

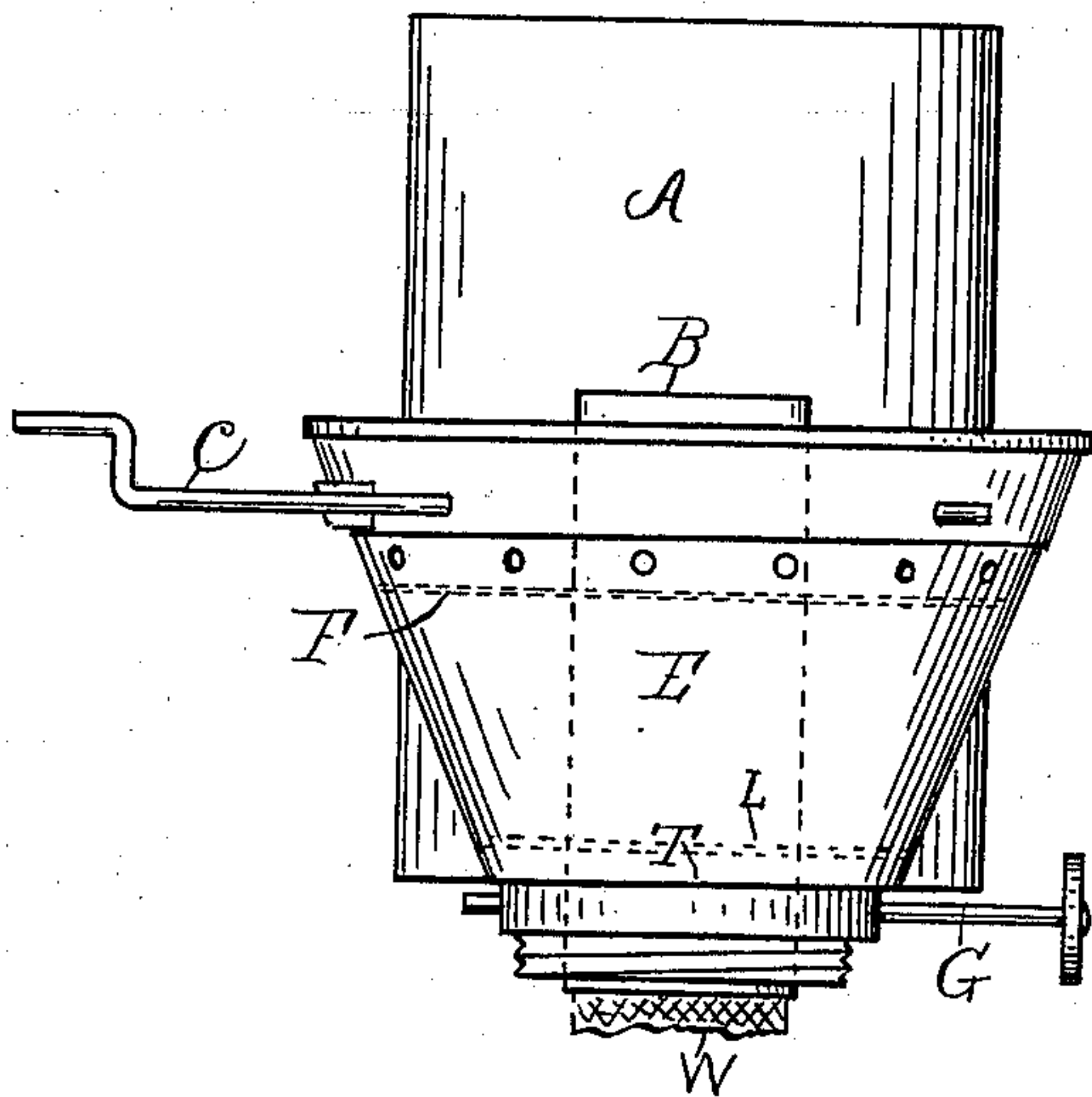
(No Model.)

L. R. OAKES.  
LAMP BURNER.

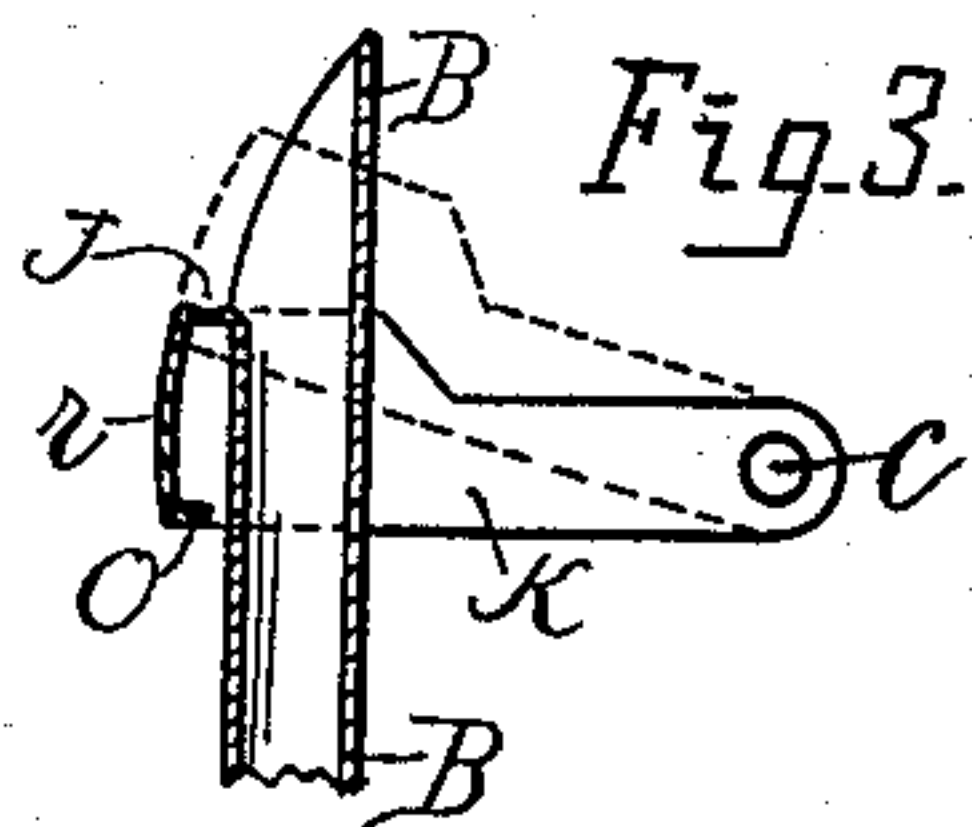
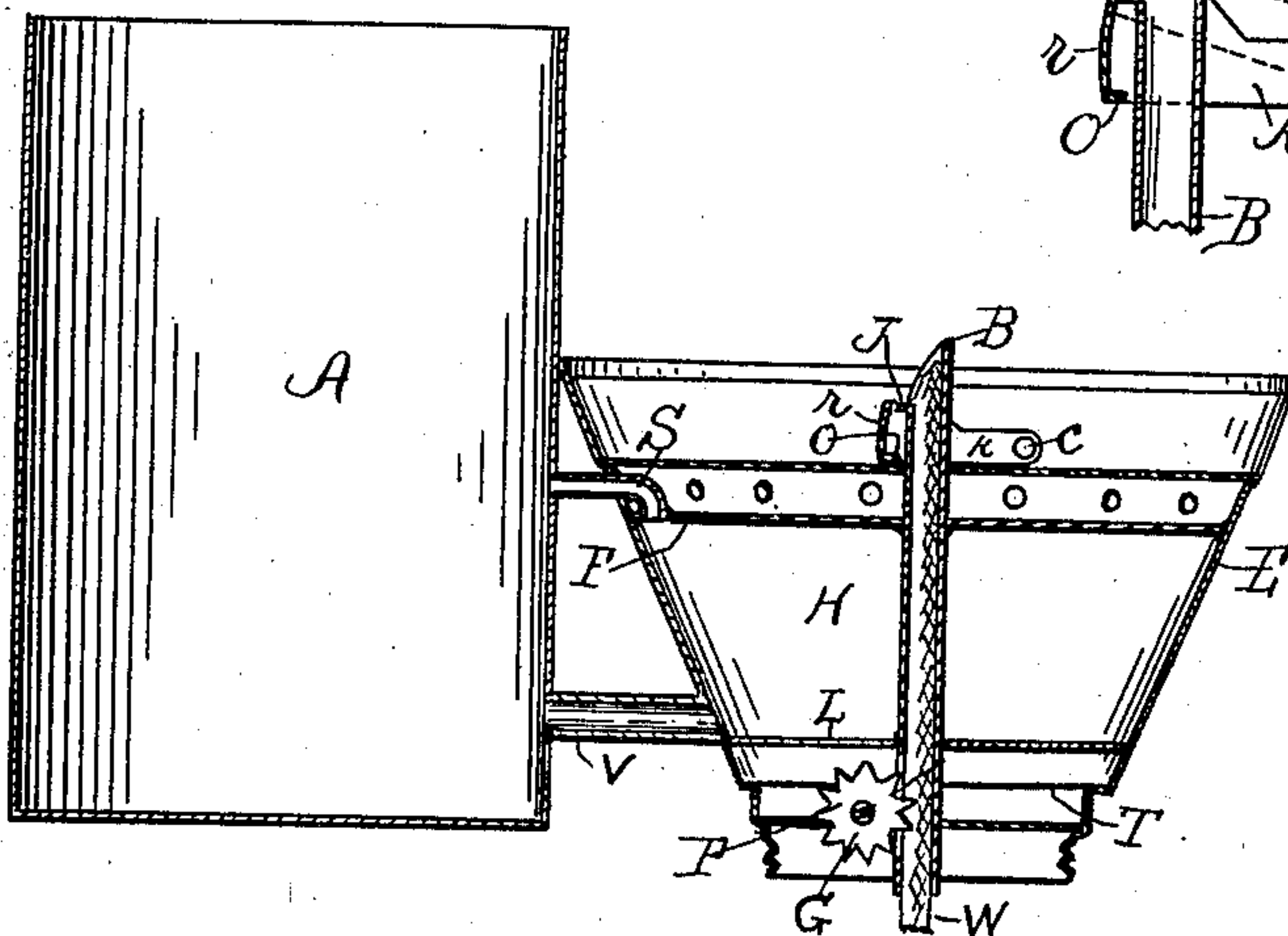
No. 604,412.

Patented May 24, 1898.

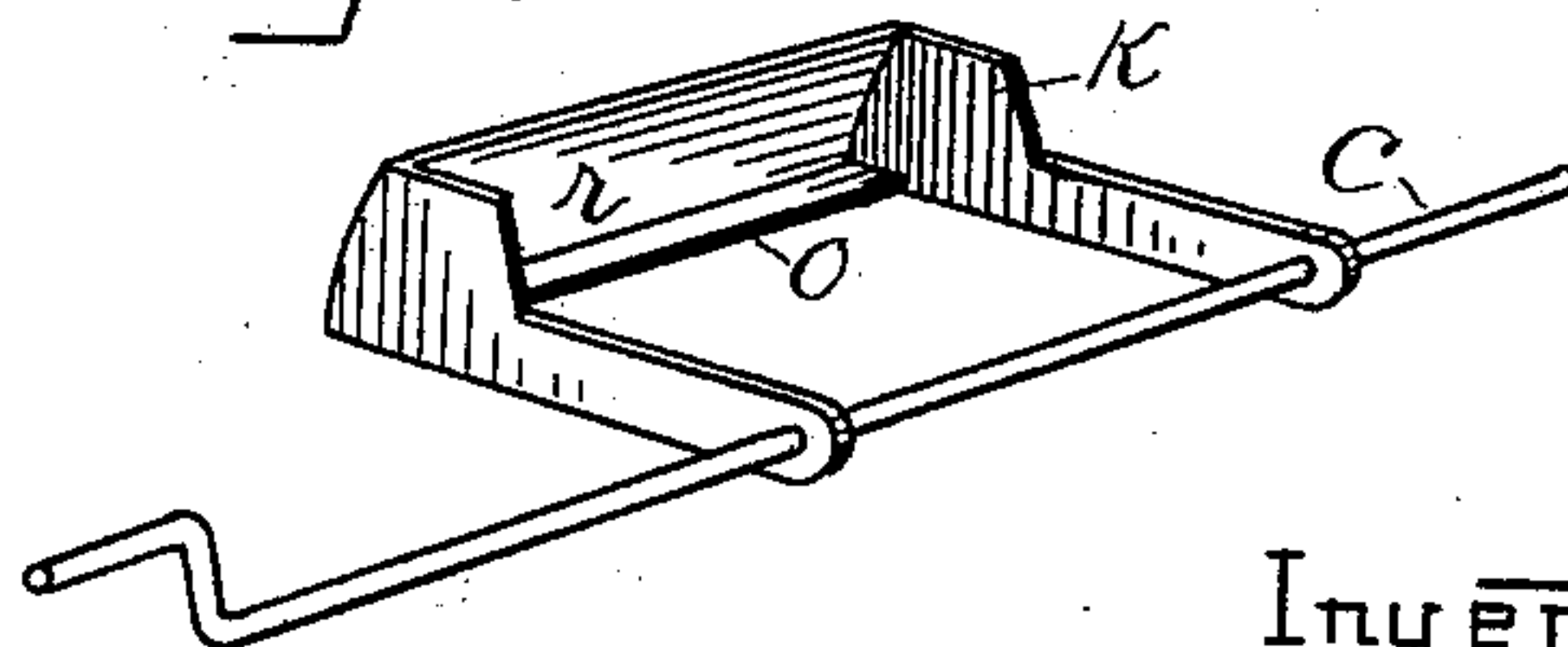
*Fig. 1.*



*Fig. 2.*



*Fig. 4.*



Witnesses:

Herbert Corwell.  
Ella V. Schrauff

Inventor:

Lucian R. Oakes By  
Thos W. Hutchins atty



# UNITED STATES PATENT OFFICE.

LUCIAN R. OAKES, OF BLOOMINGTON, INDIANA.

## LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 604,412, dated May 24, 1898.

Application filed January 15, 1898. Serial No. 666,795. (No model.)

*To all whom it may concern:*

Be it known that I, LUCIAN R. OAKES, a citizen of the United States of America, residing at Bloomington, in the county of Monroe and State of Indiana, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a specification.

This invention relates to certain improvements in burners for lamps, which improvements are fully set forth and explained in the following specification and claims, reference being had to the accompanying drawings, and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a front elevation. Fig. 2 is a central longitudinal vertical section. Fig. 3 is a central vertical section of the upper portion of the wick-tube and of a damper connected therewith for regulating the flame, and Fig. 4 is a perspective view of the damper and its rock-shaft detached from the lamp.

Referring to the drawings, E represents what is usually termed the "burner" of an ordinary lamp, having a centrally-located wick-tube B and an ordinary wick-wheel P and the shaft G for elevating and lowering the wick W. The burner E is provided with a water-jacket H, surrounding the wick-tube, formed by the sides of the burner E and the upper diaphragm F and lower diaphragm L.

A is a water-reservoir, connected with the burner E by means of the pipes S and V, the pipe V serving as an inlet leading from the reservoir to the water-jacket of the burner and the pipe S connecting the upper part of the water-jacket H with the reservoir and forming a vent for escape of air in the water-jacket H when water is turned into the reservoir to fill the water-jacket, so the water-jacket can be filled full.

K is a damper attached to a rock-shaft C, having its end cranked, so it can be oscillated, and thereby oscillate said damper within certain limits. The back of the wick-tube B is cut away, as shown in Figs. 2 and 3, so the wick will be in close proximity to the damper within the limits of said cut-away portion of the wick-tube. The cut-off upper edge of the wick-tube terminates in a horizontally-extending flange J, and the lower part of the damper r is provided with an inwardly-extending flange o for engaging the under

side of the wick-tube flange J, which is for the purpose of preventing flickering and smoking of the lamp. The part r of the damper moves up and down the exposed side of the wick and is for the purpose of regulating the size of the flame. The crank of shaft C is intended to be connected with a thermostat in an incubator, (not necessary to be shown,) which will operate the damper to regulate the size of the flame to preserve an even temperature in the incubator. It is not new to surround the wick-tube with a water-jacket to keep it cool; but it is new to connect the water-jacket with a reservoir by means of two tubes or pipes, the upper one operating as a vent in order to permit the water-jacket to fill full.

This lamp-burner is intended to be used more particularly in an incubator, where it is very necessary to control the lamp-flame and prevent it from flickering and smoking, so as to preserve an even temperature in the incubator. In order to accomplish said purpose, it is necessary first to prevent the wick-tube from becoming overheated, which is accomplished by the use of the water-jacket H, surrounding the wick-tube, and by having the two pipes arranged one above the other for connecting the water-jacket with the reservoir. The water-jacket is not only filled full to its top, but as the water becomes heated in its upper part a circulation is caused, so that cold water will pass into the water-jacket through the lower pipe V, and thus keep the water in the jacket cooler than if there were no circulation, and an even uniform temperature is preserved in the wick-tube. This being accomplished, the damper can more easily control the flame, because the wick-tube will not get hot and cause the flame to become very great and dangerous. This damper construction is only intended to be used in a lamp having means for preserving an even temperature in the wick-tube, such as the water-jacket shown, for without such a water-jacket the damper would not operate to preserve a uniform temperature in the incubator to which it is intended to attach the lamp, so that the water-jacket and damper depend upon each other to produce the results attained.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. In a lamp-burner, the combination of the burner E, wick-tube B having its upper rear  
5 side shorter than its opposite side and having the flange J, the damper o, r, and rock-shaft C all arranged to operate substantially as and for the purpose set forth.

2. In a lamp-burner, the burner E having a  
10 water-jacket H formed of the sides of the burner and the two diaphragms F and L and arranged to surround the wick-tube, in com-

bination with a reservoir A, and the pipes S and V for connecting said water-jacket and reservoir, said pipes being arranged one above 15 the other so that said water-jacket may be filled full, and so that water may have a circulation from the reservoir to the water-jacket substantially as specified.

LUCIAN R. OAKES.

Witnesses:

WM. A. RICE,  
H. A. LEE.