

No. 617,694.

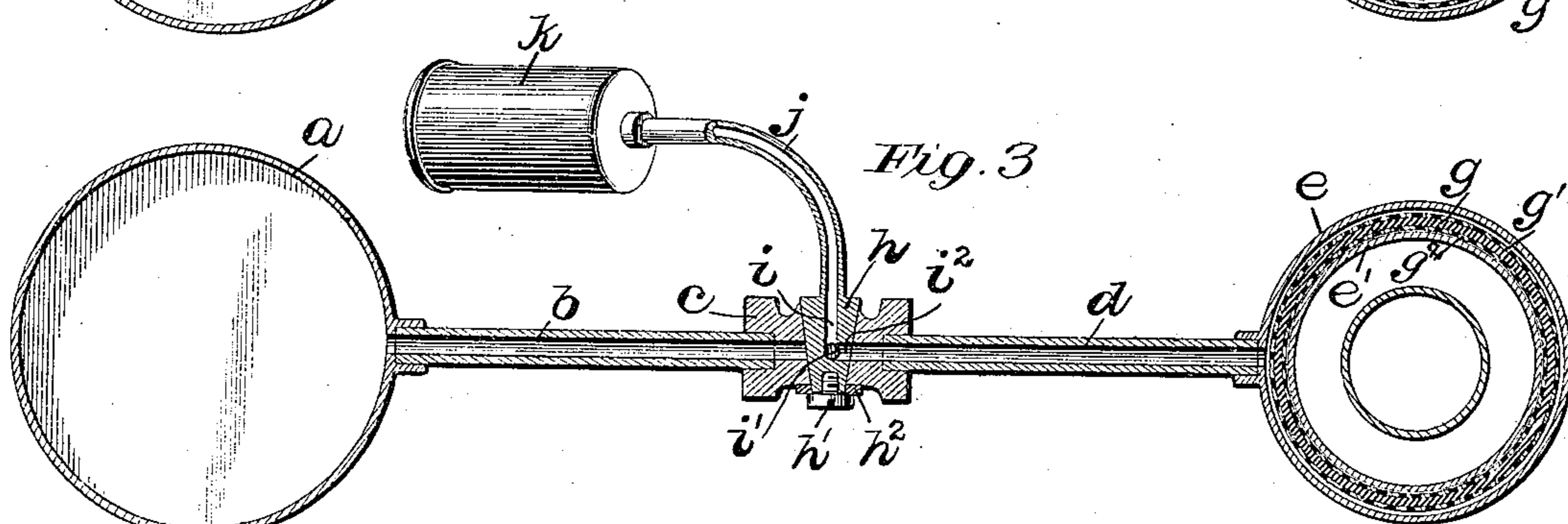
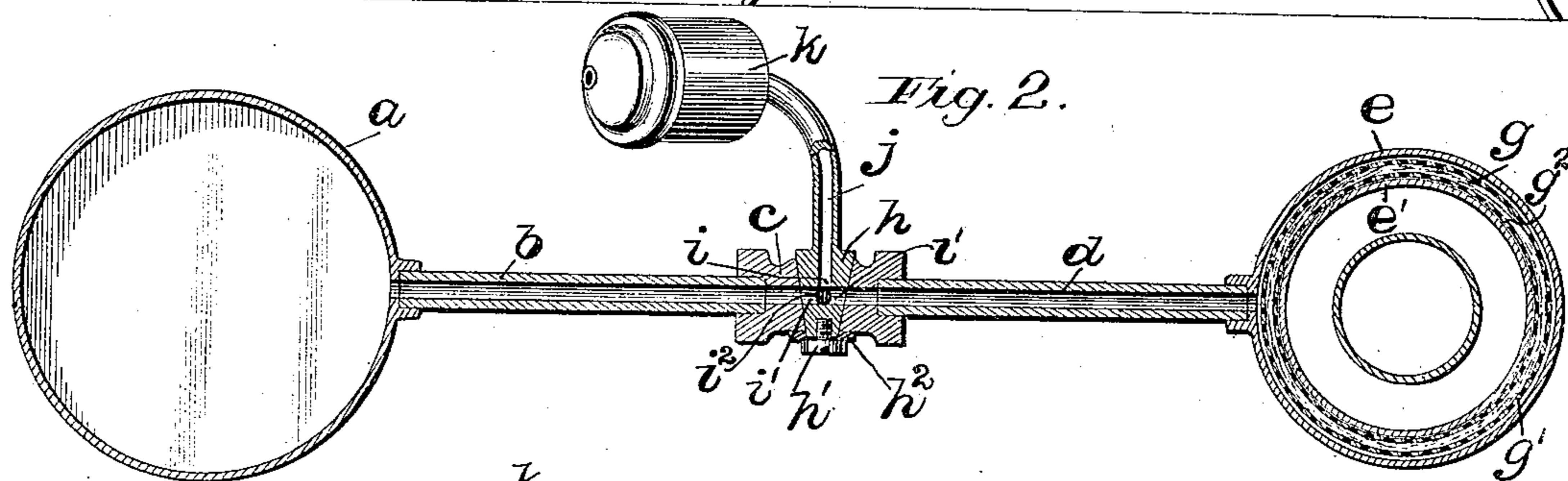
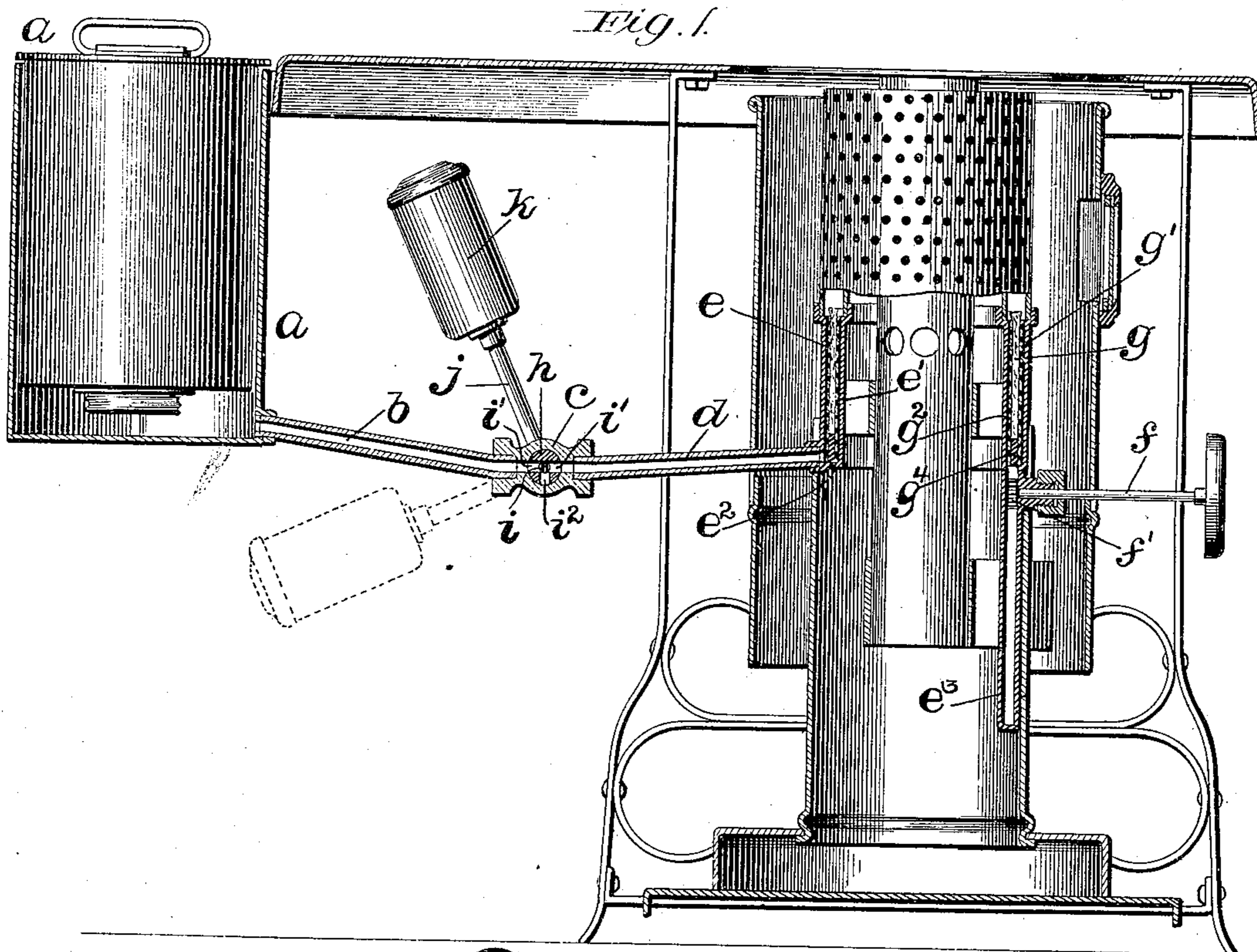
Patented Jan. 10, 1899.

C. H. BOECK.
VAPOR STOVE.

(Application filed June 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.
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Chas. E. Riordan

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Charles H. Boeck
By Julian C. Sewell
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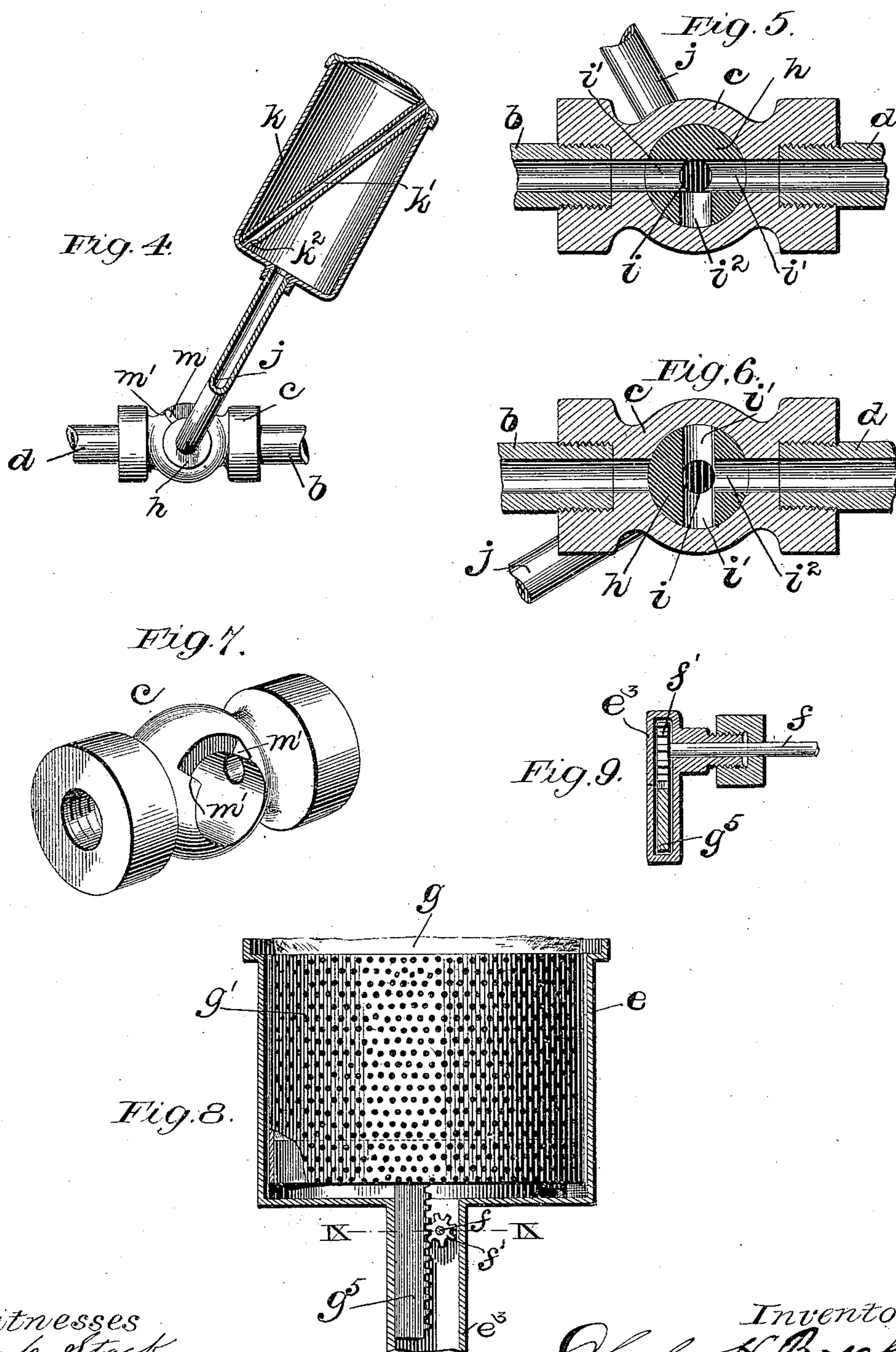
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UNITED STATES PATENT OFFICE.

CHARLES H. BOECK, OF JACKSON, MICHIGAN, ASSIGNOR TO THE NOVELTY MANUFACTURING COMPANY, OF SAME PLACE.

VAPOR-STOVE.

SPECIFICATION forming part of Letters Patent No. 617,694, dated January 10, 1899.

Application filed June 18, 1898. Serial No. 683,774. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BOECK, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Vapor-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of vapor-stoves known as "blue-flame" oil-stoves, and more particularly to the type wherein the wick is non-combustible material, such as asbestos, being employed to feed the oil to the point of vaporization. It is customary in stoves of this type to maintain an oil-level on the student-lamp principle, and it has been proposed to regulate the oil-level in the burner by relative vertical adjustment of the reservoir and burner and to also drain the burner by further changing the relative positions of the latter and the reservoir. I propose to accomplish the desired regulation of the oil-level in the burner and the draining of the latter by means not requiring any alteration in the relative vertical positions of the reservoir and the burner, but means of a simpler and more practical nature than any heretofore proposed.

To this end the invention consists in a number of novel features of construction and combinations of parts recited in the appended claims and embodiments of which are illustrated in the accompanying drawings and specifically described hereinafter.

Of the drawings which form part of this specification, Figure 1 represents a blue-flame oil-stove, for the most part in vertical longitudinal section, embodying the invention, the parts appearing as they would with the stove in operation. Fig. 2 is a horizontal section of the main oil-reservoir, the burner, and the connecting-conduit, together with a sectionalized plan view of a draining attachment. Fig. 3 is a view similar to Fig. 2 in every respect, except that the draining attachment is adjusted for draining purposes, whereas in Fig. 2 it is not so shown. Fig. 4 is a sectionalized side elevation of the draining attach-

ment. Figs. 5 and 6 are enlarged sectional details of the draining-attachment union and plug. Fig. 7 represents the said union in perspective. Fig. 8 is a sectionalized elevation of the burner, and Fig. 9 is a cross-section on line IX IX of Fig. 8.

The supporting-framework of the stove is of the usual form, and at one side a main oil-reservoir *a* is located having the well-known provisions for maintaining an oil-level in the chamber at its bottom similar to those employed in student-lamps. Out of the lower part of this chamber a pipe *b* leads to a union *c*, and out of the opposite end of the latter a pipe *d* leads in an upward inclination to the lower part of that portion of the burner which is usually termed the "wick-tube" and which in the present instance comprises concentric sheet-metal cylinders *e* and *e'* and a closing-flange *e²* on the lower end of one of them. This portion of the burner is also formed with a depending rack-casing *e³*, into one side of which enters a raising and lowering spindle *f*, carrying a pinion *f'* within said casing. The wick is an asbestos band *g*, which is carried in a cup composed of concentric perforated sheet-metal cylinders *g'* and *g²*, and a base-ring *g⁴*, to which they are secured and which forms the bottom of the cup. A rack *g⁵*, Figs. 8 and 9, is fastened to said base-ring and depends within the casing *e³*, where it is in mesh with the pinion *f'*, so that by turning the knob on the spindle *f* the cup, with the asbestos wick, can be raised and lowered. Thus the oil-level in the burner in its relation to the wick can be regulated as desired without changing the position of the burner or the reservoir.

The union *c*, hereinbefore referred to, constitutes a valve-casing, the valve being in the form of a taper-plug *h*, seating in a corresponding transverse opening in the union, in which it is held by a screw *h'*, entering its small end and overlapping the casing, a washer *h²* being interposed. This plug has a central longitudinal bore *i*, ports *i'* in opposite sides thereof, and a third port *i²* at right angles to the ports *i'*. In one position of the plug the ports *i'* are in alinement with the bores of the two pipes *b* and *d*, so that communication is

established between the main oil-reservoir and the burner, as shown in Figs. 1, 2, and 5. In another position of said plug the port i^2 is in alinement with the bore of the pipe d , while communication from the main oil-reservoir is cut off, as shown in Figs. 3 and 6.

There is compounded with the plug a curved pipe j , whose bore is a continuation of the central longitudinal bore of the plug, and this pipe carries an auxiliary tank or reservoir k , said pipe entering one end thereof and being in free communication with its interior, as shown in Fig. 4. This reservoir is of cylindrical form with closed ends; but a vent is provided by a pipe k' , (see Fig. 4,) extending diagonally across its interior, said vent-pipe opening out of one end of the reservoir and having an interior opening k^2 adjacent to the other end thereof.

The auxiliary tank or reservoir and the valve-plug move as one, and means are provided for limiting the movement comprising a pin m , projecting from one side of the plug, (see Fig. 4,) and shoulders m' , forming opposite ends of a recess or notch in one side of the casing or union.

When the auxiliary reservoir is in its elevated position, as shown in Figs. 1, 2, and 4, oil may flow from the main reservoir to the burner and also from the auxiliary reservoir to the burner should there be any oil in said auxiliary reservoir. When, however, the latter is in its lowermost position, as shown in Fig. 3 and indicated in dotted lines in Fig. 1, oil will drain from the burner into the auxiliary reservoir. Upon elevating the latter when the stove is to be again used such oil will run back into the burner. Thus it will be seen that by the simple manipulation of the auxiliary reservoir the burner can be drained of oil when the stove is not in use and danger of accidental combustion minimized.

The auxiliary reservoir can be maintained in its uppermost position merely by friction between the plug and its seat, or other suitable means may be provided.

Of course it is to be understood that the invention here disclosed is susceptible of embodiment in other forms than the one I have chosen to illustrate and specifically describe.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an oil-stove, the combination with the main oil-reservoir, the burner, and the connecting-conduit, of a draining attachment comprising a reservoir and a valve as a uni-

tary structure adjustable to establish communication from both the main oil-reservoir and such drain-reservoir to the burner, or to cut off communication between the main reservoir and the burner and drain the oil from the burner into the reservoir of said attachment.

2. In an oil-stove, the combination with the main oil-reservoir, the burner, and the connecting-conduit, of a draining attachment incorporated in said conduit and comprising a reservoir and a valve as a unitary structure rotatively adjustable to establish communication from both the main oil-reservoir and such drain-reservoir to the burner, or to cut off communication between the main reservoir and the burner and drain the oil from the burner into the reservoir of said attachment.

3. The combination with the burner, the main oil-reservoir and the connecting-conduit, of an auxiliary oil-reservoir having a hollow stem compounded with a plug which intercepts said conduit and is formed with a through-passage to permit communication between the main reservoir and the burner under one adjustment and having a port to establish communication between the burner and the auxiliary reservoir under another adjustment while communication from the main reservoir is cut off.

4. The combination with the burner, the main oil-reservoir and the connecting-conduit, of a hollow plug intercepting said conduit and having ports on opposite sides of its bore which are adapted to establish communication between the main oil-reservoir and the burner, and a port in another side of its bore adapted to establish communication between the latter and the burner while the conduit is closed on the main oil-reservoir side of the plug; and an auxiliary reservoir having a hollow stem compounded with the plug, whereby under one position of said auxiliary reservoir oil may drain from the burner into it, while communication is cut off between the main oil-reservoir and the burner, and under another position of said auxiliary reservoir oil may flow from it to the burner while communication is established between the main oil-reservoir and the burner.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. BOECK.

Witnesses:

D. R. TARBELL,
N. B. BEEBE.