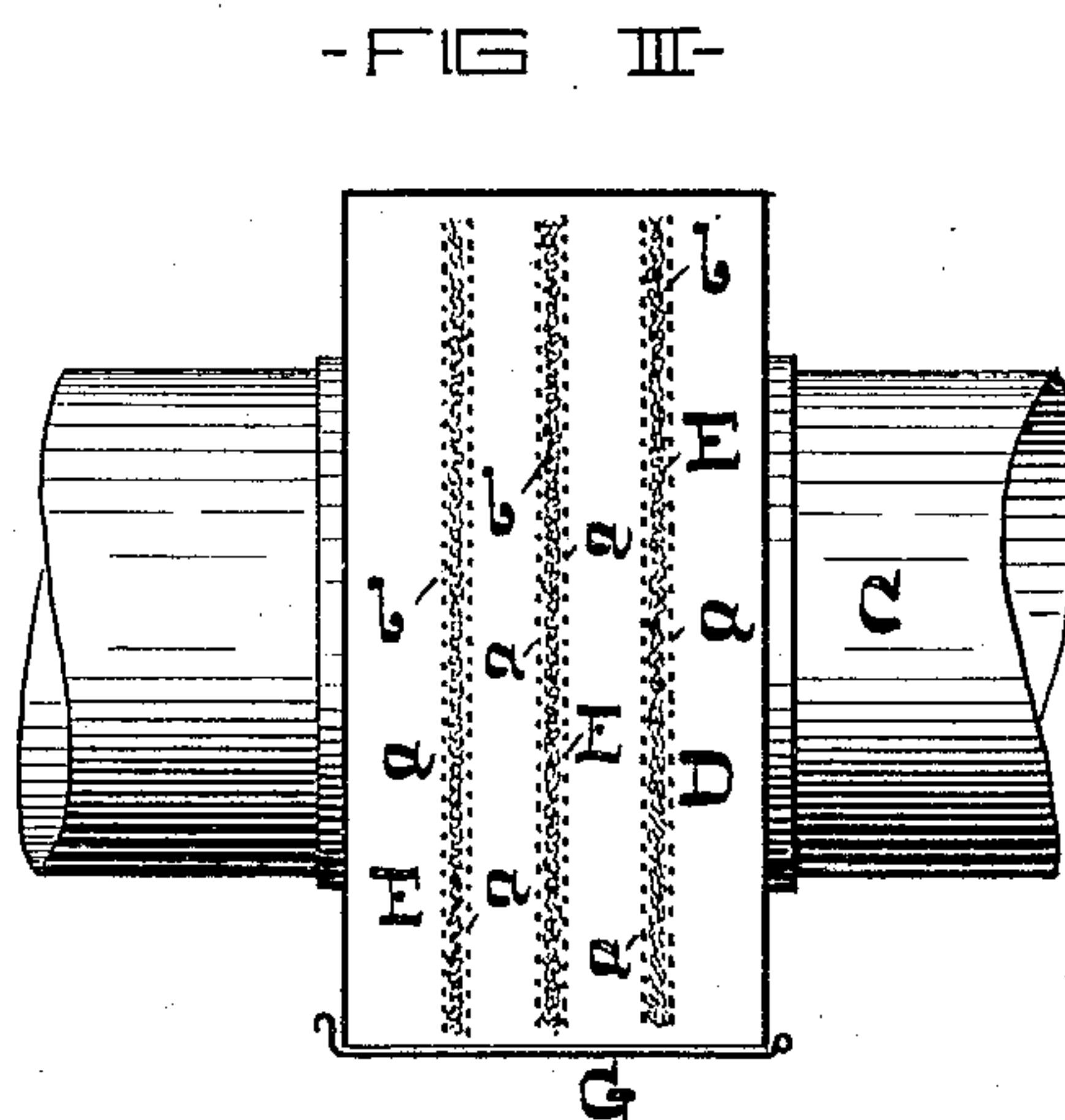
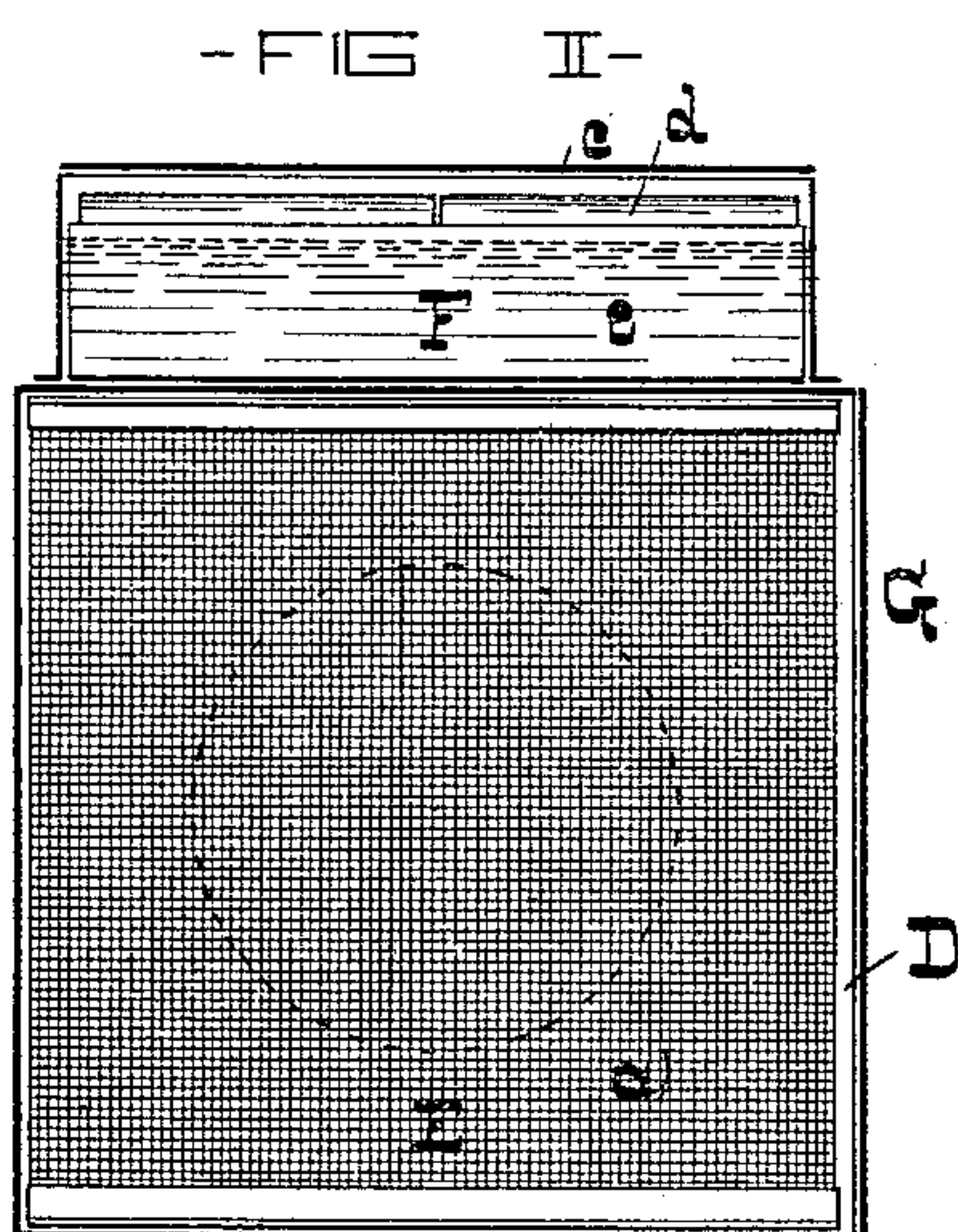
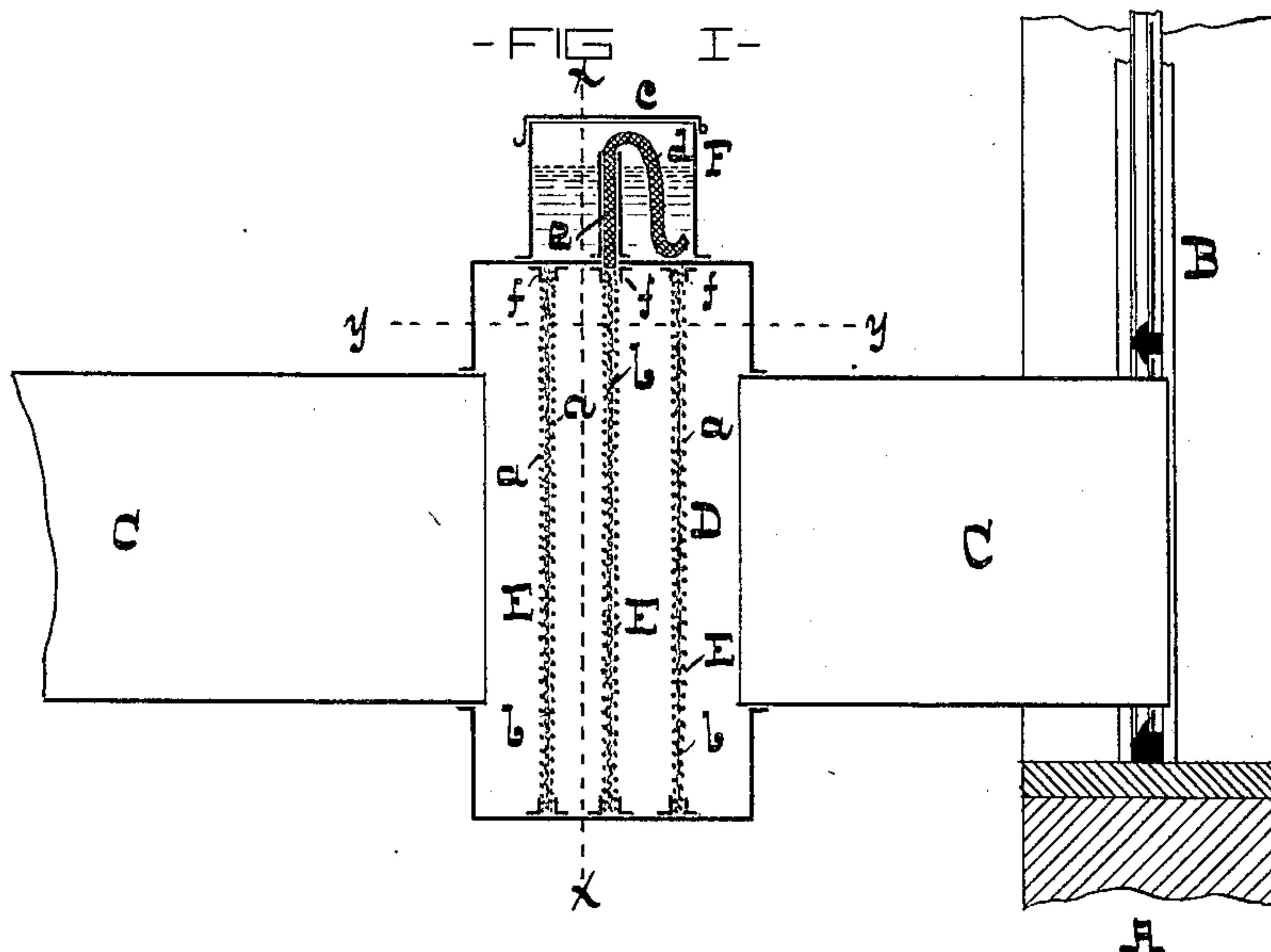


(No Model.)

J. C. CHRISTOPHER.
APPARATUS FOR FILTERING AIR.

No. 366,568.

Patented July 12, 1887.



- WITNESSES -

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UNITED STATES PATENT OFFICE.

JAMES C. CHRISTOPHER, OF BALTIMORE, MARYLAND.

APPARATUS FOR FILTERING AIR.

SPECIFICATION forming part of Letters Patent No. 366,568, dated July 12, 1887.

Application filed September 18, 1886. Serial No. 213,858. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. CHRISTOPHER, of the city of Baltimore and State of Maryland, have invented certain Improvements in
5 Apparatus for Filtering and Disinfecting Air Passing to Hot-Air Furnaces, of which the following is a specification.

This invention relates to the combination, with the air-induction pipe of a hot-air furnace, of an improved apparatus to intercept
10 the dust and destroy the germs of disease contained in the said air, as will hereinafter fully appear.

In the drawings forming a part hereof, Figure I is a vertical section of the apparatus, together with a portion of the front wall of a building and the window-frame through which
15 the air is taken. Fig. II is a section taken through the dotted line *xx*, Fig. I. Fig. III is a section taken through the dotted line *yy*, Fig. I.

Similar letters of reference indicate similar parts in all the views.

In the said drawings, A is the front wall of the building, and B the window, through which
25 the outer end of the air-induction C pipe projects.

The furnace is not shown, as it embodies no part of the present invention.

30 Within a box, D, in the pipe C are situated a series of filtering-partitions, E, which in the present case are three in number, and these partitions are formed of pieces of wire-gauze or wire-work, *a*, of suitable mesh, and a confined body of wool or other substance, *b*, which
35 will allow the passage through it of air moving in the direction of the furnace, while it effectually intercepts all dust contained in the said air. One or more of the said partitions
40 are saturated with some disinfecting solution, such as carbolic acid. In the present case I saturate only one of the partitions, and this is the central one of the series, the others serving merely to intercept dust passing to
45 the furnace. To effect this saturation of the

wool in the partition, I secure above the box D a receptacle, F, of any suitable size and shape, which is provided with a lid, *c*, preferably hinged to the said box. This box is supplied with disinfecting-liquid to a proper
50 height, and the contained liquid is conducted to the wool in the central partition by means of a wick, *d*, which passes through a suitable tube, *e*, in the top of the box D. The partitions E are removable, and to this end they are
55 placed between strips *f*, soldered or otherwise secured to the interior of the box D. A door, G, on one side of the box D may be opened to give access to the partitions for their removal and replacement, and a similar door on
60 the top of the liquid-receptacle F gives access to the disinfectant.

I do not limit myself to any peculiar construction of the box D and the disinfecting-liquid receptacle F, or to the arrangement of
65 the partitions, as various alterations could be made without changing the character of the invention. Further, I do not confine myself to the employment of wool as the material
70 which is inclosed between the wire-work parts of the partitions or to the use of wire-work, as perforate tin-plate could be used, but not with satisfactory results.

I am aware that it is not new to filter air passing to a receptacle for food by means of
75 sheets of fibrous material saturated with water, and this I do not claim; but

What I do claim is—

In combination with the air-induction pipe, a box situated in the said pipe, a series of
80 partitions in the said box formed of wire-work and a body of wool, a receptacle for disinfecting-liquid, and a wick to form the means of communication between the said receptacle for liquid and one or more of the said parti-
85 tions, substantially as specified.

JAMES C. CHRISTOPHER.

Witnesses:

J. H. SIRIET,
DANL. FISHER.