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TELEPHONE BOOTH LIGHTING AND VENTILATING MEANS

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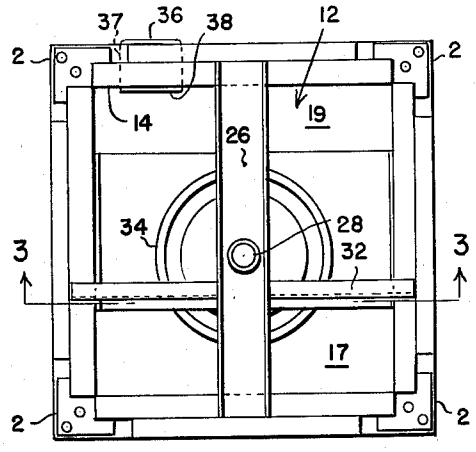

FIG. 2.

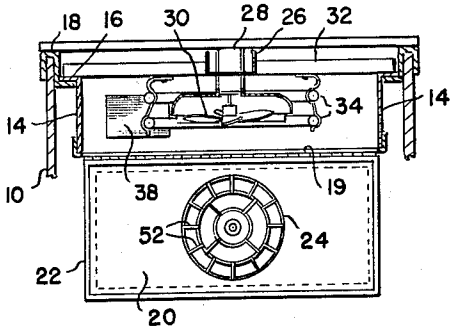

FIG. 3.

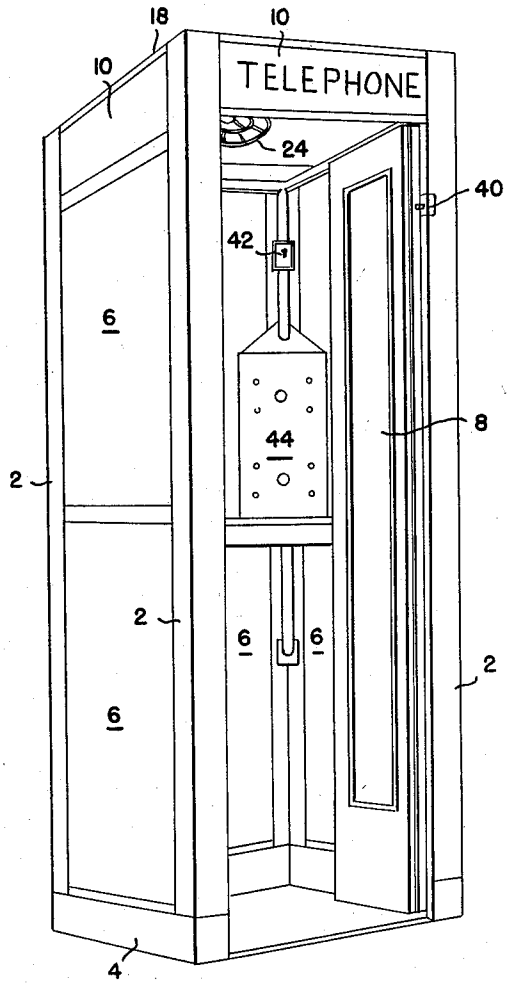

FIG. 1.

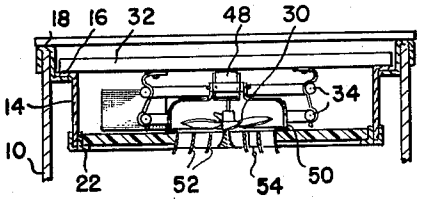

FIG. 4.

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TELEPHONE BOOTH LIGHTING AND VENTILATING MEANS

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3 Claims. (Cl. 98—39)

This invention relates to lighting and ventilating means for a telephone booth and, more particularly, to a telephone booth ceiling structure which includes means for producing air flow, means providing a light source and means for transmitting air flow and light into the telephone booth below the ceiling structure.

In my copending patent application Serial No. 307,630, filed September 3, 1952, I have disclosed a telephone booth provided with a hinged ceiling panel through which access may be gained to apparatus in a ceiling chamber above the ceiling panel when the ceiling panel is hinged downwardly. This arrangement facilitates access to illuminating means mounted in the ceiling chamber. It is customary to mount an air blower in the ceiling chamber of a telephone booth and to provide an inlet to the ceiling chamber from the exterior of the booth and an outlet from the ceiling chamber into the interior of the booth in order that a circulation of air may be provided through the booth when it is occupied. Heretofore, the air blower has generally been mounted at a location displaced from the center of the booth ceiling and, when a hinged ceiling panel is employed, displaced from the hinged ceiling panel. This was done generally because of the fact that illuminating means, desirably positioned centrally in the ceiling chamber, and above the hinged panel when a hinged panel is employed, prevented, by its physical presence, the mounting of the air blower in a region located centrally of the ceiling chamber. Furthermore, the use of a transparent panel in the displaceable portion of the ceiling panel led to positioning the blower adjacent to some other region of the ceiling through which there was provided opening for the passage of air. These heretofore employed arrangements had the disadvantage of positioning the fan in relatively inaccessible locations within the ceiling structure and giving rise to a delivery of air into the telephone booth at a location displaced from the most desirable location, namely, the central portion of the ceiling thereof which would be directly over the head of a caller in the telephone booth.

It is the object of this invention to provide a ceiling structure in a telephone booth in which an air blower or fan is mounted substantially centrally in the ceiling structure over an air grill in the central portion of a translucent displaceable portion of the ceiling panel. With the blower in this arrangement, illuminating means are positioned around the air blower and over the region of the transparent panel not cut away to make provision for the air grill.

These and other objects of the invention relating particularly to details of construction thereof will become evident from the following description read in conjunction the accompanying drawings in which:

Figure 1 is a perspective view of a complete telephone booth embodying the invention;

Figure 2 is a top view of the booth shown in Figure 1 with the top cover removed;

Figure 3 is a fragmentary vertical section through the booth taken on the trace 3—3 shown in Figure 2 showing a hinged ceiling panel hanging open; and

Figure 4 is a fragmentary vertical section through the booth taken on the trace 3—3 shown in Figure 2 and showing another embodiment of the invention from that shown in Figure 3 with the hinged ceiling panel in the closed position.

In Figure 1 there is shown a telephone booth including corner posts 2 mounted upon a base member 4 and supporting side panels 6 and a conventional door assembly 8. Lintels 10 extend between the corner posts above the side panels 6 and the door assembly 8.

Positioned behind the lintels 10 and supported from the upper edges thereof is a ceiling fan assembly indicated generally at 12 in Figure 2. The ceiling structure includes four vertically extending sides 14 having outwardly turned flanges 16 at their upper ends adapted to rest on horizontally extending flanges formed on the inner legs of channel members 18 resting over the lintels 10. The structure thus far described is substantially identical to that described in greater detail in my above-mentioned copending patent application.

A pair of plates 17 and 19 extend horizontally between the lower edges of the vertically extending side walls 14 of the ceiling structure. These plates 17 and 19 extend transversely of the booth as viewed from the front thereof. A hinged ceiling panel 20 is positioned between these plates 17 and 19 and is mounted in a frame 22 which is hingedly connected to the plate 19.

The panel 20 is preferably formed of a translucent material and preferably a translucent plastic material which is less susceptible to breakage than glass. A louver assembly 24 providing suitable grill openings and also providing for diffusion of flow of air is mounted in the panel 20 at substantially the center thereof.

A channel member 26 is supported on the flange 16 of the ceiling structure and extends transversely of the booth from the front to the rear thereof. A fan motor 28 is mounted on the channel 26 and drives fan blades 30 which are fixed to the lower end of the motor shaft extending downwardly from the motor 28. The motor 28 and the fan blades 30 are positioned to be directly above the fan grill 24.

Also supported from the channel 26 and from an angle member 32 are a pair of circular lamp tubes 34. The lamp tubes are positioned so as to surround the fan 30, thus light emanating from the lamp tubes passes downwardly through the translucent panel 20 around the grill 24 without there being cast upon the translucent panel 20 an obvious shadow of the fan motor 28 or the fan blades 30. This arrangement of the lamp and tubes 34 and the fan motor 28 provides for easy access to these parts when the hinged ceiling panel is in the open position as shown in Figure 3.

Intake louvers 36 are provided in the rear lintel panel and a grill screen 38 is mounted over an opening in the rear wall 14 of the ceiling structure. The louvers 36 and the grill screen 38 are connected together by a suitable air duct 37 and provide for the inflow of fresh air to within the ceiling structure from which the fan blows air downwardly through the grill 24 into the telephone booth. The screen 38 serves to screen out insects and other foreign matter of any substantial size which might otherwise either accumulate in the ceiling structure or be blown downwardly upon a caller within the telephone booth.

The fan motor 28 may be controlled through a conventional switch and electrical circuit such as are well known in the art and which need not be described in detail herein. In Figure 1 there is shown at 40 a switch mounted

in the door post and positioned to be actuated upon closure of the telephone booth doors in order to initiate operation of the fan when a caller is in the telephone booth. If desired, a switch may be located within convenient reach of the operator such as, for example, the switch 42 which is located above the telephone mounting panel 44 shown in Figure 1. A switch thus located gives the caller control of the operation of the fan.

An alternative embodiment of the invention is shown in Figure 4 in which the lintel panels 10, the support channel 18, the ceiling side plates 14, the translucent panel 20 and the illuminating lamp support angle 32 and the illuminating lamps 34 are identical to those described in connection with Figure 3. In this modification of the invention, the fan motor 48 is supported by means of a frame 50 which extends upwardly from the fan grill 52. In this arrangement a switch 54 may be conveniently located in the fan grill assembly to provide for control of the operation of the fan by a caller. Furthermore, in this form of the invention when the translucent ceiling panel 20 is swung downwardly in the position of the panel 20 shown in Figure 3, the entire fan assembly including louver and fan blades swing downwardly with the hinged panel thus providing a still greater degree of access to the fan and fan motor than has been heretofore provided. It will be evident that the moving parts of the fan will, on occasion, require cleaning and other maintence and this extreme degree of accessibility is highly desirable. Furthermore, the lamp tubes 34 may be more easily and more completely examined when the fan motor and the blower are displaced from their position within the lamp tubes when the translucent ceiling panel is hanging downwardly.

From the foregoing it will be evident that both embodiments of the invention described herein provide a central air inlet in the ceiling of a telephone booth and surrounding illuminating means which are unobstructed while at the same time both embodiments also provide the necessary access to both the air blower and the illuminating means as is required to properly maintain these elements during the life of the telephone booth.

It will be evident that in either of the embodiments of the invention described the direction of the fan may be reversed, thus providing for air exhaust rather than air intake as described. Furthermore, if the air duct 37 is omitted and other openings are provided in the ceiling structure sides 14, the fan will provide for recirculation of air in the booth. Another obvious modification would involve the relocation of the air inlet or outlet provided by the louvers 36 and the air duct 37 to, for example, the top cover plate extending over the top of a ceiling structure. It will be evident that these and other modifications may be made in the structure embodying the invention as disclosed herein without departing from the scope of the invention as set forth in the following claims.

What is claimed is:

1. A telephone booth comprising a plurality of upright booth walls, a top cover for said booth, a ceiling structure including a horizontally extending wall disposed in underlying spaced relation to said top cover, upright side walls extending about the periphery of said horizontally extending wall and spaced inwardly from said upright booth walls, and means for supporting said ceiling structure upon said upright booth walls including means having legs extending laterally inwardly from said upright booth walls in lower spaced relation to said top cover, and flange means extending laterally outwardly from said upright side walls of the ceiling structure and seated upon the legs aforesaid, said top cover and ceiling structure conjointly forming a single chamber, means for admitting a flow of air from outside of said booth directly into said chamber, said horizontally extending wall including a light conductive panel provided with means forming a central passage for air directly from said chamber down into the booth, a motor directly over said passage, propeller fan means carried by said motor and disposed directly over the air passage means in said panel below said motor, circular illuminating means embracing said fan means, and means spanning said chamber and seated upon the flanges aforesaid for mounting said motor and illuminating means, said fan means being operable for drawing air into said chamber through said air admitting means and directing the same downwardly through the air passage means in said panel to the interior of the booth for ventilation thereof, said light conductive panel being translucent to permit light from said illuminating means to pass downwardly to the interior of the booth for illumination thereof.

2. A telephone booth as defined in claim 1 wherein said illuminating means are carried by a plurality of brackets mounted upon the motor and fan mounting means, said illuminating means and brackets conjointly forming an open structure embracing the fan means and adapted for substantially unobstructed movement of air freely from the air flow admission means directly to said fan means.

3. A telephone booth as defined in claim 2 where the illuminating means and the means for passage of air through the light conductive panel are concentrically related, and said means for passage of air through the light conductive panel is substantially smaller in diameter than said illuminating means.

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