

May 18, 1937.

H. DREYFUSS

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DINING CAR ILLUMINATION AND VENTILATION

Filed Dec. 3, 1936

8 Sheets-Sheet 2

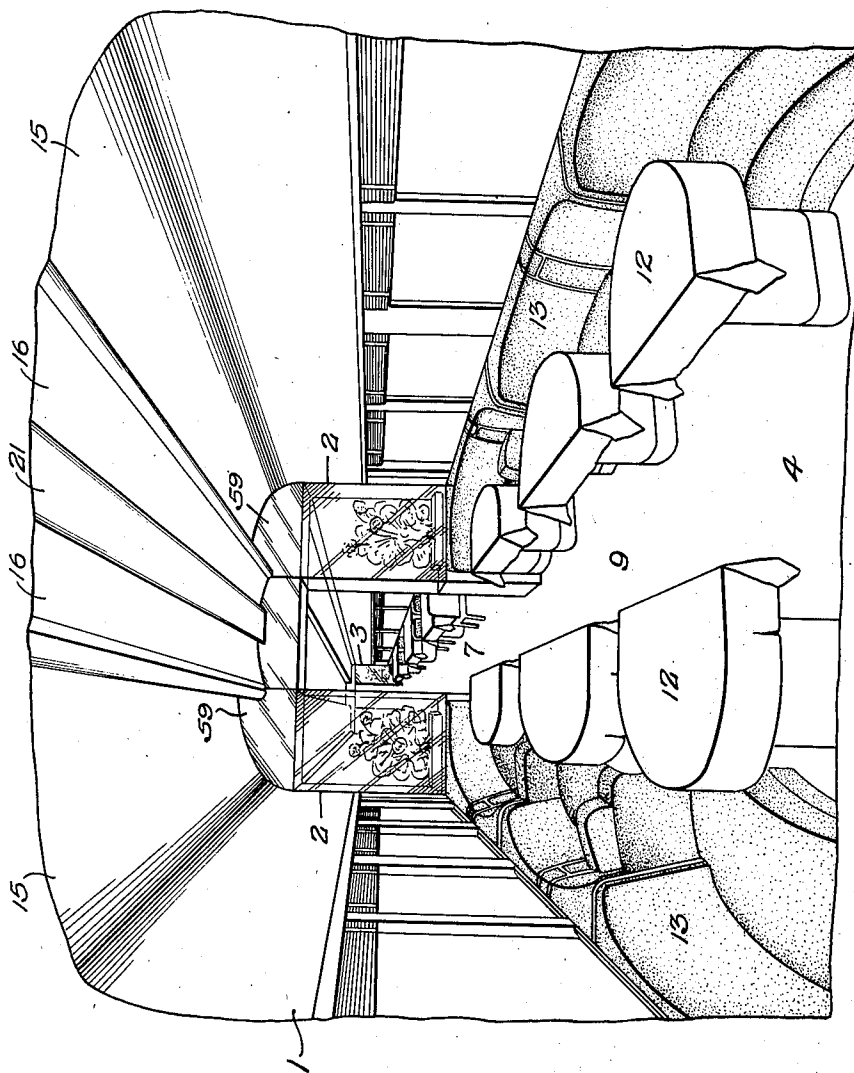


Fig. 2.

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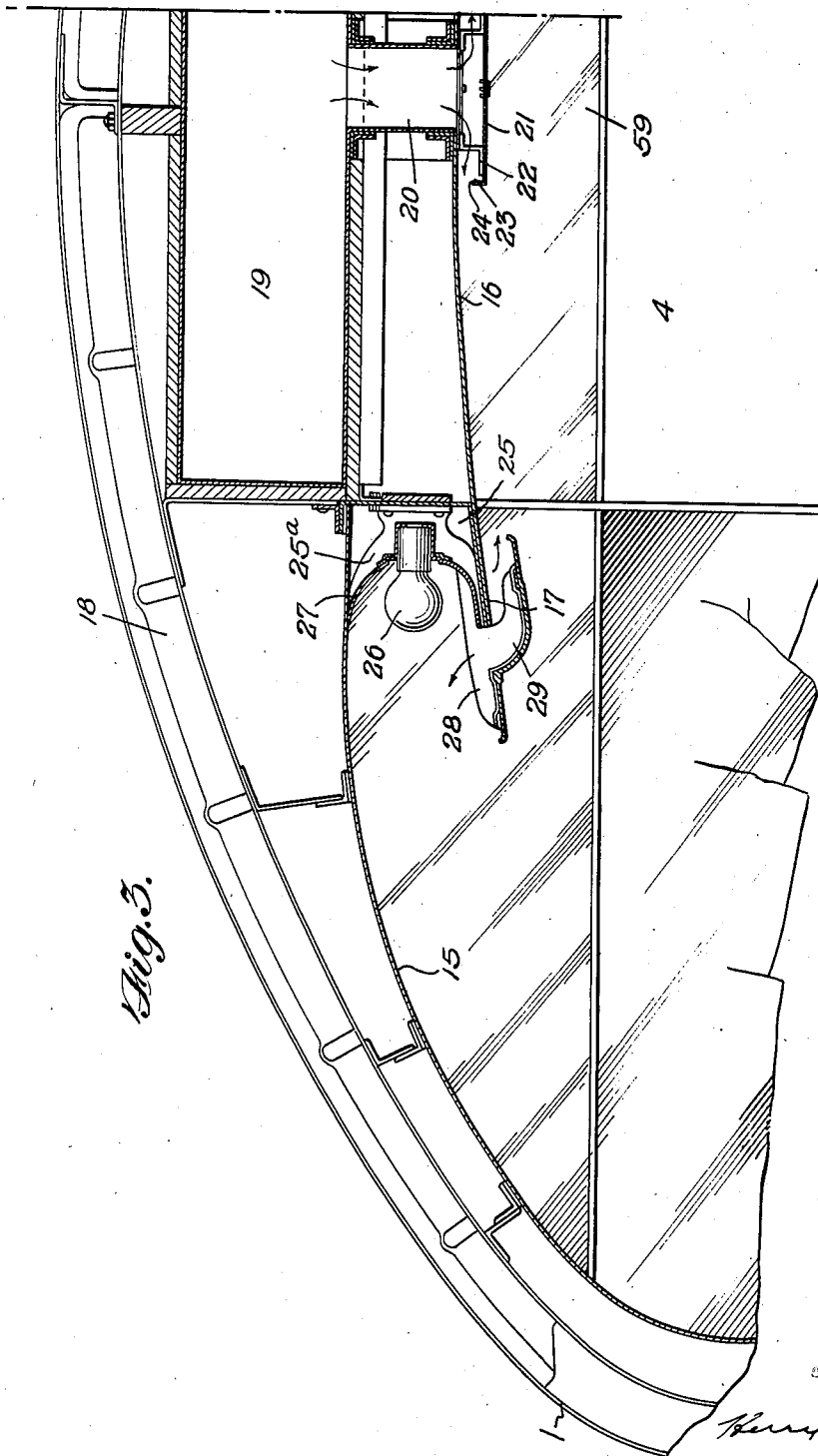
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DINING CAR ILLUMINATION AND VENTILATION

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8 Sheets-Sheet 3



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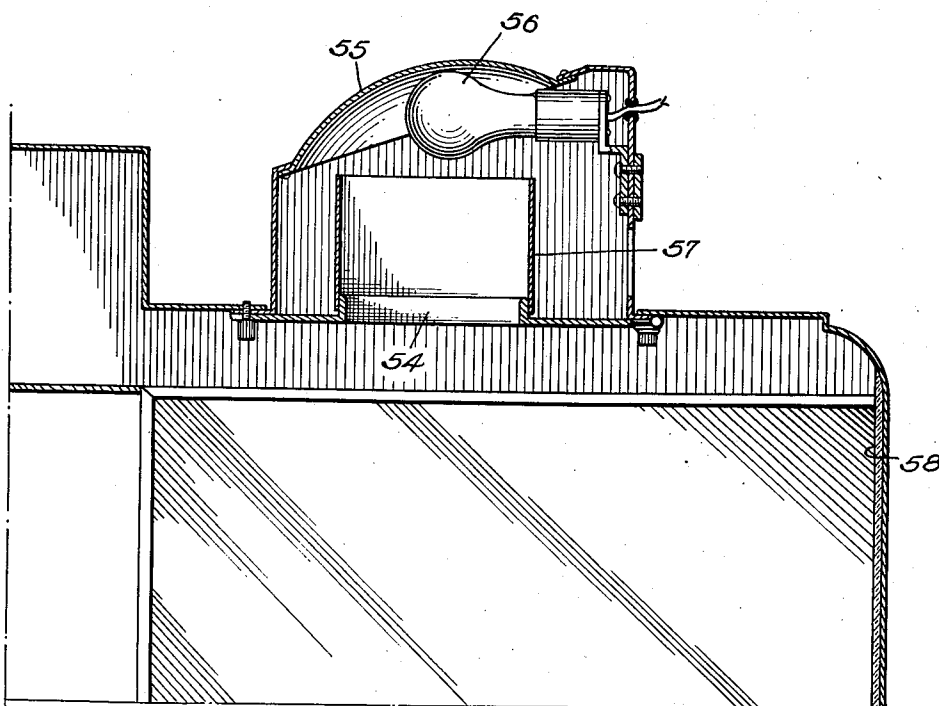
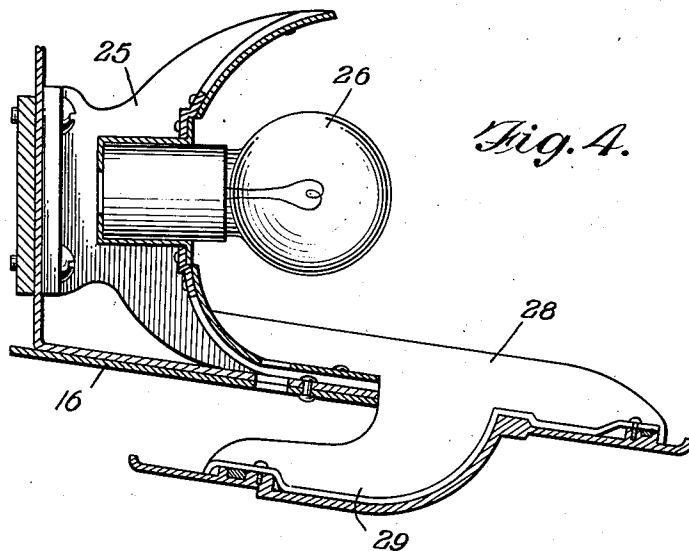
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Fig. 5.

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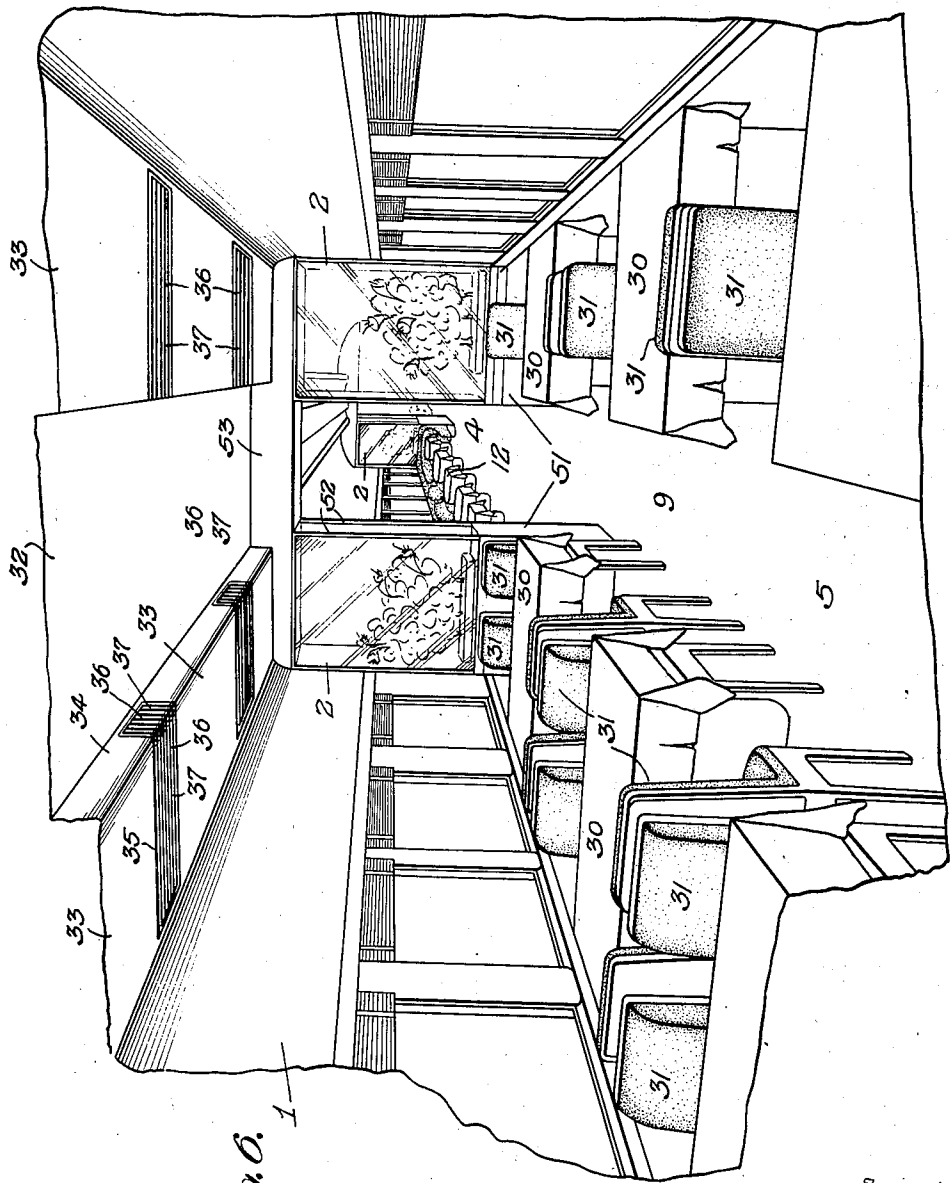


Fig. 6.

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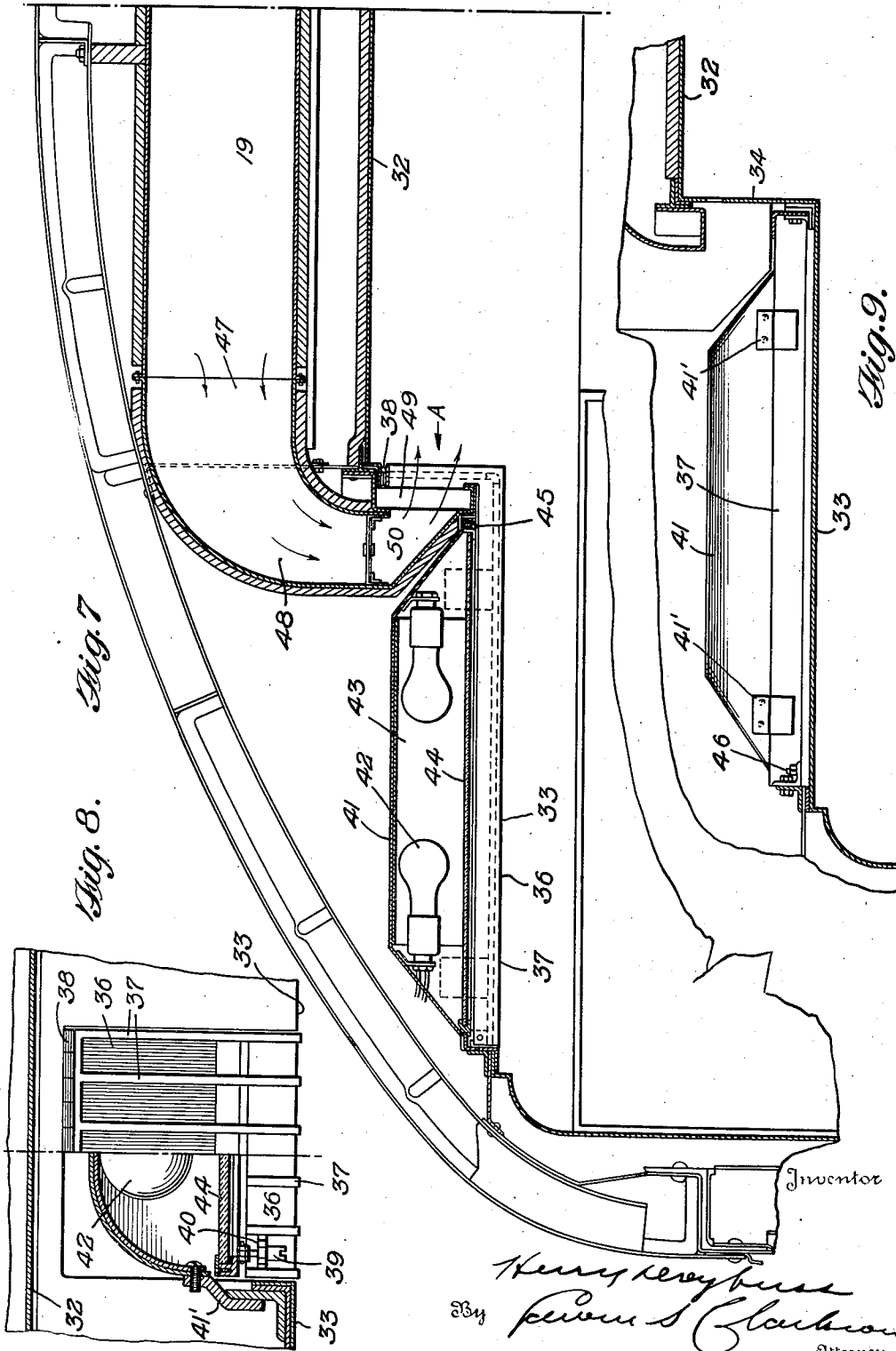
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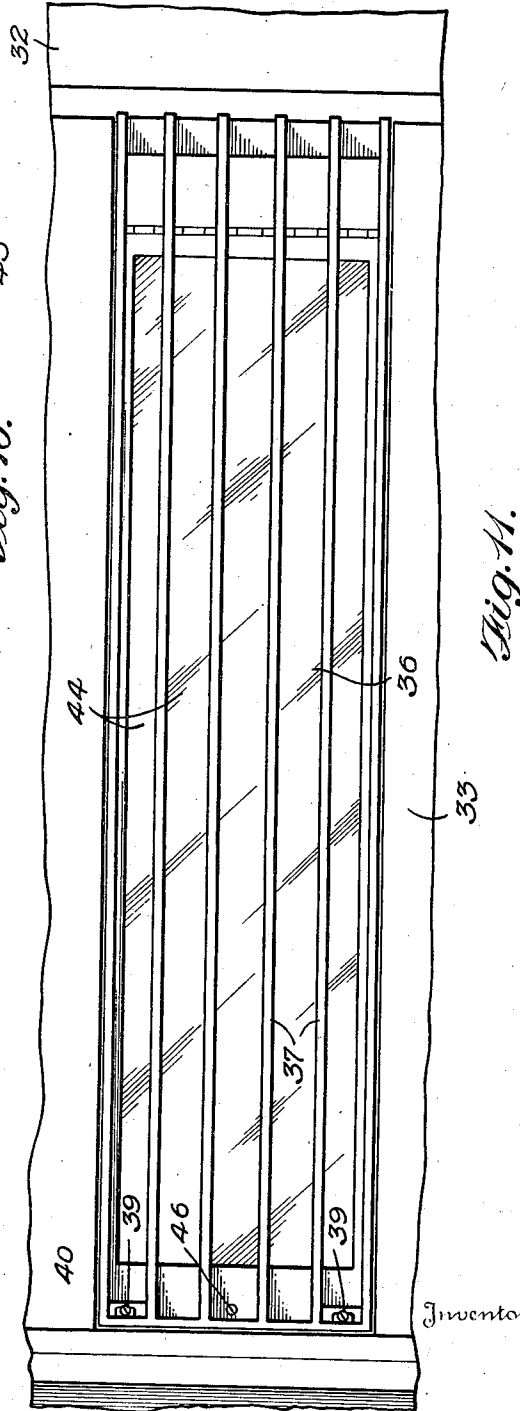
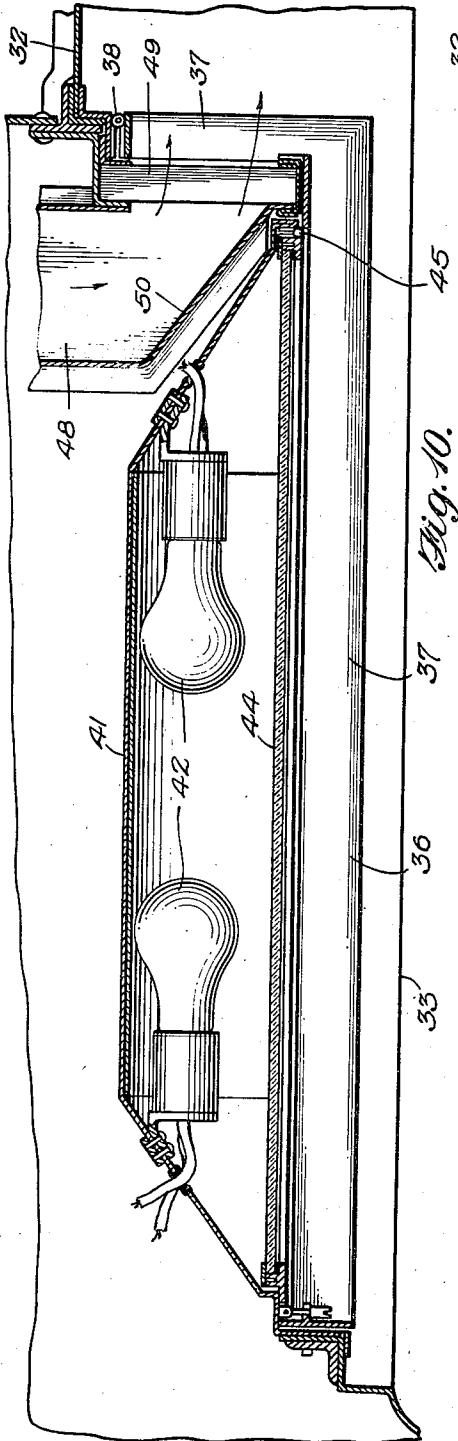
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8 Sheets-Sheet 7



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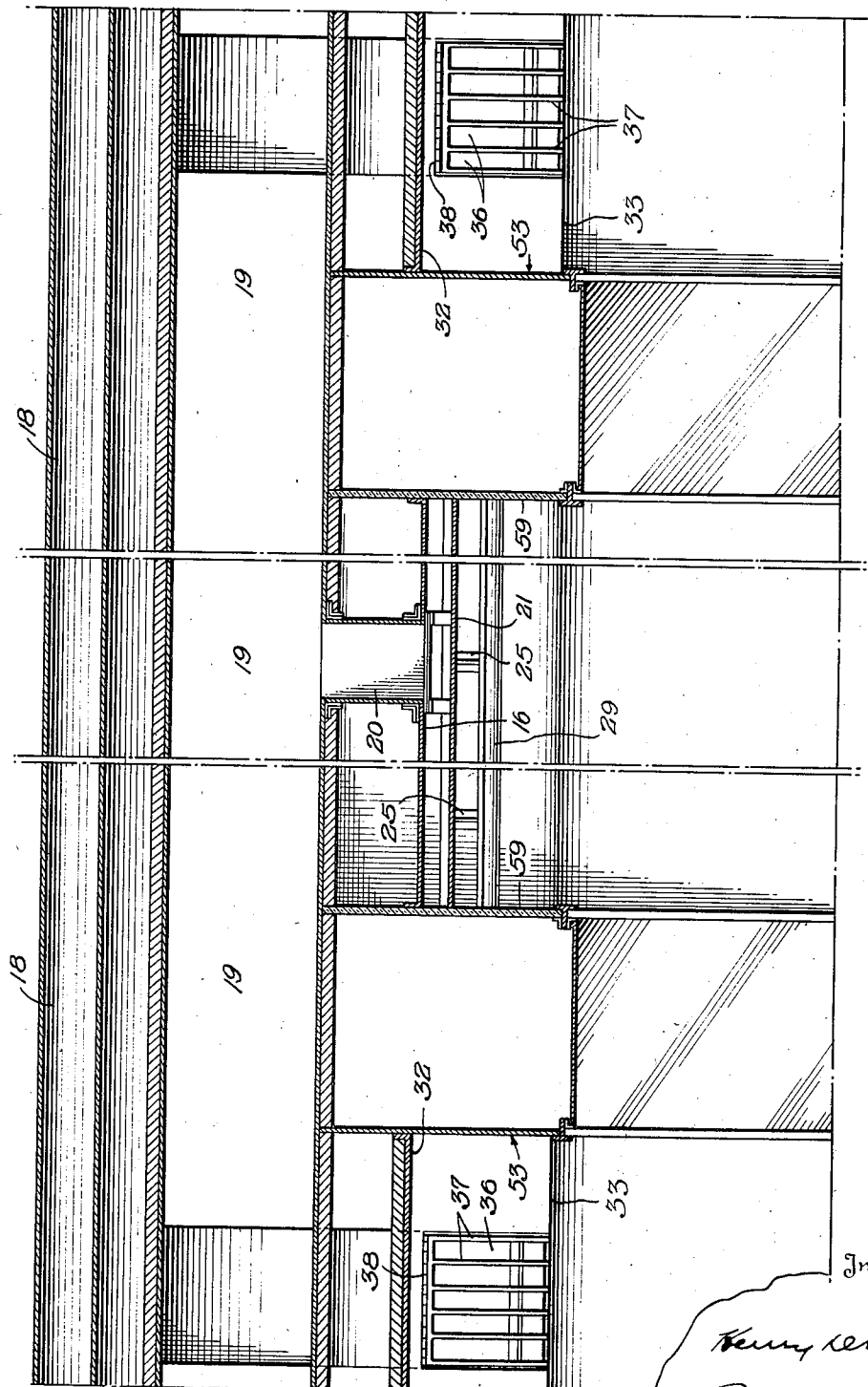
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DINING CAR ILLUMINATION AND VENTILATION

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8 Sheets-Sheet 8



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DINING CAR ILLUMINATION AND VENTILATION

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Application December 3, 1936, Serial No. 114,074

4 Claims. (Cl. 240—7.35)

This invention relates to improvements in the construction of railway cars, and particularly dining cars.

One object of the invention is to provide a dining car having a novel construction and arrangement of its interior surfaces, seats, tables and decorative accessories affording added comfort and convenience to diners and giving a unique and highly ornamental and attractive appearance to the interior of the car.

Another object of the invention is to provide a dining car having separate but communicating dining rooms or compartments of contrasting styles and appearances and differently illuminated to give contrasting effects, which rooms or compartments are or may be divided by arched partitions of ornamental character allowing a full view of all portions of the interior of the car to be obtained and giving a variegated appearance of highly pleasing character from end to end of the car.

Still another object of the invention is to provide a novel construction of the ceilings of the dining rooms or sections and novel construction and arrangement of the illuminating means therein, giving good general illumination over all the dining equipment in one of the sections and low and particularly directed illumination about the individual tables and seats in the other section or sections, whereby a dining car of novel and highly attractive appearance in daylight and of specially attractive appearance when illuminated is produced.

Still another object of the invention is to provide concealed illuminating means of indirect type which while giving adequate illumination will prevent glare into the eyes of passengers either while standing or walking in the car or seated at tables.

Still another object of the invention is to provide means for comfortably seating passengers awaiting their turn to be seated at dining tables.

Still another object of the invention is to provide an air conditioned dining car in which the air conditioning and illuminating elements are relatively arranged to prevent interference, to generally simplify the construction and to coact to give certain novel and improved results.

Still another object of the invention is to provide a type of dining car which from the standpoints of appearance and equipment suits the aesthetic tastes of different classes of individuals.

With these and other objects in view, the invention consists of the features of construction, combination and arrangement of parts, herein-

after fully described and claimed, reference being had to the accompanying drawings, in which:—

Figs. 1 and 1a are horizontal sections through portions of a dining car embodying my invention, Fig. 1 representing a portion of the car between one end and its center and Fig. 1a the remainder of the car between its center and opposite end.

Fig. 2 is a perspective view of a portion of the interior of the car, showing more particularly the high ceiling intermediate dining room or section.

Fig. 3 is a vertical transverse section through a portion of the roof and ceiling of the high ceilinged dining room or section, the section being taken through the half of the roof and ceiling at one side of the longitudinal center of the car.

Fig. 4 is a section on an enlarged scale through the companion illuminating means at the opposite side of the longitudinal center of the car.

Fig. 5 is a vertical section through a portion of one of the partitions between adjacent dining sections taken transversely of the car.

Fig. 6 is a view similar to Fig. 2 showing more particularly one of the low ceilinged end dining sections.

Fig. 7 is a view similar to Fig. 3 through a portion of the roof and ceiling of one of the low-ceiling dining sections.

Fig. 8 is a view partly in elevation and partly in longitudinal section through a part of the low-ceiling structure shown in Fig. 7, looking in the direction from the arrow A toward one of the air grilles and associated louvres.

Fig. 9 is a section similar to Fig. 7 through a part of the low ceiling at a point between adjacent grilles.

Fig. 10 is a sectional view of a part of the structure shown in Fig. 7 on an enlarged scale.

Fig. 11 is a bottom plan view of the parts shown in Fig. 10.

Fig. 12 is a central longitudinal section through the main compartments of the car.

Referring now more particularly to the drawings, 1 designates a dining car which, in accordance with my invention, and in the example shown, is divided by arched partitions 2 and 3 into a plurality of rooms, compartments or sections 4, 5, 6, and 6a, said partitions 2 and 3 being provided with doorways or passages 7 and 8 communicating with a center aisle 9 common to all the rooms or compartments and extending continuously from end to end of the car. In the illustrated embodiment the room or com-

partment 4 is arranged at the center of the car and comprises a center dining room or section, and two rooms or compartments 5 are shown, one at each end of the compartment 4, which form a pair of like end dining rooms or compartments separated from the compartment 4 by the partitions 2. The compartments 6 and 6a are arranged at the ends of the car and separated from the adjacent dining room sections 5 by the partitions 3. The compartment 6 has arranged at opposite sides thereof seats 10 preferably of cushioned lounge or sofa type, and provides a waiting or lounging room in which prospective diners awaiting their turn for admission to the dining room sections may be seated in comfort during the wait. The compartment 6a is or may be a utility compartment having at one side a steward's desk 10a and at the opposite side a linen locker 10b. Between each compartment space 6, 6a and the adjacent end wall of the car cabined compartment spaces 11 may be provided for the reception of various equipment appurtenances, such as linen, refrigerators or water coolers, fire extinguishers, linen lockers, wrecking tool boxes, and the like, which may be constructed and finished in any suitable and appropriate manner.

The dining room, compartment or section 4 is shown as provided on each side of the center aisle 9 with rows of tables 12, each comprising a supporting pedestal or standard secured to the floor of the car, and a table top of approximately semi-circular form. The straight sides of these tables face the aisle while the curved sides of said tables face outwardly or toward the side walls of the car, and between these curved sides of the table and the walls of the car are provided seats 13 for the diners which are preferably of built-in type and in the form of longitudinally curved cushioned lounges, which may be divided into seat portions or sections at regular intervals by arm rests or partitions 14. This dining room or section may be used for dining car services of all kinds and also as a lounge room. It provides a dining room section of novel and attractive type in which each table may be used for the service of two comfortably seated patrons, whereby a dining room or section of deluxe type is furnished.

The diner shown is or may be one of air conditioned type, and the dining room or section 4 is designed to be generally illuminated throughout by indirect lighting from a high level and to be supplied with conditioned air in an efficient manner and without causing the production of drafts. To this end, the room 4 is provided with a high ceiling comprising side portions 15 and a central portion 16, said side portions 15 being arranged on opposite sides of the line of the center aisle and said intermediate portion 16 being arranged over the aisle and thence extending laterally, as shown at 17, a certain distance beneath the inner edges of the side sections 15. Disposed in the upper portion of the center of the car at a level between the center ceiling section 16 and the car roof 18 is a longitudinally extending air duct 19 for supplying conditioned air to the car, which duct may extend centrally over and be common to all of the rooms or sections of the car. At one or more points in the length of the room 4 an outlet conductor 20 leads from the duct 19 downwardly to and through the ceiling section 16 for the discharge of the conditioned air into the room 4. Below the outlet end of this conductor the ceiling section 16 is

provided with an air deflector or baffle plate 21 which is supported in spaced relation thereto by brackets 22 and is arranged to provide side outlets 23 for the discharge of air toward opposite sides of the car. The deflector plate 21 may be provided at its edges with upturned deflector flanges 24 operating to direct the outflowing air against the ceiling section 16, a suitable proportion being directed through channels above shields 29 and brackets 28 onto ceiling 15, which preferably extends from the center section 16 outwardly toward the side walls of the car on an outward and downward line of curvature, whereby the issuing streams of air are caused to flow downwardly at opposite sides of the car by contact with the upper curved portions of the ceiling sections 15, by means of which a uniform and efficient distribution of the air will be effected without the production of drafts.

Between the outer edges of the wings of the center ceiling section 16 and the superposed portions of the ceiling sections 15, and on each side of the longitudinal center of the car, are arranged light fixtures 25, each comprising brackets 25a, spaced at suitable intervals and supporting a continuous reflector 27, which in turn supports at proper intervals incandescent lamps 26 of suitable illuminating power. The reflector 27 faces outwardly or toward the adjacent side of the car and is arranged about the lamps 26, so as to reflect the light rays toward each side of the car and in part against the curved surface of the ceiling section 15, whereby the light rays are reflected downwardly and uniformly distributed. The light fixture also includes brackets 28 supporting a light obscuring shield 29 which extends downward below the ceiling section 16 and disposed below the same and in spaced relation thereto. The upper face of this shield 28 may be adapted to serve as a reflecting surface, while the lower surface thereof is of non-reflective character, and the function of this shield is to cover and prevent the source of light from being seen from below and to prevent the rays of light therefrom from shining directly down upon the seats and tables and into the eyes of the diners below, as well as to prevent any undue glare in the region of the illuminating area. By this means an indirect light free from glare and of mellow character and of sufficient illuminating power is furnished to adequately illuminate the interior of the room 4. A downward portion or extension 29 of the light shield provides a passage for the upflow of air traveling along the ceiling section 16 so as to increase the range of air distribution. Another purpose of the reflecting shield 29 is to throw a soft illumination of low intensity upon ceiling 16 and to increase to a certain extent the illumination on ceiling 15 by reflecting a portion of the light which naturally falls from the lamp 26 upon the shield 29. The construction described provides a flood-like type of illumination for the room or compartment 4, to illuminate said room or compartment uniformly throughout its entire area.

Each room, compartment or section 5 is provided on each side of the aisle 9 with a row or series of dining tables 30, in connection with which may be used dining chairs 31 of conventional dining car type or of any other suitable construction. The arrangement may be such that long tables each suitable for accommodating four diners may be provided at one side of the center aisle, while smaller tables suitable for each accommodating two diners may be provided at the

opposite side of the center aisle, as shown, but any desired departure from this arrangement may be employed. The means for supplying conditioned air to and illuminating each room or compartment 5 varies from that employed in connection with the compartment 4, and is designed to give a moderate level illuminating effect from concealed lights localized with respect to the tables, with an arrangement of air distributing outlets adapted under these conditions to uniformly and efficiently distribute the air without the production of drafts. Each room or compartment 5 is provided for this purpose with a suitable type of ceiling structure. This ceiling structure is provided with a central ceiling section 32 and side ceiling sections 33. The central ceiling section 32 may be a continuation of and arranged at the same level as or a lower level than the central ceiling section 16 of the compartment 4, but the side ceiling sections 33 which overhang the rows of tables 30 are arranged at a lower level than the central ceiling section 32 and provide between the same and the roof enclosing casings or housings for the illuminating and air distributing means. Each of these side ceiling sections 33 is connected at its inner edge to the central ceiling section 32 by a vertical portion or riser 34. Arranged in each of these ceiling sections and its riser 34 above each table 30 is an opening 35 adapted to receive an open grating or frame 36 provided with louvres 37. The upright portion of the inner end of this frame is hinged, as at 38, to the adjacent edge of the ceiling section 32 so as to permit of said grating or frame being swung downwardly at its outer or free end out of the opening and upwardly into the opening. The outer or free edge of this frame carries swing bolts and associated clamping nuts 39 for engagement with keepers 40 on the adjacent side wall of the car whereby said grating or frame may be fastened in its normal or up-raised position. On the upper surface of the frame is a casing 41 supported by hangers 41' from the fixed part of the ceiling section 33 and containing one or more incandescent lamps 42 for the production of rays of light which are projected downwardly through the spaces between the louvres. The casing 41 may be provided with an interior reflecting surface 43 to concentrate and direct the rays downwardly. The louvres are so arranged as to diffuse the emitted light uniformly while obscuring the lamps from the gaze of observers below, and to thereby prevent any glare or light from shining directly into the eyes of the diners. Disposed within the base of the lamp casing and mounted upon the frame or grating is a diffusing panel 44 of glass or other transparent or translucent material through which the light shines. This panel is carried by a suitable frame which is hingedly mounted at its inner edge, as at 45, to the lamp casing, and said panel frame is adapted to be secured at its outer edge by means of a fastening screw 46 to the lamp casing, whereby it is adapted to be held fixed in working position to the lamp casing or released so as to be swung downward to expose the lamps in the casing for renewal of lamps or for other purposes. In the operation of renewing lamps, cleaning the lamp casing or making required repairs therein, the frame or casing 36 is first released for downward swinging movement by disengaging the latch bolts 39 from the keepers 40, after which by disengaging the fastening element 46 the panel 44 may be swung down-

ward to expose the interior of the lamp casing, thereby enabling burned out lamps to be replaced, inspection or repairs to be made or the interior of the lamp casing to be cleaned in a ready and convenient manner.

Arranged between the ceiling section 32 and the roof of the car is the air duct 19 which at this point is provided at its sides with outlets 47 communicating with discharge ducts 48 having outlet ends terminating in grilles 49 which are arranged to discharge air through the space between the louvres at the upright inner ends of the grating or frame 36, each duct 48 being provided in rear of the grille with an inclined deflecting surface 50 for projecting the air straight outward from the grille. The air is thus discharged at opposite sides of the center of the car beneath the center roof section 32 and is distributed throughout the area of the compartment 5. This arrangement of the air supplying means permits of the discharge of the air at points most effective for its distribution in the use of the low ceiling sections 33, and permits of the arrangement of the illuminating devices at the points specified so as to avoid interference between the parts of the illuminating and air supplying means, as well as such parts being reached for cleaning, repairs or other purposes in a ready and convenient manner. The lights by being arranged in the manner described at a low elevation above the dining tables in the compartment 5 cast soft beams of light upon and about the area occupied by each table, thus giving a night club effect to this dining compartment or section of the car.

The partitions 3 at the ends of the car may be of any ordinary or suitable type, while the intervening partitions 2 separating the compartments 4 and 5 from each other are of special construction. Each of these partitions 2 comprises a base portion 51, made of wood, metal or composite material, on which rests a display casing or cabinet section formed of spaced walls 52 of glass or like transparent or translucent material. These walls 52 extend from the base upwardly to the ceiling transom 53 and lie flush at their inner edges with the inner face of the base 51 and abut at their outer edges against the adjacent side wall of the car, which is closed at that point to close the rear part of the casing or cabinet thus formed. Each casing or cabinet is open at the front or at its side facing the doorway 7, but may be closed by doors at this point if desired. These casing or cabinet portions of the partition are sufficiently transparent to allow the adjacent compartments 4 and 5 to be viewed therethrough, each from the other, while at the same time sufficiently screen each compartment from the other so that the individuality of the compartments is maintained. The cabinets or compartments are designed to serve as ornamental display cases in which, for example, flowers may be placed to give a conservatory effect, but the cabinets may be otherwise used for ornamental displays if desired. Each cabinet is provided at its top with a light admission opening 54 above which is arranged a lamp casing 55 containing an electric lamp 56. The bulb of this lamp is positioned above a light transmitting tube 57 arranged within the casing 55 in alinement with the light admission opening 54 so that the light rays from the bulb will be transmitted downwardly in a straight line and concentrated on the flowers or other ornamentation contained in the display case. The top wall or upper surface of the cas-

ing 55 may be in the form of a reflector arranged to reflect the light rays toward the tube 57, but the internal surface of the tube 57 is preferably of some dark or non-reflecting material to prevent any glaring effects of the light transmitted. The rear wall of the casing, however, may be provided with a mirror surface 58 to enhance the ornamental appearance of the display case and to cause the reflection of the light rays against the flowers or other ornamentation displayed so that the general ornamental effect of the cabinet and its display will be heightened. By the provision of these ornamental partitions, in addition to the conservatory effect gained, the general lighting effect is increased, the doorway 7 illuminated without glare, and increased attractiveness given to the dining compartments during daytime as well as at night. The sides of the transom 53 facing the respective compartments 4 and 5 may be suitably finished to accord with the lighting schemes of these compartments, that facing the compartment 4 being preferably provided with a mirror or reflecting surface 59, while that facing the compartment 5 may have a neutral or dull finish or non-reflecting surface.

From the foregoing description, taken in connection with the drawings, it will be seen that my invention provides a dining car of unique type, having dining compartments of contrasting styles furnishing physical comfort as well as giving attractive surroundings to the diners. These compartments also give the effect of private dining compartments of a type for which different individuals may have preference, which are air conditioned and illuminated in such ways as to effect the circulation of the conditioned air without producing drafts and which give adequate but soft illumination, entirely free from glare. The construction of the interior of the car as a whole is further such as to provide dining compartments free from sameness of appearance and from the mechanical order of arrangement of the interior of an ordinary dining car, and which create a distinctive atmosphere, that of the patrons dining in a club or other select establishment.

While the car structure shown for purposes of exemplification is preferred, it will, of course, be understood that the invention is not limited thereto, as changes in the form, construction and arrangement of the parts may be made within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:—

1. A dining car having a dining compartment provided with a central ceiling section and side ceiling sections, the latter being depressed so as to lie in a plane below the plane of the central ceiling section, each side ceiling section being

provided at spaced intervals with light emitting openings extending transversely thereof, illuminating means above the side ceiling sections for casting light rays downward through said openings, and non-glare louvres guarding said openings.

2. A dining car having a dining compartment provided with a ceiling comprising a central ceiling section and side ceiling sections, said side ceiling sections having their inner portions overhanging and arranged in spaced relation to the outer portions of the central ceiling section, an air duct arranged above the central ceiling section and having an outlet extending downwardly through said ceiling section, means cooperating with said outlet for directing the air issuing from said outlet toward opposite sides of the car, illuminating means arranged in the spaces between the inner margins of the side ceiling sections and outer margins of the central ceiling section, and shields arranged between the illuminating means and the lateral margins of the central ceiling section and provided with reflecting surfaces for directing the light rays toward the side ceiling sections, said shields having portions projecting beneath the lateral margins of the central ceiling section and cooperating with openings therein to direct currents of air upwardly through said portions of the central ceiling section.

3. A dining car having a dining compartment provided with a ceiling comprising a central ceiling section and side ceiling sections, said central ceiling section being arranged at a higher level than the side ceiling sections and connected therewith by risers, the side ceiling sections being provided at spaced intervals with openings therein, illuminating means arranged above the openings in the side ceiling sections, a louvred frame guarding said openings and movable into and out of operative position, and a light transmitting panel arranged between the illuminating means and louvred frame and movable when the frame is moved out of operative position to allow access to the illuminating means.

4. A dining car having a dining compartment provided with a ceiling comprising a central ceiling section and side ceiling sections, said central ceiling section being arranged at a higher level than the side ceiling sections and connected therewith by risers, the side ceiling sections and risers being provided at spaced intervals with openings, an air duct arranged above the central ceiling section and having outlets communicating with the openings in the risers, illuminating means arranged above the openings in the side ceiling sections, and louvres at the openings permitting the light rays to pass downward while concealing observation of the illuminating means from below.

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