

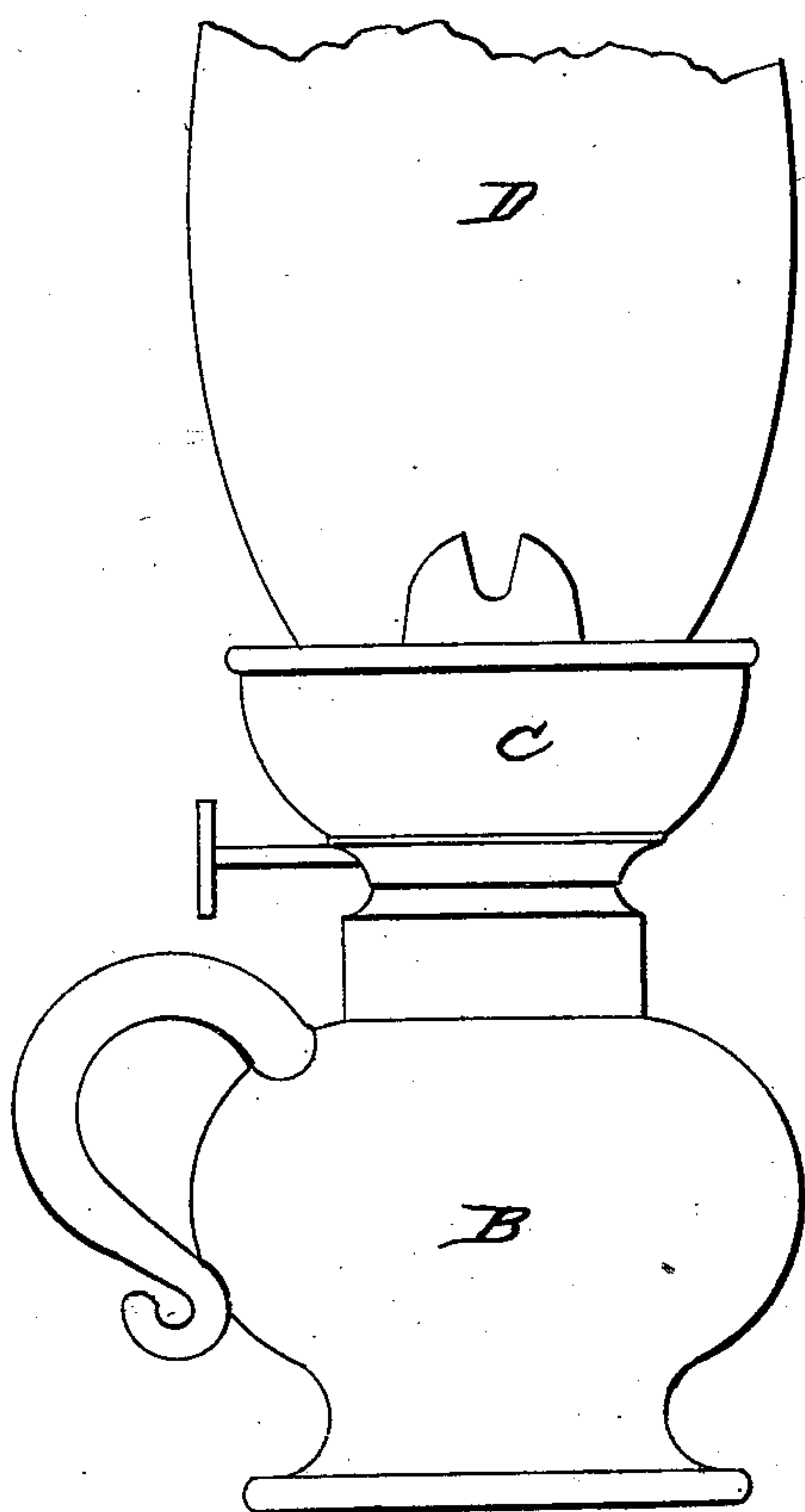
J. B. CAPEWELL.

Wind Guard and Air Heater for Lamps.

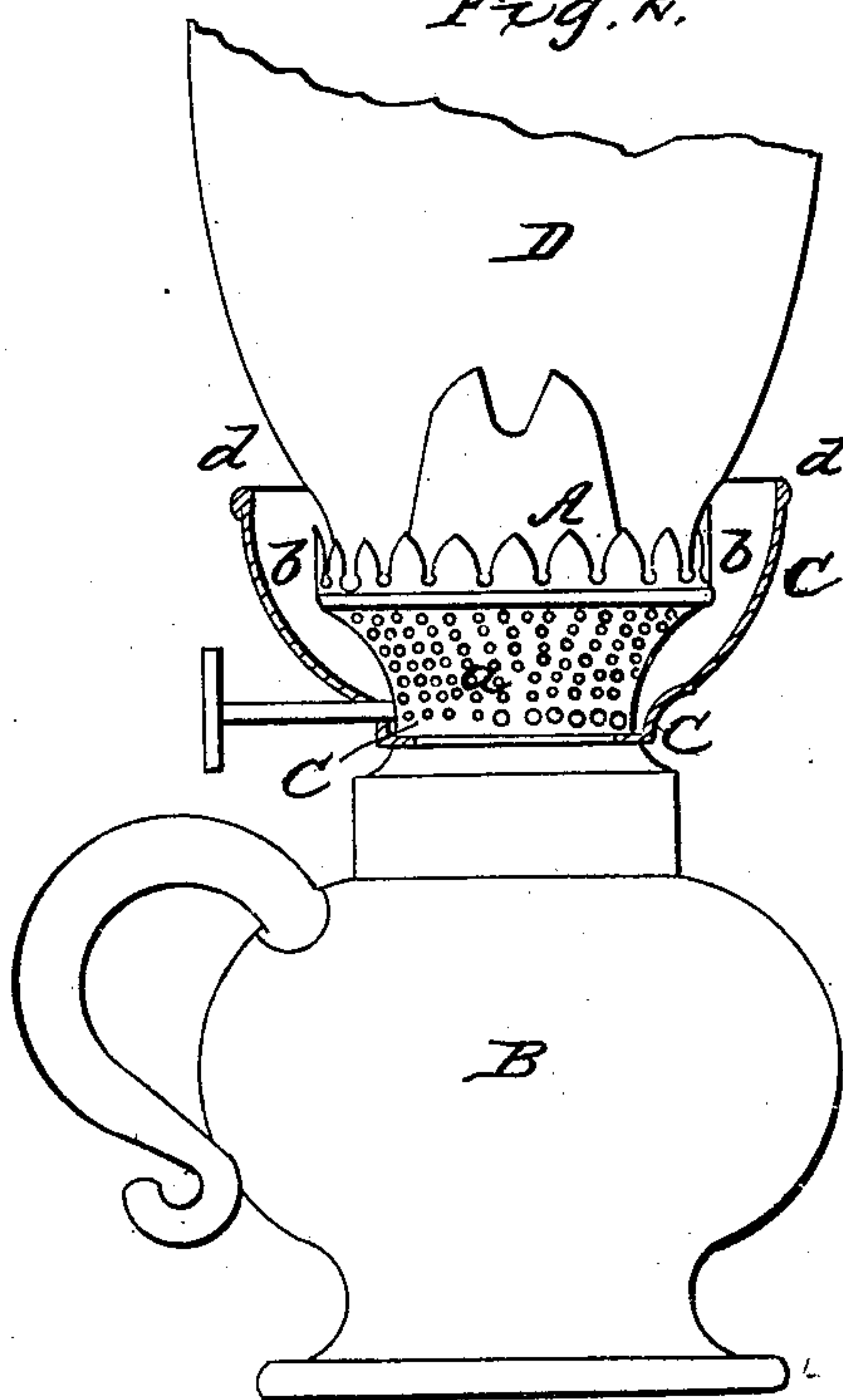
No. 50,560.

Patented Oct. 24, 1865.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*  
*Francis D. Pastorius*  
*John Anderson*

*Inventor:*  
*John B Capewell*

# UNITED STATES PATENT OFFICE.

JOHN B. CAPEWELL, OF GLOUCESTER, NEW JERSEY.

## WIND-GUARD AND AIR-HEATER FOR LAMPS.

Specification forming part of Letters Patent No. 50,560, dated October 24, 1865.

*To all whom it may concern:*

Be it known that I, JOHN B. CAPEWELL, of Gloucester, in the county of Camden and State of New Jersey, have invented an Improved Wind-Guard and Air-Heater for Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in surrounding the burner of an oil or other lamp with a wind-guard and air-heater for making the current of air more uniform, and for heating the air before it is fed to the flame.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings which form a part of this specification, Figure 1 is an elevation, and Fig. 2 is an elevation showing the cup or wind-guard sectioned.

Similar letters refer to similar parts in the two views.

It is a noticeable feature in all lamps, and more particularly those burning coal-oil, that it is almost impossible to carry one from place to place without the light being extinguished, and even while it is kept stationary it is so constantly flickering as to be nearly useless. This is caused by a sudden influx of cold air reducing the temperature lower than is requisite to effect combustion, and it also causes a reduction of the temperature of certain portions of the chimney, whereby an unequal contraction is produced, causing fracture.

To light a lamp, it is first necessary to raise the temperature of the surrounding air by artificial means, then the chemical changes keep it up; but if you suddenly reduce that temperature by an influx of cold air, chemical action will no longer ensue, and it returns to the same condition as it was before, and the light is ex-

tinguished. To obviate this, I surround the burner A of the lamp B with a cup or wind-guard, C, which fits the bottom of the vent-sheet *a* or the neck of the burner snugly to prevent an upper current of air, and it expands or increases in size until it reaches the top of the vent-sheet, or above it, so as it may have sufficient capacity or space *b* between the surface of the burner and its own inside surface for receiving the requisite allowance of air for the flame. The screw of the burner passes through the bottom of the cup, and the offset or ledge *c* resting on the bottom, so that when the burner is attached to the neck of the lamp the cup or wind-guard is kept securely in place, and the joint is air-tight. The air is thus prevented from gaining an entrance to the interior of it (the cup,) the space *b*, except by passing over its rim *d*—that is, between the rim and the surface of the chimney D. The air coming in contact with the heated surface of the chimney has its temperature raised, and being fed heated to the flame it increases the intensity of the chemical action, the combustion becoming more energetic, and the light more intense, thereby getting a greatly-increased light from a less quantity of fuel.

It will thus be seen that having the cup or wind-guard closed at the bottom to prevent any air from gaining entrance to it from that source is absolutely necessary to its success.

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

The wind-guard or air-heater C, substantially as herein specified and described.

In testimony whereof I have hereunto signed my name to this specification, in the presence of two subscribing witnesses.

JOHN B. CAPEWELL.

Witnesses.

FRANCIS D. PASTORIUS,  
W. W. DOUGHERTY.