JOHN BENSON.

Improvement in Street-Lamps.

No. 114,518. Patented May 9, 1871.

Fig. 1

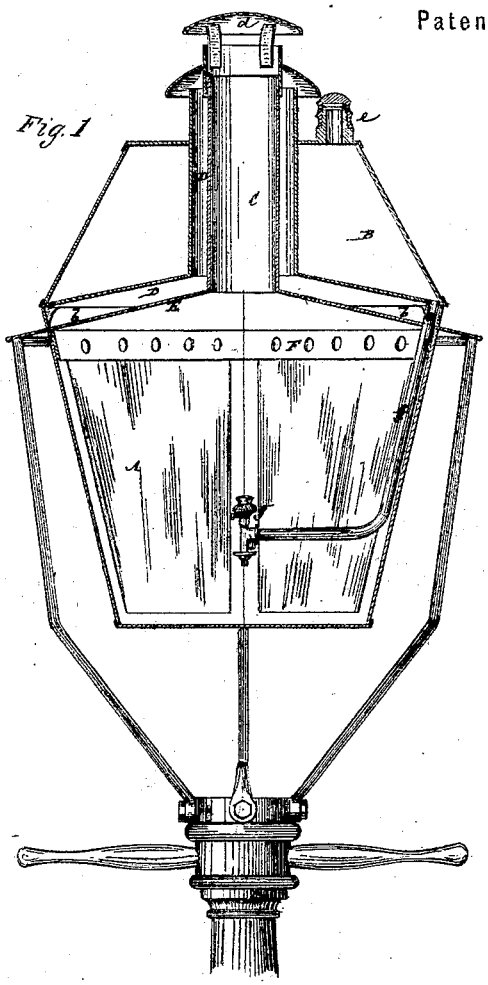
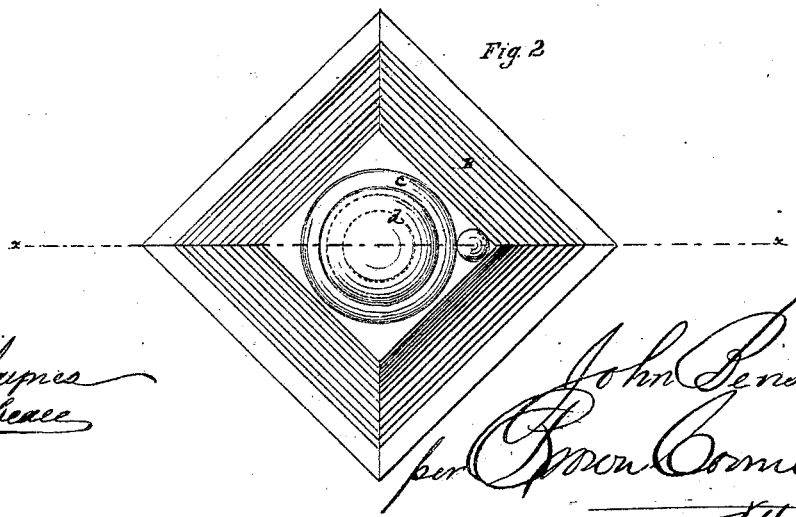


Fig. 2



Witnesses.
Fred. Haynes
R. C. Rabeaee

John Benson
per Brown Combs & Co
Attorneys

United States Patent Office.

JOHN BENSON, OF YONKERS, NEW YORK, ASSIGNOR TO GEORGE McCORD, OF SAME PLACE.

Letters Patent No. 114,518, dated May 9, 1871.

IMPROVEMENT IN STREET-LAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN BENSON, of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Street-Lamps or Lanterns for burning naphtha and other oils or fluids, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a vertical section of the lantern portion of a street-lamp in illustration of my invention, said section being taken through the line *x x* in Figure 2, which is a plan of the lantern.

Similar letters of reference indicate corresponding parts.

My invention more particularly relates to street-lamps or lanterns in which naphtha or gasoline and other volatile hydrocarbon liquids are used as the medium for generating the gas.

In my improved lamp or lantern the head or top of the lantern is made to form a capacious reservoir for the fluid, and said head insulated, as it were, and its contents kept cool to prevent accident by explosion or premature generation of gas, by, in addition to its exposure on the outside to the atmosphere, the arrangement between it and the chimney and a roof over the body of the lantern, of a cold-air passage, up through which a draught is produced by the heat derived from the chimney.

The burner or generator is supplied with fluid from the fountain or reservoir by a pipe running down the side or edge of the body of the lantern, and the air to keep up combustion introduced to the interior of said body through perforations at or round its top, whereby the side glasses and the roof over the body of the lantern are kept cool.

Referring to the accompanying drawing—

A represents the body or lower portion of a street-lamp or lantern, and which may be of the usual downwardly-tapering or diminishing shape, and made up of many sides, which are glazed to give it transparency.

B is the head or top of said lantern, of reversely or upwardly-tapering and many-sided configuration, as usual; but which, instead of being glazed, may be made opaque, and of metal, to form a close reservoir or fountain for the naphtha.

Said head B is not only exposed to the atmophere on its outside, but is further kept cool, to prevent its contents from generating gas and endangering explosion, by insulating it from the lower portion or body A, and a chimney, C, on the latter, as by a space, D, arranged between the bottom of said head or reservoir and its interior wall or side, and a roof, E, over the glazed body A, and the chimney C.

This space D may be filled with any suitable non-conductor, to prevent the heat from the burning gas from being communicated to the contents of the reservoir; but it is preferred to make it a cold-air passage, open below at the sides, as at *b*, to the external atmosphere, and in further communication therewith above, as under a weather-bonnet, *c*, whereby the heat of the chimney C is made to produce an upward draught of cold air within or through the center of the reservoir, which effectually causes the contents of the latter to be kept cool.

The interior chimney C may be shut off from all communication with the exterior chimney or passage D, and open above under an upper and separate weather-bonnet, *d*.

The reservoir B is fitted with a filling-cap or nozzle, *e*, and provided at its base with a feed-pipe, *f*, which supplies the naphtha to the burner or generator *g* below. This generator may be of any suitable construction.

Air to maintain combustion is introduced through a perforated band or portion, F, round or at the sides of the upper portion of the body A, said air descending down the inner sides of the glasses and interior of the body to the burner or generator, thus keeping the glasses cool and protecting them from injury by the heat derived from the burning gas, also serving to keep the roof E cool.

The roof E is of a converging shape to form a reflector, and may be made of or faced with silvered glass, polished tin, or other suitable material; but this is only one of its functions or uses, its protection, as an interposed diaphragm, of the reservoir from becoming heated by the burning gas being additional.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The arrangement of an interposed air or non-conducting space or passage, D, between the roof E of the body A, the chimney C, and the head or reservoir B of the lantern, essentially as described.

2. The combination of the glazed body A, the reflecting-roof E, the chimney C, the air-passage D in communication above and below with the external atmosphere, the weather-bonnets *c d*, and the reservoir B, essentially as shown and described.

JOHN BENSON.

Witnesses:

A. J. PRIME,

RALPH E. PRIME.