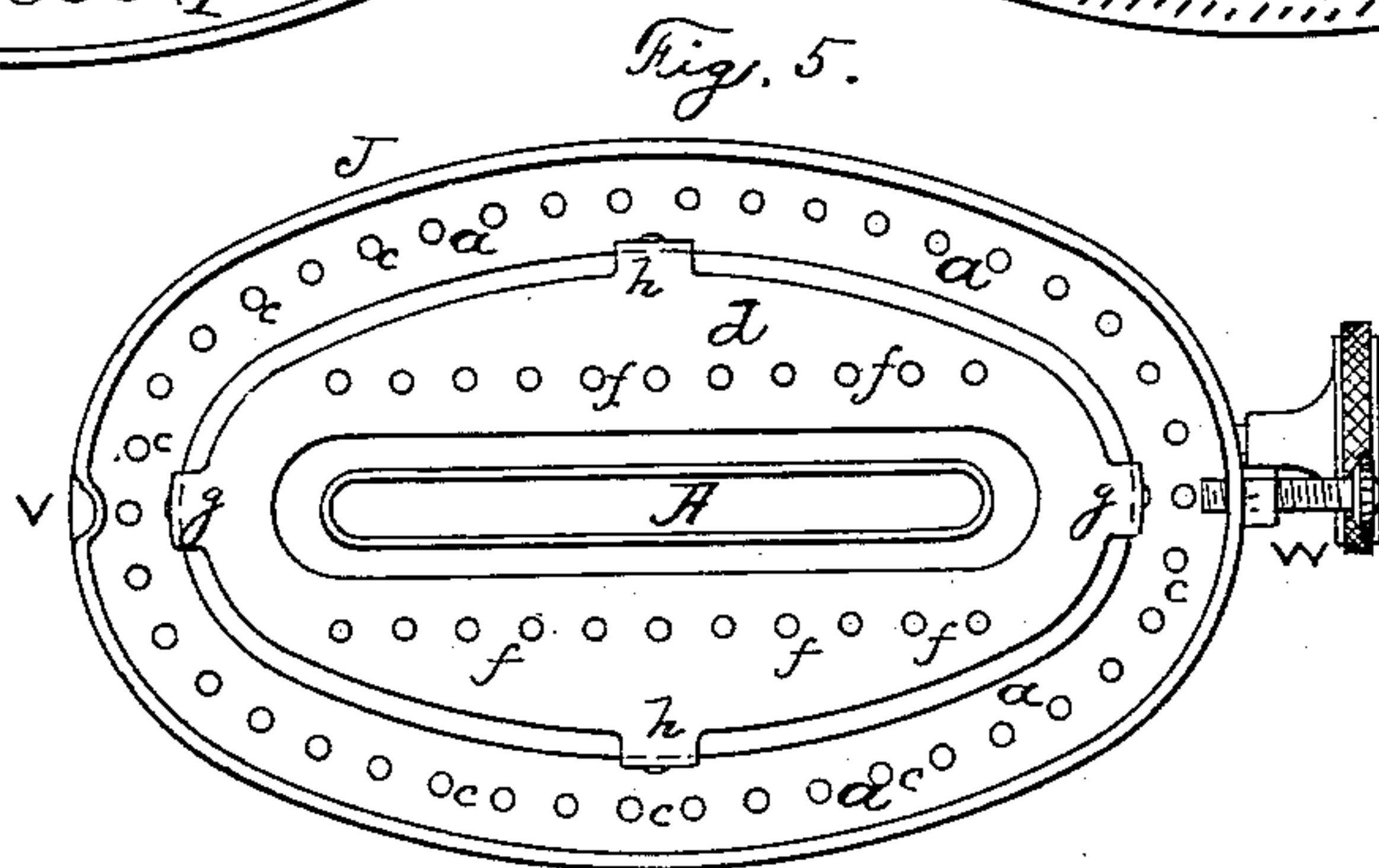
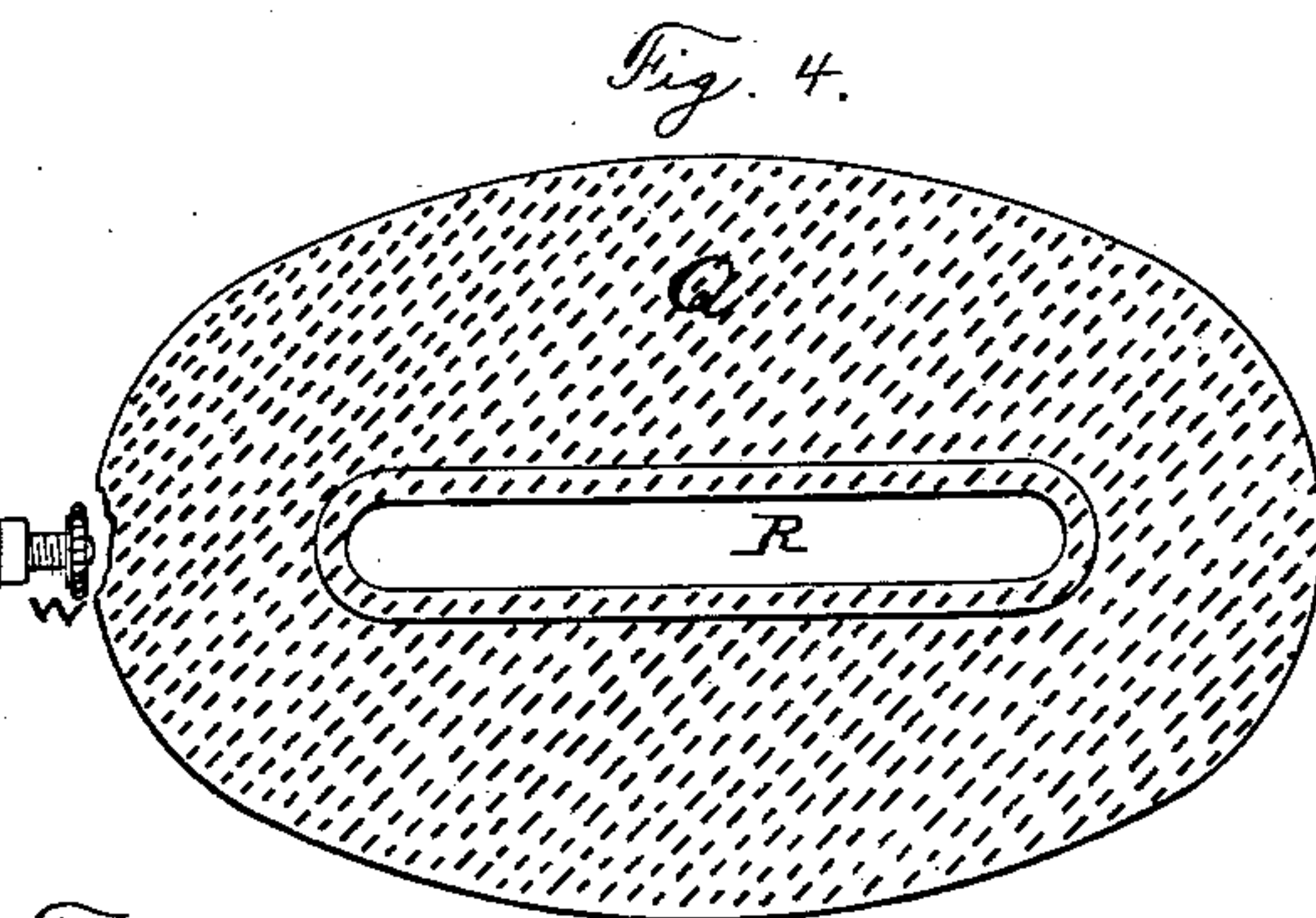
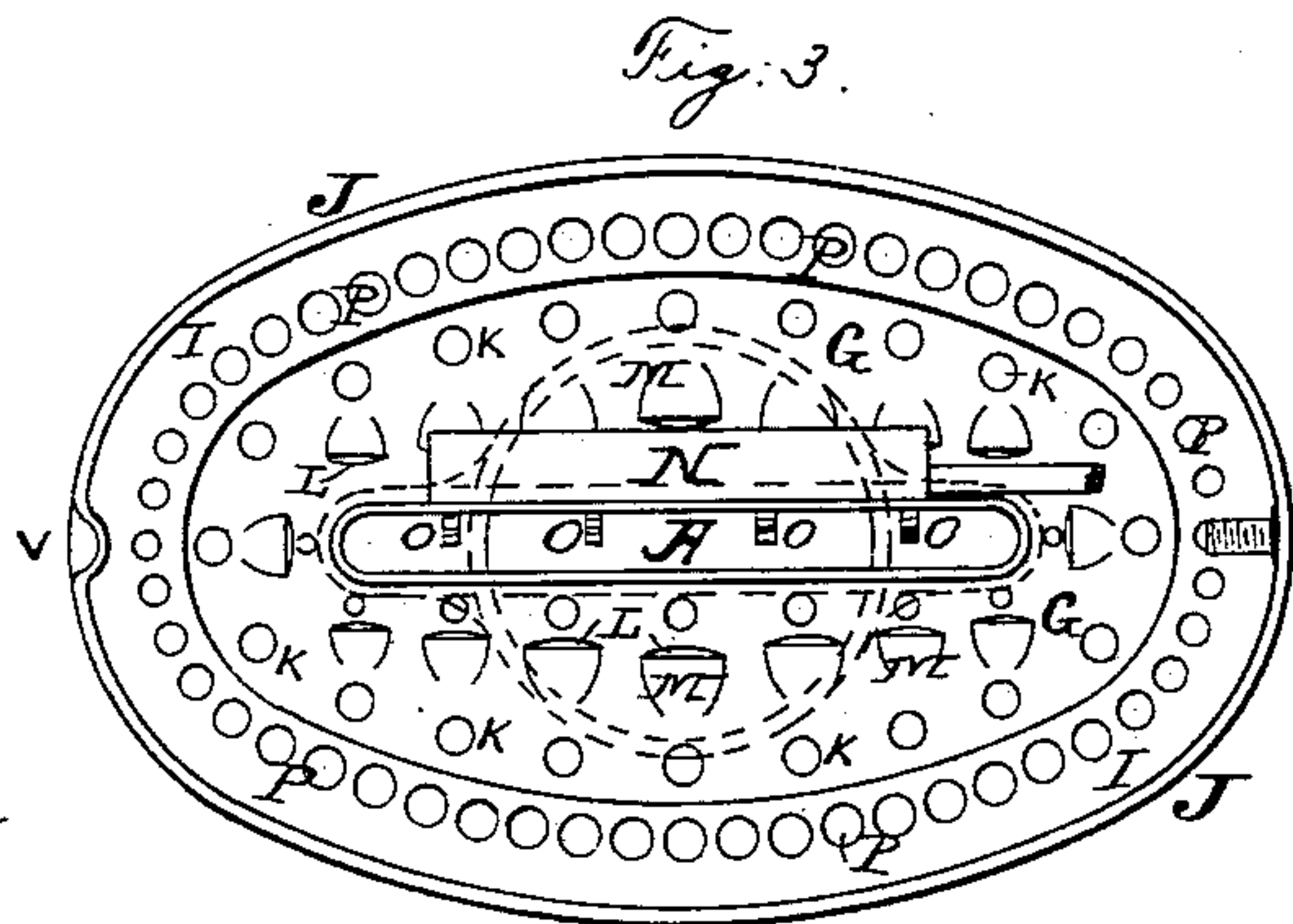
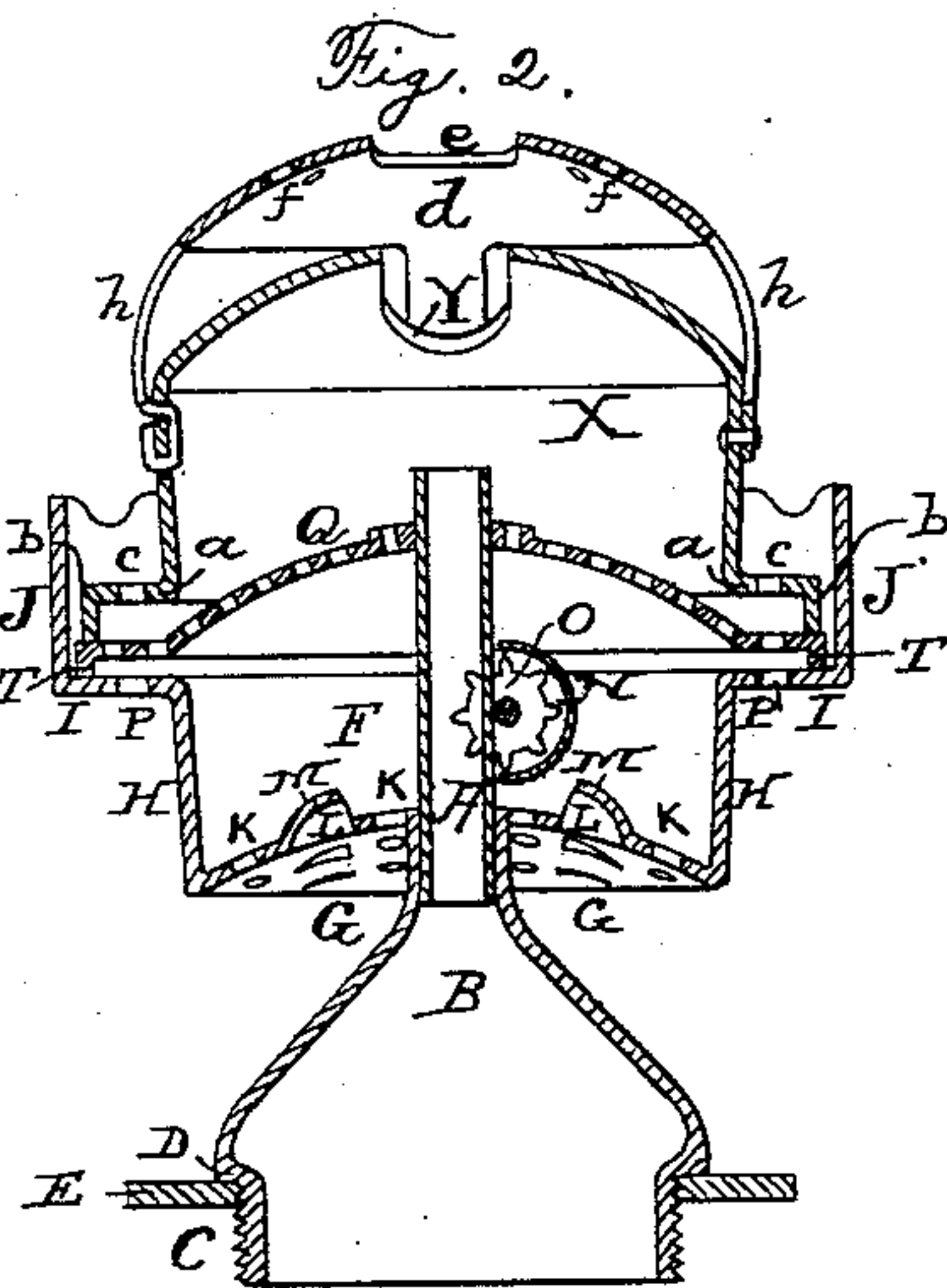
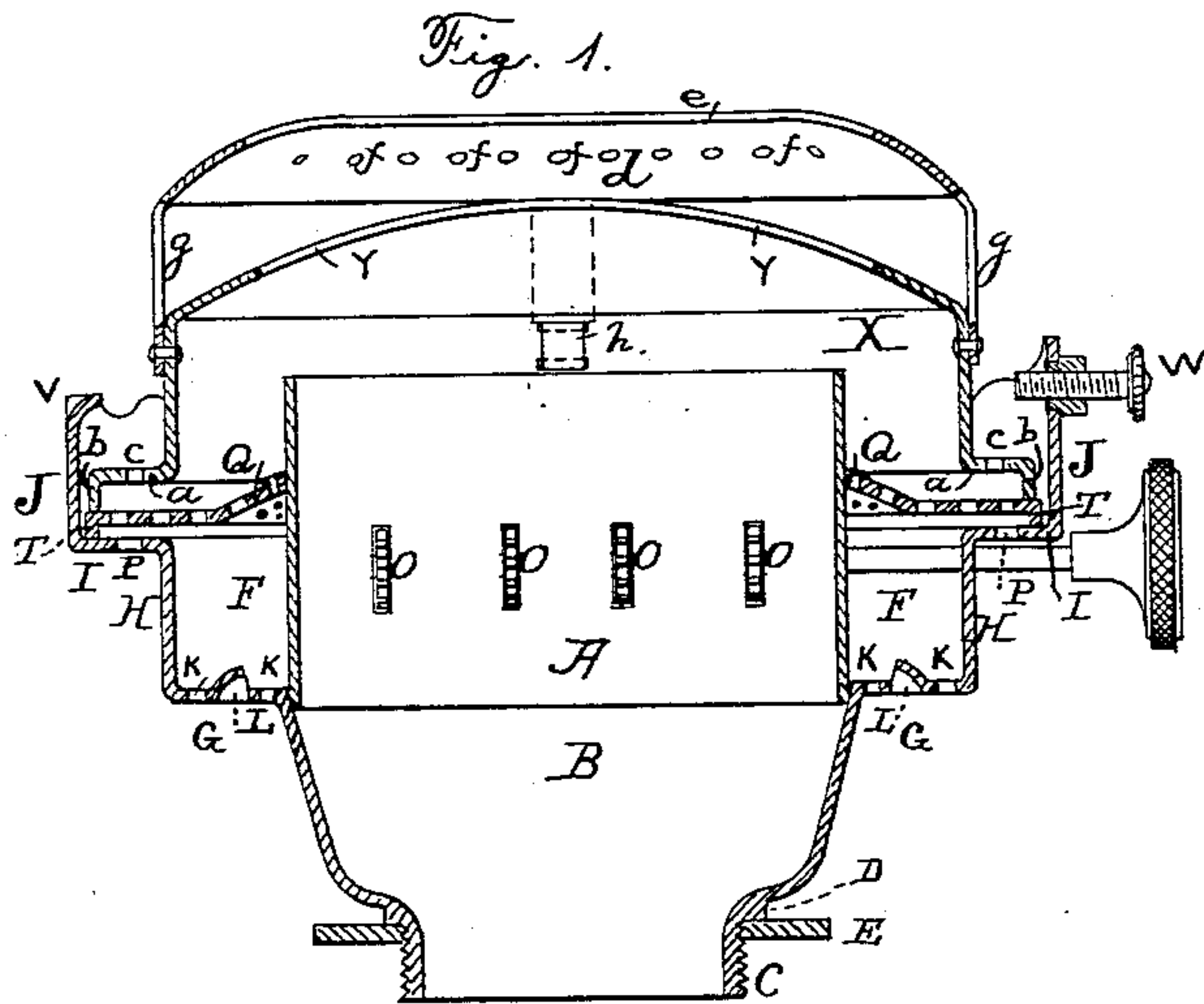


(No Model.)

E. B. REQUA.
LAMP BURNER.

No. 318,030.

Patented May 19, 1885.



WITNESSES:
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ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 318,030, dated May 19, 1885.

Application filed April 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a specification.

The invention relates to improvements in lamps; and it consists in a burner of novel construction, the operation and arrangement of the parts of which are fully set forth hereinafter, reference being therein made to the accompanying drawings, which form a part of this application, and in which—

Figure 1 is a central vertical longitudinal section of an embodiment of the invention. Fig. 2 is a central vertical transverse section of same. Fig. 3 is a top view of the burner, the flame dome or deflector and foraminous plate being removed for purposes of illustration. Fig. 4 is a view of the foraminous plate, and Fig. 5 is a top view of the complete burner.

Referring to the drawings, A denotes the wick-tube, which is elongated and secured upon the upper edges of the cone B, through which the wick passes on its course through the tube A and by means of the thread C, on the lower edge of which the burner is secured upon the lamp-fount. The cone B is circular in outline at its base, and thence its opposite sides deflect inward and upward toward the sides of the tube A, while the ends of the cone diverge upward and outward toward the ends of the tube A. Thus while the base of the cone is circular, the length of the body thereof is of greater dimension than its width. This construction of the cone B is illustrated in Figs. 1 and 2, and it subserves the very important purpose of permitting the employment of a much larger wick than would be possible were the cone of a different form, without necessitating an enlargement or a detracting from the appearance of the burner.

In order to insure the firm connection of the burner with the oil-fount, I have provided the lower portion of the cone B with an annular bead, D, and an internally-threaded disk or washer, E, either or both of which may be used at pleasure.

The wick-tube A is surrounded by the bowl

F, which in the present instance is oval in horizontal section, and it consists of the base G, the vertical wall H, horizontal portion I, and chimney-retaining flange J. The central portions of the base G closely encompass the wick-tube A, and serve as a means of connecting the bowl with the burner, the other portions of the bowl being suitably removed from the wick-tube to meet the purposes of the invention, as illustrated in Figs. 1 and 2. The base G is curved upward at its center, and is provided with the apertures K and openings L, these latter being covered above with the deflectors M, which incline upward toward the wick-tube A, and operate to direct the air entering through the openings L against the wick-tube, whereby when the burner is in use a constant volume of cool air is directed against the sides and ends of the tube.

Upon one side of the tube A is provided the box N, which incloses the wick-raising wheels O of the usual construction.

The horizontal portion I of the bowl F contains perforations P, and supports between said perforations and the flange J, the foraminous cone-shaped plate Q, the center of which has an elongated opening, R, to permit of the insertion of the plate over the wick-tube.

The outside edges of the plate Q have a depending flange, T, which rests upon the portion I of the bowl F and forms an air-space between the plate and part I. Thus the plate Q does not interfere with the proper operation of the apertures P.

The retaining-flange J will be of suitable height and construction, and is supplied with the lip V and set-screw W, to engage the lower edge of the chimney in the customary manner.

The flame dome or deflector X has the usual flame-slot, Y, and at its base is formed the horizontal chimney-support *a* and vertical flange *b*, the former containing a line of apertures, *c*, leading within the chimney, and the flange *b* serving to support the dome X and elevate the part *a* from contact with the foraminous plate Q. A deflector, *d*, containing a flame-slot, *e*, and perforations *f*, is superposed over the dome X, being supported in position by the end lips or lugs, *g*, and the side lips, *h*, the lower ends of the lips being secured to the

sides of the dome either by riveting or by passing them through slots formed therein or otherwise, as indicated in Fig. 2. The deflector *d* is curved to correspond with the curvature of the top of the dome X, so as to carry the air into the flame when the burner is in use, and its edges are free and uninclosed except by the lips *g h*. The lips *g*, in addition to supporting the deflector *d*, perform the important function of preventing the spread of the flame into the shape of a fan, it being one of the principal objects of the present invention to produce a broad rectangular-shaped flame.

It should be noted that the wall H of the bowl F is in line with the vertical wall of the dome X, and that the burner contains no parts which can interfere with the proper circulation of air through the same, either by forming eddies thereof, (which has proved fatal to so many burners,) or otherwise.

Upon considering the construction of the burner its operation will be apparent. The air which passes through the base G is in part directed over the sides and ends of the wick-tube, while the other portion ascends over the wall H. All of the air thus passing through the base G previously circulates over the cone B, keeping it cool, and afterward rises through the foraminous plate Q to the flame. The outside drafts pass through the apertures P, plate Q, and apertures *c* to the inside of the chimney, whence they ascend over the outside walls of the dome X and under the deflector *d* to the flame, a portion of the air being permitted to rise through the apertures *f*, whereby any possibility of an unduly strong current of the air into the flame or the formation of eddies is avoided. The effect of the air deflected by the opposite sides of the deflector *d* is to hold the flame steadily in position and to mix fresh air at the outlet from the dome with the air which has been heated in the dome, and thus to restore as near as may be the combustible qualities of the partially-exhausted air at a point adjacent to the hydrogen part of the flame. The parts of the burner are so constructed and arranged that the currents of air circulate freely over and about the same, and are thoroughly diffused and properly fed to the flame.

In an application for Letters Patent of even date herewith and having serial number 129,037, I describe the burner which is the subject of this application in connection with a chimney, the chimney being the form at

present thought most desirable for use on the burner described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a lamp-burner, the wick-tube, in combination with a flame-dome and the encircling-bowl F, the base of which is provided with openings L and deflectors M, substantially as set forth.

2. A lamp-burner consisting of the bowl F, encircling the wick-tube, and composed of the perforated base, wall H, horizontal portion I, and flange J, in combination with the foraminous plate Q and dome X, an air-passage being provided at the base of the latter for permitting the entrance of air into the chimney, substantially as set forth.

3. A lamp-burner consisting of the bowl F, inclosing the wick-tube A and box N, which covers the wick-raising wheels O, in combination with the dome X, the bowl F being provided with apertures for the passage of air, and an air-passage at the base of the dome being also provided to permit the entrance of air into the chimney, and the bowl and dome being substantially in line with each other, as and for the purposes described.

4. In a lamp-burner, the combination of the wick-tube, bowl F, having a perforated base and perforations P, foraminous plate Q, and dome X, having perforations *c*, the vertical walls of the bowl and dome being substantially in line with each other, as described.

5. In a lamp-burner, the combination of the wick-tube, the bowl F, consisting of perforated base G, wall H, perforated portion I, and flange J, the foraminous plate Q, having flange T, the dome X, whose vertical walls are in line with those of the bowl F, and having the perforated chimney-support *a* and flange *b*, substantially as specified.

6. A lamp-burner consisting of the bowl F, inclosing the wick-tube and composed of the perforated base, walls H, horizontal portion I, and flange J, in combination with the foraminous plate Q, having the flange T, and the dome X, having the flange *b*, the said dome and bowl being in line with each other, as described.

Signed at New York, in the county of New York and State of New York, this 15th day of April, A. D. 1884.

ELIAS B. REQUA.

Witnesses:

HERMAN GUSTOW,
CHAS. C. GILL.