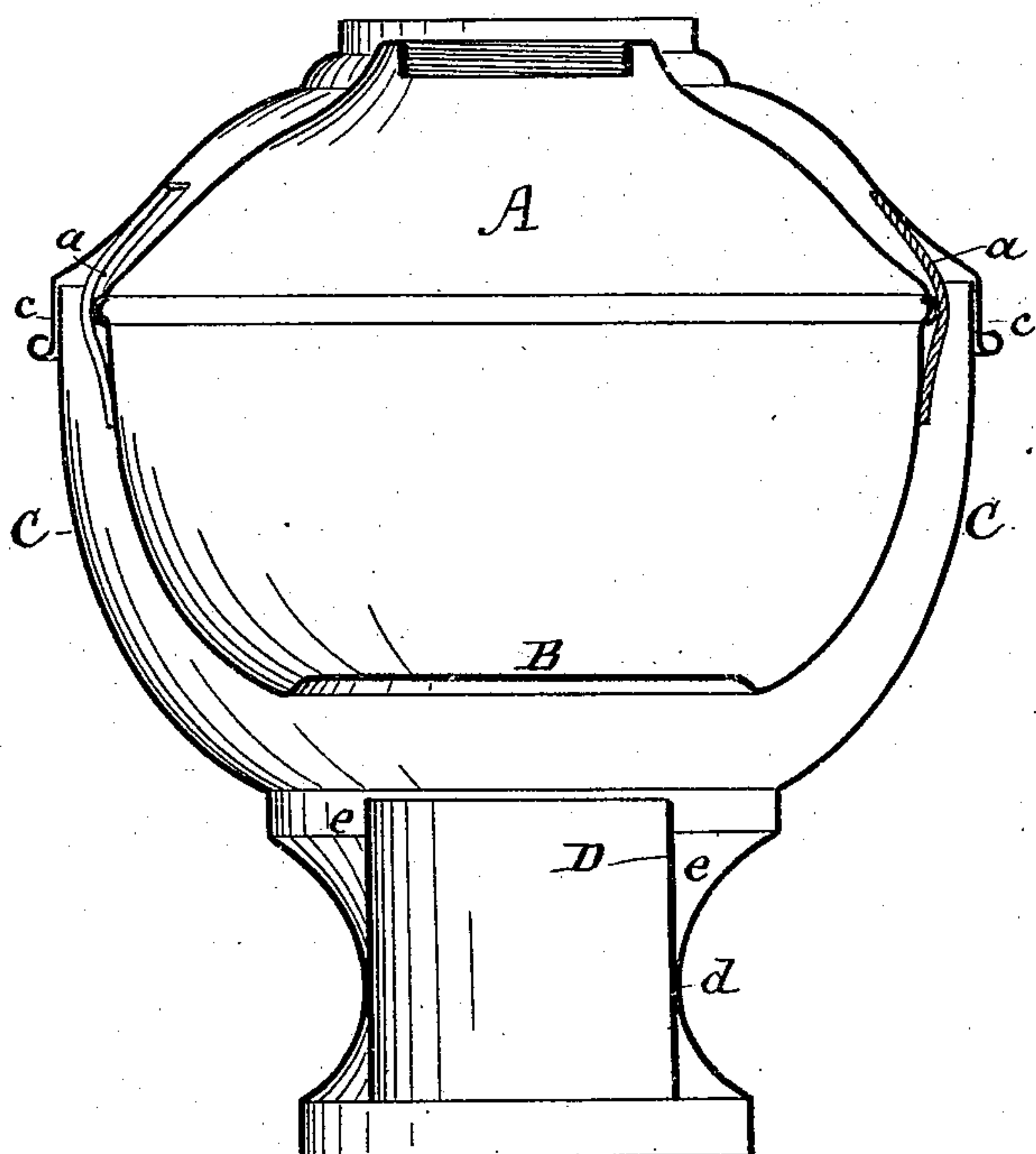


(Model.)

R. HITCHCOCK.  
Mechanical Lamp Shell.

No. 234,916.

Patented Nov. 30, 1880.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ROBERT HITCHCOCK, OF WATERTOWN, NEW YORK.

## MECHANICAL-LAMP SHELL.

SPECIFICATION forming part of Letters Patent No. 234,916, dated November 30, 1880.

Application filed September 22, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, ROBERT HITCHCOCK, of Watertown, Jefferson county, New York State, have invented a new and useful Improvement in Mechanical-Lamp Shells, which improvement is fully set forth in the following specification.

This invention relates more particularly to that class of lamps which have a continuous current of air propelled upward through them by mechanical means, and has for its object to protect the air-forcing mechanism of such lamps from drippings of oil which frequently flow over the sides of the oil-reservoir, and also from particles of dust, wick-trimmings, and other matter which might find its way through the air-passage to the movement.

Heretofore it has been attempted to effect this object by introducing between the outer shell of the lamp and the oil-reservoir a drip-cup, by which the overflow of oil might be intercepted and prevented from reaching the mechanism below; but this device necessarily complicates the construction of such lamp-shells, increasing their cost, and it has, moreover, been found very defective, inasmuch as it does not entirely prevent the access to the propelling mechanism of dirt, matches, wick-trimmings, and such like substances.

This improvement dispenses entirely with the drip-cup, thereby simplifying the construction of such lamp-shells, and at the same time insures the perfect protection of the air blast or blower.

The oil-reservoir, otherwise of ordinary or suitable construction, is provided with a bottom flat or preferably slightly concave on its exterior, so that if any drops of oil should flow from the wick down the sides of said reservoir they could not find their way across its bottom into position to drop into the works of the air-blast below. At the narrow part of the lamp-shell, just below the oil-reservoir, is a tube or thimble, secured oil-tight to the sides of the shell, and projecting upward toward the reservoir, but leaving sufficient space between it and said reservoir for the passage of the current of air. This tube is in diameter less than that of the concave bottom of the oil-reservoir; consequently the overflow of oil from the reservoir, not being able to cross

the bottom, would, when accumulated in sufficient quantity, fall from the sides of the reservoir onto the shell, and its farther downward progress would be arrested on reaching the tube or thimble, while all dirt, dust, or other foreign substances that might find their way into the air-passage between the shell and oil-reservoir would likewise be arrested by this tube or thimble and lodge in the cavity formed between the tube and shell.

The lamp-shell being made in two parts the top, together with the oil-reservoir, can be lifted off and the refuse matter accumulated in said cavity readily removed.

In order that the invention and the manner of carrying the same into effect may be fully understood, it will now be described in connection with the accompanying drawing, which forms a part of this specification, and which represents a central vertical section of a lamp-shell embodying the said invention.

A is the oil-reservoir, the bottom B of which is represented as slightly concave on its exterior. The reservoir A is inclosed by the outer shell, C, and may be secured thereto in any suitable way that will leave sufficient space for the passage of the air-current between said reservoir and shell to the flame above. As shown, the connection is made by means of narrow metal strips *a*, soldered at one end to the reservoir and at the other to the top of shell C. Being of only sufficient width to afford a secure fastening, these strips do not materially obstruct the air-current.

At the narrow part *d* of the shell C is fastened a tube or thimble, D, of any suitable material, such as tin. This tube fits closely to the inner circumference of the shell, and at the place of contact therewith is made oil-tight. The tube or thimble is of smaller diameter than bottom B of reservoir A, and it projects upwardly, as shown, leaving only sufficient space between it and the reservoir for the passage of the current of air, which is propelled from the works below through the tube D and around the sides of the reservoir.

The convergence of the sides of shell C toward *d*, the place of contact with shell D, forms a hollow or cavity, *e*, between said shell and tube. All drippings of oil which, in case of accidental overflow in filling the lamp, neces-



sarily run down the sides of the reservoir, would, on reaching the bottom, drop into this hollow or cavity *e*, and thus be prevented from flowing into the movement of the air-blast.

5 As the air-passage is necessarily somewhat exposed, it is often found that such substances as wick-trimmings, matches, and the like find their way through the air-passage to the mechanism of the air-blast; but by means of the  
10 tube D this is prevented, and the progress of such substances being arrested at the point *d*, they are retained in the hollow or cavity *e*.

It will thus be seen that the peculiar shape of the bottom of said reservoir, co-operating  
15 with the tube or thimble of smaller diameter placed immediately below it, completely protects the movement of the blast or blower from drippings of oil and other refuse matter injurious thereto, at the same time affording to the  
20 current of air propelled by said blast a free passage to the flame above.

As shown at *c*, the shell C is made of two parts, the upper of which, with the bowl or reservoir A, which is attached thereto, can be  
25 readily removed for the purpose of cleaning out the cavity *e*.

Having now fully described the said invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. In a force-blast lamp, the combination of the oil-reservoir formed, as indicated, at the bottom, so that drops of oil cannot flow across it, and the shell provided with an annular cavity below said reservoir and surrounding the  
35 passage of the air-blast, substantially as and for the purpose set forth.

2. In a force-blast lamp, the combination, with the reservoir having a flat or slightly concave bottom, of a tube or thimble secured  
40 to the lamp-shell immediately below said reservoir, the space between said tube and reservoir being left entirely free, substantially as described.

In testimony whereof I have signed this  
45 specification in the presence of two subscribing witnesses.

ROBERT HITCHCOCK.

Witnesses:

H. H. WARNER,  
J. HENRY NAPIER.