I. LINDSLEY.

Lamp.

No. 130,924. Patented Aug. 27, 1872.

Fig. 1.

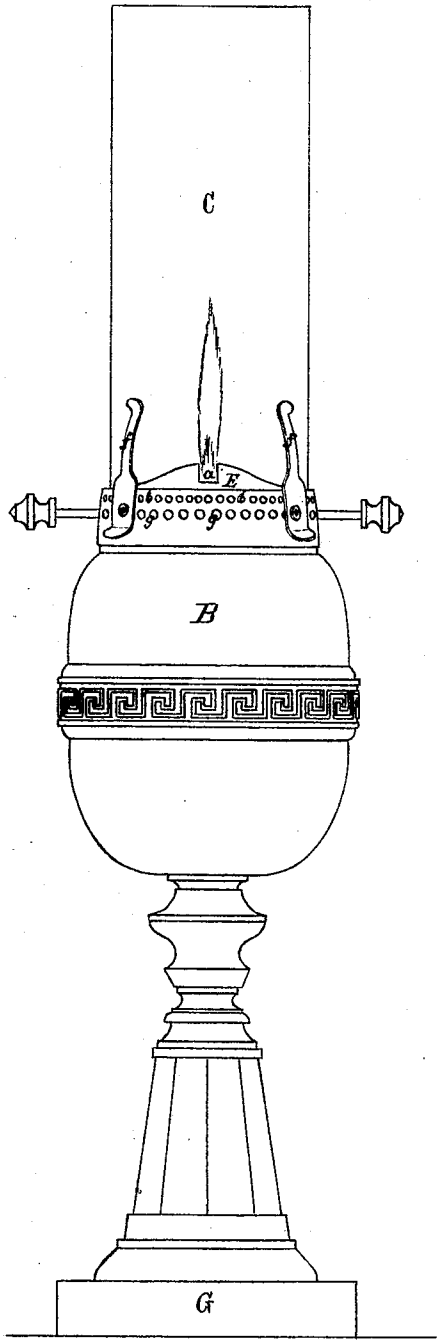


Fig 3.

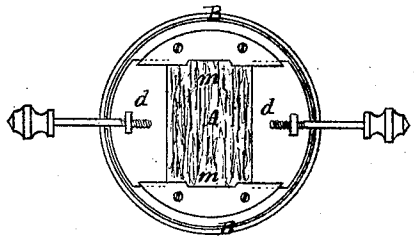
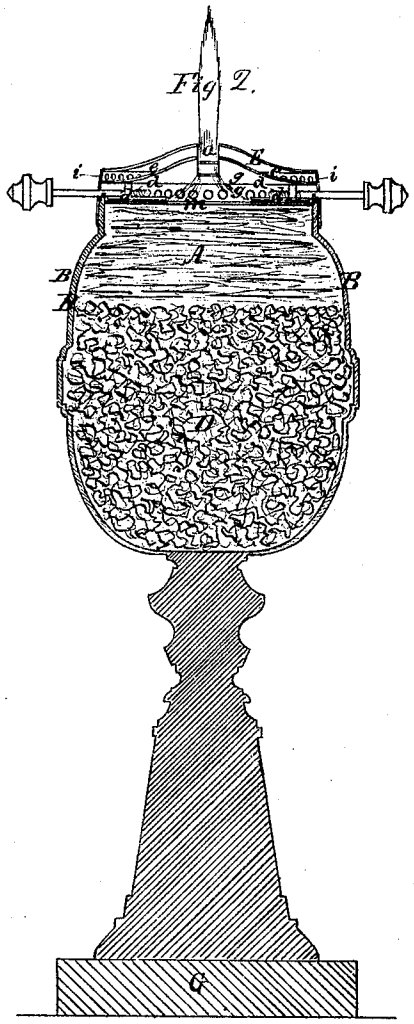


Fig 2.



Witnesses.

Isaac A. Bonnell.

David A. Mowry & Co.

Inventor.

Isaac Lindsley

UNITED STATES PATENT OFFICE.

ISAAC LINDSLEY, OF PAWTUCKET, RHODE ISLAND.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **130,924**, dated August 27, 1872; antedated August 24, 1872.

SPECIFICATION.

I, ISAAC LINDSLEY, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain Improvements in Lamps, of which the following is a specification, referring, by letters, to the accompanying drawing making part of the same, in which—

Figure 1 is an elevation of my improved lamp. Fig. 2 is a vertical section of the same, and Fig. 3 is a plan of the top of said lamp.

Similar letters indicate corresponding parts in all the figures.

My invention relates to the use of an absorbent or stuffing in the body of the lamp to receive and retain the oil or other fluid, and to burning the oil, &c., directly from the absorbent to produce the illuminating flame by suitable means; the object being to prevent spilling or scattering the inflammable liquid contents of the lamp by any accidental overturning or breaking of the same, and to dispense with the wick and its appurtenances.

In the drawing, B is the body of the lamp, of suitable capacity, upon a standard, G, and A D, Fig. 2, is the absorbent with which the said body is completely stuffed, a portion of which is exposed to be inflamed by an opening, *m*, in the top of the lamp, the area of which is contracted to regulate or extinguish the flame by means of two gates, *d d*, which slide over and meet at the center, and completely close the said opening. Directly over the middle of the opening *m* there is a deflector, E, with a central opening, *a*, for the flame; said deflector being formed of two similar plates of metal, with an intervening space, *e*, which is supplied with air through a series of holes, *i*, at the periphery, while another supply of air is introduced through the series of holes *g* to the space beneath the deflector, between it and the exposed surface of the absorbent A. C is a glass chimney, which may be of any suitable form, and which rests and is held on the deflector by the upright springs *f f*. The flame proceeds directly from the exposed surface of the absorbent through the opening *a* in the deflector, and is regulated by means of the sliding gates to increase its volume and illuminating effect.

Any fibrous or other material may be employed as an absorbent in the body of the lamp, as sponge, cotton, &c., of suitable porosity, that will retain within itself the oil or other fluid, and deliver the inflammable portion of the same to supply the illuminating flame in the manner described. The best absorbent, however, for this purpose is of asbestus, or in part of asbestus, and some other similar fiber of vegetable material, like cotton or flax; the asbestus forming the upper portion of the absorbent, as at A, in Fig. 2, while the lower portion is of cotton, as at D. The opened fiber of asbestus is found to be peculiarly adapted to this purpose, because it both readily absorbs oils and other fluids and suspends evaporation, and, therefore, retains almost entirely the volatile and inflammable properties of the oil or other burning fluid, as well as its disagreeable odors, while, at the same time, it affords the requisite capillary action for the supply of oil, &c., to the flame, and because it is not inflammable, and, consequently, is unaffected by the burning of the oil and its gases directly from its surface.

This mode of absorbing the inflammable contents of the lamp insures perfect safety from all accidents to which the lamp itself is liable; and, besides, to a certain extent, guards against the familiar and terrible accidents which result from attempts to fill a lighted lamp with highly inflammable burning fluids, because the large opening at the top of the lamp through which it is filled, and the fact that it is unobstructed by a wick or anything else, affords facilities for filling the lamp even in the dark without spilling the oil, while the burning of the oil directly from the top of the absorbent would, of itself, suggest the danger of pouring the oil directly upon the flame.

It will be seen that everything of the nature of a wick as a conductor of the burning fluid from the oil-reservoir to a point apart from it is dispensed with, as well as all apparatus for holding and elevating such wick, whereby the construction of the lamp is remarkably simplified, and, consequently, cheapened, which, with the almost absolute safety of this mode of burning the highly inflammable oils and fluids now in general use, renders this lamp well adapted to household purposes, for railway cars, steamers, and other vessels where accidents of the nature mentioned are so liable to occur.

I am aware that various substances, such as cotton, sponge, pumice-stone, asbestus, &c., have been, heretofore, employed as absorbents in the body of lamps to guard against the spilling or explosion of the oil or other fluid used; also, that, in some instances, the oil, &c., has been inflamed directly from the exposed surface of the absorbent without the interposition of a wick or equivalent conductor; and I therefore make no claim to the same.

Having described my invention, I claim—

The combination of the lamp-body B with an opening, *m*, for containing and burning directly from an absorbent, the gates *d d*, and a deflector, E, substantially as described, for the purpose specified.

ISAAC LINDSLEY.

Witnesses:

ISAAC A. BROWNELL,

DANIEL A. MOWRY, Jr.