

(No Model.)

3 Sheets—Sheet 1.

E. BOESCH.
CAR LAMP.

No. 492,953.

Patented Mar. 7, 1893.

Fig. 1.

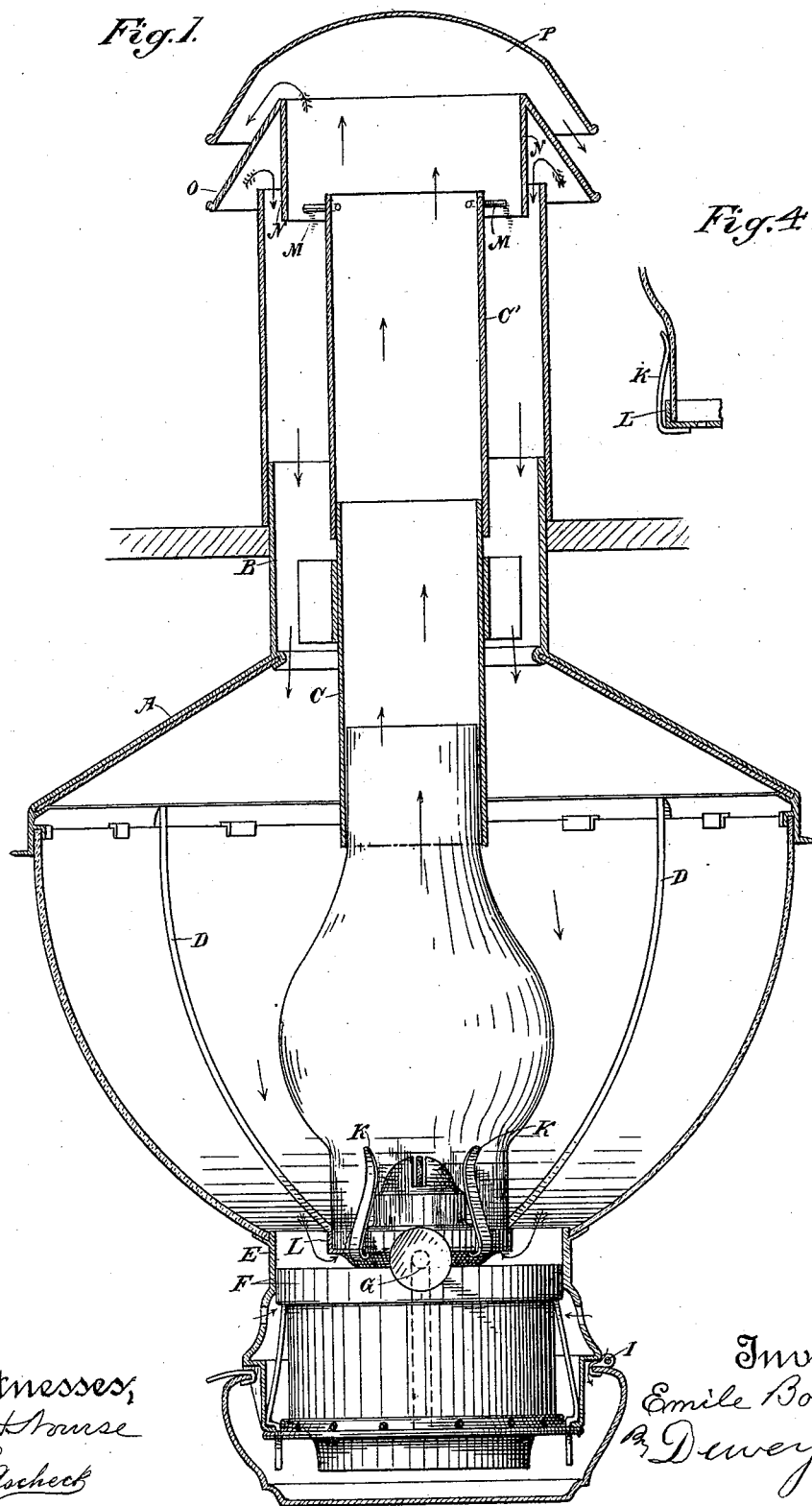


Fig. 4.

Witnesses,
J. H. House
J. E. Aschbeck

Inventor
Emile Boesch
By Dewey & Co.
attys

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Fig. 2.

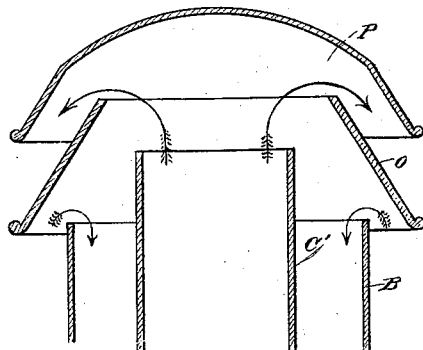
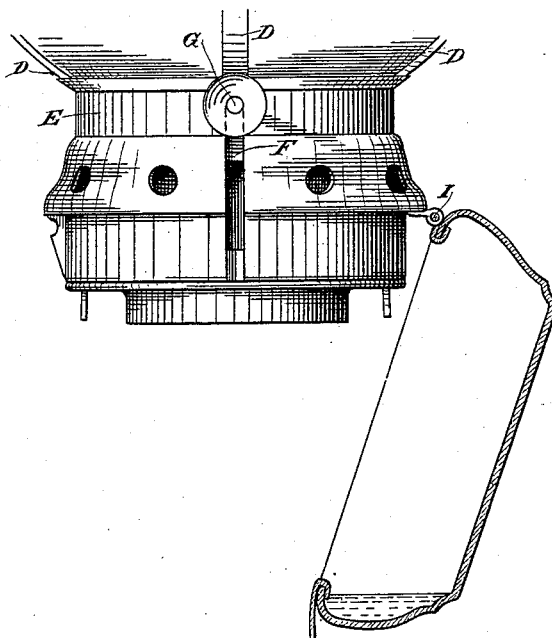


Fig. 3.



Witnesses,
J. H. Morse
J. F. Aschbeck

Inventor,
Emile Boesch
By Derry & Co.
attys

(No Model.)

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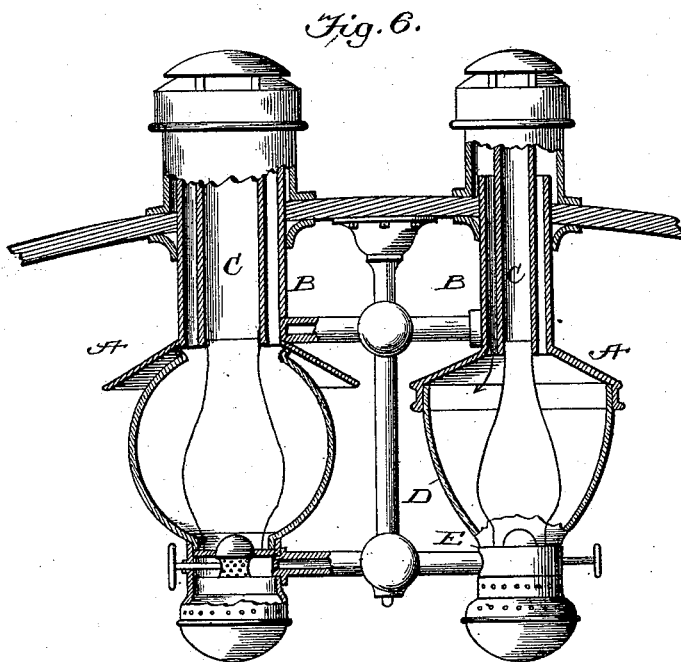
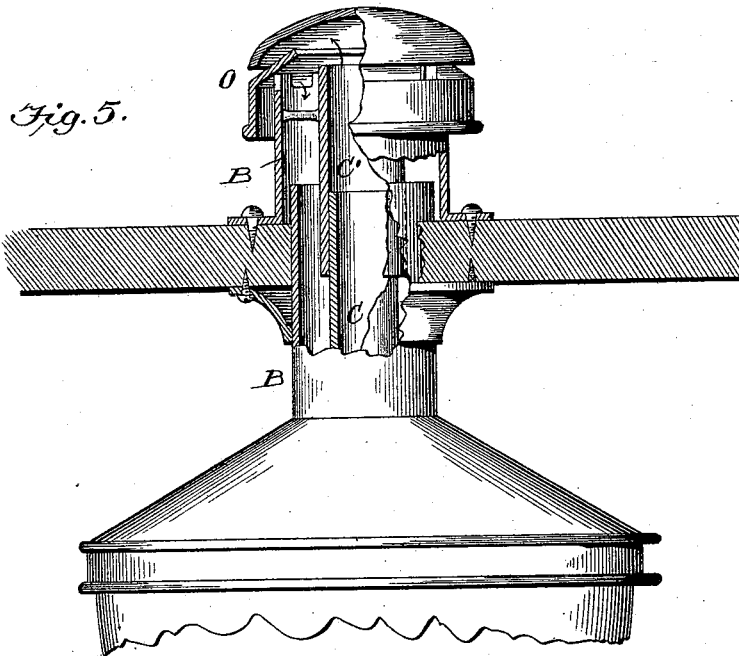


Fig. 7.

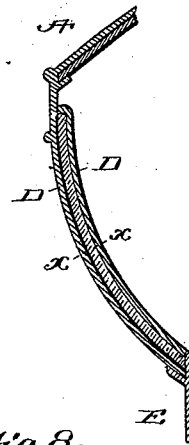
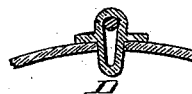


Fig. 8.



Witnesses

John Demarie
T. W. Fowler

Inventor

Emile Boesch
By *his Attorneys*
Dewey & Co.

UNITED STATES PATENT OFFICE.

EMILE BOESCH, OF SAN FRANCISCO, CALIFORNIA.

CAR-LAMP.

SPECIFICATION forming part of Letters Patent No. 492,953, dated March 7, 1893.

Application filed May 4, 1891. Serial No. 391,560. (No model.)

To all whom it may concern:

Be it known that I, EMILE BOESCH, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Lamps; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in lamps. It is especially adapted for lamps such as are used in railway, street, and other cars.

It consists in certain details of construction by which I am enabled to produce a downward draft of air exterior to the lamp chimney, said air passing through openings in the burner, thence upwardly within the chimney and its extensions. It also equalizes these two drafts against any sudden jars or shocks, so as to prevent the lamp from smoking or burning irregularly.

My invention further consists in a means for introducing and supporting the oil fount from the lower part of the lamp body; a cover or drip cup with air circulating spaces, and means for making a tight joint between the oil fount and the lamp body; an improved means for supporting and steadying the lamp chimney, and in certain other details of construction which will be more fully explained by reference to the accompanying drawings, of which

Figure 1 is a vertical cross section taken through my lamp. Fig. 2 is a section of the upper part of the chimney surrounding tube and top. Fig. 3 is a view of the lower part of the lamp and drip cup. Fig. 4 is a sectional view of the chimney holding ring and prongs. Fig. 5 is a side view partially broken away and showing in detail the manner of retaining the lamp in its operative position. Fig. 6, is a similar view showing two lamps. Figs. 7 and 8, are details to be referred to.

A is the upper part of my lamp body made conical in shape, and having a reflector of any suitable construction which is adapted to throw the light downward and outward. Through the center of the reflector or the top, is an opening having a tube B extending upwardly and connecting with the inlet and escape passages at the upper end, which will hereinafter be more fully explained. With-

in this tube and concentric therewith, is a smaller center tube or chimney which forms an extension of and connects with the lamp chimney proper. From the periphery of the reflector the curved arms D extend downward and connect with the circular lower portion E of the body within which the oil fount is supported. These curved arms are properly constructed to receive the correspondingly shaped glasses which are hermetically sealed in place, so that the interior of the globe thus formed will be shut off from any entrance of outside air around its sides.

The upper part of the circular lower body or chamber E is made with a cylindrical vertical interior surface or flange, and the upper part of the oil reservoir F is correspondingly made to fit into this vertical cylindrical portion of the body, and thus make an air tight joint at this point so as to prevent any air which enters around the oil fount or reservoir, from passing up into the globe and around the burner.

The oil fount may be secured in the body E in various ways, but preferably by spring catches upon opposite sides, as shown in Fig. 1.

As shown in Figs. 1 and 3 the shaft G by which the wick is raised or lowered, extends out through the side of the chamber E, passing through a slot, and the joint between the top of the oil fount and the top of the chamber E, prevents air which enters through this slot and other openings, from passing up into the lamp globe. When the oil fount is introduced to the lamp chamber, the wick raising shaft passes up through the vertical slot made on the side of the body E, so that it projects through the side of the body near the top, when the oil fount is in position.

The drip cup or bottom cap is hinged at I, having a spring catch upon the side opposite the hinge by which it is readily locked in place when closed, after the oil fount or reservoir has been introduced into its place in the body of the lamp. Its object is to catch the drippings and give a better finish by concealing the oil fount which is liable to become bruised and soiled in handling, but as the air necessary for combustion becomes heated in its passage downward through the lamp globe to the burner, the oil fount is prevented from

over-heating, by openings made through the sides of the chamber and around the edge of the drip cup, the air entering through the latter space and escaping through the holes, and the slot of the wick raiser shaft. The upper edge of this cup is turned inward, and thus serves two purposes, first, to form the catch opposite the hinge, and, second, to prevent any small amount of drip within the cup from escaping when the cup is opened and allowed to hang down edgewise, as shown in Fig. 3. This drip cup is made in a circle larger than the chamber of the lamp so as to give the necessary elasticity to yield and pass the spring catch, and also to leave an air space all the way around, and this, together with the slot through which the wick shaft passes, and holes made around the chamber of the lamp below the point where the joint is made between the oil reservoir and lamp chamber, will admit air to circulate around the reservoir and keep it cool. This air, however, is entirely cut off from the lamp burner, by reason of the joint made between the oil reservoir and the body of the lamp, as previously described.

The lamp burner may be of any suitable or ordinary pattern, as shown, having the upwardly projecting elastic arms K, within which the bottom of the chimney stands and by which it is held in place. There are several forms of chimney holders, one having the elastic arms K only, and another being cylindrical, having vertical slits to give elasticity, and made sufficiently high to clasp and hold the bottom of the chimney. In the first construction the arms often become bent and do not hold the chimney in the center, and in the latter the cylindrical holder obstructs some light, and by its pressure upon the chimney, causes the latter to work up where subjected to any shaking motion like that of a car. In my improvement I combine the advantages of each of these holders. To do this I have formed an up-turned vertical flange or rim L of such diameter as to just receive the bottom of the chimney, which thus rests within this flange while the arms K support it by pressing against the sides a little higher up. This flange prevents the chimney from shifting to one side or the other by reason of jars or shocks, and prevents the entrance of air around the bottom edge of the chimney. The upper end of the chimney enters the metal continuation C, which extends upwardly and concentrically within the tube B previously described. This tube C connects telescopically with a tube C' which is supported in the upper part by means of cross rods or wires M. The outer ends of these cross wires are fixed in a cylindrical ring or flange N of larger diameter than C' and which supports the conical flange O of the device so as to extend downwardly a short distance below the top of the tube C which it surrounds, and between it and the outer tube

B. The over-hanging cone-shaped flange O projects over and outwardly from the tube B, and just beneath it holes or openings are made in B through which air is admitted outside of the chimney C, and this flange N directs the incoming air downward outside the chimney, while the products of combustion rising within the chimney pass above the cone O and escape around the edges of the dome or cap P.

In Fig. 2 the ring N is omitted and the exhaust tube C' ends above the top of the tube B but below the top of the cone O, that is between the level of the inflow and the outflow. This is a vital point in the construction in order to equalize the two drafts when subjected to exterior air pressure. When the ring N is employed it extends from the top of the cone O to a point below the level of the tops of the tubes B and C', acting as a deflector with beneficial results to both currents of air, while maintaining the principle of supply and exhaust at the same level. By this construction, the air inlet and discharge, while practically separated by the thickness of the cone, and each directed in its proper course by the arrangement of the tubes above described, are at the same time in direct communication so that any over supply or increased pressure through the inlet passage may escape through the outlet, and in the same manner any sudden pressure through the outflow passage will be deflected into the inlet, thus equalizing the pressure at once. Thus the chambers between the inward and outward drafts of air, act together in such a manner that in case of any shock or jar which would ordinarily make the lamp flare and smoke, the inflow and outflow of air will be so equalized that no such action will take place.

The telescopic joint between C and C', and a similar joint in the outer tube B allow the upper part of the lamp to be adjusted to suit the height of the car roof, or other point where used, without changing the position of the lower end of the tube C relative to the chimney, or what is more important, the upper ends of the tubes B and C with relation to each other or the intermediate ring N.

The lamp herein shown and described is of the kind which is permanently secured to the ceilings as gas fixtures are. It is a pendent or chandelier lamp fixture, intended particularly to throw the light downward. It is provided with a cup which incloses the removable oil reservoir, and is surmounted by a chimney or globe. The cup is made of sections to open, the upper section being permanently fixed to the pendent lamp fixture, while the lower section is made movable from the upper one to allow the introduction and locking of the oil reservoir from below into the said upper section.

Heretofore it has been customary with such pendent or chandelier lamp fixtures to have

the cups made as one piece and the oil reservoir had to be entered therein from above in an inclined way, or the globe or shade had first to be removed. Rings are also in use to hold the reservoir, but in this case the oily and often bruised fount is always in sight, and even when a drip cup is attached direct to the reservoir the inconvenience remains the same. In my case the curved arms D are only essential when the globe or body is made in a number of sections disposed in annular series. If this globe or body is made in one piece of glass, the cup would be attached to the bottom of the same and no arms D would be required.

My invention consists especially in those details hereinbefore described by which a better and more steady light and a greater perfection of the lamp and convenience of handling it are obtained.

By reason of the improved draft burner chamber and drip cup, which is hinged to the body of the lamp, I am enabled to easily remove the lamp reservoir during the day, and after the lamp has been removed, this bottom is closed up, thus giving a nice finish and appearance to the lamp, whether the reservoir is in place or not.

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

1. In a lamp fixture, the chamber for the oil reservoir, consisting of an upper section in which the said reservoir is confined and supported, said reservoir having its upper portion adapted to make an air tight joint with the inner wall of the chamber, and its inner portion extending below the bottom plane of the section, and a movable lower section inclosing the projecting portion of the reservoir and attachable to the upper section, substantially as herein described.

2. In a lamp fixture, the upper section into which the upper part of the oil reservoir is inserted from below, said upper part of the reservoir forming an air tight joint with the inner wall of the section, and said section having a slot for the wick raising shaft opening through its lower end, in combination with the movable lower section inclosing the upper section and covering and concealing the lower portion of said slot, substantially as herein described.

3. In a lamp fixture the sectional chamber the upper section of which receives and forms an air tight joint with the upper portion of the oil reservoir, said upper section having an outwardly projecting flange and downwardly extending rim, and a lower section hinged at one side to its upper section and provided at its opposite side with a catch adapted to engage said upper section, substantially as herein described.

4. In a lamp or lantern, a chamber having air inlets, an oil fount and burner removably fitted to said chamber from below and hav-

ing its upper part adapted to make a tight joint with the inner wall of the chamber above the air inlets, substantially as herein described.

5. In a lamp or lantern, a chamber having a vertical slot in one side, an oil fount and burner removably fitted to said chamber from below, and having its upper part adapted to make a tight joint within the chamber above the slot and air apertures thereof, substantially as herein described.

6. In a lamp or lantern, the extension chimney tube, the exterior concentric tube B, the ring N between the upper ends of the two tubes, in combination with the flange O and the cap P, substantially as herein described.

7. In a car lamp or lantern, the globe or body, the burner and chimney, the concentric tubes B and C with air inlets and discharge openings within the chimney top, the tubes B and C made in telescopic sections whereby the two may be fitted to any thickness of roof through which they pass, without changing the relative position of the ends of the tubes to each other, substantially as herein described.

8. In a chimney top of the lamp or lantern, the inwardly extending flange O with an open space between its inner edge and the upper end of chimney extension C, the air supply inlets and the air exhaust outlets separated only by said flange O, covered by the cap P, the concentric tubes, the air channel or conduits, the chimney or globe the burner and oil reservoir, substantially as herein described.

9. In a lamp or lantern, the globe having the reflector on top, and the concentric upwardly extending tubes with the exit dome, air inlet openings and equalizing ring, a chamber supported from the lower end of the globe having the vertical cylindrical joint ring at the top, the removable oil reservoir having a corresponding vertical cylindrical flange meeting said ring making an air tight joint therewith, means for locking the lamp reservoir in place, and a slot on the side of the lamp body through which the wick raising shaft passes, substantially as herein described.

10. In a lamp fixture, the globe or body, the oil reservoir beneath with a joint to prevent the admission of air into the globe from that point, the concentric tubes extending upward through the car roof, one of said tubes serving as an air inlet and the other as an air outlet, the chimney top having a deflector and cap exterior to the roof the inclosing said inlets and outlets, substantially as herein described.

11. In a car lamp, the globe, the concentric tubes extending upwardly, the air inlet openings between the tube B and flange O, the exit openings through which the products of combustion pass from the inner tube, the equalizing ring N between the upper ends of the inner and outer tubes, the lamp chamber supported from the lower part of the globe, the oil reservoir having the burner and chim-

ney fixed to the top and a vertical joint, ring
or flange whereby the oil reservoir fits the lamp
chamber with an air tight joint, devices for
locking the reservoir into the chamber from
5 below, and a hinged or removable drip cup
fitting the lower part of the chamber below
the reservoir and having an annular space
or passage between its upper edge and the
chamber for admission of air to circulate

around the reservoir, substantially as herein 10
described.

In witness whereof I have hereunto set my
hand.

EMILE BOESCH.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.