

(No Model.)

P. KELLER.
GAS REGULATOR.

No. 270,079.

Patented Jan. 2, 1883.

Fig. 1.

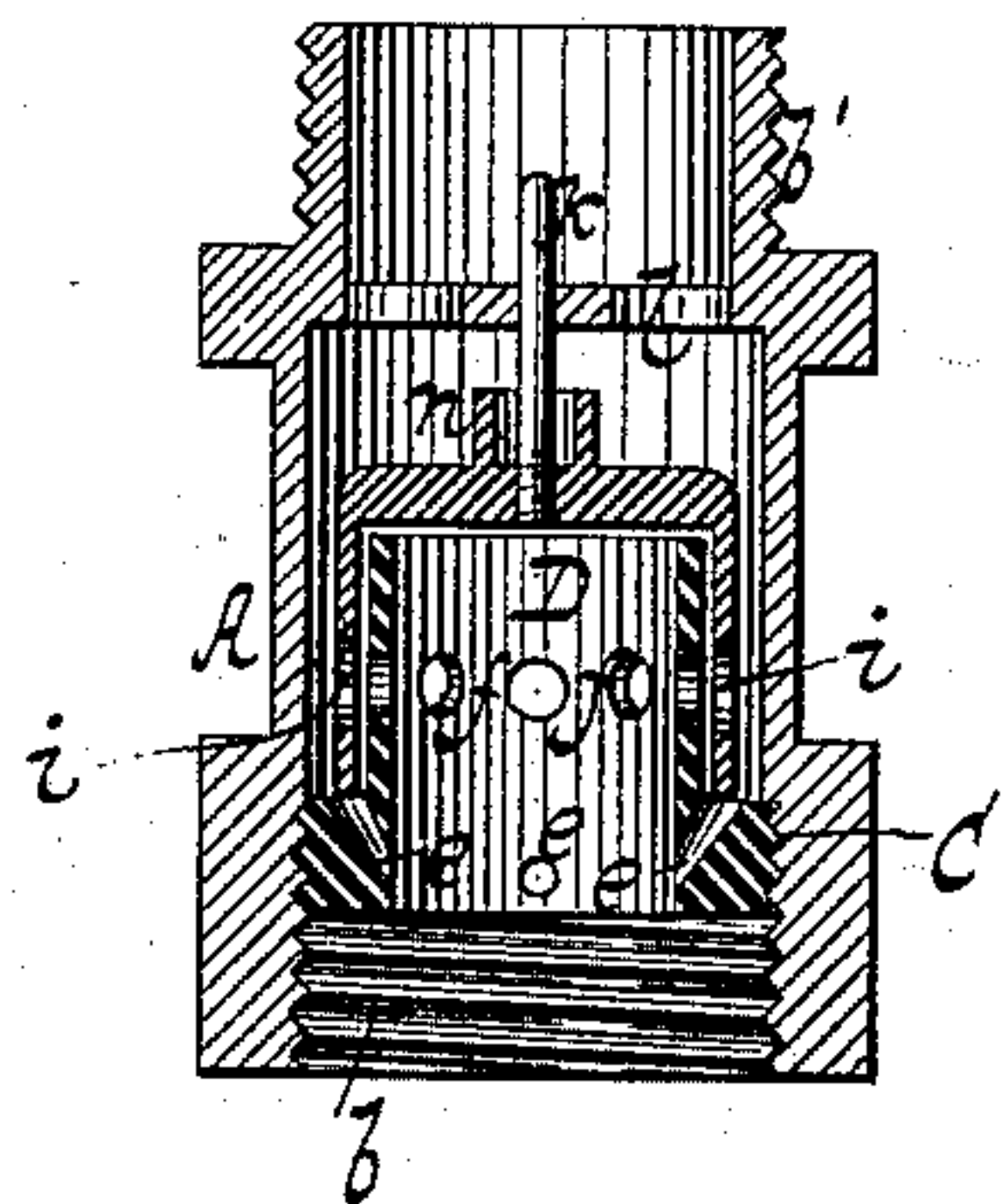


Fig. 2.

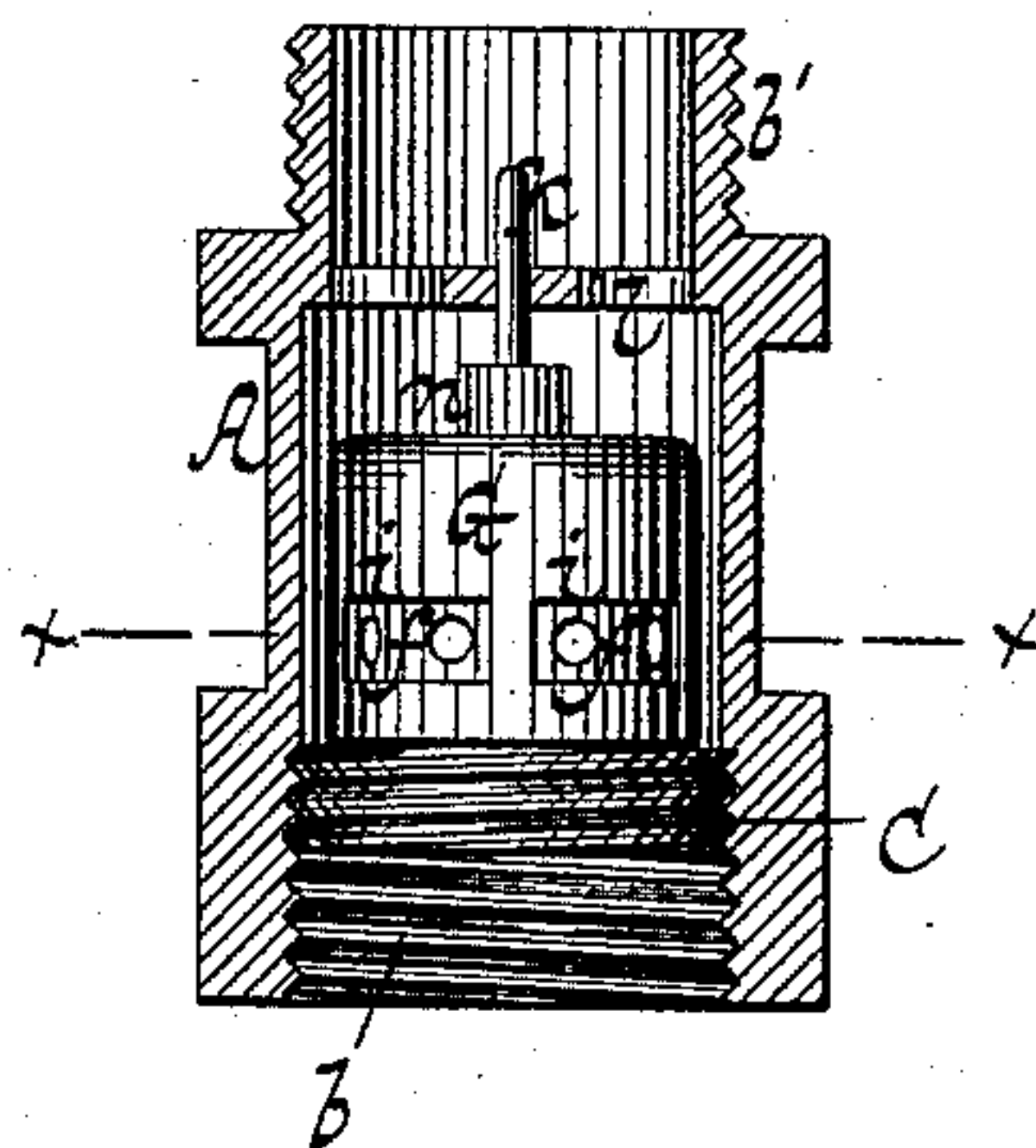


Fig. 3.

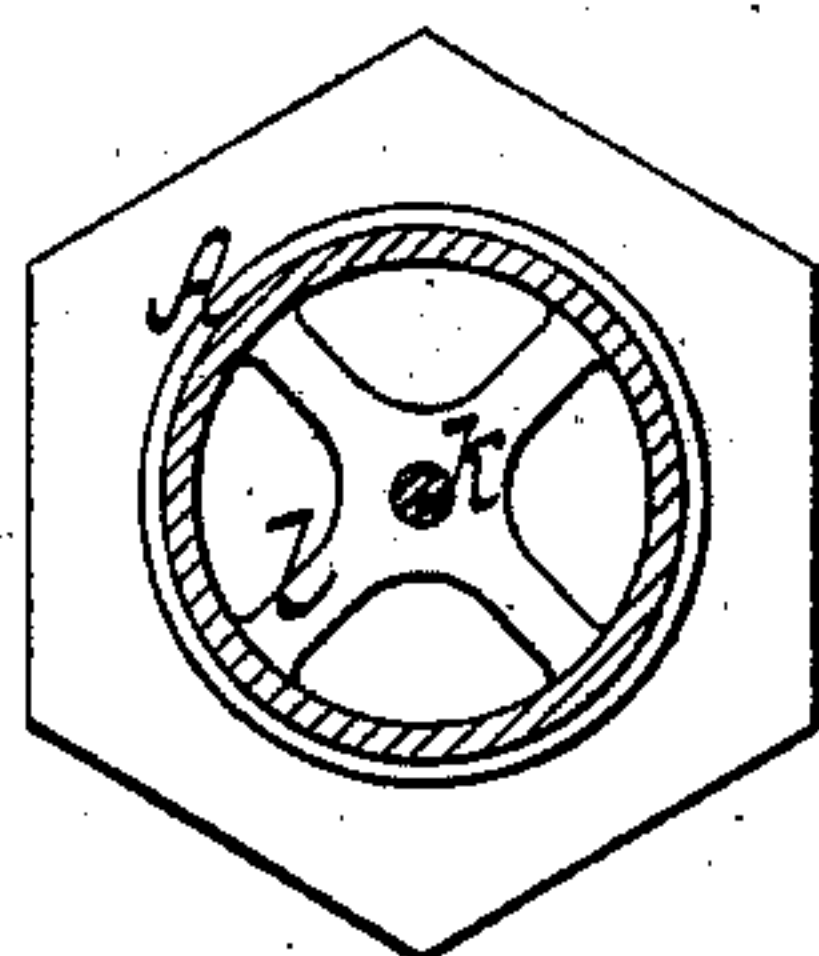


Fig. 4.

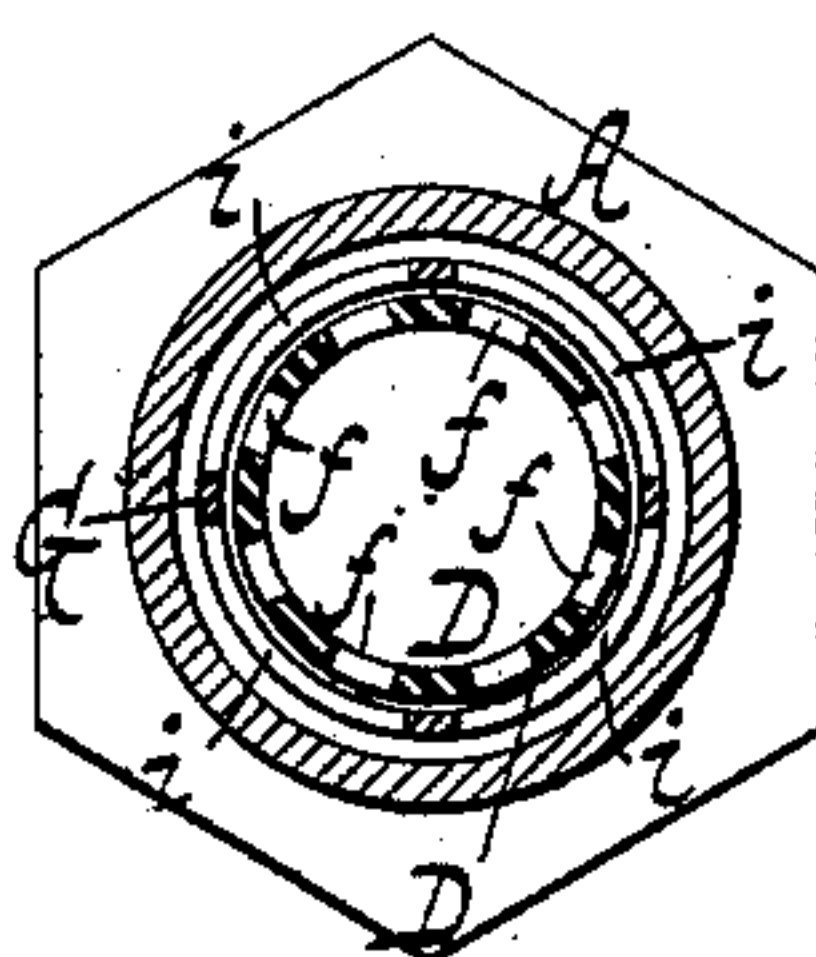


Fig. 5.

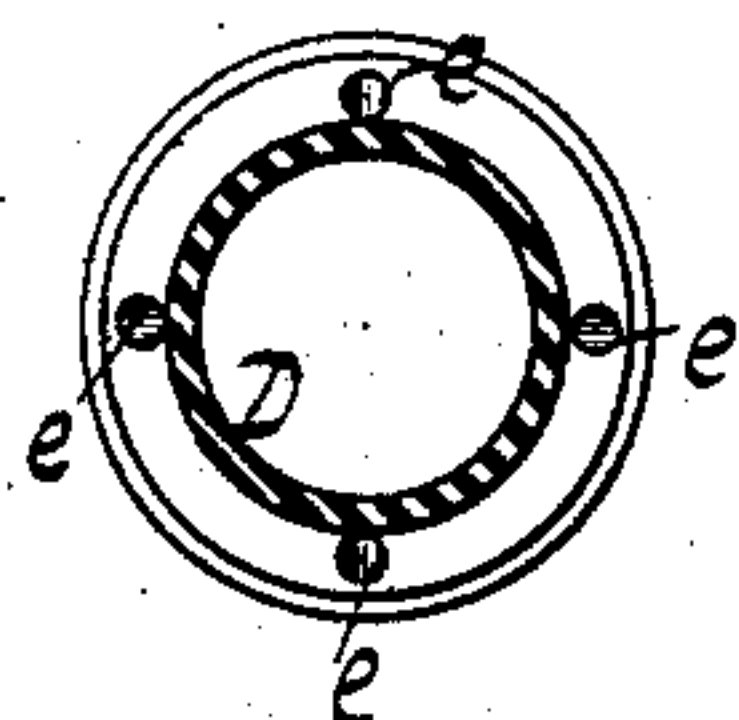
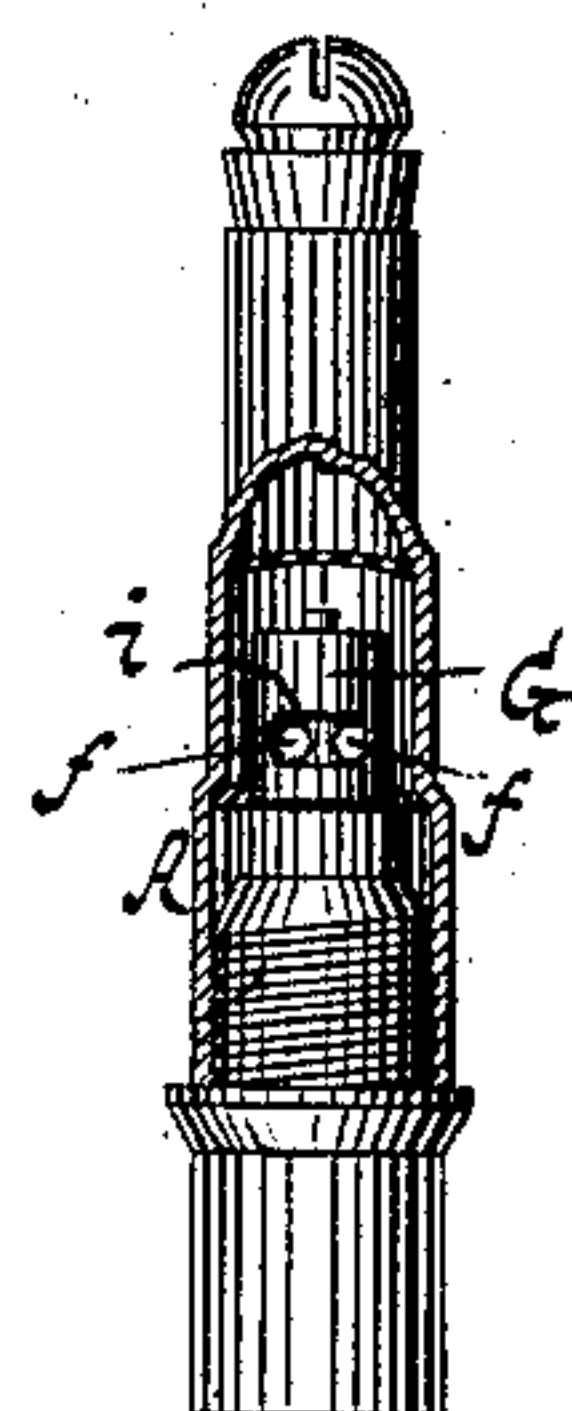


Fig. 6.



WITNESSES:

Chas. Wablers.

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INVENTOR

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UNITED STATES PATENT OFFICE.

PETER KELLER, OF NEW YORK, N. Y., ASSIGNOR TO PHILIP H. HARGRAVE,
OF SAME PLACE.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 270,079, dated January 2, 1883.

Application filed September 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, PETER KELLER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Gas-Regulators, of which the following is a specification.

This invention relates to that class of regulators for which Letters Patent of the United States were granted to me June 27, 1871, No. 116,321; and it consists in the novel combination of parts hereinafter described, whereby the operation of the apparatus is improved.

This invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical central section. Fig. 2 is a similar section, showing some of the parts in side view. Fig. 3 is a plan or top view. Fig. 4 is a cross-section on the line *x x*, Fig. 2. Fig. 5 is a cross-section of the valve-seat. Fig. 6 shows the invention applied to a burner.

Similar letters indicate corresponding parts.

The letter A designates a shell, which is provided with an internal screw-thread, *b*, extending upward or inward from its lower edge, to which thread is fitted a screw-ring, C, having cast or otherwise formed on its inner edge a nozzle, D, projecting in an upward direction. At the junction of this nozzle with the ring C are formed holes *e*, which are inclined in an inward and lower direction, while in the side of the nozzle between its upper and lower edges are formed holes *f*.

The letter G designates a valve of inverted-cup shape, which is fitted on the nozzle D, and provided with openings *i* in its side, such openings being elongated to the shape of slots. Under normal conditions the valve G rests on the ring C, and its openings *i* are situated opposite to the holes *f* of the nozzle D, so that the gas admitted to the nozzle can escape freely in an upward direction, while when the pressure of the gas rises to a sufficient degree to raise the valve the openings *i* are brought above the escape-holes *f*, and the latter are partially closed by the valve. The valve G is weighted to resist the upward pressure of the gas, and it is guided in its vertical movement by a stem, *k*, passing through a bridge, *l*, cast to the shell, while the upward move-

ment of the valve is determined by a hub, *n*, arranged thereon to strike against the bridge.

In case any of the gas flowing through the apparatus should condense, the product of such condensation is permitted to escape through the inclined holes *e*, so that the working of the valve is not liable to be interfered with thereby, the position of said holes being important to the attainment of this object. By the shape of the valve-opening *i* the gas-escape holes *f* are exposed to the fullest extent, and are least liable to be covered by the valve in case the latter should turn by accident to present a solid portion thereof to said holes, so that when the gas is at or below the normal pressure the flow remains uninterrupted. The extent or height of the screw-thread *b* is greater than the width of the screw-ring C, and the position of this ring is at the upper part of the thread, so that a portion of said thread is left free below the ring for the reception of the coupling whereby the shell is joined to the gas pipe or meter at the lower end.

When my invention is applied to a regulator for attachment to gas-meters the shell A is provided with an external screw-thread, *b'*, at the upper end, as shown in Figs. 1 to 4; but when it is applied to gas-burners such thread is omitted, a tip being inserted in the upper end of the shell in the usual manner.

A gas-regulator has heretofore been provided with an interior plug having inclined orifices formed in its vertical wall for the purpose of permitting the escape of condensed vapor resulting from the passing gas, and in another form of regulator an interior nipple has been provided with a cup-shaped valve having a horizontal slot in its vertical wall to register with lateral perforations in the nipple. Such features of themselves are not therefore broadly claimed by me, as my invention comprises a novel combination of devices which provides a very efficient and desirable gas-regulator, capable of performing all the essential functions of a gas-burner in a satisfactory manner.

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

The combination, substantially as hereinbefore set forth, of a shell having the internal screw-thread extending upward from its lower

edge, the screw-ring adapted to said thread
and formed with the upwardly-projecting nozzle
having the inclined water-escape holes at
its junction with the ring and the gas-escape
5 holes in the side thereof, the inverted-cup-
shaped valve fitted on the nozzle and provided
with the elongated openings, which are situated
opposite to the gas-escape holes of the nozzle
under normal conditions, and which are
10 brought above said holes when the valve is

raised by the pressure of the gas, for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

PETER KELLER. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.