July 30, 1940. F. J. KURTH 2,209,887

COMBINED AIR DIFFUSING AND ILLUMINATING DEVICE

Original Filed March 21, 1935

Fig. 1.

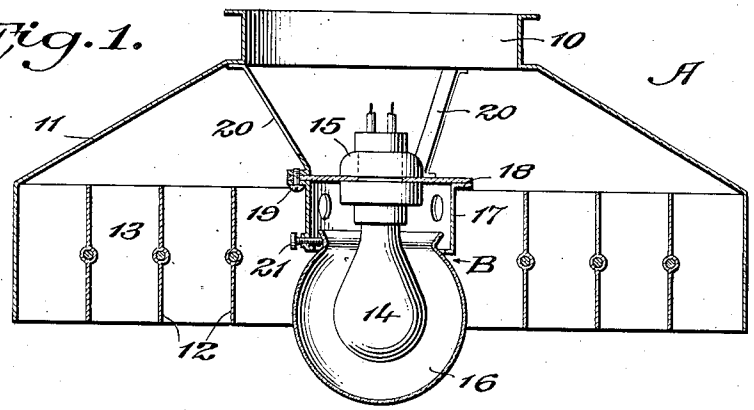


Fig. 2.

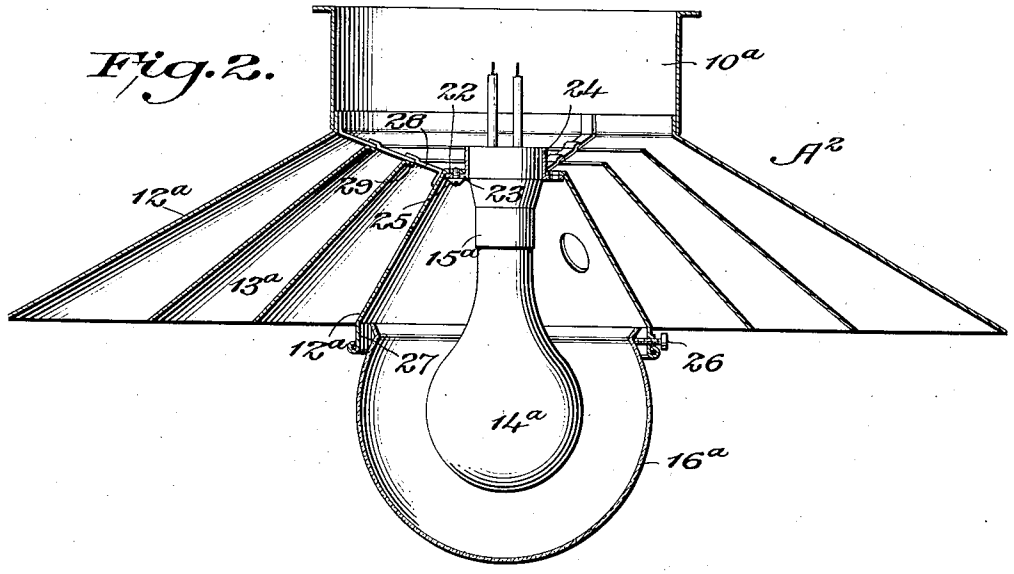
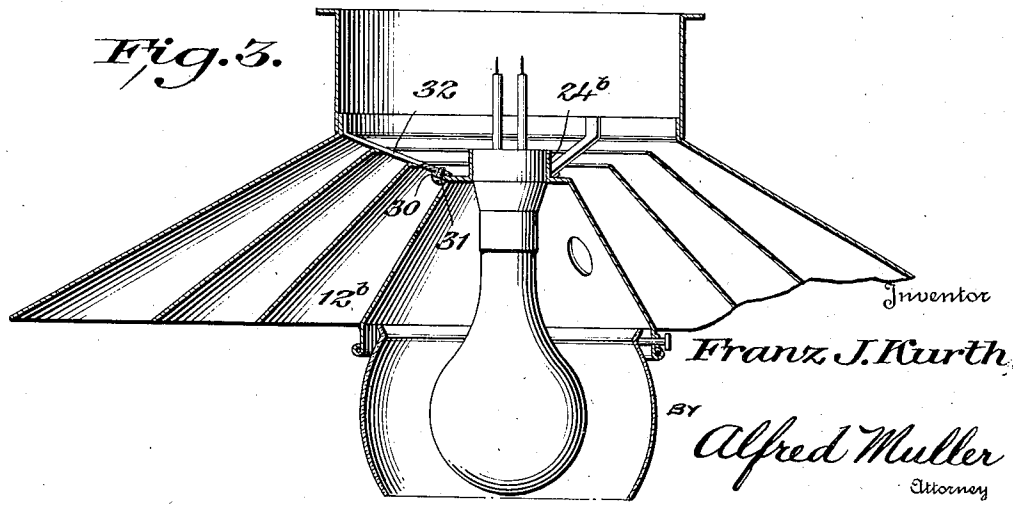


Fig. 3.



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COMBINED AIR DIFFUSING AND ILLUMINATING DEVICE

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Original application March 21, 1935, Serial No. 12,194, now Patent No. 2,131,054, dated September 27, 1938. Divided and this application August 26, 1938, Serial No. 226,986

2 Claims. (Cl. 240—78)

This invention relates to combination air or gas diffusing and illuminating devices, and has particular reference to combination air or gas diffusing and illuminating devices of the character disclosed in my prior application, Serial No. 12,194, filed March 21, 1935, (now Patent No. 2,131,054, dated September 27, 1938) of which this application is a division.

An air or gas diffusing device of the character with which the present invention is concerned, may have a variety of specifically different structural forms, but, generally speaking, such a device comprises an air or gas supply duct or neck and a plurality of members, either of hollow, flaring shape or of other suitable form, disposed in spaced apart relationship in advance of said duct or neck to provide therebetween a plurality of separate passageways, whereby air or gas flowing through the device is divided into a plurality of separate streams of reduced velocity and is delivered from the device substantially draftlessly.

Illuminating means for a device of the character mentioned usually comprises an electric lamp, a lamp socket, a lamp globe and a globe receptacle, mounted either entirely or in part within the device. In installing the device it is necessary first to mount the device, then to separate the illuminating means therefrom, if the illuminating means is not separated prior to mounting of the device, then to make the electrical connections with the illuminating means and subsequently to assemble the illuminating means with the device. If the illuminating means were of such a nature as to require disassembly and assembly of the component parts thereof in order to remove the same from and to apply the same to the device, installation of the combined device would be involved and would require an excessive amount of time. Moreover, dismounting of the combined device when required for any reason would be equally involved and time consuming. Accordingly, the general object of the present invention is to provide a combined air or gas diffusing and illuminating device in which the component parts of the illuminating means are combined in a unitary structure readily capable of unitary asembly with and removal from the device, whereby complications respecting its assembly with and disassembly from the device are avoided and only a small amount of time is required to effect its assembly with or disassembly from the device.

Another object of the invention is to provide, in a combined device of the character mentioned, simple means to facilitate assembly and disassembly of the illuminating means with and from the device.

Another object of the invention is to provide, in a combined device of the character mentioned, an illuminating unit the component parts of which are capable of ready assembly and disassembly to reduce initial assembly costs and to enable quick and easy replacement or repair of any part whenever required.

With the foregoing and other objects in view, which will become more fully apparent as the nature of the invention is better understood, the same consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing and defined in the appended claims.

In the accompanying drawing:

Figure 1 is a central section through a combined air or gas diffusing and illuminating device constructed in accordance with one practical embodiment of the invention; and

Figures 2 and 3 are views similar to Fig. 1 illustrating other practical embodiments of the invention.

Referring to the drawing in detail, first with particular reference to the practical embodiment of the device illustrated in Fig. 1, it will be observed that the device, designated generally as A, comprises an air or gas supply duct or neck 10, an open-front casing 11 disposed in advance of said duct or neck 10 and connected therewith in air receiving relationship thereto, and a plurality of blades 12 disposed within said casing and spaced apart to provide a plurality of passageways 13, whereby air or gas flowing through the device is divided into a plurality of separate, reduced velocity streams and thereby is delivered forwardly from the device substantially draftlessly. The casing 11 may be of any suitable size and shape and preferably the blades 12 are pivoted for adjustment in any suitable manner to various different positions to control the directions of delivery of the separate streams of air from the device.

Mounted either entirely or partly within the casing 11, between the two innermost blades 12 and in alinement with the duct or neck 10, is an illuminating unit, designated generally as B, comprising an electric lamp 14, a lamp socket 15, a lamp globe 16 and a globe receptacle 17. The globe receptacle 17 is of hollow, cylindrical form, open at its front end and closed at its rear end, and may be either of one-piece or plural part

construction. In any event, said receptacle 17 is provided at, or adjacent to, its rear end with an outwardly directed flange 18, or, equivalently, with laterally extending lugs having openings through which screws 19 pass loosely and are threaded into the forward ends of suitable struts 20 carried by the casing 11, whereby said receptacle is securely, yet readily detachably, assembled with the casing 11. In this connection it will be noted that the screws 19 are disposed outwardly of the receptacle 17 with their heads facing the open front of the casing 11. Accordingly, they are readily accessible by a screw driver for turning to assemble the receptacle with the casing and to disconnect the receptacle from the casing for removal therefrom.

The lamp socket 15 is of a known two-part construction in which one of the parts thereof is provided with a neck with which the other part thereof is threadedly connected. In the wall closing the rear end of the receptacle 17 is a central opening, and extending through this opening is the aforesaid neck of one of the two parts of the lamp socket, the said two parts of the lamp socket being disposed forwardly and rearwardly of said wall, respectively and in clamping engagement therewith. The lamp socket thus is securely assembled with the receptacle 17 but may readily be disassembled therefrom when desired.

The lamp 14 is detachably mounted in the lamp socket 15 in the usual manner and is enclosed by the globe 16 which is detachably retained in assembly with the lamp receptacle 17 by screws 21 or in any other suitable manner. It will thus be apparent that while the component parts of the illuminating unit B are themselves capable of ready assembly and disassembly, said unit is readily capable of assembly and disassembly as an entirety with and from the device simply by manipulation of the screws 19. Thus, mounting of the combined device is greatly facilitated and, at the same time, the component parts of the illuminating unit are readily separable for replacement, repair, cleaning or other purposes.

According to the Fig. 2 embodiment of the invention the device, designated generally as A^2, comprises an air or gas supply duct or neck 10^a, an outermost or larger open-ended, hollow, flaring member 12^a connected at its smaller end to said duct or neck, and a plurality of other, successively smaller, open-ended, hollow, flaring members 12^a disposed within said larger flaring member in spaced relationship thereto and to each other to provide a plurality of separate, flaring passageways 13^a through which the air or gas flows at reduced velocity in separate streams and thereby is delivered forwardly and laterally from the device substantially draftlessly. In this embodiment of the invention the globe receptacle of the illuminating unit is comprised by the smaller or innermost of the flaring members 12^a. At its rear end said innermost member 12^a is provided with an inwardly directed flange 22 and overlapping this flange, either forwardly or rearwardly thereof, as may be desired, is an outwardly directed flange 23 on a sleeve 24 in which is mounted a lamp socket 15^a.

The sleeve 23 is detachably connected with the innermost flaring member 12^a by screws 25 extending loosely through holes in one of the flanges 22 or 23 and threaded into holes in the other of said flanges. The lamp socket accordingly is detachably mounted with respect to the globe receptacle comprised by the innermost flaring member 12^a.

Detachably connected with the lamp socket 15^a in the usual, well known manner is an electric lamp 14^a, and enclosing said lamp is a globe 16^a which is connected to the forward end portion of the innermost flaring member 12^a in closing relationship thereto by screws 26 threaded through a depending flange 27 at the forward end of said innermost flaring member and engaging a neck of the globe which is disposed within said flange.

As will be apparent, the innermost flaring member 12^a, the sleeve 24, the lamp socket 15^a, the lamp 14^a and the globe 16^a comprise an illuminating unit the component parts of which are readily separable for replacement, repair, cleaning or other purposes.

The flaring members 12^a intermediate the innermost and the outermost of said members may be mounted in the device A^2 in any desired manner. In any event, in order to provide for assembly and disassembly of the illuminating means as a unit with and from the device A^2, the innermost flaring member 12^a is provided at or near its rear end with any desired plurality of arms 28 extending outwardly therefrom to rest upon rear end portions of the next larger flaring member 12^a. In this connection, the innermost flaring member may be tilted to effect engagement and disengagement of the arms 28 with and from the rear end of the next larger member 12^a, or the said next larger member may have fingers 29 projecting inwardly from its rear edge and the arms 28 may be engaged behind said fingers by longitudinal and rotary movement of the innermost flaring member. In any event, the illuminating means obviously may readily and easily be assembled with and disassembled from the device A^2 to facilitate installation of said device. Obviously, too, any suitable equivalent of the arms 28 may be employed to detachably mount the innermost flaring member 12^a on the device A^2. Moreover, and as is additionally obvious, the sleeve 24 may, if desired, be formed in one piece with the innermost flaring member 12^a as suggested by the Fig. 3 embodiment of the invention.

According to the Fig. 3 embodiment of the invention the construction is the same as illustrated in Fig. 2, except that the sleeve 24^b is formed in one piece with the innermost flaring member 12^b and except that, instead of said innermost flaring member being provided with arms such as the arms 26, it has struck outwardly therefrom tongues 30 having openings through which screws 31 loosely extend and are threaded into strut pieces 32 by which the intermediate flaring members are mounted within the device.

Manifestly, according to each of the embodiments of the invention the component parts of the illuminating means are separably connected with each other and, at the same time, means are provided whereby said illuminating means may readily be assembled with and disassembled from the device as a unit, for the advantageous purposes stated.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims.

I claim:

1. A combined air diffusing and illuminating device comprising a plurality of successively smaller, open-ended, hollow, flaring members spaced successively forwardly of one another with their smaller or rear ends facing the rear or air inlet end of the device to provide therebetween a plurality of forwardly flaring air distributing passageways, a lamp socket carried by the smaller or forwardmost of said members, a lamp mounted in said socket, a lamp globe also carried by and cooperating with the smaller or forwardmost of said members to enclose said lamp, and arms fixed to said smaller or forwardmost member and extending outwardly therefrom and resting loosely upon the rear end portion of the next adjacent rearwardly disposed member, whereby the smaller or forwardmost member and the lamp socket, lamp and lamp globe are removably, replaceably supported as a unit upon said next adjacent rearwardly disposed member.

2. A combined air diffusing and illuminating device as set forth in claim 1 in which the smaller or forwardmost flaring member is provided with an inwardly directed flange at its rear end, in which a sleeve carrying the lamp socket is disposed within the rear, open end of said smaller or forwardmost flaring member and includes an outwardly directed flange overlapping the flange of said smaller or forwardmost flaring member, and in which screws detachably fasten said flanges together.

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