

(No Model.)

C. PABST.  
LAMP BURNER.

No. 462,991.

Patented Nov. 10, 1891.

Fig. 1.

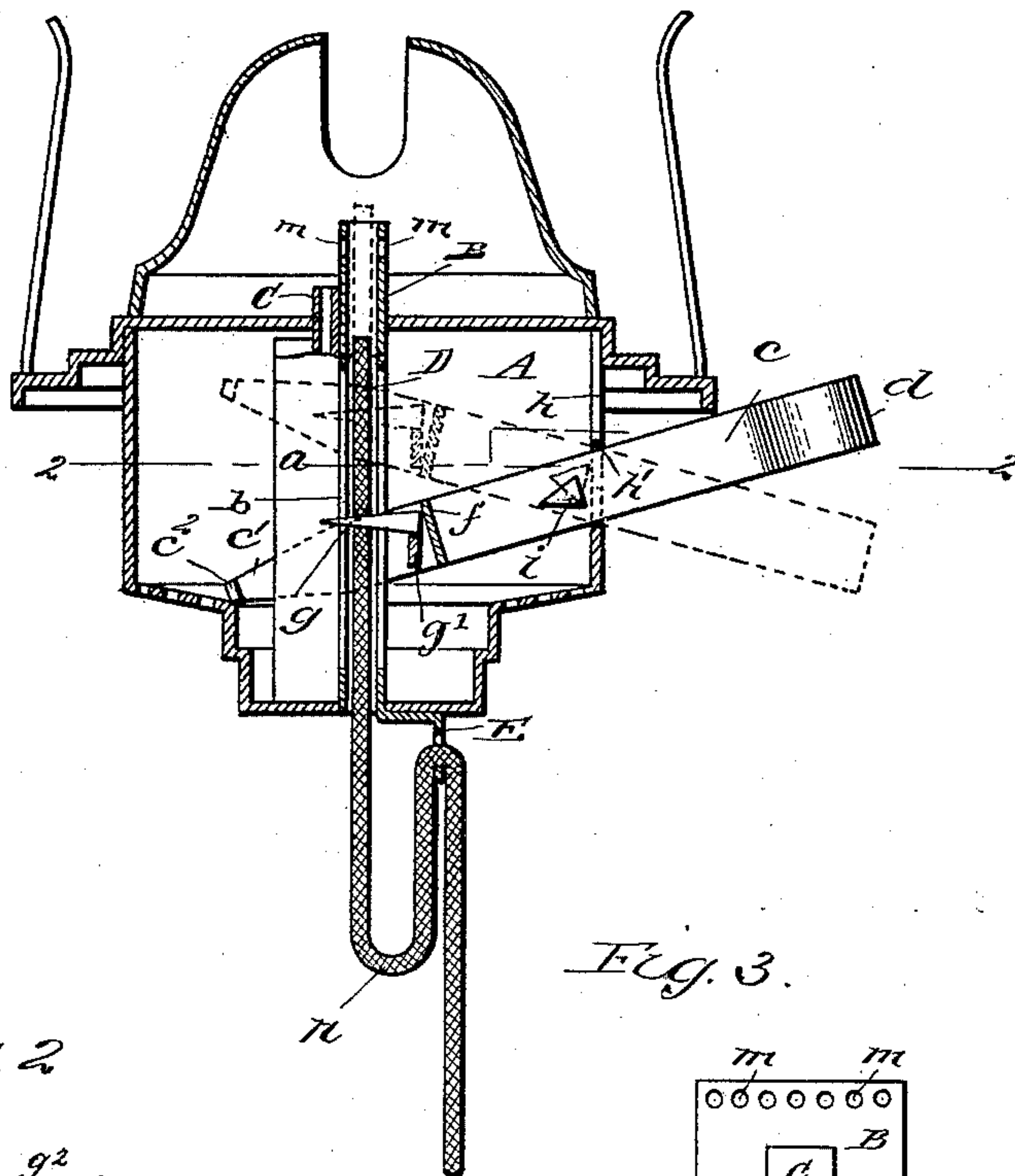


Fig. 2.

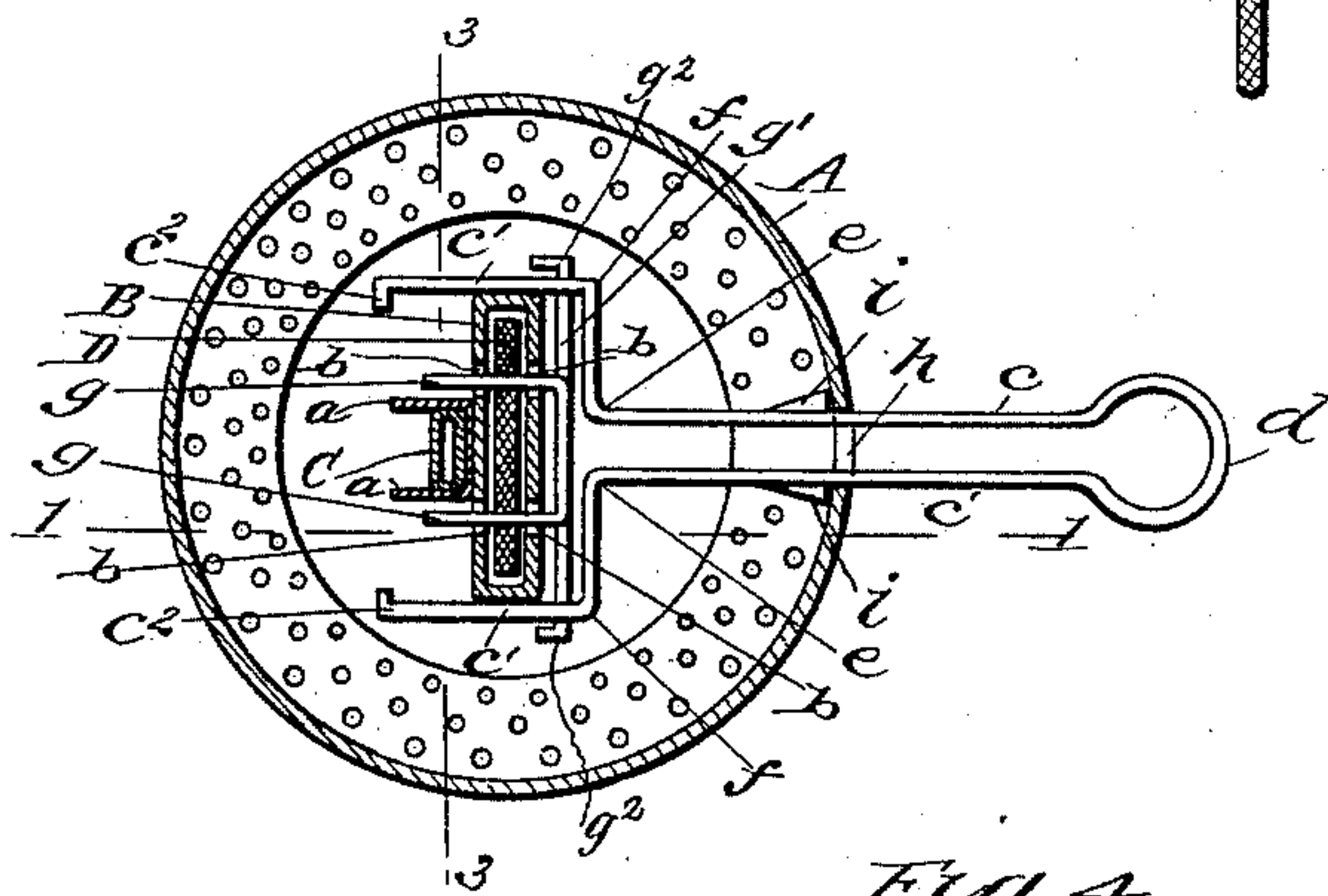


Fig. 3.

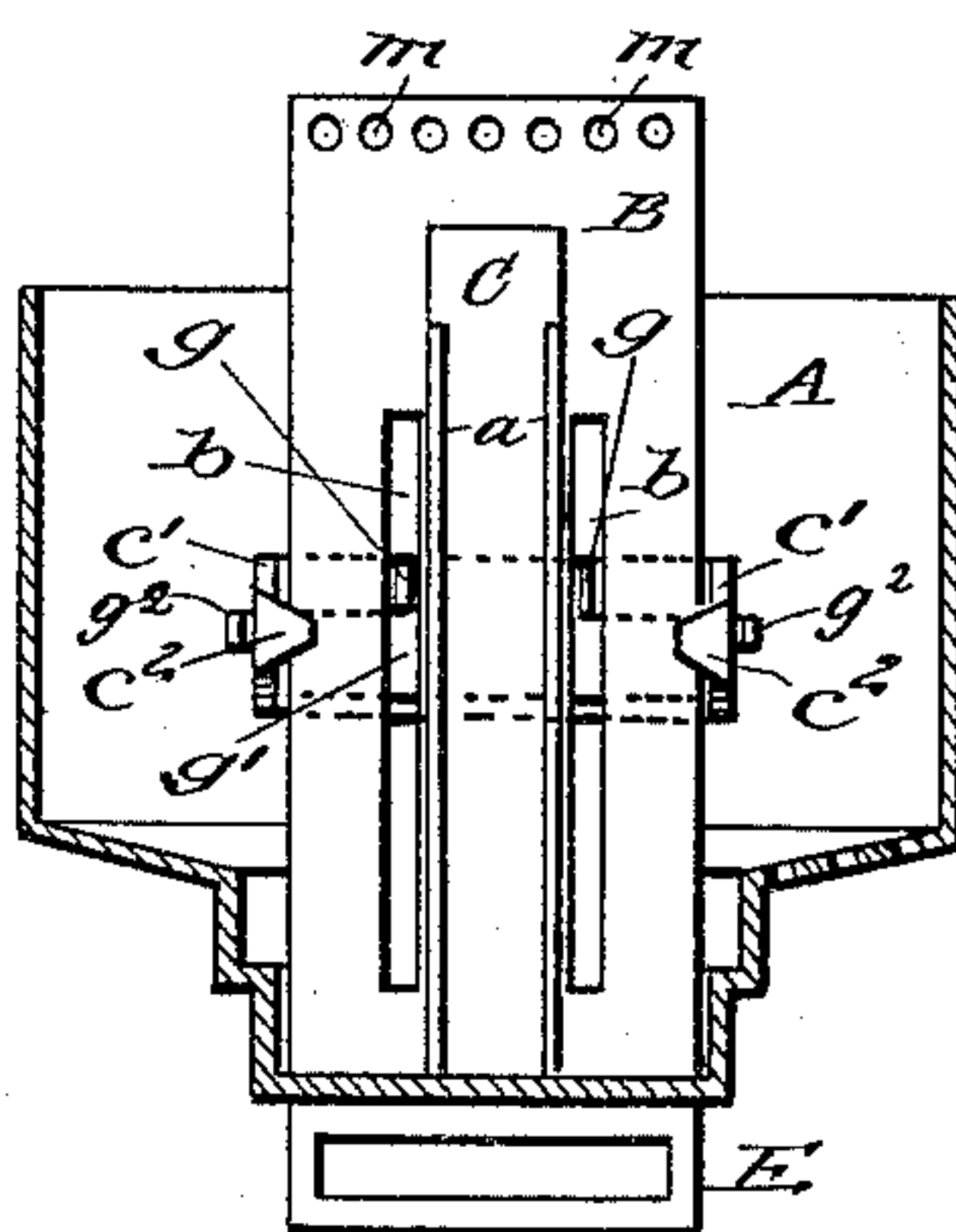
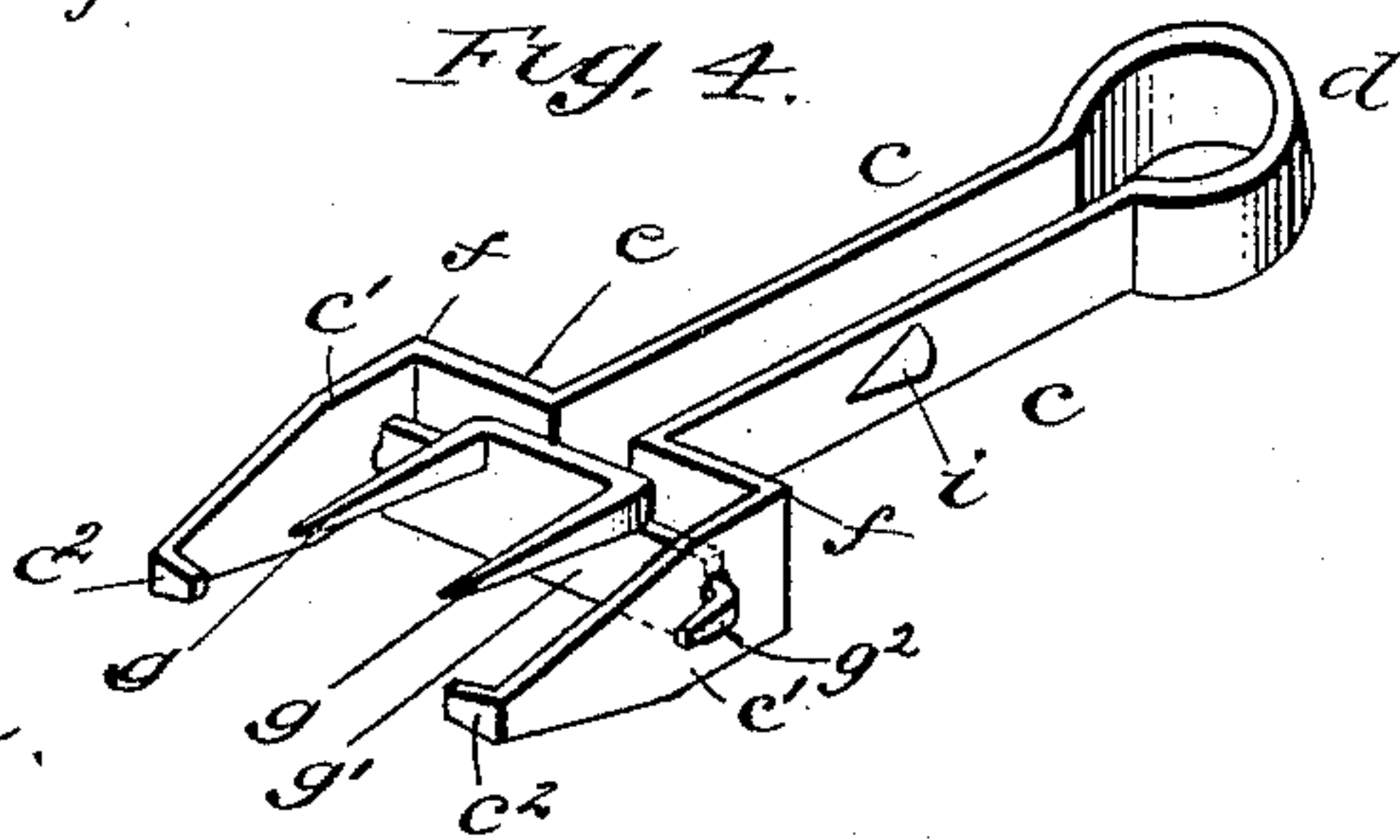


Fig. 4.



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# UNITED STATES PATENT OFFICE.

CHARLES PABST, OF PHILADELPHIA, PENNSYLVANIA.

## LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 462,991, dated November 10, 1891.

Application filed December 30, 1890. Serial No. 376,203. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES PABST, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Lamp-Burner, of which the following is a full, clear, and exact description.

The objects of this invention are to provide a lamp-burner using a flat wick with an improved wick suspender and adjuster, and improved means for increasing the oil-feeding capacity of the lamp-wick when in service.

To these ends my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section of the burner, taken on the line 1 1 in Fig. 2. Fig. 2 is a horizontal section of the burner, taken on the line 2 2 in Fig. 1. Fig. 3 is a vertical section of the burner, taken on the line 3 3 in Fig. 2. Fig. 4 is a perspective view of the lamp-wick supporter and adjuster.

The air-chamber A of the lamp-burner is of ordinary form and is provided with a flat wick-tube B, centrally located and vertically supported, there being an air-passage afforded by a vertical tube C, which extends from the bottom wall of the air-chamber to its top wall and is laterally sustained by the wings a, which extend outwardly from its opposite sides a proper height. The wick-tube B is preferably made of such proportionate size in cross-section that the wick D will be loose within it, as shown in Fig. 1, and to support said wick, as well as to adjust it vertically, an improved device is provided, which will be hereinafter described. There are two vertical and parallel slots b cut in each of the opposite walls of the wick-tube B, as indicated in Figs. 1, 2, and 3, which slots extend from a point near the lower wall of the burner, of a proper length for the free operation of the wick-supporter, which consists of a pair of flat spring-limbs c, joined by a bow d and bent outwardly at e in the same plane at right angles to the main portion of the limbs. At f the laterally-projected portions of the limbs c are bent to produce parallel arms c',

which will loosely embrace the edge walls of the wick-tube B, and at their free ends a toe c<sup>2</sup> is turned inwardly on each arm. The slots b in the wick-tube B are located on each side of the central air-tube C, as shown in Fig. 2, and are of a width to loosely receive the parallel pointed fingers g of a wick-carrier that is formed from a single piece of sheet metal. The fingers g are integral portions of a strip g', which has pintle ends g<sup>2</sup> formed on it that are inserted in opposite perforations in the arms c', near the corners f, and bent laterally on the outside of the arms to retain the fingers in position on the arms free to rock a proper degree, which is limited by the contact of the supporting strip or bar g' with the lateral extensions of the limbs c. The spring-limbs c are inserted in the burner air-chamber A by sliding them down a vertical slot h, formed in the wall of said chamber opposite the transverse center of the flat sides of the wick-tube, which slot is laterally widened near its lower terminal, so as to produce shoulders at h' on each edge of the slot oppositely, whereon the upper edges of the limbs c will have loose contact when the parts are assembled, there being lateral projections formed on the limbs c at i, which bear upon the inner surface of the air-chamber wall when the limbs spring apart after their introduction. The lower edge of the slot h is located near the longitudinal center of the wick-tube slots b and serves as a fulcrum whereon the limbs c may be vibrated.

In use the wick supporting and adjusting device is inserted within the chamber A and the fingers g passed through the opposite slots b of the wick-tube, engaging the wick D, that is slid upwardly in the tube, its relative dimensions being such as will admit it freely and allow air that enters the slots to pass upward, thus furnishing oxygen at the point of ignition above, which is one advantage secured by the use of a comparatively thin suspended wick. The spring action of the limbs c, in conjunction with the rocking fingers g, will enable the accurate vertical adjustment of the wick D and retain it suspended at any desired point, having but a slight frictional contact with the walls of the wick-tube, whereby the capillary action of the wick is rendered more perfect and the adjustment of the wick facili-



tated, the rocking movement of the fingers *g* keeping them nearly level when the wick is raised or lowered.

When the wick-adjuster has to be altered  
 5 in position to take a position such as is shown by full lines in Fig. 1, the limbs *c* are compressed to permit the projections *i* to slide through the slot *h*. Then they are drawn outwardly, so as to remove the fingers *g* from  
 10 the wick-tube slots, the arms *c'* preserving their lateral alignment with said slots *b*, the toes *c''* on the ends of the arms preventing the arms from being drawn out too far. After the limbs *c* are rocked downwardly a proper  
 15 distance they are compressed to return the fingers *g* to their normal position in the wick-tube slots, which will afford means for the vertical adjustment of a fresh portion of the wick.

20 Across the parallel sides of the wick-tube B, near its upper edge, a row of opposite holes *m* is formed in each side, as shown in Figs. 1 and 3, which holes aid the combustion of oil when the wick is ignited by the  
 25 admission of oxygen just below the point of ignition. Said holes *m* also complete the extinguishment of the lighted wick if it is drawn down into the tube B, as they admit a cross-current of air that will contribute to such a  
 30 result.

On the lower end of the wick-tube B a wick-suspending loop E is formed or secured, which is made to depend from the lower end of the air-chamber A, as shown in Fig. 1, it being  
 35 laterally removed a proper distance from the vertical wick-tube passage, so that the wick D may be hung upon the loop in a doubled condition. The suspension of the wick D in folds, as shown, aids the combustion of oil at  
 40 the point of ignition, as the vertical lift from the oil-reservoir is shortened. The oil is lifted to the point where the wick engages the loop E, flows by gravity to the bend N in said wick, where it accumulates, and from this  
 45 point is again raised a short distance by capillary attraction to the top of the burner, thus avoiding a long direct lift for the oil, which causes imperfect supply and combustion when the illuminant is low in its contain-  
 50 ing-chamber.

I do not broadly claim the use of two spring-limbs on a wick-adjuster, as I am aware these have been used prior to this invention.

Having thus described my invention, I claim as new and desire to secure by Letters  
 Patent—

1. A wick suspending and adjusting device for lamp-burners, consisting of a pair of spring-arms having integral lateral projections at their free ends, and a cross-bar piv-  
 60 oted for limited vibration in said lateral projections and provided with forwardly-projecting pointed fingers, the fingers and arms extending in parallel planes, substantially as set forth.

2. A wick suspending and adjusting device for a lamp-burner, having two spring-limbs united at one end, each limb being bent outwardly at opposite points within the air-chamber of the burner and then forwardly ex-  
 70 tended to afford two parallel arms, which loosely embrace the edges of a flat wick-tube, said arms supporting two parallel pointed fingers that are formed on a cross-bar which is journaled at its ends in the arms to have lim-  
 75 ited vibration and adapted to pass through vertical slots in the wick-tube, the arms having toes on their ends bent toward each other to impinge on one wall of the wick-tube, sub-  
 80 stantially as set forth.

3. The combination, with a lamp-burner air-chamber which is vertically slotted to receive a wick-adjuster, and a flat wick-tube within having two slots in each side wall, which are opposite in pairs, of a wick sus-  
 85 pender and adjuster composed of two integral spring-limbs having arms bent outwardly and forwardly thereon, and toes on the ends of the arms projected toward each other, and two pointed fingers formed on a cross-bar that  
 90 is journaled in the arms to have a limited rocking movement, the limbs engaging the slot in the air-chamber wall and the fingers entering the slots of the wick-tube, substantially as set forth.

CHARLES PABST.

Witnesses:

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 JOHN I. GREEN.