(No Model.)

E. S. PIPER.

LAMP CASE.

No. 347,639. Patented Aug. 17, 1886.

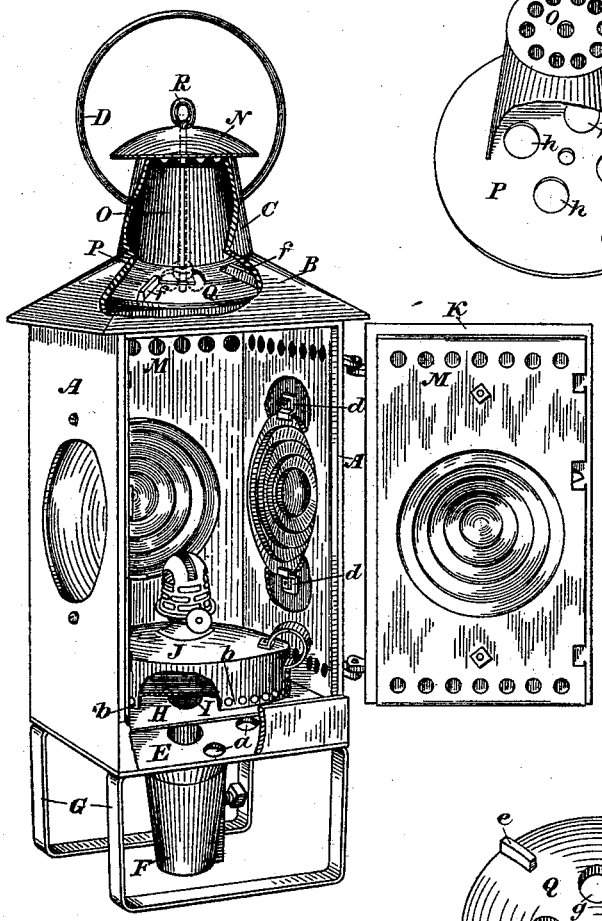

Fig. 1.

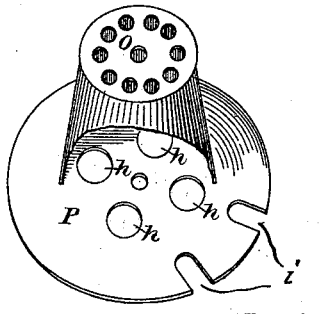

Fig. 2.

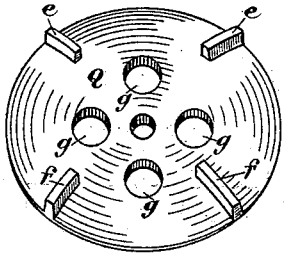

Fig. 3.

WITNESSES.

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EDWARD S. PIPER, OF TORONTO, ONTARIO, CANADA.

LAMP-CASE.

SPECIFICATION forming part of Letters Patent No. 347,639, dated August 17, 1886.

Application filed June 20, 1885. Serial No. 169,274. (No model.) Patented in Canada July 2, 1885, No. 21,964.

To all whom it may concern:

Be it known that I, EDWARD SPENCER PIPER, of the city Toronto, in the county of York, in the Province of Ontario, Canada, manufacturer, have invented certain new and useful Improvements in Lamp-Cases, of which the following is a specification.

The object of the invention is to make a cheap yet perfectly constructed cast-metal lamp-case, specially adapted for railway-signal lamps; and it consists, essentially, in the construction and arrangement of parts hereinafter specified.

Figure 1 is a perspective view of my improved lamp-case, partially in section to expose its interior construction. Fig. 2 is a perspective detail of the inverted cup and perforated plate. Fig. 3 is a perspective detail of the inverted saucer.

A represents three thin sheets or plates of cast metal, secured together in any well known manner so as to form three sides of the lamp-case.

B is a cast-metal top secured to the three sides A.

C is a funnel extending from the center of the top B, of which it forms a part.

The ring D is pivoted to the top B, and forms a handle by which the lamp may be carried.

E is a cast-metal bottom secured to the sides A. A sleeve or extension-piece, F, projects below and from the bottom E, to form means for securing the lamp-case to the switch-rod, or its equivalent.

G are two bar-iron supports, shaped substantially as shown, and forming the legs for carrying the lamp-case.

Holes *a* are made in the bottom F for the purpose of admitting air into the lamp-case.

H is a detachable false bottom supported within the case a short distance above the bottom F, so as to leave a space between the two.

I is a hole made in the center of the false bottom H, for the purpose of admitting the air from the space between the two bottoms into the interior of the case.

J is a lamp having a perforated flange, *b*, extending round its bottom so as to support the lamp a slight distance above the bottom, on which it may rest.

It will be noticed that the outer air enters through the holes *a*, into the space between the bottom E and false bottom H, thence into the chamber formed below the lamp J by the flange *b*, and that it escapes from this chamber into the interior of the lamp-case through the perforations in the flange *b*; consequently the necessary air admitted into the lamp-case for the purpose of combustion will be a steady flow equal to the requirements of the lamp, and any danger from sudden gusts of wind putting out the lighted lamp is effectually prevented.

A door, K, made like the sides A, is hinged to one of the said sides, as indicated, and is provided with a suitable latch. Each of the sides A and the door K is pierced so as to allow the insertion of the lenses L, which are inserted from the interior and are secured in position by the clips *d*, each clip being shaped and secured by a nut and screw, as indicated.

With a view of preventing in a measure, if not altogether, any condensation within the interior of the lamp-case, I place on each side A and the door K a light sheet metal or tin false side, M, so as to leave a space between the false side and the outer sides of the case, which space is supplied with air from the interior of the lamp through the perforations E. As the lenses project within the sides of the case, I fit the false sides M against the outer edge of the lenses, the space between the outer and inner sides of the case being equal to the interior projection of the lenses. A hole is of course cut in each of the false sides M, corresponding with or larger than the hole through the sides A. The air-space between the two sides not only prevents condensation in the interior of the lamp-case, but the false sides protect the lenses, preventing any condensation which might be formed on the sides A from flowing over the surface of the lenses.

With the view of preventing the wind from blowing out the light through the aperture in the top of the case, I place on top of the funnel C a cap, N, fluting the top edge of the funnel C so as to permit the free escape of the air through the said funnel. Within this funnel I place an inverted perforated sheet-metal cup, O, the edge of which rests on a sheet-metal plate, P, lying on the inverted saucer

Q, which is supported by the bolt R, passing through and suspended by the cap N, as indicated.

On reference to Fig. 3 it will be noticed that the bottom of the inverted saucer Q has four projecting lugs, *e f*, cast on it. These lugs come in contact with the inside of the top B, when it is jammed against the said top by the action of the nut on the bolt R. I make, say, four holes, *g*, through the saucer Q, and have four corresponding holes, *h*, through the plate P. On the circumference of this plate I make two notches, *i*, and I make one of the lugs (marked *f*) extend nearer to the center than the lugs *e*, which lugs are set from the center a distance equal to the diameter of the plate P. Before the plate P can rest upon the saucer Q it must be set so that either one or other of the notches *i* can slip over the lug *f*. When one notch fits over the lug *f*, the holes *h* come immediately opposite to the holes *g* in the saucer Q; but when the other notch is fitting over the lug *f*, the holes *g* through the saucer Q are closed by the plate. The object of this adjustable plate for covering the holes through the saucer is in order that the upward draft through the funnel C may be checked, when desired—for instance, in the winter, when it is not desirable that the draft should be as rapid as in the summer. The lugs *e f* hold the saucer Q sufficiently far from the top B to permit the escape of the heated gases through the funnel without passing through the holes *g h*. When the holes *g h* are open, the air will pass through them into the cup, and thence through the perforations in the top of the funnel.

By the employment of the inverted saucer and cup, as described, the lamp is effectually protected from any downward draft from it, and owing to the other points of construction involved in my improved lamp-case the lamp J may be used without any necessity for a chimney.

By making the bottom H detachable, connecting the lenses in position, as described, and holding the inverted saucer Q, cap N, and other parts specified together by a single bolt, R, it is an easy matter to take the entire lamp-case apart for the purpose of cleaning, and, if necessary, adjusting it.

What I claim as my invention is—

1. As an improved article of manufacture, a cast-metal lamp-case composed of the sides A, secured together and provided with a top, B, and bottom E, likewise secured to the sides A, the false bottom H, set within said lamp-case, and the door K, hinged to one of the sides A, the sides A and door K being pierced for the insertion of the lenses L, the whole being constructed substantially as and for the purpose specified.

2. A cast-metal lamp-case having a perforated bottom combined with a detachable false bottom set within the case, as specified, leaving a space between the two, said false bottom being provided with a hole, I, and a lamp having a perforated depending flange, substantially as and for the purpose specified.

3. A cast-metal lamp-case having a perforated bottom, a false bottom, H, set within the case, as specified, and having a hole, I, made through it, in combination with the lamp J, provided with perforated flange *b*, supported above the hole I by the said perforated flange *b*, substantially as and for the purpose specified.

4. A cast-metal lamp-case, the sides thereof pierced for the insertion of the lenses L, in combination with said lenses, and the perforated false sides M, fixed to the metal sides, substantially as and for the purpose specified.

5. A cast-metal lamp-case provided with a top, B, having a funnel, C, the inverted saucer Q, having lugs *e* and *f* cast on its bottom, in combination with the cap N and bolt R, arranged to detachably connect the parts together, substantially as and for the purpose specified.

6. The combination of a lamp-case provided with a top having a funnel, C, with the inverted saucer Q, having the holes *g* made in it, the plate P, having holes *h*, the cap N, and a rod for connecting said saucer and cap, all constructed, arranged, and operating substantially as and for the purpose specified.

7. The combination of a lamp-case provided with a top having a funnel, C, of the inverted saucer Q, having holes *g* made in it, the inverted perforated cup O, cap N, and rod R, substantially as and for the purpose specified.

8. The combination, with a lamp-case provided with a top having a funnel, C, of the inverted saucer Q, having lugs *e* and *f*, and holes *g*, the plate P, having holes *h* and notches *i*, the cap N, and the rod R, all arranged substantially as and for the purpose specified.

Toronto, June 4, 1885.

E. S. PIPER.

In presence of—

CHARLES C. BALDWIN,

F. B. FETHERSTONHAUGH.