

LIQUID FUEL BURNER.

APPLICATION FILED FEB. 27, 1909.

939,121.

Patented Nov. 2, 1909.

2 SHEETS—SHEET 1.

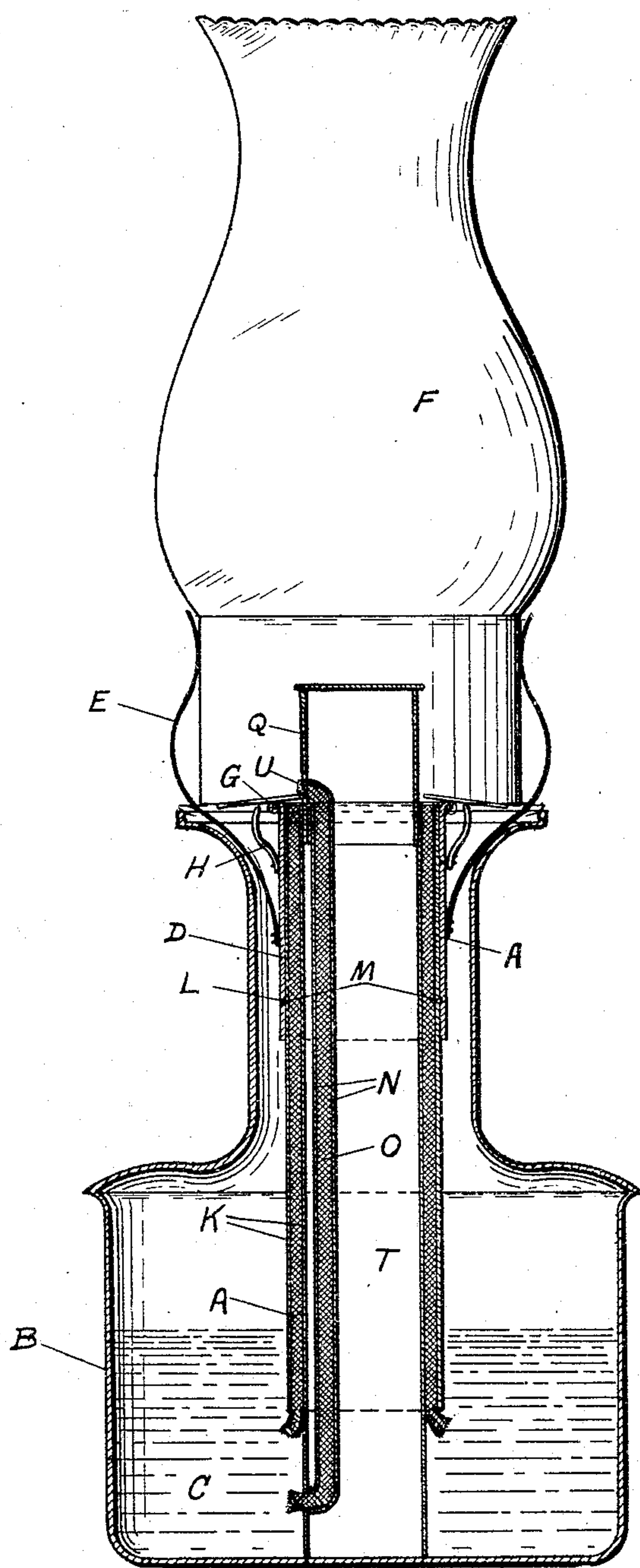


FIG. 1

**WITNESSES**

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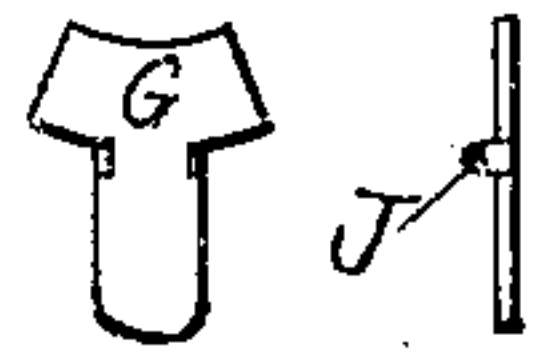


FIG. 6 FIG. 7.

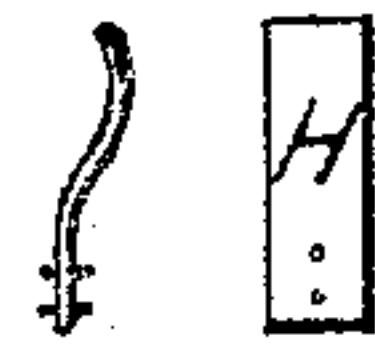


FIG. 8 FIG. 9

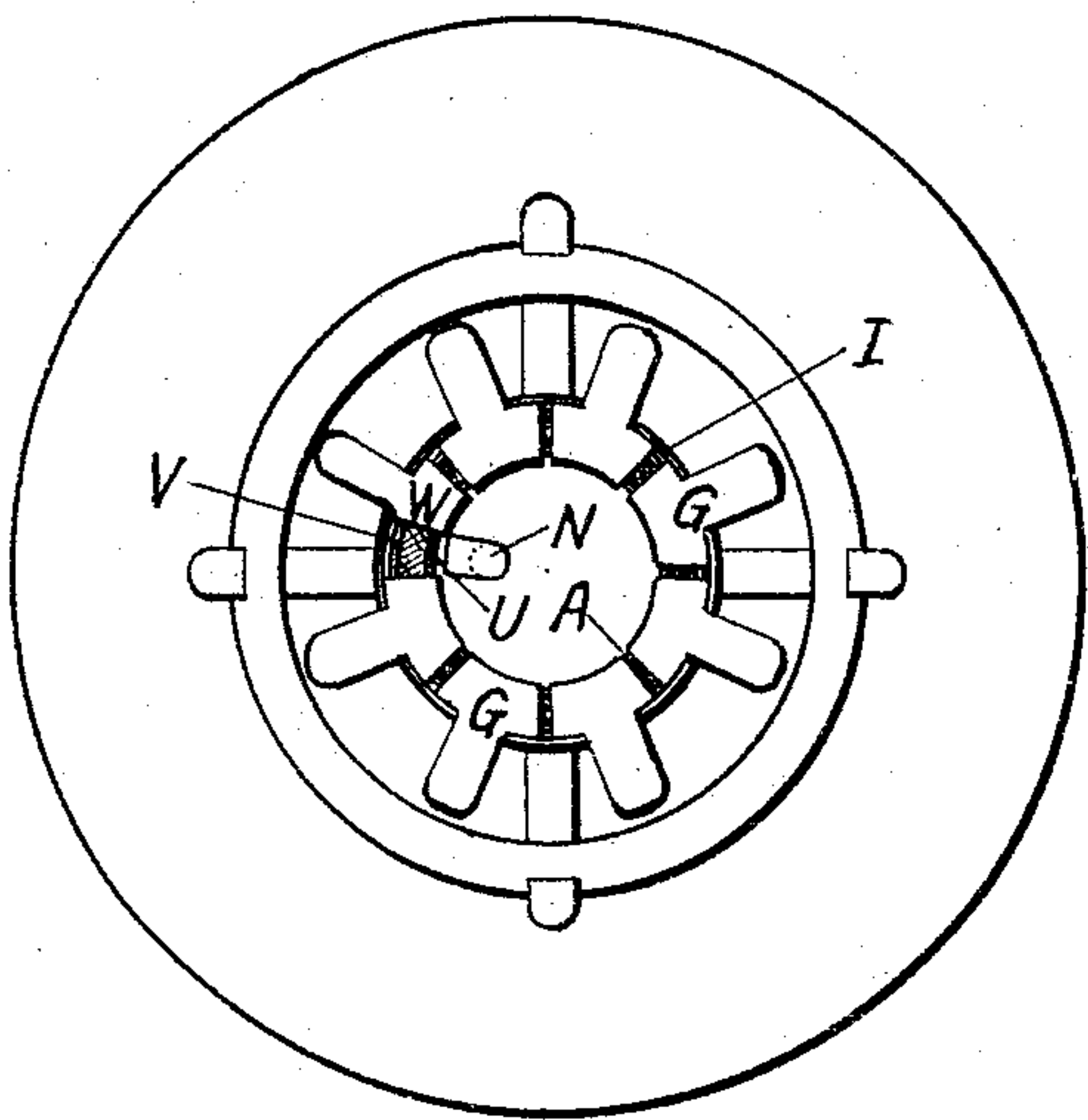


FIG. 2.

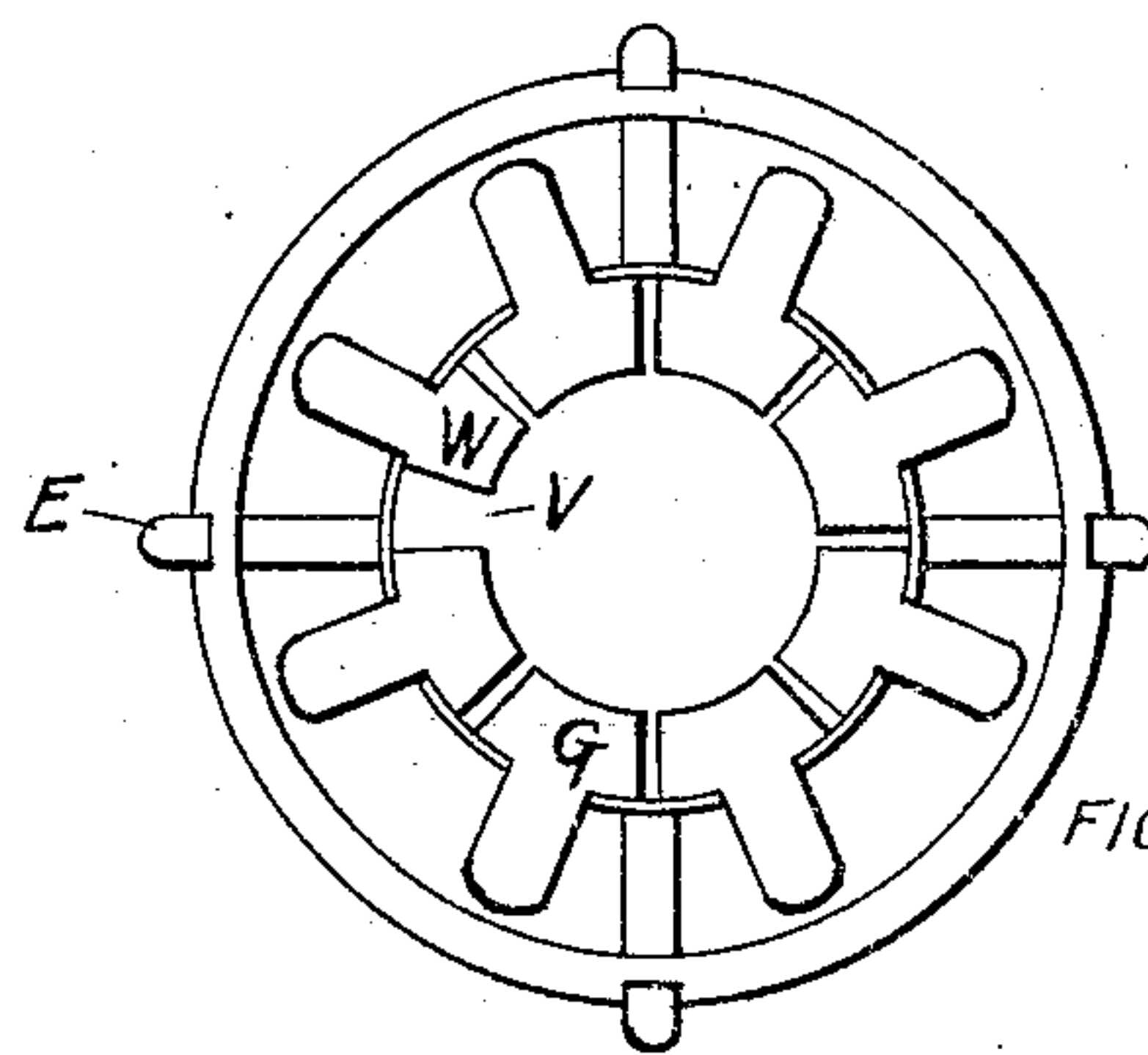


FIG. 5.

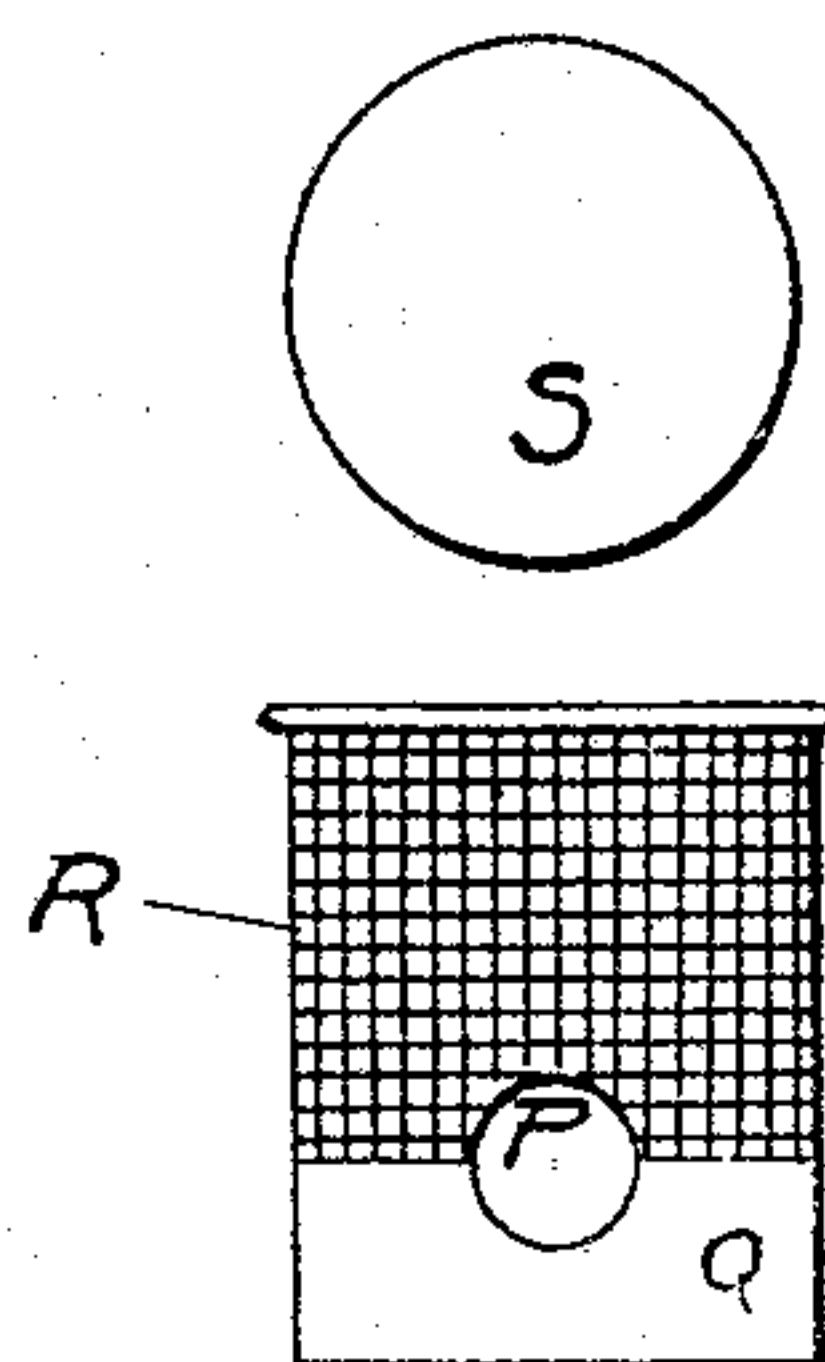


FIG. 3.

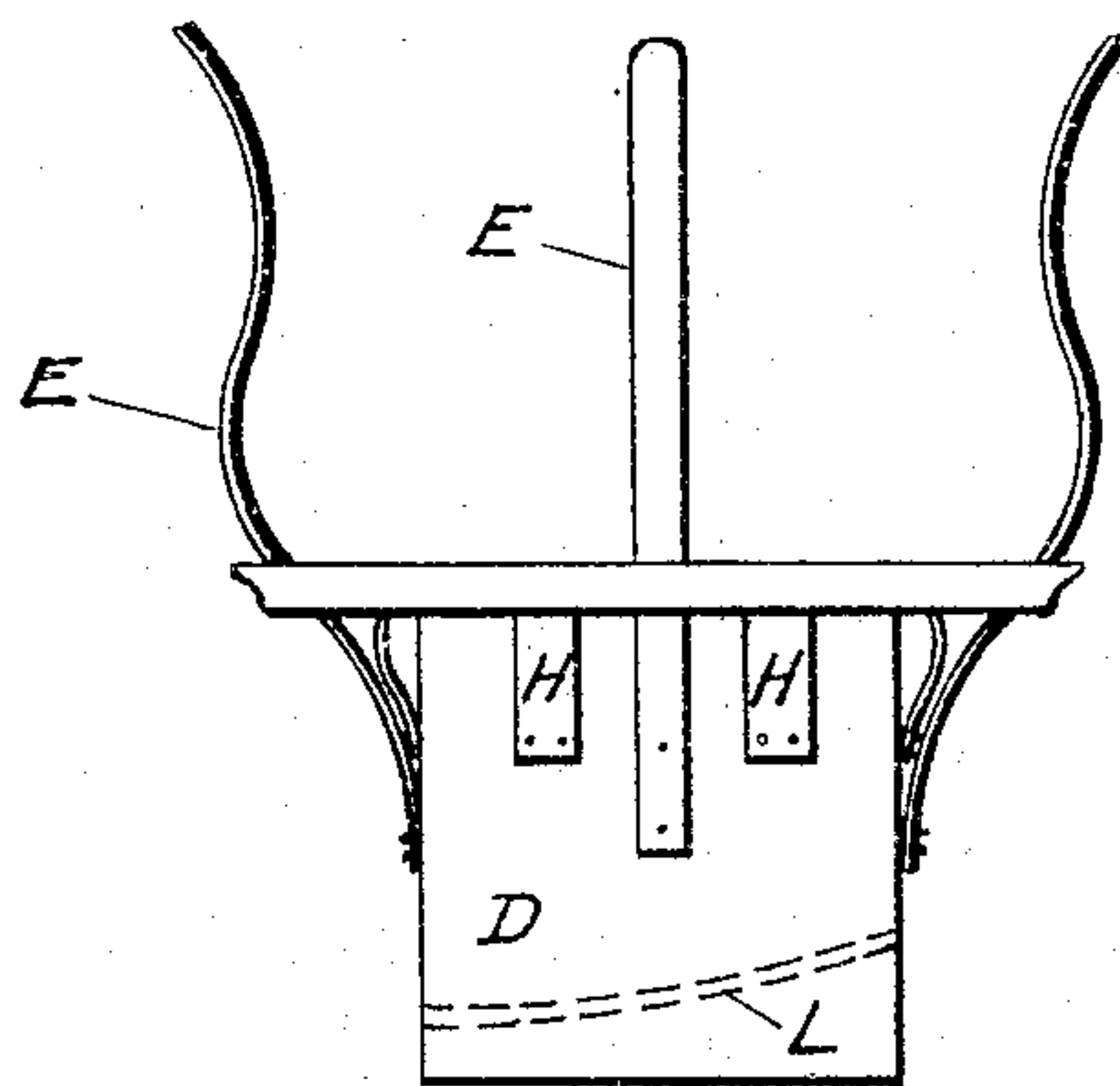


FIG. 4.

WITNESSES

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# UNITED STATES PATENT OFFICE.

CHRISTIAN ANDERSEN BRAATEN, OF BROOKLYN, NEW YORK.

## LIQUID-FUEL BURNER.

939,121.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed February 27, 1909. Serial No. 480,491.

*To all whom it may concern:*

Be it known that I, CHRISTIAN ANDERSEN BRAATEN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Liquid-Fuel Burners, of which the following is a specification.

My invention relates to an attachment for or improvement in such burners which consume liquid fuel by the intervention of a wick.

The object of my invention is to provide a means for relighting the burner without the use of matches or other exterior means, as well as for extinguishing the flame.

When liquid fuel burners are used for lighting or heating purposes, it is convenient to have a perfectly safe means of not only extinguishing the flame but also of relighting the burner without resorting to the use of matches or of other exterior means nor requiring the application of a complicated or costly attachment such as that of electrical ignition. If burners of the class described are so adjusted that the flame is very low there is a tendency for the lamp or heater to emit a disagreeable odor, due to the excessive fuel supply for the reduced area of wick and the consequent discharge of unconsumed gases.

My invention has not only the advantages of permitting the extinguishing and relighting of the burner in a simple, safe and effective manner but also avoids the trouble just described. I attain these objects by means of the attachment illustrated in the accompanying drawings, in which—

Figure 1 is a cross-sectional view of a lamp, having an Argand burner, to which the attachment has been made. Fig. 2 is a top view of the burner after cap shown at Q in Fig. 3, and also shown in section at Q in Fig. 1, has been removed. Fig. 3 is a cylindrical cap whose upper part is perforated but whose head is, however without perforations. This cylindrical cap is also furnished with a small hole in its side for purposes hereinafter explained. Fig. 4 is a side view of the cylindrical ring D with its attachments, and Fig. 5 is a top view of same. Figs. 6 and 7 illustrate respectively a bottom and side view of one of the flaps used to aid in extinguishing the flame as required. Figs. 8 and 9 illustrate respectively

an end and a side view of one of the springs used to cause the flaps to fall on the wick when the cylindrical ring D is screwed upward as hereinafter explained.

I do not confine myself alone to the application of my invention to an illuminating lamp. My invention can equally as well be applied to other liquid fuel burners of which the lamp above referred to is a type.

In all of the illustrations given similar letters refer to similar parts.

In Fig. 1, A represents the main wick of the lamp. It dips into the reservoir B which contains the liquid fuel C. Wick A is cylindrical in shape as shown in Fig. 2. The wick A may be raised or lowered in the usual manner. D is a cylindrical ring; besides carrying the four spring fingers E for holding the chimney F, it also carries a plurality of flaps G shown in detail in Figs. 6 and 7; and an equal number of springs H shown in detail in Figs. 8 and 9. At the upper end of the cylindrical ring D are a number of hinge ends for the reception of a wire I which also passes through the holes J in the flaps, Figs. 6 and 7, permitting the flaps to rock on these points, the wire acting as the pivot in each case. The springs H are also fastened to this cylindrical ring D in such a way that a spring is placed under each flap as shown in Fig. 1. The main wick A moves in a casing K. The cylindrical ring D lies on the outside of and surrounding said casing K. A helical groove shown in section at L in Fig. 1, and in elevation at L in Fig. 4, is formed on two sides of the cylindrical ring D. These grooves operate on the small pins M, Fig. 1, in such a manner that when cylindrical ring D is turned by hand in any convenient manner said cylindrical ring will be caused to move axially either upward or downward according to the direction of turning and the manner in which the groove was formed, the wick casing being relatively stationary, the action being similar to that of a screw and nut. When therefore the cylindrical ring D is screwed downward the inner portion of the flaps G are caused to rise, uncovering the main wick A and permitting same to be lighted. In a tube N lies an auxiliary wick O which protrudes through a hole P in cap Q better shown in Fig. 3. This cap Q is also cylindrical in form and is placed inside of the main wick casing K. It is per-



forated at its upper portion as shown at R. Its head or upper end S, however, has no vents through it. The purpose of the perforations R is to permit the air which passes  
5 through the central duct of the lamp T to be emitted at the top, in a manner similar to that of all Argand burners. The auxiliary wick O is at all times lighted at U. It acts as a pilot light and when main wick  
10 A is uncovered, as described above, said pilot light, lights said wick. In order to extinguish the light it is only necessary to screw the cylindrical ring D upward when the springs H will cause the flaps G to close  
15 down on top of wick and the flame will be extinguished, a small pilot light as mentioned above, alone remaining lighted. In order to prevent the extinguishing of the pilot light when the flaps are closing down  
20 on the main wick, it has been found expedient to allow a little opening at V. This is done by cutting one of the lips of one of

the flaps W a little shorter than the rest as shown in Figs. 2 and 5.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

In a liquid fuel burner the combination of a main wick tube, an auxiliary wick, an axially movable cylindrical ring with a plurality of flaps and springs attached to said ring, and so constructed as to permit the closing of said flaps on top of main wick in such manner that they do not interfere with nor fall on top of one another; also permitting return to initial open state essentially as described.

Signed at Brooklyn, N. Y., this eighteenth day of February, 1909.

CHRISTIAN ANDERSEN BRAATEN. [L. s.]

Witnesses:

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