

L. M. HASBROUCK.
BURNER.

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1,008,820.

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Fig. 2.

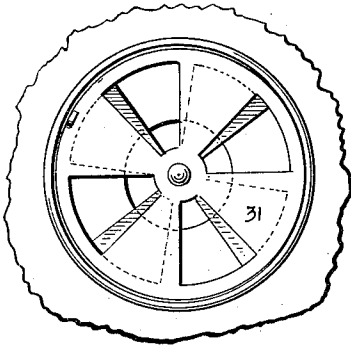


Fig. 1.

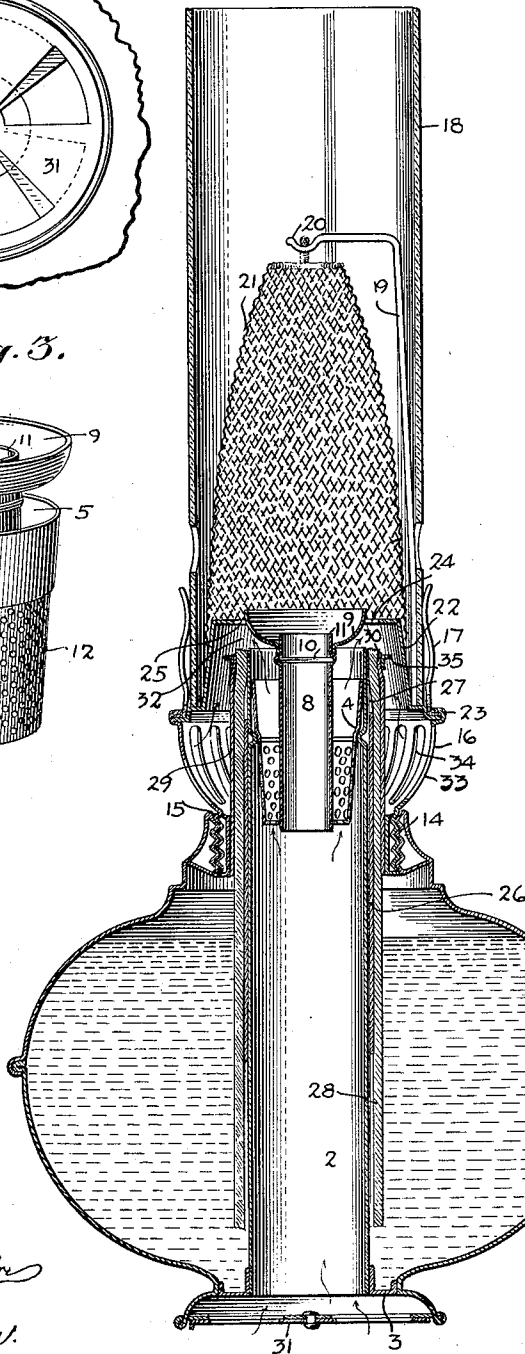


Fig. 3.

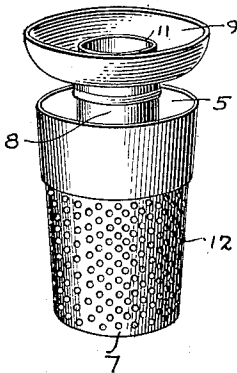
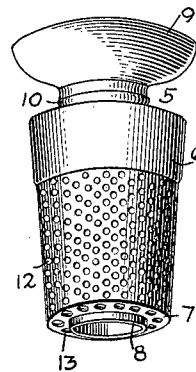


Fig. 4.



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BURNER.

1,008,820.

Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed December 14, 1910. Serial No. 597,212.

To all whom it may concern:

Be it known that I, LEWIS M. HASBROUCK, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Burner, of which the following is a full, clear, and exact description.

My invention relates to a new and improved form of burner, adapted more especially for use in an oil lamp, particularly in those forms of oil lamps which make use of an incandescent burner attachment.

An object of my invention is to provide a new and improved form of burner, so constructed and arranged that cold air is supplied to not only the bottom part of the incandescent mantle, but is also supplied to the unburned carbonized gas at the upper portion of the mantle.

My invention generically pertains to the division of a column of air into separate parts, whereby these different columns of air are conducted to different combustion points in the lamp.

Specifically, the device relates to a burner attachment comprising two substantially cylindrical tubes, so arranged and constructed that the air is separated, part going to a lower burning zone and part to an upper burning zone.

With the above and other objects in view, as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a transverse vertical sectional view through a lamp construction embodying my invention; Fig. 2 is a plan view looking up from the bottom of the lamp, showing a means for controlling the admission of air to the device; Fig. 3 is a perspective view looking down upon my burner; and Fig. 4 is a similar view looking up.

In the embodiment disclosed in the figures, I have shown a bowl 1, of any preferred construction and adapted to contain oil or similar burning fluid and centrally disposed in

which is an open-ended vertical cylindrical tube 2 centrally positioned in the bottom of the bowl 1 by a flanged ring 3. Intermediate the length of this tube and a slight distance below the top thereof, is a crimped portion 4, supporting my improved form of air distributor 5. This air distributor comprises two concentric sleeves, the outer one 6 of which is of truncated form, the smaller bottom end 7 being bent inward to engage the centrally-disposed cylinder 8, which cylinder has, at its upper end, a flaring bowl 9 attached to the cylinder 8 by a beaded connection 10. The purpose of this flaring bowl 9 is to direct the burning gas in the burning zone 32 outwardly against the lower portion of the mantle 21 hereinafter described. The upper end of this cylinder 8 projects slightly above the bottom of the bowl 9, as shown at 11. Above the crimped portion 4, the sleeve 6 is plain, while the portion below the crimped connection is perforated on the sides, as shown at 12, and on the bottom, as shown at 13, so that air passing through the bottom of the tube 2 will pass through these apertures 12 and 13 for a purpose hereinafter described.

The upper end of the bowl 1 has a burner-containing aperture having internal threads 14, into which are screwed threads 15 on the cylindrical part of the shade holder 16, which shade holder has the common form of projecting fingers 17, engaging the glass chimney 18. The outwardly-bulging portion of the shade holder 16, has a series of longitudinal slots 34, through which air is supplied to the outside of the upper projecting edge of the wick 28. This air passage is restricted by means of a projecting flange 35 positioned upon the upper end of the reduced portion 30 of a cylinder 29. Mounted upon and extending upwardly from the shade holder 16, within the chimney 18, is a mantle rod 19, upon the centrally-projecting hook 20 of which is hung any preferred form of incandescent gas mantle 21, centrally disposed over, and the lower end of which incloses, the upper end of the air distributor 5. This gas mantle is concentric with the device and spaced apart from the bowl 9 by means of an inverted cup 22, the lower end of which is flanged outward and fits into the beaded portion 23 of the shade holder 16. The upper end of this cup 22 has an aperture 24 of larger diameter than the diameter of the bowl 9, so as to afford an out-

let 25 for the flaming gas formed by the union of the carbonized gas from the wick and the oxygen of the air passing through the apertures 12 and 13 to the inside of the wick and the air passing through the slots 16 to the outside of the wick.

Centrally disposed about the tube 2, is a sleeve 26 having an upper beveled end 27, which is adapted to tighten the cylindrical wick 28 disposed about the outside of the sleeve and about the outside of the tube 2. Concentric with and disposed about the wick 28, is a wick-carrying cylinder 29, the lower end of which is rigidly fastened to the lower end of the shade holder 10 and the upper end of which has a reduced portion 30 coacting with the beveled end 27 of the sleeve 26, in order to clamp therebetween the upper end of the wick 28, the position of which wick in the device is raised or lowered by any form of means in common use. The admission of air to the device is regulated by any preferred form of shutter closure 31, positioned at the bottom of the bowl and concentric with the axis of the tube 2.

In the operation of my device, it will be seen that the correct amount of air regulated by the closure 31, is admitted into the tube 2, which forms an air duct for the passage of air. It will also be seen that as this current of air reaches my improved air distributor, the air will separate into two columns, one column passing in up through the cylinder 8, for a purpose hereinafter described, and the other column of air passing through the apertures 12 and 13 in the directions indicated by the arrow, to the top of the wick, and uniting with and oxidizing the vaporous carbonized mixture from the oil in the space 32. This mixture will pass through the aperture 24 on the outside of the bowl 9, will be further mixed with the air passing through the slots 16, and will ignite within the mantle 21, especially at its lower portion. It is a well-known fact that an incandescent mantle is highly luminous at its lower portion, but owing to the lack of a sufficient supply of air or oxygen, the upper portion of the mantle does not possess as high a degree of luminosity, due to the fact that the surplus of carbonized gas has no oxygen with which to unite in the upper part of the mantle. I have obviated this difficulty by making the cylinder 8 of large cross sectional area and affording a readier passage for the movement of the air or oxygen than the more restricted and somewhat interrupted passage of the air through the passages 12 and 13 to the burn-

ing zone. This current of air passing through the tube or cylinder 8 is carried above the burning zone and unites with the uncombined gas in the upper part of the mantle 21, and is there combusted and heats the upper part of the mantle. In this way, I am enabled to distribute the column of air to the most advantage and conduct the oxygen to the point where it is most needed, that is, to the uncombined gas in the upper part of the mantle, whereby the amount of luminosity at all portions of the mantle is uniform.

In constructing my improved burner, I have made the ratio of these air passages proportionate to the amount of oxygen or air needed at the different burning zones. Further, I am enabled to regulate the total amount of air admitted within the tube by means of the shutter closure 31.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matters contained herein in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claim is merely intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween, and that materials, sizes and relativities of parts are non-essential except as called for in the claim.

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

As an article of manufacture, an air distributor, comprising two concentric sleeves, the outer one of which is of truncated form and having a crimped portion extending about the same, the smaller end bent at the bottom to contact with the inner sleeve, said inner sleeve having a flaring bowl adjacent the end opposite the end to which the outer sleeve is attached, said outer sleeve having perforations extending through its side and bottom below the crimped portion.

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

L. MYRON HASBROUCK.

Witnesses:

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JOHN HERRIMAN.