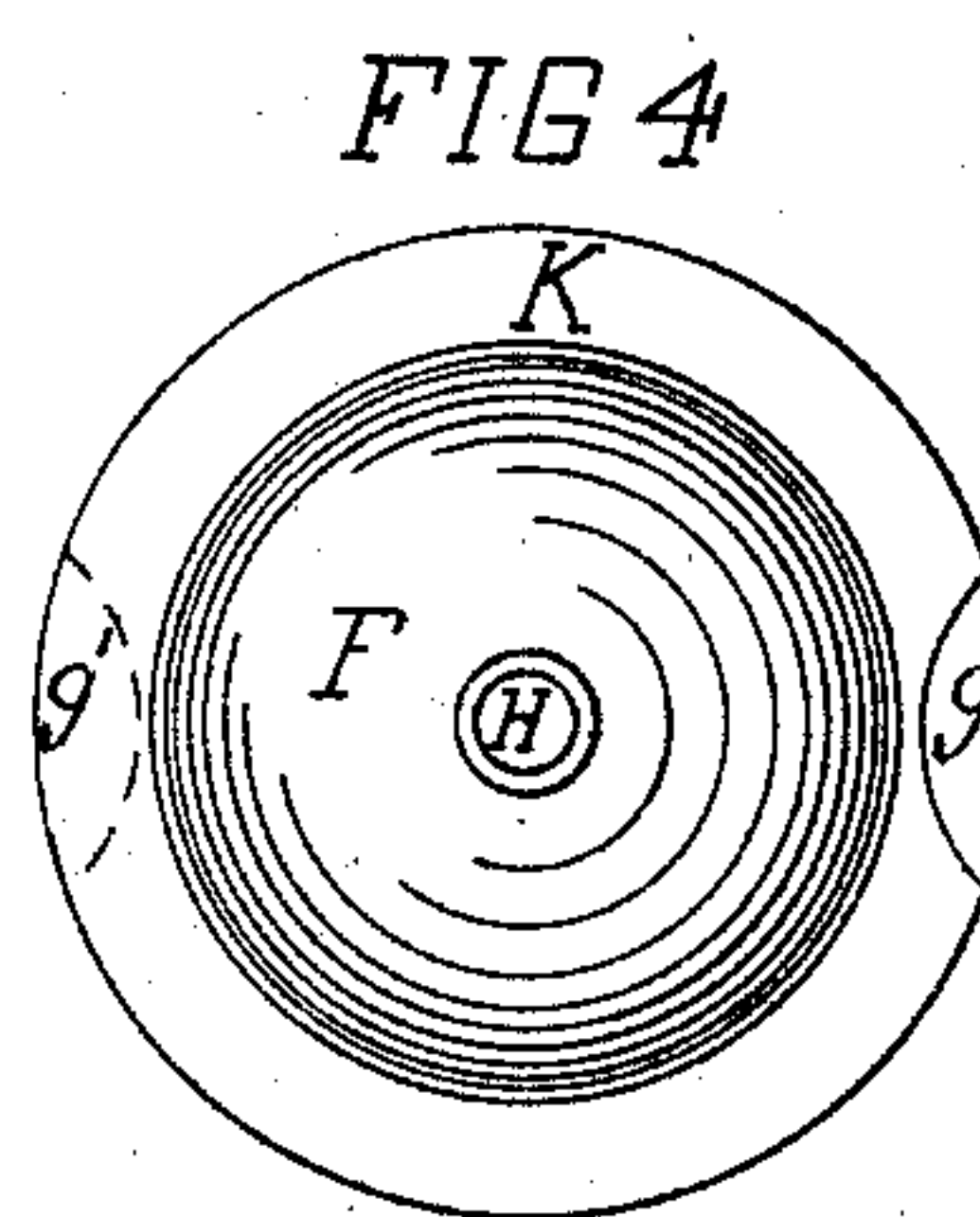
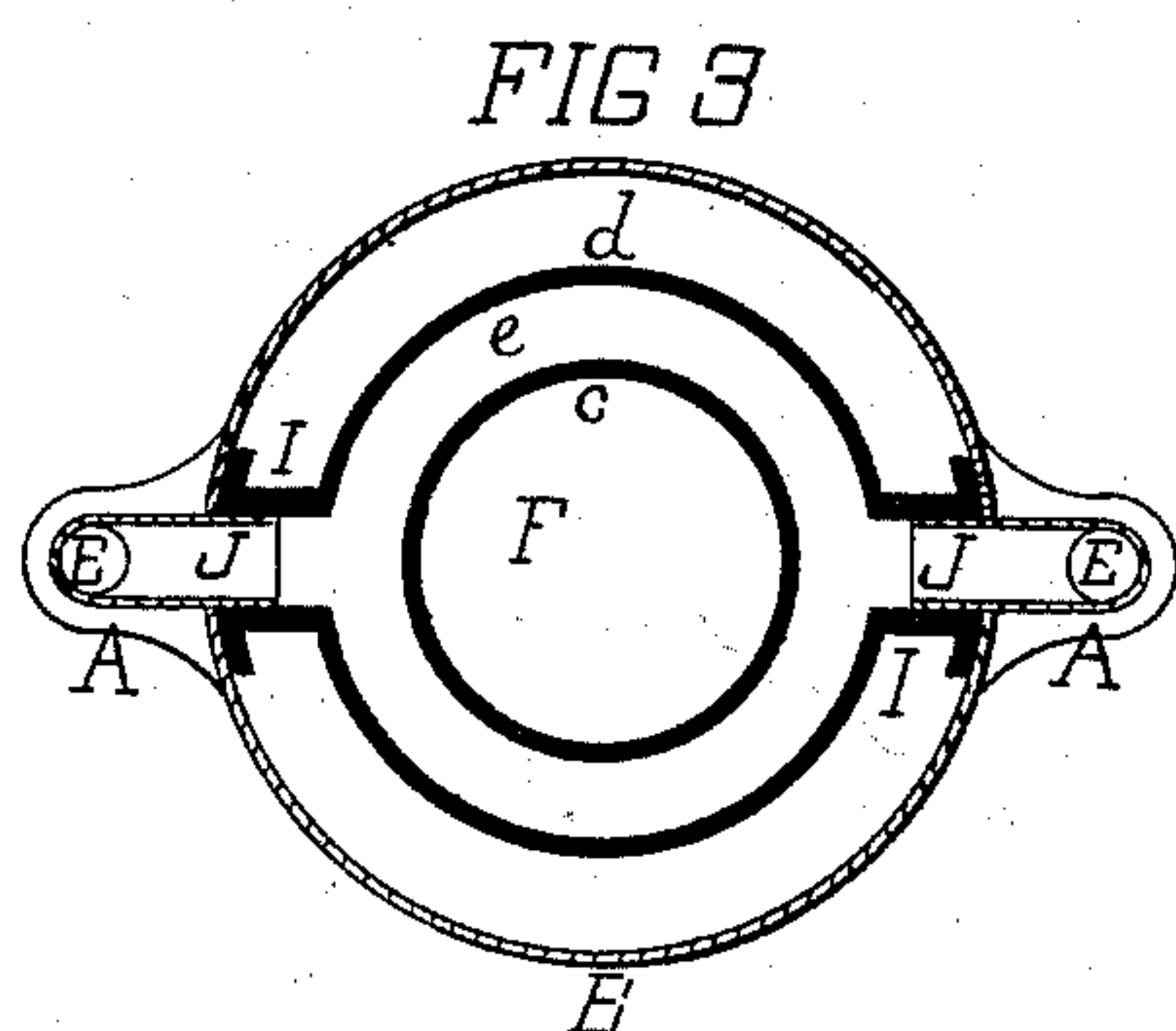
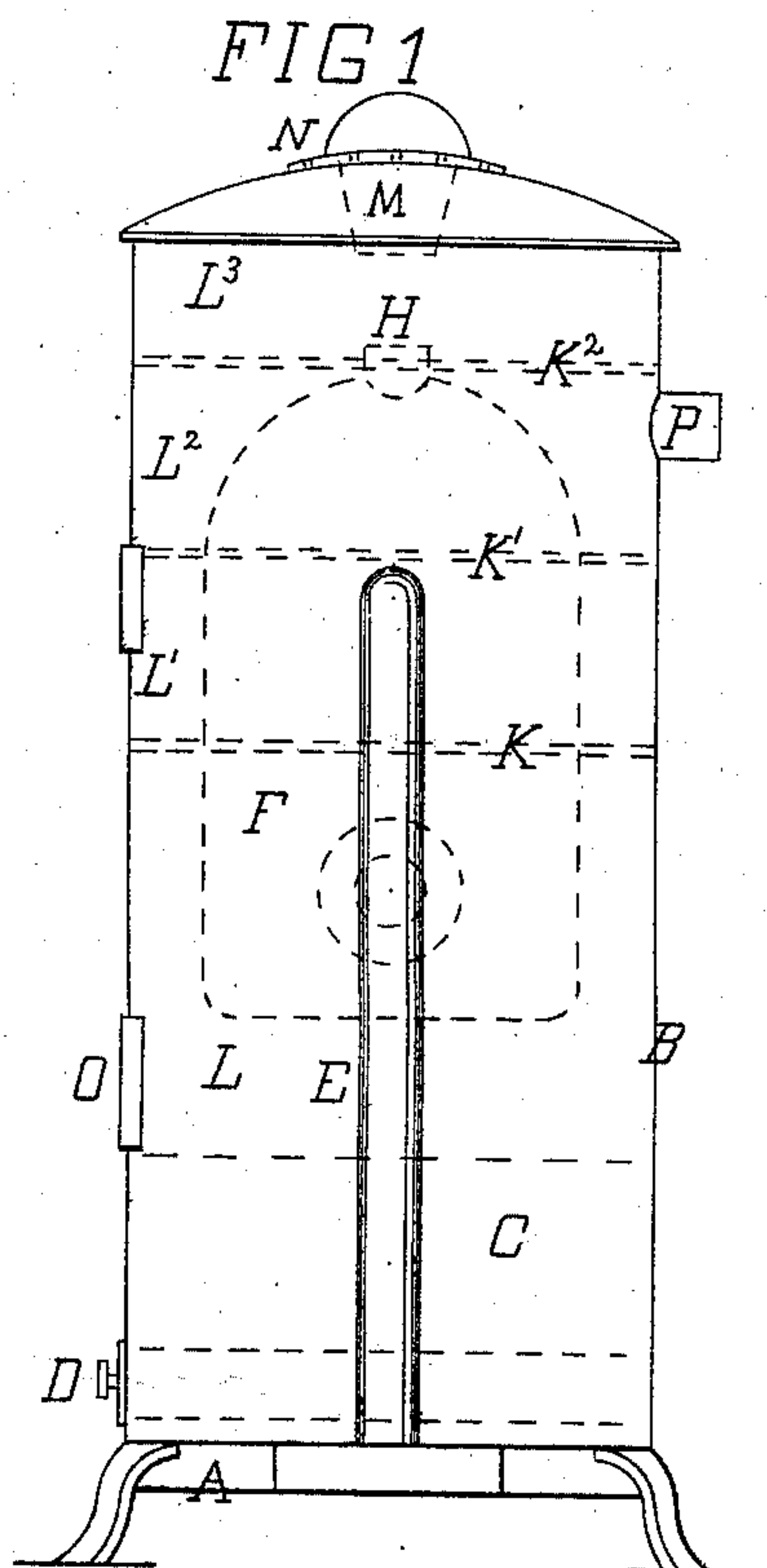
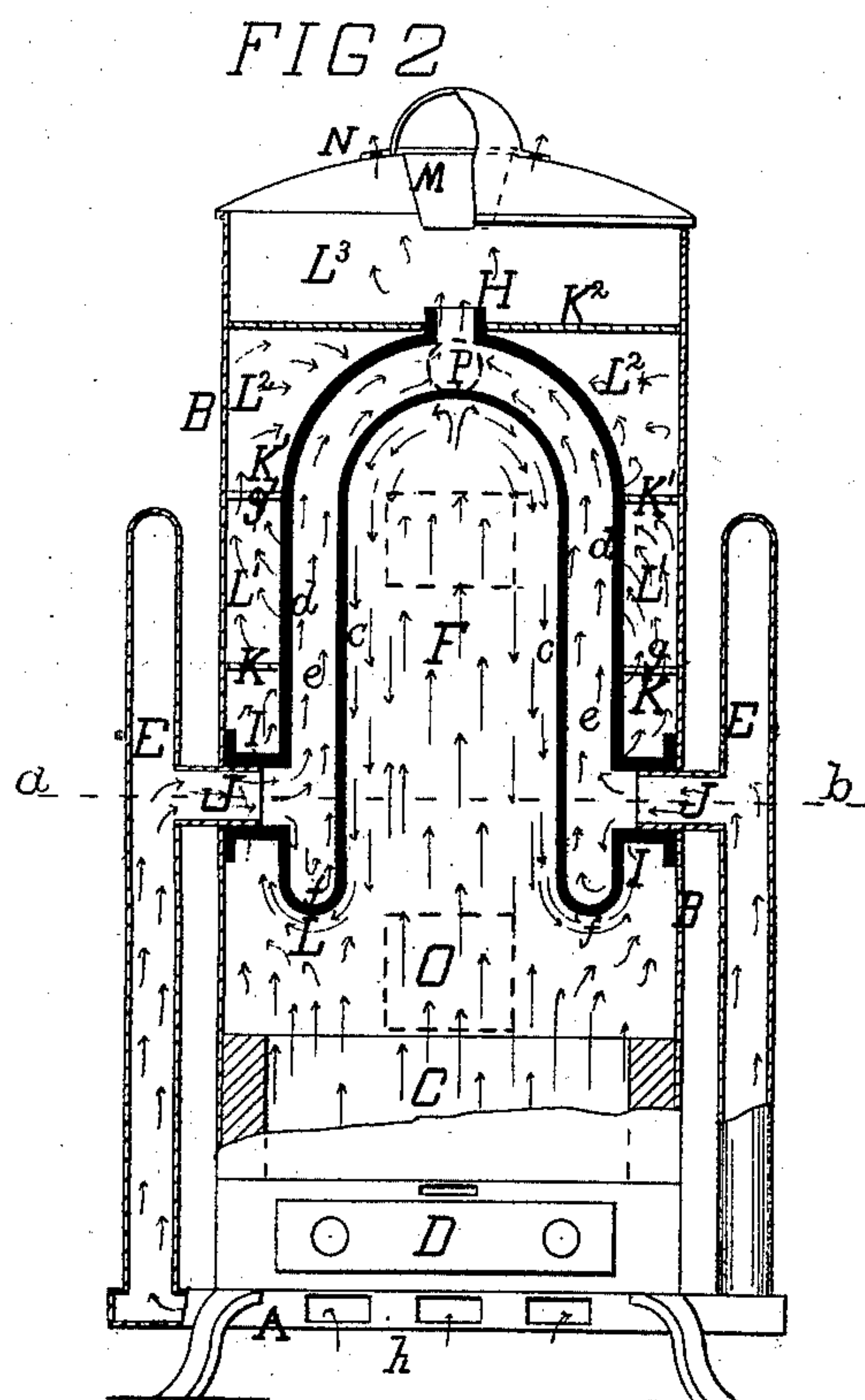


S. H. KREIDER.
Heating-Stove.

No. 165,335.

Patented July 6, 1875.



WITNESSES
John J. Hargaden
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Atty.

UNITED STATES PATENT OFFICE.

SAMUEL H. KREIDER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **165,335**, dated July 6, 1875; application filed July 21, 1874.

To all whom it may concern:

Be it known that I, SAMUEL H. KREIDER, of Philadelphia, Pennsylvania, have invented Improvements in Stoves, of which the following is a specification:

The invention is so fully and accurately described hereinafter that a preliminary description is not deemed necessary.

Figure 1 is a surface view of a stove in which the improvements are embodied. Fig. 2 is a sectional view of Fig. 1 in a vertical plane through the air-supply pipes. Fig. 3 is a sectional plan view in a horizontal plane through the line *a b*, Fig. 2. Fig. 4 is a top or plan view of an annular dividing-plate and the air-heating vessel.

A is the base of the stove; B, the shell; C, the combustion-chamber, and D the ash-pit drawer. E are vertical air-supply pipes, which are placed on the base A at a suitable distance from the shell B. F is an air-heater (preferably of cast-iron) in the case B, immediately over the combustion-chamber C. It is composed of the concentric walls *c d*, with an intervening annular air-heating space, *e*. The walls join at the bottom edge *f*, leaving an uninterrupted passage to the interior of the vessel. At the upper end they arch over. The inner one, *c*, presents a closed spherical top. The outer one, *d*, which is also spherical, terminates in an outlet-pipe, H, for the annular space *e*. The inlet-pipes I of the heater F not only support it by being fixed to the shell of the stove, but they also serve to form connections with the air-supply pipes E by sleeving with the outlet-pipes J of the same. K K¹ K² are dividing-plates or annular rings, which encircle the heater F, and divide the interior of the stove into the chambers L L¹ L² L³. The chambers L L¹ L² communicate by means of the indentations *g g'*, formed oppositely in the edges of the dividing-rings K K¹. The chamber L³ has no communication with any portion of the stove, save the heater F, which is by means of the outlet-pipe H, which extends through the plate K². M is a pot for containing water to moisten the air of the room in which the stove is located. N is an annular register for communicating between the chamber L³ and the exterior.

The fuel for combustion is supplied to the chamber C through the door O, and the air for supporting combustion flows through the ash-pit opening or drawer D. The products of combustion ascend in the center of the heater F, and impinge directly against the spherical top and divide, and pass down the side of the wall *c*. After reaching the chamber L they ascend against the division-plate K, and flow through the opening *g* into the chamber L¹; thence around the wall *d* of the heater to the opening *g'* in the division-plate K¹, and rise into the chamber L², and flow again around the wall *d*, and out through the pipe P (Fig. 1, dotted line, Fig. 2) to the chimney. The air to be heated enters the base A through the openings *h*, and flows through the pipes E into the annular air-heating space *e* of the heater F, from which it rises into the chamber L³ through the outlet-pipe H. In its passage it is heated to a high degree, not only in the space *e*, but also by its contact with the upper division-plate K². From the chamber L³ it can be used to heat the containing apartment by passing through the register N, or by suitable pipe-connection it can be made to warm an upper room. The products of combustion are employed in the most effectual manner for heating, not only the shell of the stove, by which the temperature of the surrounding air is raised, but for heating the annular vessel F, through which the air circulates and is made hot.

I claim as my invention—

1. The combination of the base A, shell B, air-pipes E, heater F, division-plate K², and the chamber L³, having an annular register, N, as shown and described.

2. The combination of the base A, shell B, air-pipes E, heater F, and the division-plates K K¹ K², substantially as and for the purpose shown and described.

In testimony whereof I hereunto sign my name in presence of two subscribing witnesses.

SAMUEL H. KREIDER.

Witnesses:

FRANCIS D. PASTORIUS,
THOS. K. STERRETT.