,

said chamber being so constructed that its top part will project inward over the combustion-chamber, while its lower part extends downward around the same, the water-drums I, situated within the combustion-chamber and at
5 sufficient distance from the inner wall of the water-chamber to allow free circulation of hot air around them, the open-end tubes K, extending through said drums and communicating
10 at both ends with the combustion-chamber, the short pipes L, forming communication between the upper ends of said drums and the inwardly-projecting portion of the water-chamber, the
15 pipes M, forming communication between the lower ends of said drums and the lower por-

tion of the water-chamber, the coal-magazine opening at the top of the heater and projecting downward within the combustion-chamber to about the lower ends of the drums, said magazine being of such diameter as to leave an
20 annular space, F, between it and the inner wall, B, of the water-chamber for the passage of the products of combustion, the smoke-dome G above the chamber C, and the flue H, communicating with said smoke-dome, substan-
25 tially as and for the purpose set forth.

EDWIN MEDDEN.

Witnesses:

WILLIAM H. COOK,

BENJAMIN R. HALL.