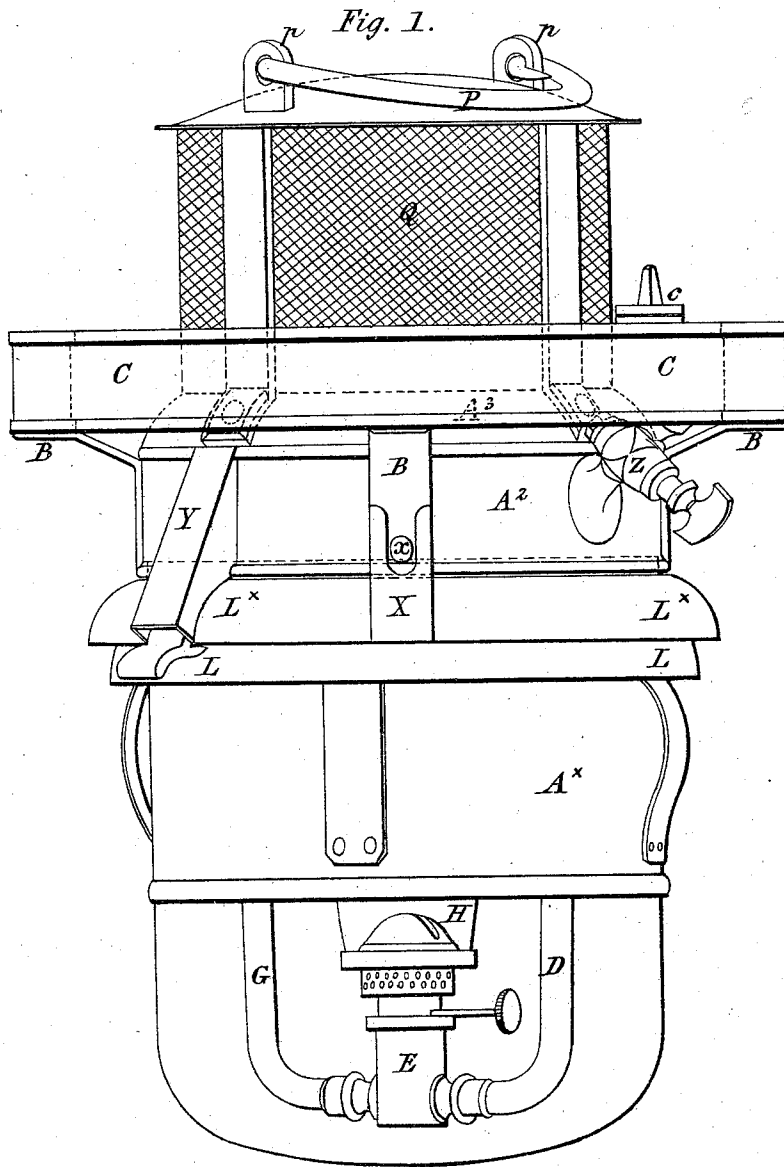


A. M. SILBER & F. WHITE.

Lamp.

No. 127,108.

Patented May 21, 1872.



Witnesses

Shastel
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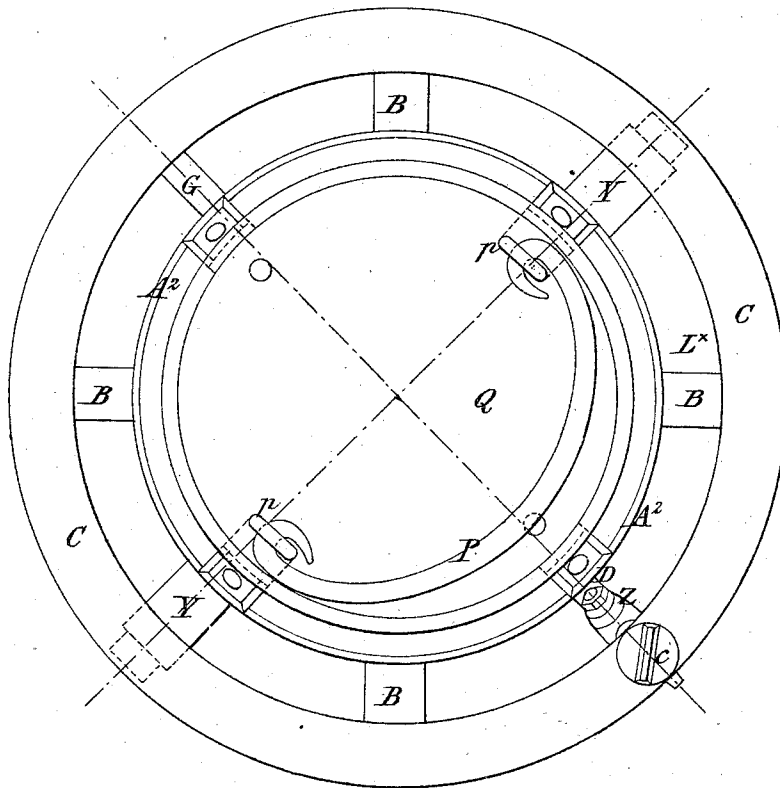
A. M. SILBER & F. WHITE.

Lamp.

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Patented May 21, 1872.

Fig. 2.



Witnesses

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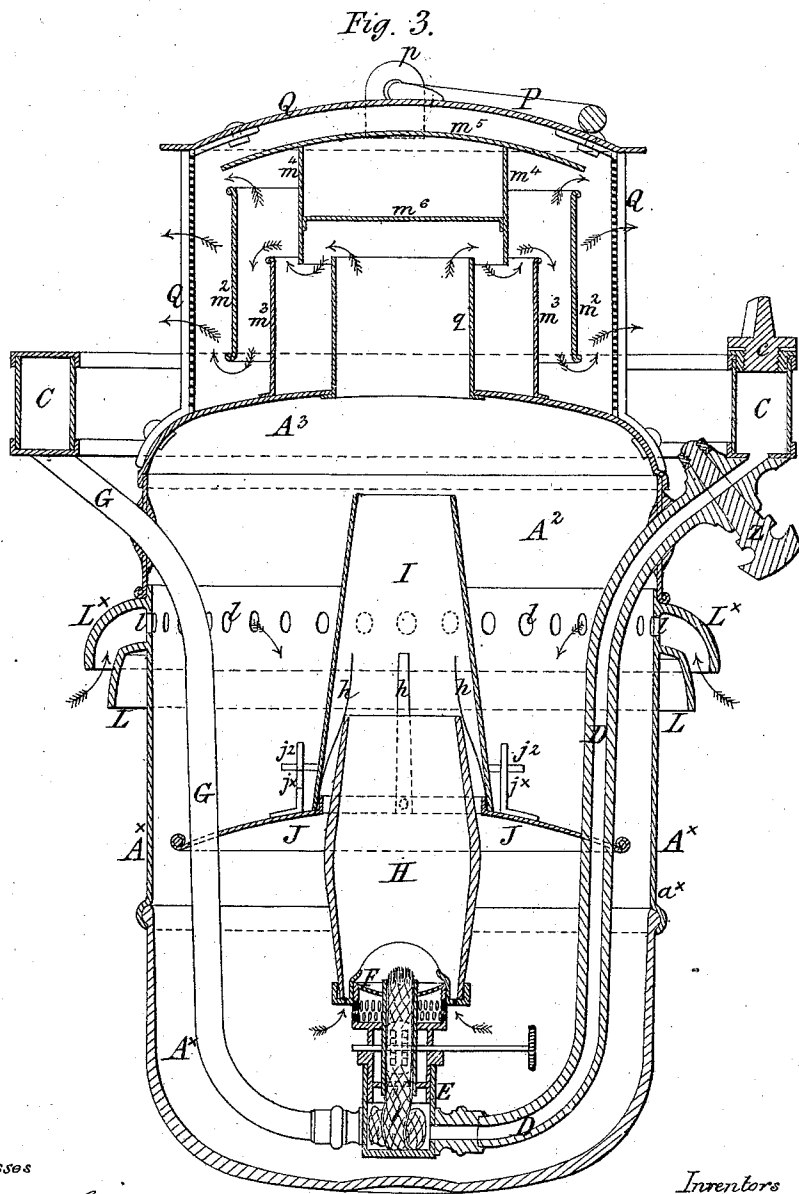
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Fig. 5.

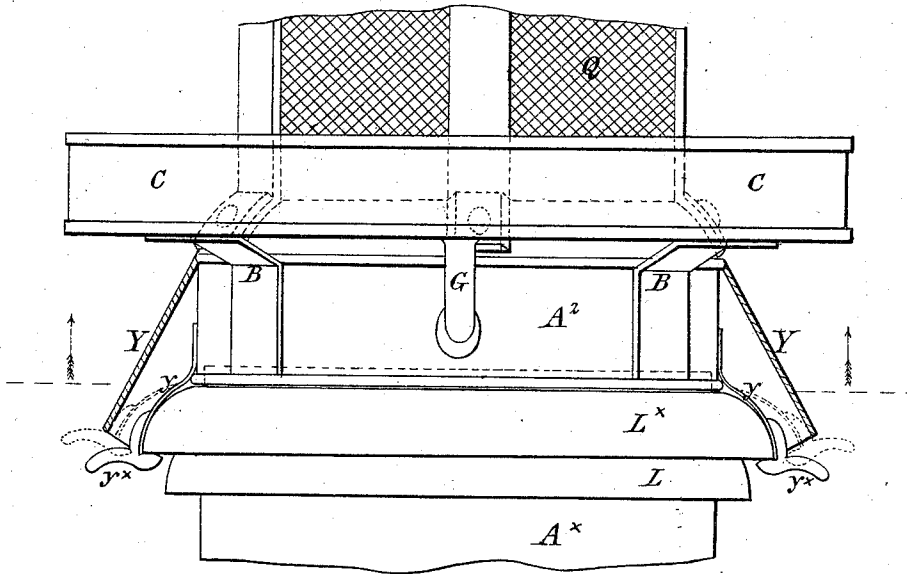
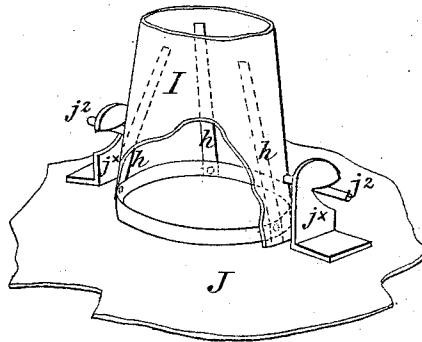


Fig. 4.



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6 Sheets--Sheet 5.

Lamp.

No. 127,108.

Fig. 7.

Patented May 21, 1872.

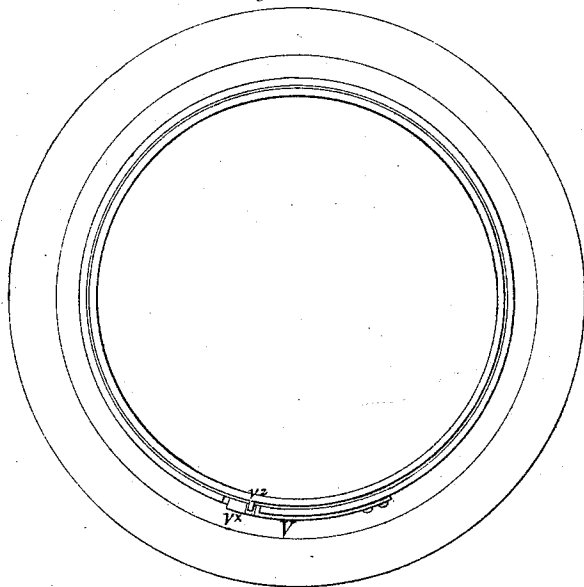


Fig. 6.

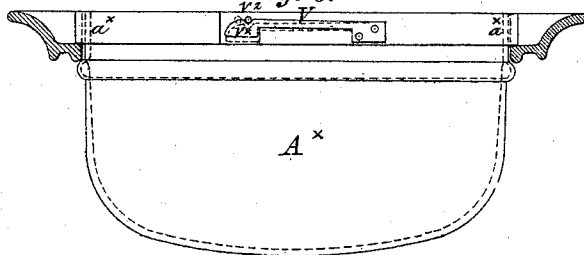


Fig. 8.

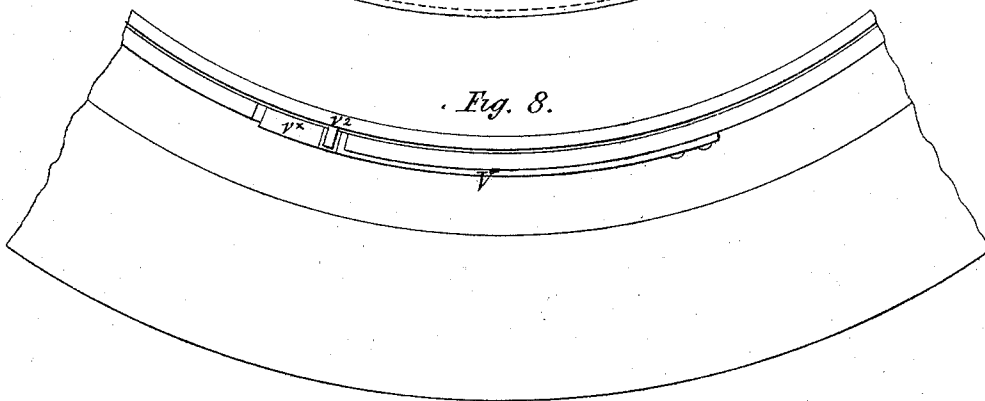
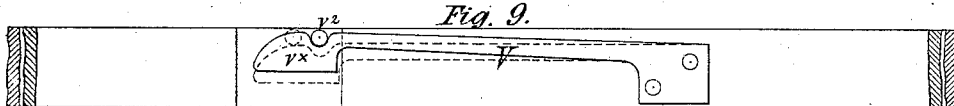


Fig. 9.



Witnesses.

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A. M. SILBER & F. WHITE.
Lamp.

No. 127,108.

Patented May 21, 1872.

Fig. 10.

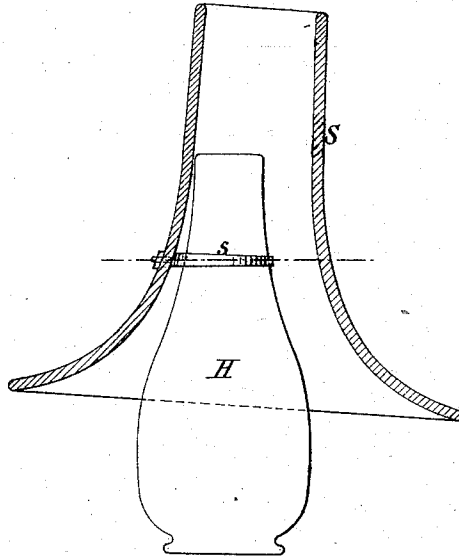
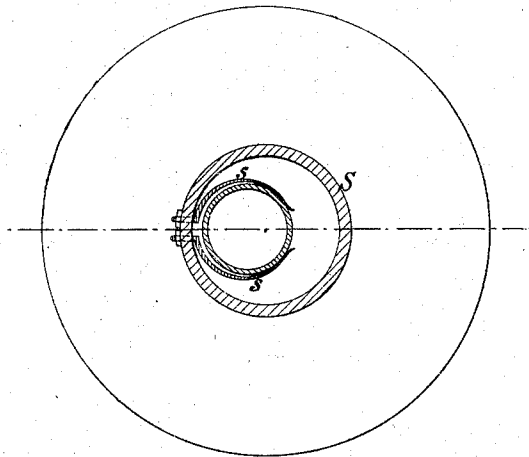


Fig. 11.



Witnesses

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Edw. H. [Signature]

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F. White.

UNITED STATES PATENT OFFICE.

ALBERT M. SILBER AND FREDERICK WHITE, OF LONDON, ENGLAND.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 127,108, dated May 21, 1872.

We, ALBERT MARCIUS SILBER, of London, merchant, and FREDERICK WHITE, of London, England, watchmaker, have invented certain Improvements in Lamps, of which the following is a specification:

This invention relates to the construction of lamps in which petroleum or other mineral oil or combustible liquid is burned; and it consists of a combination of certain parts herein-after more fully set forth in detail. The petroleum or other oil or liquid is placed in an annular or otherwise-shaped receiver or holder fixed on the outside of the body of the lamp in such position that the outer surface of such receiver or holder is wholly or to a large extent surrounded by and kept bathed with atmospheric air, and thus kept sufficiently cool. It is an essential feature in our apparatus that the receiver or holder containing the oil or combustible liquid shall be so placed that a bath of air or currents of air shall be advantageously used for keeping the contents of such receiver or holder at a comparatively-low temperature, which we find requisite in order that the oil may be safely and efficiently employed. If in some cases, for the sake of convenience, it should be found necessary to place the oil-receptacle inside the case of the lighting or heating apparatus, precautions must be taken for allowing the air or currents of air to have access to the receptacle, so as to produce a cooling effect similar to that obtained when it is fixed outside, as above proposed by us. In addition to the ordinary glass chimney an outer chimney of metal may be used, held in place by bayonet-joint or other adjustment, provided with springs, which bear gently against the inner or glass chimney.

The accompanying drawing represents a lamp constructed according to our invention. Figures 1 to 11 refer to a lamp intended to be employed as a railway-carriage lamp. Figs. 1, 2, 3, 4, 5, 10, 11 are on a scale of half of full size. Figs. 6 and 7 are one-third thereof. Figs. 8 and 9 are full size. Fig. 1 is an elevation; Fig. 2, plan; Fig. 3, vertical section of the lamp; Fig. 4, fragmentary view in perspective.

A^x A² is the body of the lamp, which consists of two main portions, one fitting on the other. The upper portion A² is of metal, and

the lower portion A^x is of glass. This lower portion is technically called "globe," though it is not precisely of a globular form. It is held in a metal frame, a^x. B B are brackets fixed to the body of the lamp and projecting outward. On these brackets rests an annular vessel or holder, C, intended to receive the oil for supplying the burner of the lamp. This receiver C is on the outside of the lamp, and its outer surface is thus bathed with the circumambient atmospheric air, so that its contents are prevented from being unduly heated. The danger hitherto apprehended from burning mineral oils in such lamps is prevented. c is a screw-cap, which closes the feed-hole by which the oil is admitted into the receiver C. D is a pipe by which oil flows from the receiver C to a chamber or socket, E, which holds the burner F. The pipe D passes from the outside receiver C into the body of the lamp. G is an arm, connected at one end with the socket and at the other with the body of the lamp. It, as well as the pipe D, supports the socket E. The burner F holds a wick, which, at its lower end, dips into the oil in the socket E, and thus receives its supply. H is a glass chimney held in a gallery or groove; I, metal chimney, which surrounds the chimney H to a certain height, and at a little distance from it, to protect it and the flame from sudden draught or currents of air; J, reflector of silvered copper, which throws the luminous rays downward. The reflector may be made of wrought-iron enameled with glass. The reflector is connected with the pipe D by a bracket. It carries small uprights j^x, through which pass rods j², which hold the chimney I in place. h h are springs which hold the chimney H firmly, and prevent it from oscillating or being shifted out of place. Z, tap for regulating the flow of oil toward the burner. l l are air-holes in the part A, fed with air through a channel formed by flanges L L^x in a piece with the body of the lamp. A³ is a dome or cap which surmounts the lamp, and has over it a cap, Q, on a perforated cylinder, Q^x, formed of perforated metal or wire-cloth, and having an interior space, as shown. This perforated cylinder may be dispensed with. q is a short air-pipe or chimney fixed in the cap A³. m² m³ m⁴ are concentric wind-guards or cowls for protecting the light from gusts of

air, and for allowing the aeriform or fuliginous products of combustion to escape into the external atmosphere. m^6 is a diaphragm attached to the cap m^4 , and acting as a deflector to guide the products just above named into the open air; m^5 , cap attached to the cowl m^4 for guiding the smoke outward; p p , lugs through which pass the ends of a handle, P , which are hooked. On the lugs are tails, which pass through the cap Q and support the parts Q m^2 m^3 q . By turning the chimney I a little it can be easily disengaged from the reflector.

Fig. 5 shows details of arrangements for connecting the upper and lower parts A^x A^2 of the lamp. y y are springs on the outside of the part A^2 , terminating in nippers y^x , protected by a shield, Y . The full lines in Fig. 5 represent the position of the springs when they connect the parts A^x A^2 ; the dotted lines represent their position when they are distended in order that the portions A^x A^2 may be disengaged from each other. In Fig. 1 x is a stud fixed to the bracket B , and engaging in a groove or slot formed on a plate, X , fixed to the flange L^x . Its object is to hold the portions A^x A^2 steadily when connected together. In Fig. 6, elevation, and Fig. 7, plan, we show another like arrangement for connecting the portions A^2 A^x together; and Figs. 8 and 9 are enlarged views of details. Here springs V (only one of which is shown in the drawing) are used to fix the globe A^x securely in place. These springs are attached to the other rim of the frame a^x of the glass A^x . The tails of these springs press against a stud or projection, v^2 , in a recess formed in a heel-piece, v^x , which is, in effect, the heel end or beginning of the

spring v . The upward pressure of the spring tends to keep the stud in place, and thus holds the parts A^x and A^2 firmly together. Fig. 10 is a vertical section, and Fig. 11 a plan in section, showing how the chimney H can be held by springs or tongues s , forming grippers, and consisting of a spit-ring. These springs s are attached to a piece, S , which is in fact a combined chimney and reflector. It is made of enameled metal. The springs keep the inner chimney H in place and press gently against it.

We claim as our invention—

1. The vessel C , oil-pipe D , arm G , and socket E , in combination with the brackets B and the body of the lamp A^x A^2 , and dome A^3 , the several parts constructed and operating substantially as described.

2. The parts A^x A^2 , forming the body of the lamp, provided with the flange L^x and openings l l , in combination with the annular vessel C , oil-pipe D , and socket E , constructed and operating substantially as described.

3. The reflector J , chimneys H and I , arranged as described, in combination with the socket E , oil-pipe D , annular vessel C , dome A^3 , and the body of lamp, formed of the parts A^x A^2 , having the flanges L and openings l l , substantially as and for the purpose set forth.

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