

G. CARR.
Lamp.

No. 2,238.

Patented Sept. 4, 1841.

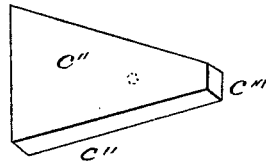


Fig. 1

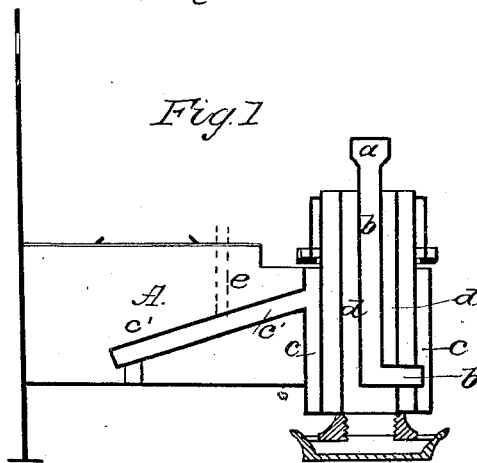
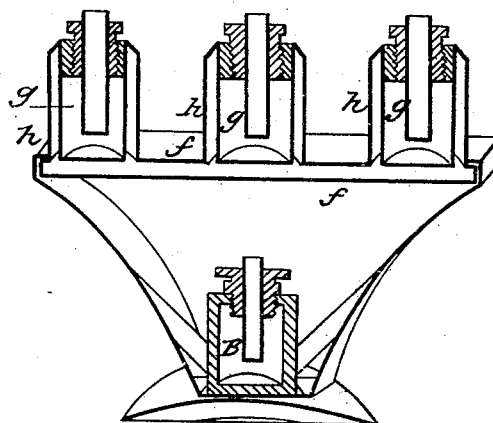


Fig. 2



UNITED STATES PATENT OFFICE.

GEORGE CARR, OF BUFFALO, NEW YORK.

LAMP FOR BURNING LARD, TALLOW, AND OTHER CONCRETE SUBSTANCES.

Specification of Letters Patent No. 2,238, dated September 4, 1841.

To all whom it may concern:

Be it known that I, GEORGE CARR, of the city of Buffalo, in the county of Erie and State of New York, have invented certain
5 Improvements in the Manner of Constructing Lamps for the Burning of Lard, Tallow, and other Concrete Fats as a Substitute for Oil; and I do hereby declare that the following is a full and exact description thereof.

10 The principle upon which I proceed in effecting the combustion of the concrete, or partially concrete, fatty materials, in lamps, is the same in part as that which has been
15 frequently applied to the same purpose, namely, the so arranging the parts of the lamp as that a portion of the heat generated in combustion, shall be conducted by good metallic conductors of heat, into the
20 reservoir containing the fat to be burnt, and shall bring it into that state of complete fluidity which is necessary to its ready combustion; but in the manner of applying this principle I have made certain new and use-
25 ful improvements by which such lamps are rendered more effective than heretofore. Instead of using wires, or rods, of solid copper, or other good metallic conductor of heat, to convey the heat from the flame into
30 the reservoir, I use hollow, or tubular, conductors, which are to be heated, and which heat the air contained within them; it having been experimentally ascertained by me that by increasing the surface of the con-
35 ducting body in this manner, and by making it a receptacle for air, a greater quantity of heat is communicated to the substance to be fused, than can be communicated by an equal quantity of metal in a solid mass, as
40 for example, in the form of wires, or of rods.

In carrying my improvement into effect, I, of course, modify, or arrange, the respective parts of the apparatus, in such manner
45 as may be necessary, or most convenient, to adapt it to the kind of lamp to which it is to be applied.

In the accompanying drawing, Figure 1, represents a section of a lamp with a reser-
50 voir and burner in the form of the Argand lamp; and Fig. 2, an arrangement, shown also in section, by which a number of lamps may be combined, so as to adapt them to light-houses, or to other situations where the
55 light of a considerable number of burners may be desired.

In Fig. 1, *a*, is a hollow knob, or button, occupying the place of the button now frequently used in such lamps, and from this
descends a tube, usually of copper, *b, b*, 60 which opens into a tubular air space *c, c*; this space surrounds the wick, or burner, tube, *d, d*, and is inclosed at top and at bottom.

A, is the reservoir for lard, tallow, &c., 65 and within this is a continuation of the air space *c, c*, shown at *c', c'*, expanded out as represented at *c'', c''*; *c'''*, being the mouth, or opening, by which this expanded part is connected to the tubular space *c, c*. To
70 allow of the expansion of the air within the heated air space, a small tube, shown by the dotted lines *e*, may enter *c'*, and extend above the top of the reservoir, where it will open to the atmosphere. Instead of caus-
75 ing the air space *c, c*, to surround the wick, it may be placed within, and be surrounded by, it; in which case the air case *c', c'*, must enter the air space *c, c*, at the lower part of the burner, so as to have its opening below
80 the wick; and instead of the hollow button *a*, and the tubular opening *b, b*, or, in combination with it, there may be a hollow button placed above the glass chimney of the
85 burner, with a tube leading from it into the air space *c', c'*, within the reservoir, in the manner of the solid conductor used in the lamp patented many years since in Eng-
land, by Lord Cochrane.

In Fig. 2, *f, f*, is a sectional view of an 90 expanded, or tubular, air vessel, which is best made of sheet-copper; and *g, g*, are lamps of the most simple form, the bottoms of which are exposed to the heated air in the vessel *f*, and the sides of which are made
95 double to such height as may be thought proper, as shown at *h, h*, so as to have a flue of heated air around them. The bottoms of the lamps *g, g*, instead of terminating as shown in the drawing, may be formed of the
100 bottom plate of the air vessel *f*.

B, is a lamp placed below the tubular air vessel *f, f*, for the purpose of heating it, and of heating the air contained within it. This
latter lamp may be supplied with oil, or it 105 may be so constructed as to burn the concrete, fatty materials, as may be preferred. Above the series of lamps *g, g*, there may be other series to any desired extent, the heat from their flames being employed to
110 render fluid the substance to be burnt as above set forth.

Having thus fully explained the nature of my improvements in lamps for burning lard, tallow, &c., and having also referred to the means heretofore adopted to effect
5 this object, I do not claim to be the first inventor of lamps for that purpose, or of using conductors of metal for rendering the concrete materials liquid by conveying heat thereto from the flame of the lamp; but
10 what I do claim as of my invention, and desire to secure by Letters Patent, is—

The employment of hollow, or tubular, conductors, within which the air is to be heated, and which hollow conductors, so containing heated air, are to surround, or to be
15 surrounded by, the burner containing the wick, in lamps of the Argand kind, and are to extend also into the reservoir, for the pur-

pose, and in the manner, represented in Fig. 1, of the accompanying drawings, and described in the foregoing specification. I
20 likewise claim the applying of the heated air vessels, as modified, represented and described herein, the same being shown in Fig. 2, of the drawing; the said apparatus, under every change of form, being so constructed as to operate upon the concrete materials by the combined influence of good
25 metallic conductors, and of heated air, and substantially in the manner herein made known. 30

GEORGE CARR.

Witnesses:

THOS. P. JONES,
M. E. JONES.