

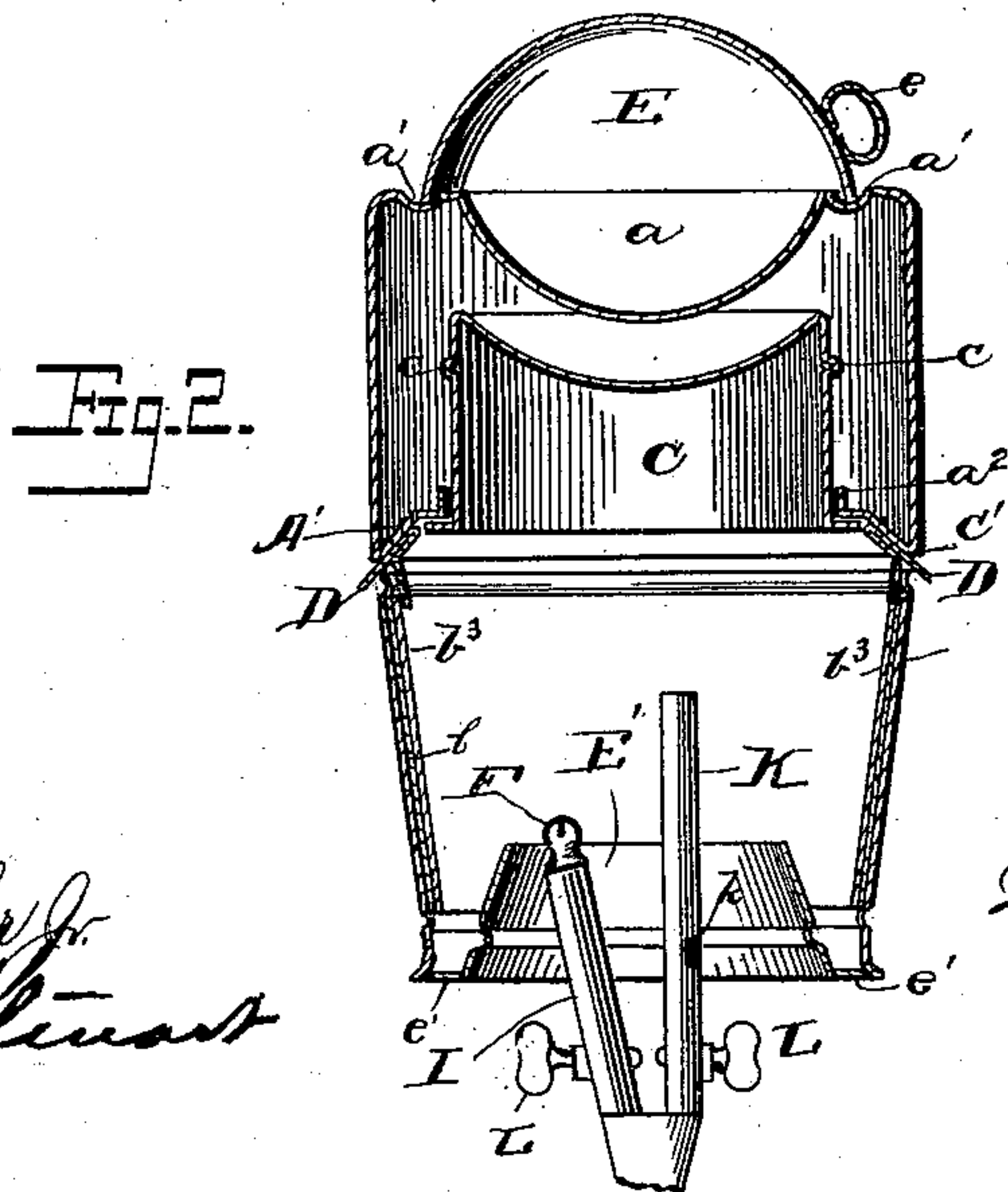
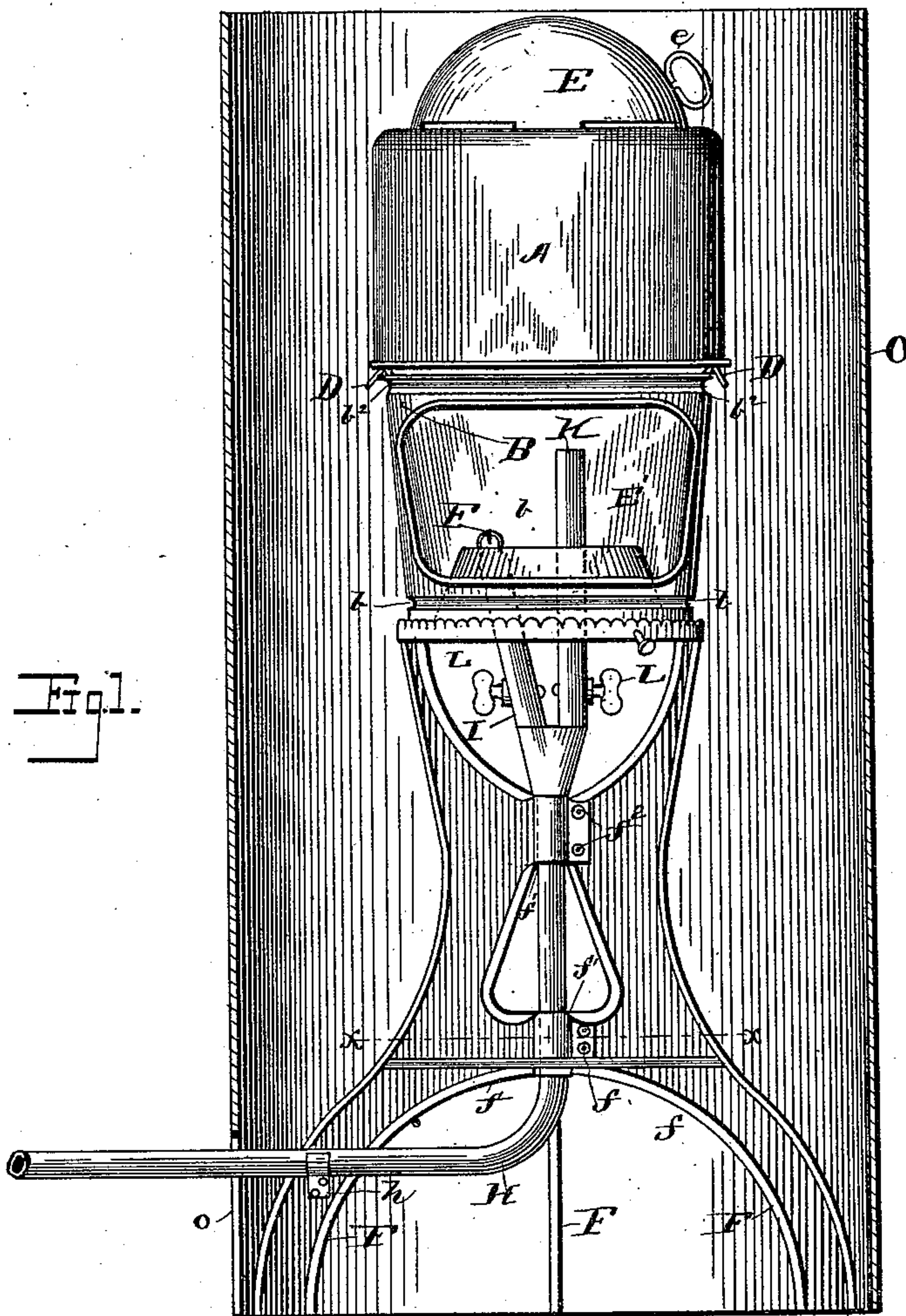
(No Model.)

2 Sheets—Sheet 1.

M. F. HAMSLEY.
DOMESTIC GAS HEATER AND LIGHTER.

No. 466,412.

Patented Jan. 5, 1892.



Witnesses
J. M. Taylor Jr.
Alex Stewart

Inventor
Willard F. Hamsley
by Church & Church
his Attorneys

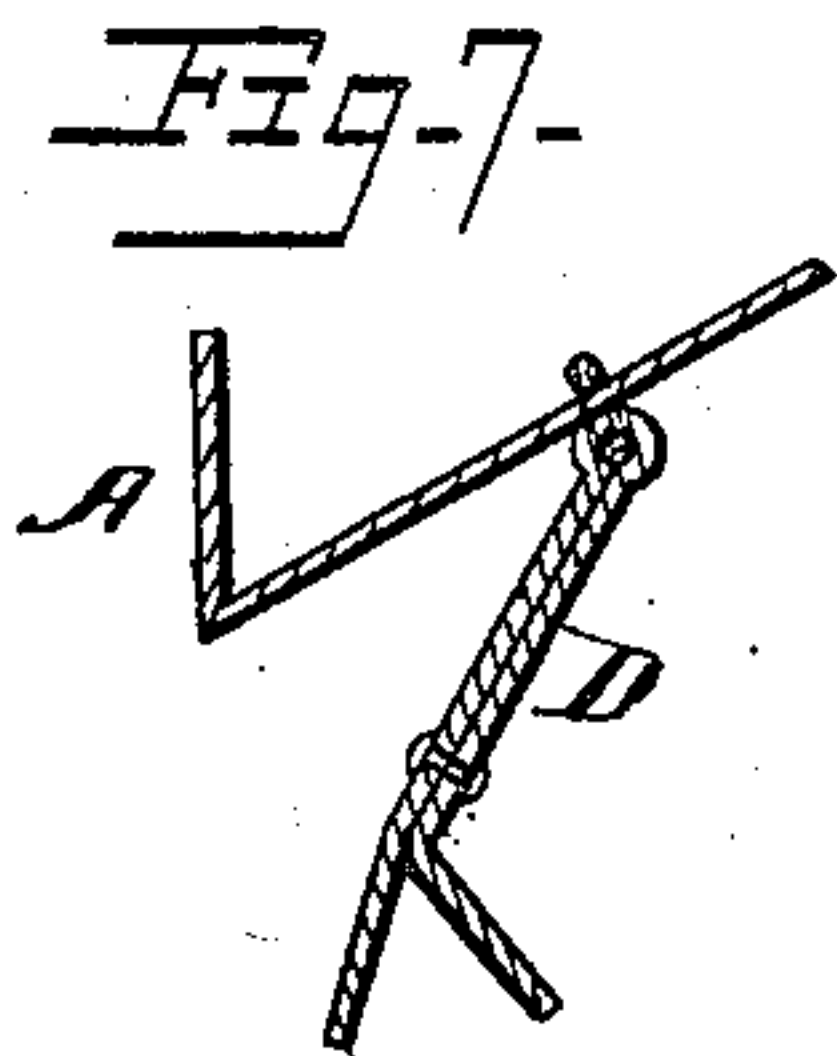
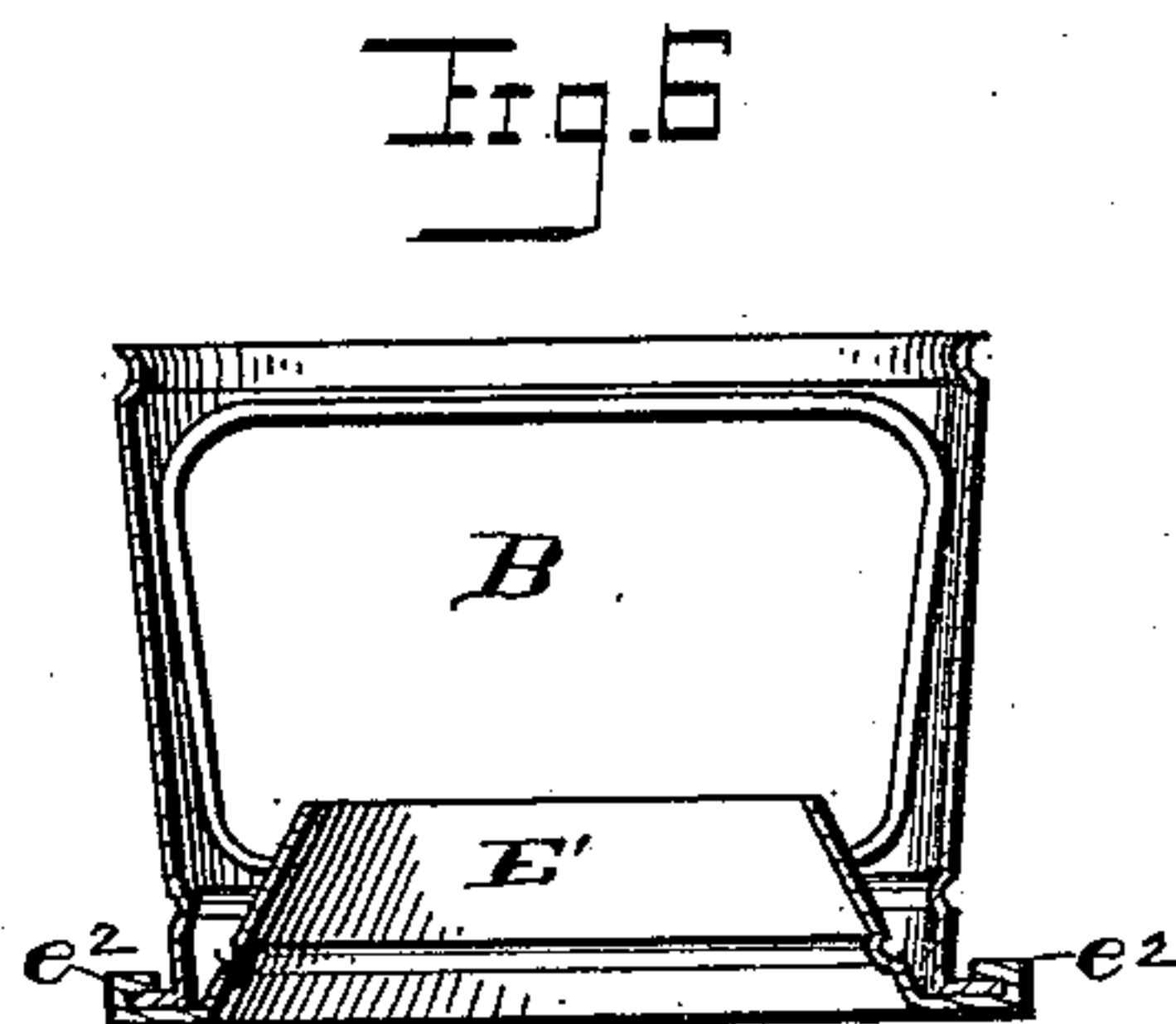
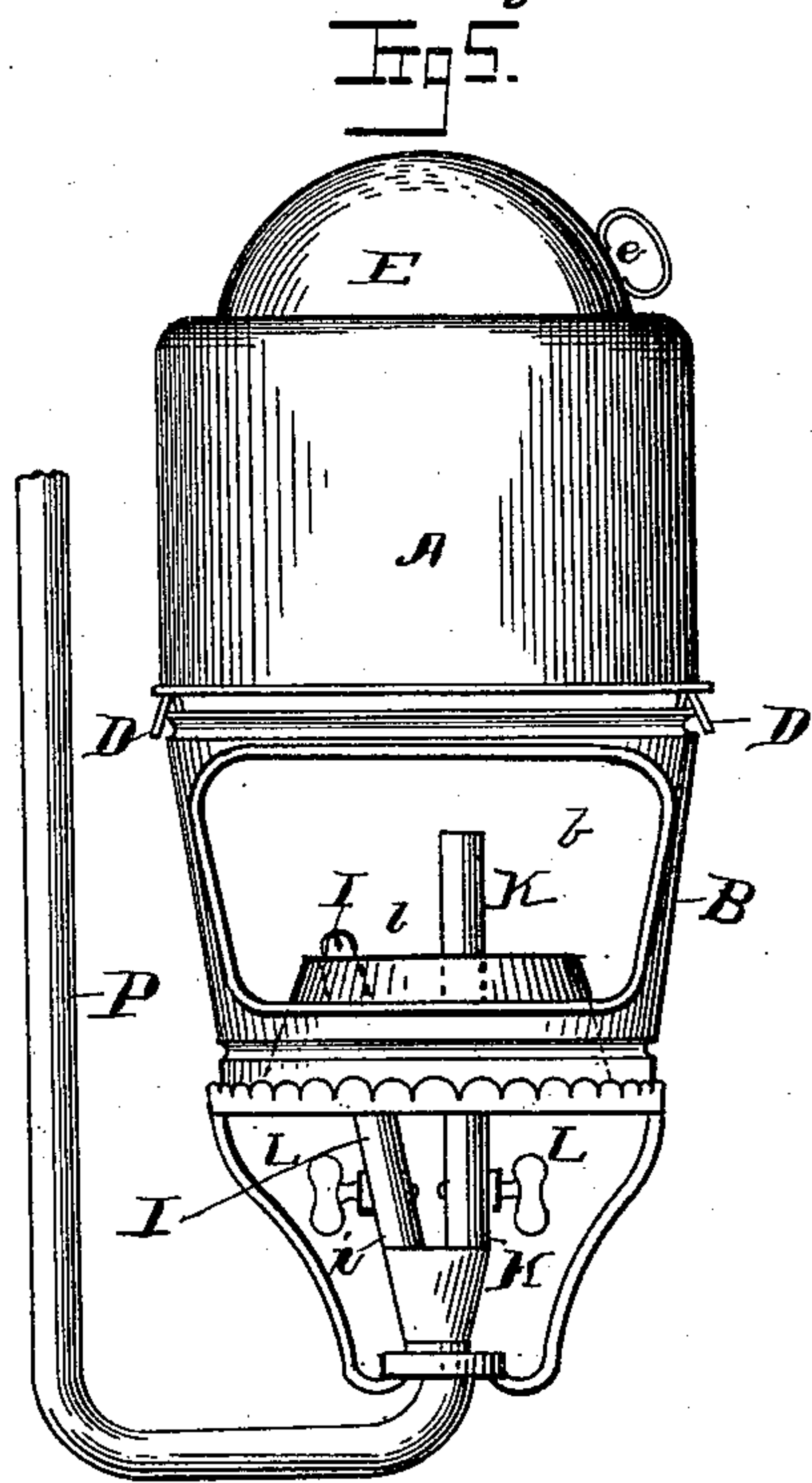
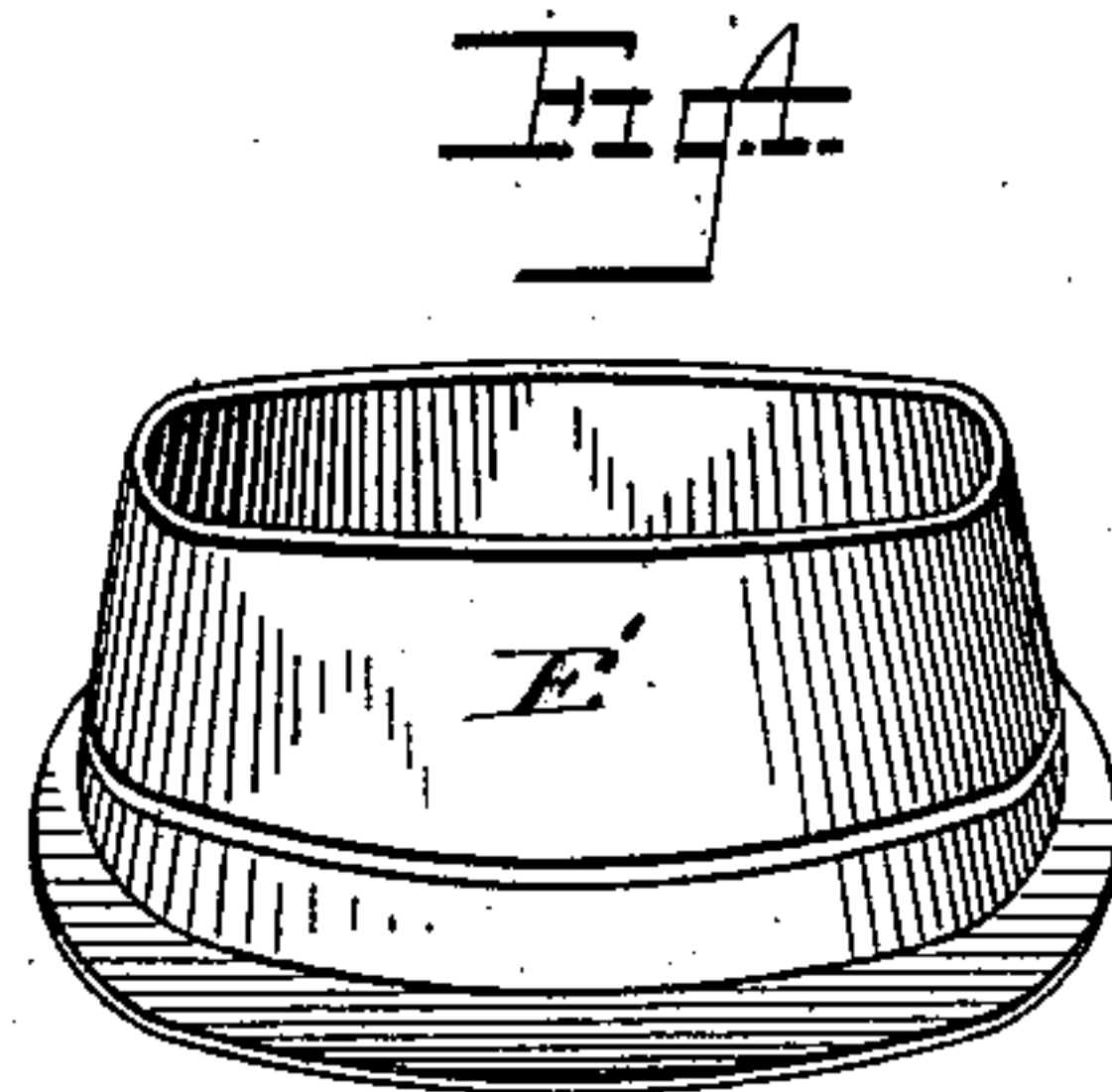
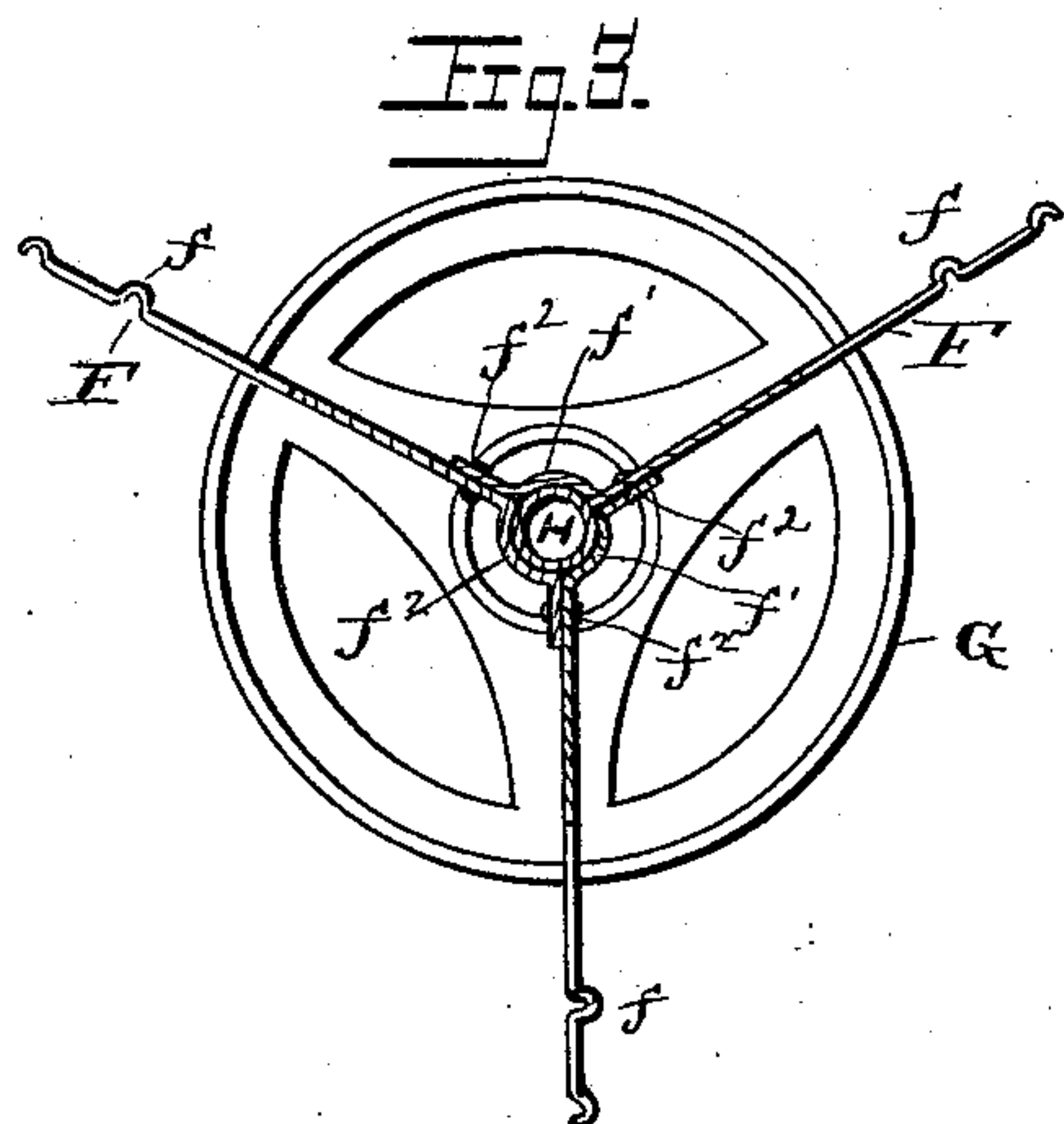
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2 Sheets—Sheet 2.

M. F. HAMSLEY.
DOMESTIC GAS HEATER AND LIGHTER.

No. 466,412.

Patented Jan. 5, 1892.



Witnesses

J. M. Fowler Jr.
Alex. Stewart.

Inventor

Millard F. Hamsley
By Church & Church
his Attorneys

UNITED STATES PATENT OFFICE.

MILLARD F. HAMSLEY, OF BROOKLYN, NEW YORK.

DOMESTIC GAS HEATER AND LIGHTER.

SPECIFICATION forming part of Letters Patent No. 466,412, dated January 5, 1892.

Application filed February 14, 1891. Serial No. 381,476. (No model.)

To all whom it may concern:

Be it known that I, MILLARD F. HAMSLEY, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Domestic Gas Heaters and Lighters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to a device particularly designed for furnishing heat and light for domestic purposes, the object being to provide a small portable device which may be applied or attached to an ordinary gas-burner for heating the apartment and furnishing the light, and, if desired, as a means for heating culinary vessels of any ordinary kind.

The invention consists, primarily, of a novel construction of heating-dome, with an internal hot-air space adapted to fit over a gas-burner and provided with a combustion-chamber, in which the heat from the burner is confined and radiated from the surface of the dome, and, further, the invention consists in a novel form of globe adapted to support the dome and confine and regulate the air passing in to support combustion, while at the same time permitting the full benefit of the light from the flame to be secured in the apartment.

The invention further consists in certain novel features of construction and combinations and arrangements of parts to be hereinafter described, and pointed out particularly in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a side elevation of a heater and lighter constructed in accordance with my invention, showing the most approved form of stand. Fig. 2 is a sectional view of the dome and its globe-support with the burners in position. Fig. 3 is a sectional view through the stand on the line *xx*. Fig. 4 is a detail perspective of the equalizer; Fig. 5, an elevation of a modified arrangement where the heater and lighter is supported from a gas-fixture without the employment of a stand. Fig. 6 is a section of a modified form of globe and equalizer. Fig. 7 is a detail of one of the adjustable legs.

Similar letters of reference in the several figures indicate the same parts.

In the most approved form of my present invention a dome A is provided, which fits over a globe B, in which the gas-burners are located. The dome A is of any approved shape, preferably, however, having a flat top with a central concavity or depression *a*, with a depressed bead *a'*, and at the bottom the dome is formed into an annular concave bottom A', having a central opening. In this opening is fitted the adjustable inner dome or combustion-chamber C, of approximately the same shape as the inner dome and held in adjusted position by friction against flange *a*² around the opening in the bottom of the dome. Downward movement of the combustion-chamber is limited by the bead *c* and upward movement by the flange *c'* at the bottom. The whole dome is supported by adjustable legs D, pivoted thereto and having bifurcated ends adapted to embrace the edge of the globe B, and in this position the combustion-chamber is so adjusted as to cause complete combustion of the gases, &c., passing into the same from the burner, as will be hereinafter more specifically described, the object being to heat the combustion-chamber to a very high degree and from it to transmit the heat to the exterior dome through the confined air and from said dome to radiate it into the compartment. This construction is found by actual practice to be highly efficient, and its action may be heightened somewhat by placing over the concavity *a* a hemispherical vessel E, having notches around the bottom for the escape of the heated air and a handle *e*, by which it may be lifted off and inverted for the reception of any liquid or other substance to be heated, the concavity *a* forming a perfect support therefor. In lieu of the hemispherical vessel just described, it is obvious that one of any desired shape may be employed, or any ordinary culinary vessel may be placed on the top of the heater, in which instance the concavity *a* will serve as a dead-air space for retaining the heat and promoting the heating of the vessel. As thus described the dome-heater may be employed in connection with any globe having a gas or other burner within the same; but I prefer to employ a globe and heating and lighting burn-

ers of a special construction and arrangement, to be now specifically described. The globe itself, with which the supporting-legs are in contact, is preferably formed for strength of sheet metal, and is provided with a number of openings, in which thin slabs of mica b are secured. In constructing this globe due consideration is had for the light-giving capacity of this device, and therefore the openings are made as large as practicable, or many of them are formed, and for the sake of strength the sheet metal portion of the globe is formed with beads or the well-known equivalent thereof—a wire bead at top and bottom. Around each of the openings a simple bead b^2 is formed, which beads prevent any liability or danger of the globe becoming distorted or bent out of shape even though the openings be very large and numerous. The mica is inside of the globe and is held in position by plates b^3 , which overlie the same at the edges and are themselves held by fastenings which pass through both the globes and plates, such as cotters, &c. Within the bottom of the globe I locate what I term an "equalizer," the function of which is to cut off and properly regulate the entrance of external air, which would tend to cool or cause a draft in or through the globe and combustion-chamber. This equalizer consists of an elongated body E' , tapering from bottom to top, as shown, and surrounding both stems of the burner.

At the bottom the equalizer is provided with a flange e' , which makes intimate contact with the bottom of the globe, and, if desired, is lapped around a corresponding flange on the bottom of the globe, as shown at e^2 in Fig. 6.

The globe may be supported in any of the well-known globe-holders, which, however, should be somewhat lower than usual in order to bring the flame up near the combustion-chamber, as will be readily understood.

In Fig. 1 the globe-holder is shown mounted on the upper end of the stand, which is composed of three sheet-metal legs $F F F$. These legs are, as just stated, struck up from sheet metal and for strength are beaded along each edge at f , and at the center each one is formed with an arm or extension f' , which is properly shaped to leave a central aperture for the passage of the gas-pipe H and overlaps a sufficient distance on the adjacent leg to give room for the insertion of eyelets or rivets f^2 , which bind all the legs firmly together and form a solid rigid stand at very small cost. The globe-holder is united to the bent-over ends of the legs by rivets or otherwise, and at the bottom the legs are properly spaced and held rigidly in place by the spacing-brackets G , Fig. 3. The gas-supply tube passes up through the central aperture formed between the arms of the legs and is held by the bracket h , the gas being supplied by a flexible tube or otherwise in the well-understood manner.

In the preferred construction the gas-sup-

ply tube is bifurcated at a point a short distance below the globe, and one branch I of the same carries an ordinary illuminating-burner I' , which is so located as to emit the gas just above the equalizer and in proximity to the other branch K of the pipe through which the gas passes to the flame at the combustion-chamber. This branch K of the pipe is formed into what is known as a "Bunsen burner," the air-opening k being located below the entrance-opening of the equalizer, the burner otherwise not differing from those in common use.

By locating the light-giving burner in the position indicated not only is its light utilized, but its heat is utilized in a twofold manner—first by heating the air and gas in its passage to the Bunsen-burner tip, and, secondly, to assist in heating the dome.

The flame from the Bunsen burner passes directly into the combustion-chamber, the lower edge of which latter is located just above the mouth of the burner, or low enough to cause a complete combustion of the gas and air without causing the flame to become extinguished.

Both branches of the supply-pipe are provided with stop-cocks $L L$, enabling the Bunsen or heat burner to be cut off without affecting the light, or vice versa, where it is desired to light without heating the apartment.

For some purposes I have found it desirable to employ a shield or casing to surround the entire stand and heater, the object being to cut off the light entirely and to make the heat more intense by preventing the cold air from rushing in and around the globe and dome. This casing is shown in section in Fig. 1 and lettered O , and is preferably provided at or near the bottom with an entrance-opening o , through which a limited amount of air can enter and through which also the supply-tube may pass.

Where it is not desired to employ a stand, the globe and dome may be placed directly over an ordinary burner, or, as shown in Fig. 5, a bracket P may be swung from the ordinary chandelier or gas-fixture and the globe and dome mounted thereon, as shown clearly in said figure.

Having thus described my invention, what I claim as new is—

1. In a domestic heater, the combination, with the dome, of the combustion-chamber adjustably mounted in the bottom of the dome and forming a closed air-space inclosing said chamber, substantially as described.

2. In a domestic heater, the combination, with the dome having the inwardly-turned bottom, with a central aperture and flange surrounding the same, of the combustion-chamber fitting adjustably within said opening and having the stops for limiting its movement in each direction, substantially as described.

3. In a domestic heater such as described,

the combination, with the dome having the closed flat top with the central depression or concavity and the bottom with the central opening, of the movable combustion-chamber fitting within said opening, substantially as described.

4. In a domestic heater, the combination, with the globe having the equalizer at the bottom, surrounding the burners and consisting of the elongated body tapering from bottom to top and having the flange co-operating with the bottom of the globe, of the dome resting on the globe, whereby it is supported above the burners, and the concave combustion-chamber in the bottom of the dome, substantially as described.

5. In a domestic heater, the combination, with the globe support or top, of the stand-legs struck up of sheet metal, each having the

extended arms secured to the adjacent leg, substantially as described.

6. In a stand for domestic heaters, the combination, with the support or top, of the legs struck up of sheet metal and each having the extended arms overlapping and secured to the adjacent legs, and the brackets for holding the legs in place, substantially as described.

7. In a stand for domestic heaters, the combination, with the support or top, of the legs struck up of sheet metal, having the extended arms overlapping and secured to the adjacent legs and bent to form a central opening, and the gas-supply pipe passing up through said opening, substantially as described.

MILLARD F. HAMSLEY.

Witnesses:

THOMAS DURANT,
ALEX. S. STEUART.