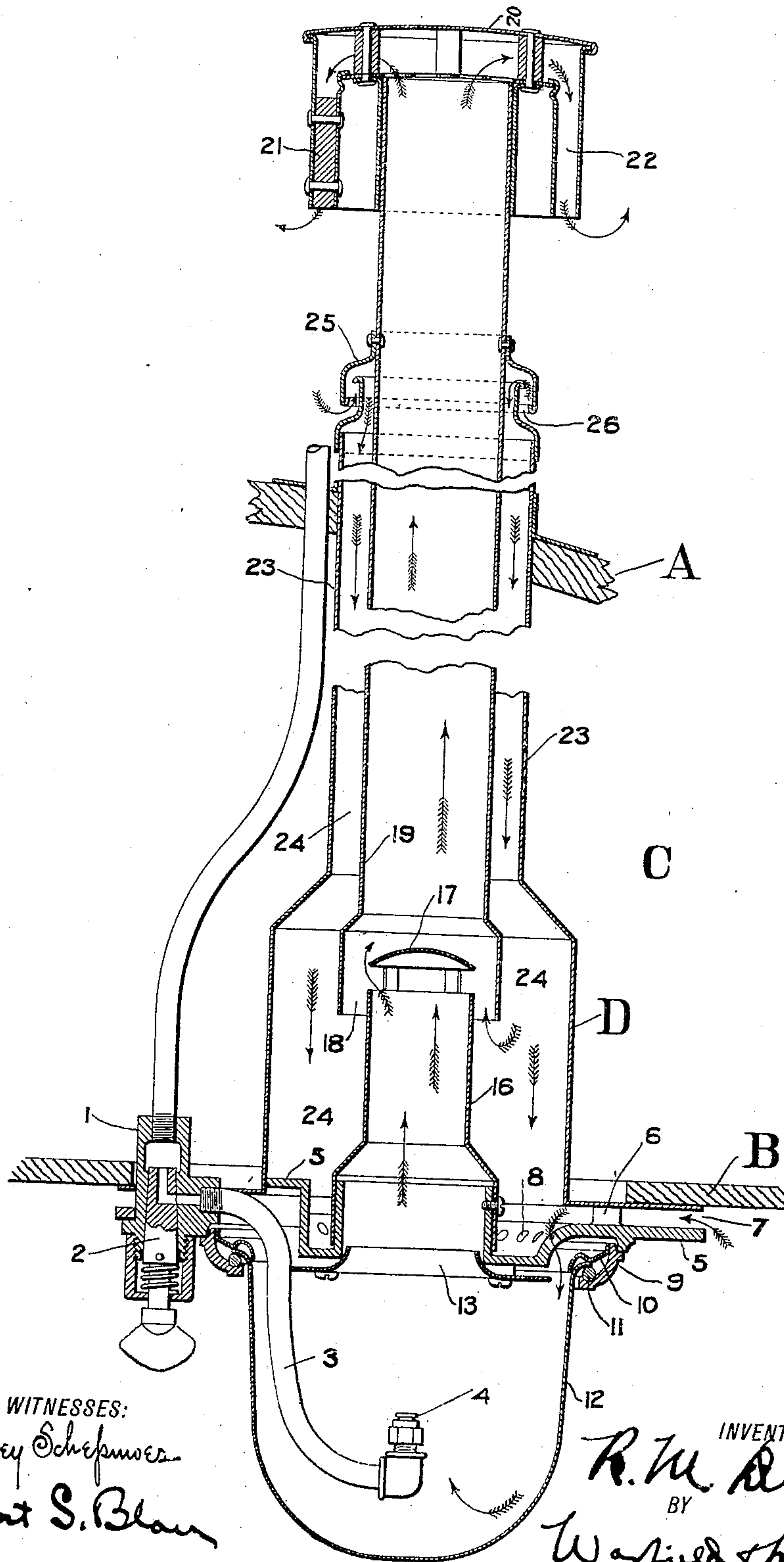


No. 814,120.

PATENTED MAR. 6, 1906.

R. M. DIXON.
GAS LAMP.
APPLICATION FILED APR. 15, 1905.



WITNESSES:
Lindley Schepmeyer
Robert S. Blum

INVENTOR
R. M. Dixon
BY
Wesfield & Druce
ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT M. DIXON, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO THE
SAFETY CAR HEATING & LIGHTING COMPANY, A CORPORATION OF
NEW JERSEY.

GAS-LAMP.

No. 814,120.

Specification of Letters Patent.

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Application filed April 15, 1905. Serial No. 255,846.

To all whom it may concern:

Be it known that I, ROBERT M. DIXON, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Gas-Lamps, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to gas-lamps and the like, and is especially adapted for use in connection with car-lighting systems, although capable of use in a variety of relations.

One of the objects thereof is to provide a device characterized by increased efficiency, simplicity, and convenience.

Another object is to so construct a lamp of this type that the flame at the burner will burn evenly and will not be affected by unequal atmospheric pressures.

Another object is to provide means adapted to furnish an air-supply to the burner from the interior and also from the exterior of the railway-car or similar structure in which the lamps are mounted.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the embodiment herein described and the scope of the application of which will be set forth in the following claims.

The drawing represents a vertical sectional view of one of various possible embodiments of my invention.

As tending to render better understood certain features of my invention, it may here be noted that in gas-lamps of this type much trouble has heretofore been experienced by reason of the constant flickering of the flame at the burner on account of unequal and varying atmospheric pressures. Another objection to be overcome is to provide a means adapted to prevent the flame from being entirely extinguished by reason of sudden drafts passing upward through the heated gas-conductor or in the reverse direction by reason of different atmospheric pressures existing within or without the railway-car or similar structure upon which the lamps are mounted. I have found it desirable, there-

fore, to provide means whereby these objections may be removed, the results being accomplished by taking air to supply the burner from the interior and also from the exterior of the railway-car or similar structure upon which the lamps are mounted. The above and other defects are eliminated in constructions of the nature of that hereinafter described.

Referring now to the drawing, the roof A of the railway-car or similar structure has a ceiling B located beneath the same, providing therebetween a space C, ordinarily known as a "dead-air space." Lamp D is shown suitably mounted upon the structure and extends from the interior thereof through the dead-air space and the roof A to the atmosphere and is provided with a gas-supply conduit 1, controlled by means 2, adapted to regulate the supply of gas through tube 3, leading to the burner 4. Plate 5, suitably secured to the lamp, as by means 6, and providing an air-inlet passage 7, has apertures 8 and supports an annular member 9, adapted to cooperate with means 10 and 11 to maintain in position a translucent bowl inclosing the burner 4. A centrally-apertured funnel-shaped member 13, carried by the plate 5, leads the heated gases away from the bowl 12 into the conducting-tube 16 mounted upon the plate 5, the open end of which is surmounted by a dome-like deflector 17. Extending from a position in proximity to the open end of the conducting-tube 16 and forming an annular opening 18 thereabout is a chimney 19, leading through the roof A, which chimney has positioned thereon at its upper extremity a hood 20, provided with downwardly-extending walls spaced apart by blocks 21 to provide an exit 22 for the heated gases rising through the chimney. An air-conducting conduit 23, inclosing the lower end of chimney 19 and the conducting-tube 16 and forming an annular passage-way 24, extends from a position exterior to the roof and is adapted to conduct air by means of the said passage-way 24 to the apertures 8 of the plate 5. A downwardly-opening shield 25 is secured to the walls of the chimney 19 by suitable means and extends over the upwardly-opening end of the air-conducting conduit, providing an air-inlet opening 26.

In the operation of my device, the several parts being positioned as shown in the drawing, the burner is supplied with air entering through the conduit 23 and apertures 8 in the plate 5, as shown by the arrows on the drawing, and should this supply for any reason be inadequate to properly maintain the flame the opening 7 will furnish air, which may also be admitted through the apertures 8. The heated gases produced by combustion are led upward by the conducting-tube 16 into the chimney 19 and out to the atmosphere through the passage-way 22 in the hood-20. Should the atmospheric pressure exterior to the railway-car or similar structure be suddenly increased or a sudden gust of wind come in contact therewith, an event which may possibly occur when the lamp is mounted upon the sloping roof of the vestibule of a car, as shown in the drawing, air would be forced through the opening 22 and thence down the chimney, producing therein a back draft. Such current of air would, however, impinge against the deflector 17 and be turned into the opening 18 between the lower end of the chimney 19 and the upper end of the conducting-tube 16.

It will be noted that I have constructed a simple and inexpensive apparatus wherein the heated gases produced by the flame at the burner are conducted to the atmosphere at a uniform velocity and one in which the steadiness of the flame is not affected by variations of atmospheric pressure within or exterior to the structure upon which the lamp is mounted.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-car or similar structure, in combination, a burner, a conducting-tube arranged above the burner and adapted to conduct therefrom the heated gases produced by the burner, a deflector mounted upon said conducting-tube, a chimney adapted to receive said heated gases from the conducting-tube and to lead the same to the atmosphere, and an air-conducting conduit surrounding the conducting-tube and the chimney and adapted to supply air from the exterior of the car or similar structure to the burner and also to the chimney to compensate for an abnormal draft through the conducting-tube and thereby maintain an even flame at the burner.

2. In a device of the class described, in

combination, a burner, a conduit also adapted to supply air to the burner, a conducting-tube adapted to lead heated gases therefrom, a deflector mounted upon said conducting-tube, a chimney for carrying said heated gases from said conducting-tube and also adapted to receive air from said air-conducting conduit to prevent an abnormal back draft through the conducting-tube and thereby maintain a constant atmospheric pressure at the burner.

3. In a device of the class described, in combination, a burner, a translucent bowl surrounding said burner, an air-conducting conduit also leading therein and adapted to supply air thereto, a tube leading from said bowl and adapted to conduct therefrom heated gases produced by the burner, a deflector mounted upon said tube, a chimney of larger diameter than that of said conducting-tube encircling the end thereof and leading from a position in proximity to said end to form an aperture therebetween, the said chimney being adapted to lead the heated gases received from said conducting-tube into the atmosphere.

4. In a railway-car or similar structure, in combination, a burner, a translucent bowl surrounding said burner, an air-conducting conduit also leading therein and adapted to supply air from the exterior of the car or similar structure thereto, a tube leading from said bowl and adapted to conduct therefrom heated gases produced by the burner, a deflector positioned upon said tube, a chimney of larger diameter than that of said conducting-tube encircling the end thereof and leading from a position in proximity to said end to form an aperture therebetween, the said chimney being adapted to lead the heated gases received from said conducting-tube into the atmosphere, and means mounted upon the conducting-tube to prevent back drafts from entering the conducting-tube.

5. In a device of the class described, in combination, a burner, a translucent bowl surrounding said burner, an air-conducting conduit also leading therein and adapted to supply air thereto, a tube leading from said bowl and adapted to conduct therefrom heated gases produced by the burner, a dome-like deflector mounted upon said tube, a chimney of larger diameter than that of said conducting-tube encircling the end thereof and leading from a position in proximity to said end to form an aperture therebetween, the said chimney being adapted to lead the heated gases received from said conducting-tube into the atmosphere, and a dome-shaped deflector mounted upon the conducting-tube to prevent back drafts from entering the conducting-tube.

6. In a railway-car or similar structure, in combination, a burner, a conducting-tube adapted for leading heated gases therefrom,

a chimney arranged above said conducting-tube and encircling the upper end thereof and providing an aperture therebetween, said chimney being adapted to conduct heated gases from said conducting-tube to the atmosphere, a deflector mounted upon said conducting-tube above the lower end of said chimney, and an air-conducting conduit encircling the chimney and conducting-tube and adapted to convey air from the outside of the car or similar structure to the burner and also adapted to furnish a supply of air to the chimney to compensate for varying atmospheric pressures therein.

7. In a device of the class described, in combination, a burner, a conducting-tube adapted to lead heated gases therefrom, a chimney arranged above said conducting-tube and encircling the upper end thereof and providing an aperture therebetween, said chimney being adapted to conduct heated gases from said conducting-tube to the atmosphere, a dome-like deflector mounted upon the upper end of said conducting-tube above the lower end of said chimney, an air-conducting conduit encircling the chimney and conducting-tube and adapted to convey air to the burner and also adapted to furnish a supply of air to the chimney to compensate for varying atmospheric pressures therein, and a shield mounted upon the chimney and extending over the end of the air-conducting conduit.

8. In a railway-car or similar structure, in combination, an inclosed burner, a conducting-tube adapted to lead heated gases therefrom, a deflector mounted upon said conducting-tube, a chimney arranged above said conducting-tube and encircling the upper end thereof and adapted to receive heated gases from said conducting-tube, said chimney being provided at its upper end with a hood having downwardly-extending passages adapted to conduct heated gases from the chimney to the outer air, an air-conduit encircling said conducting-tube and said chimney and adapted to conduct air from the exterior of the railway-car or similar structure to the burner, and means adapted to supply air to said burner from the interior of the aforementioned railway-car or similar structure.

9. In a railway-car or similar structure, in combination, an inclosed burner, an apertured plate arranged above said burner, a conducting-tube mounted upon said apertured plate and adapted to conduct heated gases from the burner, a deflector mounted upon said conducting-tube, a chimney encircling the upper end of said conducting-tube and providing downwardly-extending passages therebetween, a hood positioned upon the chimney and having spaced walls to provide downwardly-extending exit passage-ways therebetween, said passage-ways being

adapted to lead the heated gases produced by combustion from the chimney to the atmosphere, a hollow shell encircling said conducting-tube and said chimney, the upper end of said shell being of larger diameter than that of said chimney, thereby providing an annular air-inlet opening therebetween exterior to the railway-car or similar structure, said shell being adapted to conduct air to the burner and also to the chimney to compensate for abnormal drafts through said conducting-tube, and means in the interior of said railway-car or similar structure adapted also to supply air to the burner.

10. In a railway-car or similar structure, in combination, an inclosed burner, an apertured plate arranged above said burner, a conducting-tube positioned upon said plate and adapted to conduct heated gases from said burner, an upwardly-extending chimney arranged about the upper end of said conducting-tube and leading to the outer air, a hood having spaced walls providing downwardly-extending exit passage-ways, said passage-ways being adapted to conduct the heated gases through said chimney to the outer air, an air-inlet conduit encircling the conducting-tube and said chimney and adapted to receive air from the exterior of the railway-car or similar structure and conduct the same to the burner and also adapted to admit air to the chimney to compensate for an abnormal draft through said conducting-tube thereby maintaining an even flame at the burner, and means interior to said railway-car or similar structure adapted to furnish an air-supply to the burner.

11. In a railway-car or similar structure, in combination, a burner, a translucent, depending bowl inclosing said burner, an apertured plate arranged above said burner, a conducting-tube adapted to conduct heated gases from said burner positioned upon said apertured plate, a chimney of larger diameter than that of said conducting-tube encircling the upper end thereof and extending to the exterior of the structure, a hood having downwardly-extending exit passage-ways positioned upon the upper end of the chimney, an air-inlet conduit encircling said conducting-tube and said chimney extending without the structure and providing an air-inlet opening between the same and said chimney, a shield positioned upon the chimney and extending downwardly to encircle the upper end of said air-inlet conduit providing an upwardly-extending opening therebetween, said air-inlet conduit being adapted to furnish an air-supply from the exterior of the railway-car or similar structure through the last-mentioned opening to the burner and also adapted to admit air to the chimney to compensate for an abnormal draft through the conducting-tube, thereby maintaining an

even flame at the burner, and means interior to the railway-car or similar structure adapted to supply air to the burner.

12. In a railway-car or similar structure, in combination, an inclosed burner, an apertured plate arranged above said burner, a conducting-tube positioned upon said apertured plate and adapted to conduct heated gases from the burner, a deflector positioned upon said conducting-tube, an upwardly-extending chimney encircling the upper end of said conducting-tube, a hood mounted upon said chimney having spaced walls to provide downwardly-extending exit-openings, said openings being adapted to deliver heated gases passing through said chimney to the atmosphere, an air-inlet conduit encircling said conducting-tube and said chimney and providing an opening at the upper end thereof of between said air-inlet conduit and said chimney, a shield positioned upon the chimney and encircling the upper end of said air-inlet conduit to form an upwardly-extending air-inlet opening said air-inlet conduit being adapted to receive air from the last-mentioned opening and conduct the same to the burner and also admit air to the chimney to compensate for unequal atmospheric pressures in said conducting-tube, and means interior to the railway-car or similar structure adapted to furnish an air-supply to the burner.

13. In a railway-car or similar structure, in combination, an inclosed burner, an apertured plate arranged above said burner, a conducting-tube positioned upon said apertured plate and adapted to conduct heated gases from the burner, a dome-like deflector surmounting said conducting-tube, a chimney extending upwardly from a position in proximity to the upper end of said conducting-tube and encircling the end thereof to form an opening thereabout, said chimney extending through the roof of the structure, a hood positioned upon said chimney and having spaced walls to form air-exit apertures adapted to lead heated gases of combustion from said chimney to the outer air, an air-conducting conduit encircling said

conducting-tube and said chimney and extending through the roof of the structure to form an air-inlet aperture, a shield secured to said chimney and extending about the upper end of said air-inlet conduit to form an upwardly-extending opening thereabout, said air-inlet conduit being adapted to conduct air from the exterior of the railway-car or similar structure to the burner, and means interior to the railway-car or similar structure adapted to furnish an air-supply to the burner.

14. In a railway-car or similar structure, in combination, a burner, a depending bowl inclosing said burner, an apertured plate arranged above said burner, a conducting-tube positioned upon said apertured plate and adapted to conduct heated gases from the burner, a deflector positioned upon said conducting-tube, a chimney arranged above said conducting-tube and extending upwardly through the roof of the structure from a position in proximity to the end of said conducting-tube, a hood mounted upon the chimney having spaced walls to form downwardly-extending exit-apertures adapted to deliver heated gases of combustion from the chimney to the outer air, an air-inlet conduit extending through the roof of the structure from said apertured plate and encircling said conducting-tube and said chimney and providing an air-inlet opening about said chimney, a downwardly-extending shield mounted upon said chimney and extending over the upper end of said air-inlet conduit to form an upwardly-extending air-inlet aperture, said air-inlet conduit being adapted to lead air from the exterior of the structure through the apertured plate to the burner, and means interior to the railway-car or similar structure adapted to furnish an air-supply to the burner through said apertured plate.

In testimony whereof I affix my signature in the presence of two witnesses.

ROBERT M. DIXON.

Witnesses:

A. C. MOORE,
ELMER E. ALLBEE.