

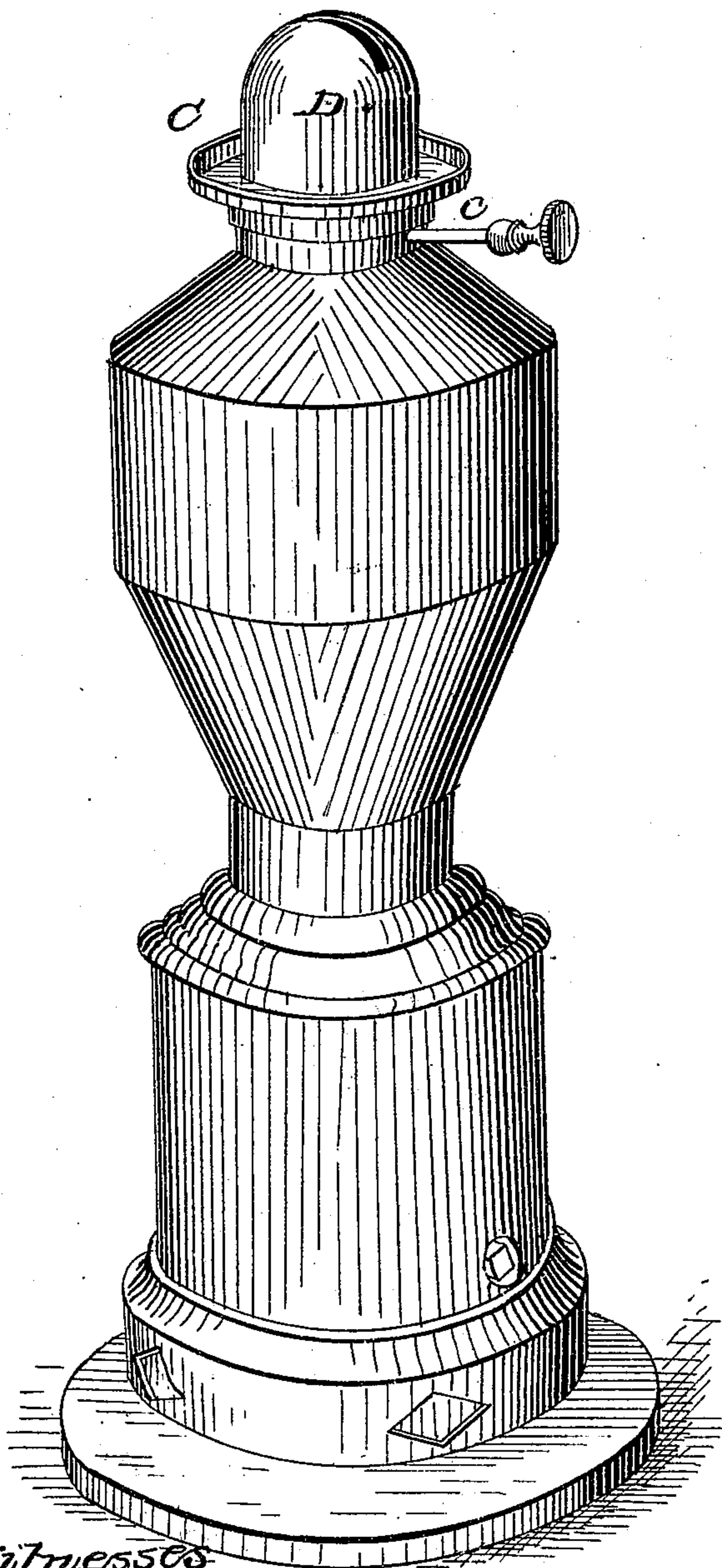
G. A. JONES,

Lamp.

No. 40,566.

Patented Nov. 10, 1863.

Fig. 1.

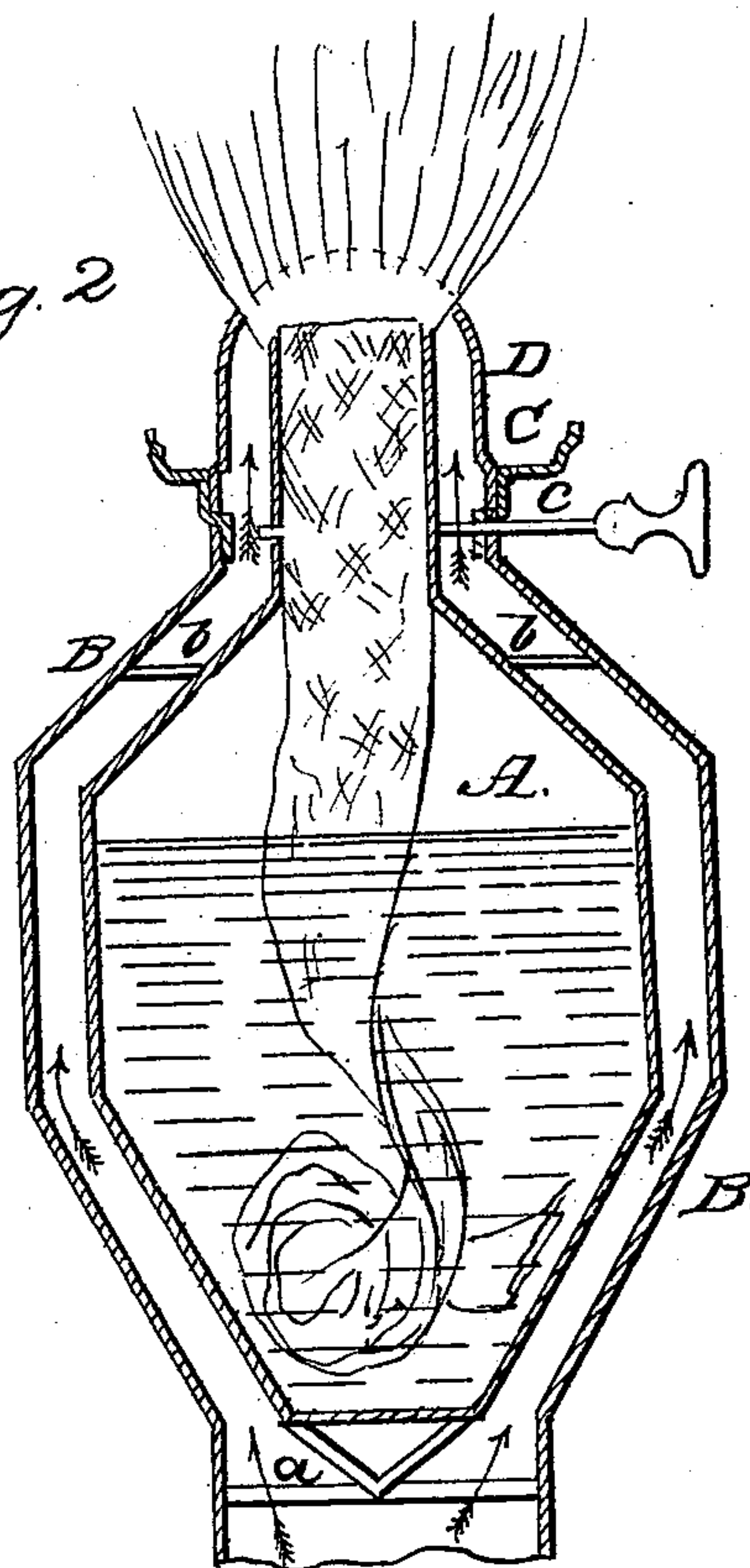


Witnesses

G. L. Law

A. C. Harriman

Fig. 2



Inventor

Geo. A. Jones

UNITED STATES PATENT OFFICE.

GEORGE A. JONES, OF NEW YORK, N. Y.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 40,566, dated November 10, 1863.

To all whom it may concern:

Be it known that I, GEORGE A. JONES, of the city and State of New York, have invented a new and useful improvement in lamps which make use of an impelled current of air to assist or promote combustion; and I do hereby declare that the following is a full, clear, and exact description thereof, and of its construction and mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

Figure 1 is a general perspective view of a lamp constructed according to my invention. Fig. 2 is a vertical sectional view of the same, showing its peculiar arrangement and construction.

My invention or improvement has reference to that class of lamps which are the subject of Letters Patent of the United States granted to Francis B. de Keravenan on the 23d day of October, 1860, and which are supplied with an impelled current of air, to effect a more perfect combustion of the oil, by means of mechanism or equivalent power placed in the bottom of the lamp. The lamp described in said patent, and which has been the pattern or model of those heretofore constructed to use in connection therewith an impelled current of air to promote combustion, had a central tube passing vertically entirely through the lamp to receive the current of air, which was impelled by mechanism placed below it, and in such air-tube was located the wick-tube, which had communication with the oil-chamber by means of one or more supply-pipes. The wick-tube being placed centrally within the air-tube, the impelled current of air passed up all around the wick-tube and to the flame, and greatly increased the light by furnishing a supply of oxygen sufficient to effect a complete combustion of the carbon of the oil. Such an arrangement and combination of oil-chamber with a central air-tube passing through it, and such tube inclosing the wick-tube, is subject to many objections, as well in respect to construction as efficiency, some of which are as follows: It is very difficult, except with special care and at considerable expense, to so fix the air-tube through the center of the oil-chamber that there will be no leak, and this is particularly true when kerosene oil is

used, which is very penetrating, and will escape more or less at almost every soldered joint. A like difficulty of construction exists with respect to connecting the wick tube with the oil-chamber, which has to be done by means of small tubes, which require to be soldered or fastened at each end, thus increasing the difficulty of making their connections perfectly tight. It is also almost, if not wholly, impossible, when the air and wick-tubes are distinct from but pass through the oil-chamber, to construct the lamp of glass, which holds the oil most securely, and at the same time enables the lamp to be most cheaply made.

My improvement or invention consists in so constructing the lamp as to remedy all these defects and objections, and at the same time make use of the impelled current of air and secure all the benefits derived therefrom.

The oil chamber or reservoir A, Fig. 2, and which I prefer to make of glass, for the reasons above mentioned—that is, because it is cheaper and because it holds the oil most securely—is shaped generally like any ordinary lamp, except that it has no foot or support, and has no central opening or passage through it, either for the air or wick-tubes, and the wick is inserted in it and supported as in ordinary lamps.

About and surrounding the oil-chamber A is a shell or inclosing-case, B, most generally of a shape corresponding with that of the oil-chamber, but somewhat larger than the oil-chamber, so that there will be an open space or unobstructed interval between the two for the free passage of the impelled current of air. This inclosing shell or case may be made of glass or metal, and when made of the latter material may be plain or struck up after any design or device desired, and may be ornamented in any way preferred. The oil-chamber A is held centrally in respect to the inclosing-shell by means of the sustaining-bar *a* and braces *b b*, and the bottom of the oil-chamber is best made in a pointed form, as shown in Fig. 2, so as to permit of the unobstructed passage of the impelled air.

The space between the inclosing-shell B and the oil-chamber A should be large enough to allow the free passage of all the air required for complete combustion, and need be no larger.

For a lamp using a wick an inch wide I have found a space of a quarter of an inch wide amply sufficient.

The inclosing-shell B is open-mouthed, as seen in Fig. 2, at both top and bottom, and connects at the bottom with the mechanism or device producing the impelled current of air, so that the impelled air will pass into the open space between it and the oil-chamber and up around the latter, and the shell B being contracted at the top toward the wick-tube, such air will be brought into direct contact with and surround the wick and flame, and with like favorable results in respect to combustion as when driven vertically through the center of the oil reservoir A. The shell B terminates at or about the position of the spindle *c*, so that the top of the lamp can be easily removed for the purpose of filling the lamp. The globe-holder C slips over or within the top of the shell B, and the cone D may be fixed in any usual or convenient manner.

As will be readily apparent from the foregoing description of my improvement, the lamp can be constructed much cheaper, and furnishes entire security against all leakage of the oil, and the oil chamber is not liable to be injured or destroyed by any blow the lamp may receive.

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

Constructing lamps which use an impelled current of air to promote combustion with an outer or inclosing case or shell surrounding the oil-chamber, but at a little distance from it, so that the impelled current of air may pass up around the oil-chamber and in the space between it and the inclosing-shell to the wick, for the purposes set forth.

GEO. A. JONES.

Witnesses:

S. D. LAW,
A. C. FARNHAM.