2 Sheets—Sheet 1.

T. T. MARKLAND, Jr.

Street Lamp.

No. 55,686. Patented June 19, 1866.

Fig: 1.

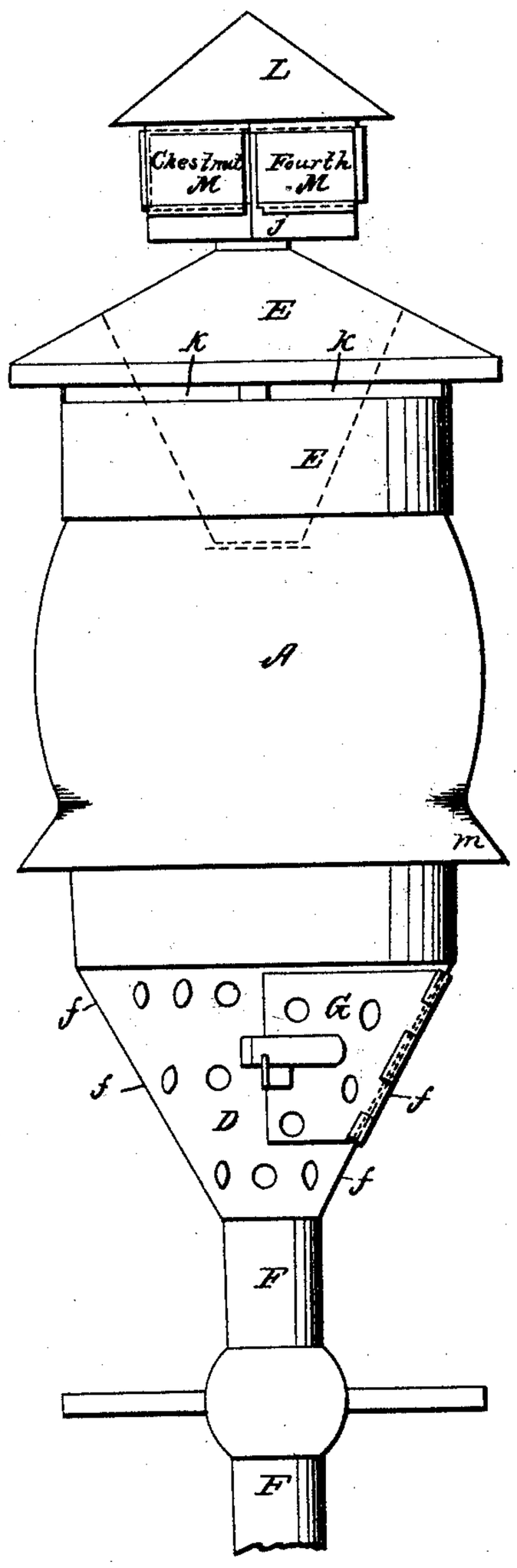
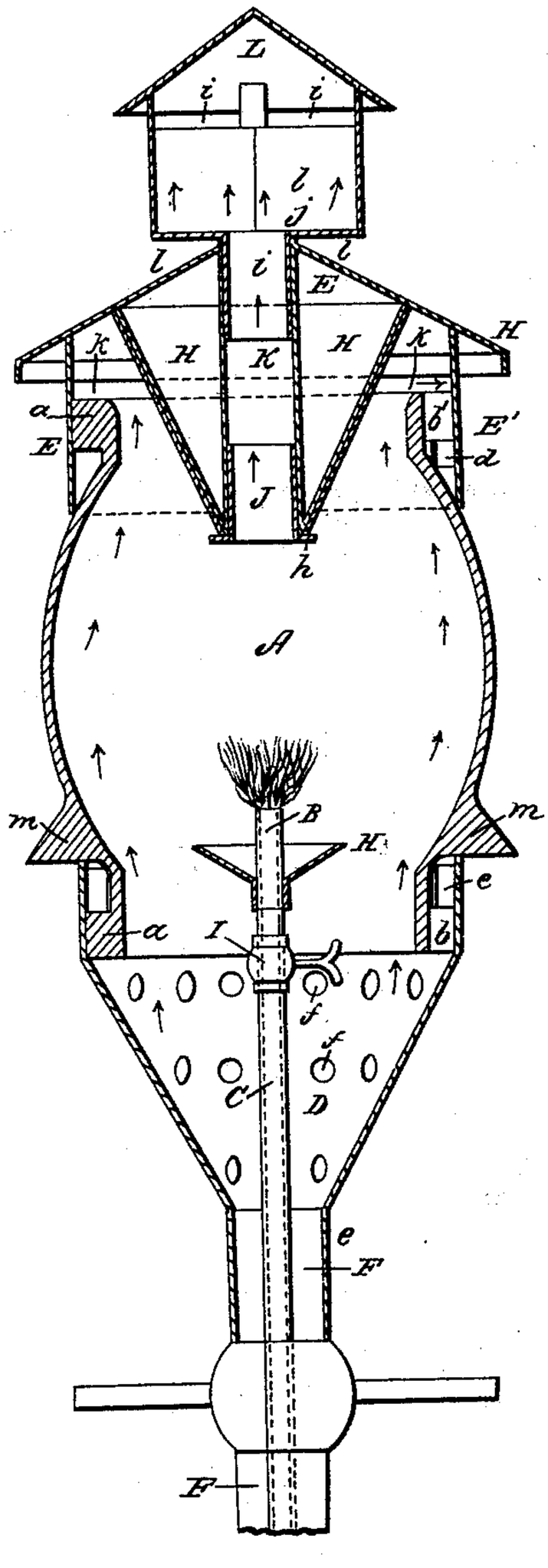


Fig: 2.



Witnesses:

Stephen Ustick
Joseph P Gamble

Inventor:

Thos J. Markland Jr.

2 Sheets--Sheet 2.

T. T. MARKLAND, Jr.

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Fig: 3.

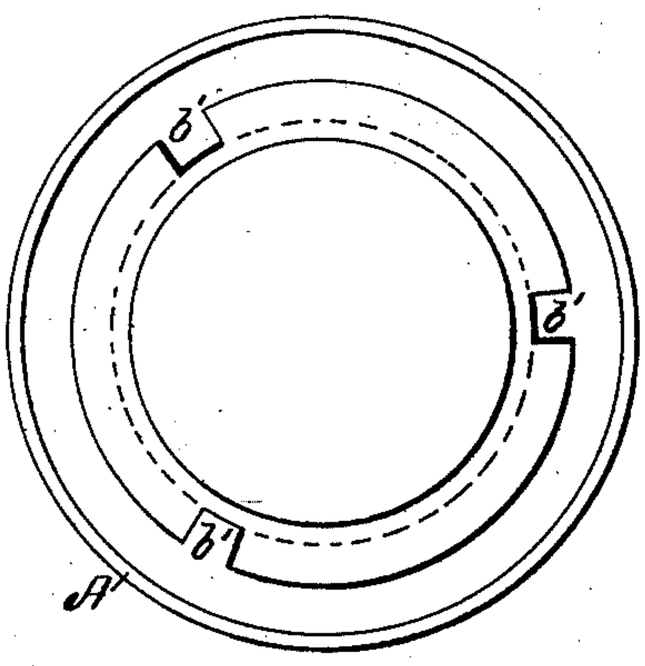

Fig: 4.

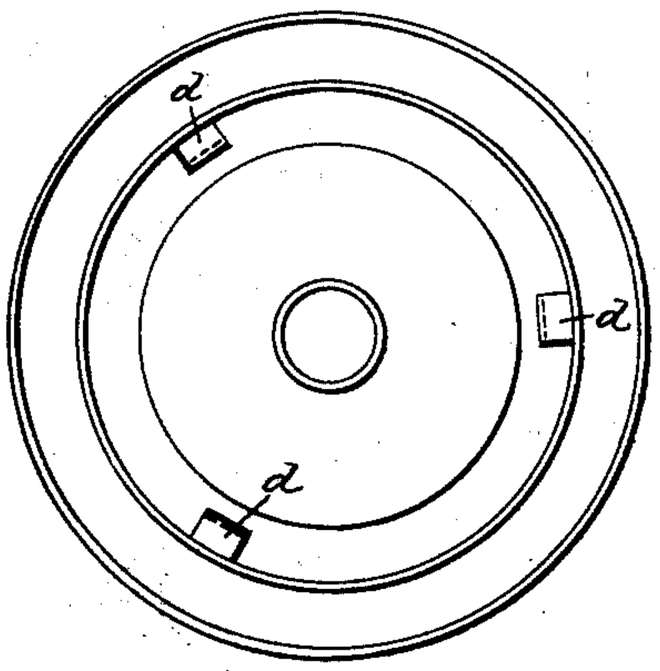

Fig: 5.

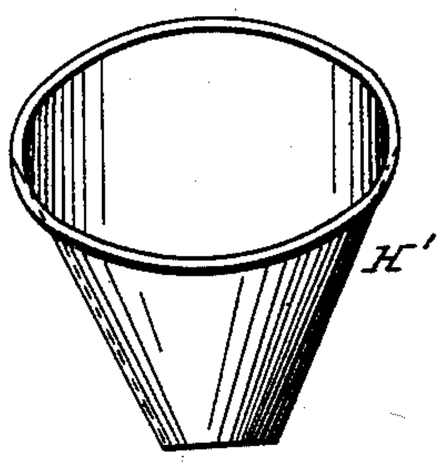

Fig: 6.

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UNITED STATES PATENT OFFICE.

THOS. T. MARKLAND, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED STREET-LAMP.

Specification forming part of Letters Patent No. **55,686,** dated June 19, 1866.

To all whom it may concern:

Be it known that I, THOMAS T. MARKLAND, Jr., of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Street-Lamps; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention and improvement will be understood by the following description:

In the accompanying drawings, Figure 1 is a side elevation of the improved lamp. Fig. 2 is a vertical section of the same. Fig. 3 is a top view of the globe A. Fig. 4 is a view from the under side of the roof E and the reflector H in connection. Fig. 5 is a perspective view of the reflector H. Fig. 6 is a side elevation of the flame-screen and reflector F.

Like letters in all the figures indicate the same parts.

A is a glass globe which surrounds the burner B on the gas-pipe C. It is open below and above, and has annular rims or flanges *a a'*, in which are vertical grooves *b b'* to provide for connecting it with the conical base D and roof E, there being lugs *c* on the base and *d* on the vertical rim E' of the roof, which are passed through said vertical grooves respectively, and by a partial turn of the globe the lugs *c* take hold on the upper edge of the rim *a*; and by turning the roof E partly around, after the lugs *d* have been passed through the grooves *b'* of the rim *a'* of the globe, the lugs catch beneath the rim, and thus the globe, base, and roof are held tightly together.

The base D has a socket, *e*, which fits on the lamp-post F. G is a door to said base, by which access to the burner B is obtained. There are holes *f* in the sides of the base to admit air for supply of combustion.

The conical plate H, whose socket *g* fits on the burner *b*, serves the double purpose of screening the flame of the burner from the wind and of reflecting the light against the reflector H', which is ordinarily thown down on the top of the lamp-post and is consequently lost. The said plate H is shown detached from the burner in Fig. 6.

I is a stop-cock, connected in the usual manner with the gas-pipe C.

The reflector H' fits on the seat H'', which projects from the under side of the roof E, and is held in place by means of the flange *h* on the short tube J, that fits in the central tube, K, connected with the roof E, as seen in Fig. 2. By this means the reflector is expeditiously detached from the lamp for cleaning when required, as seen in Fig. 5.

There is a cap, L, to the roof E, as seen in Figs. 1 and 2. Projecting from the under side there is a short tube, *i*, which fits in the central tube, K, of the roof, to provide for readily attaching and detaching of the cap.

In the bottom of the base *j* there are perforations *l*, for the admission of cold air, and there are slots *l'* between the base or square part of the cap-piece and the conical roof the same for its exit and the exit of the heated air, which ascends from the burner B through the central tube, K. This arrangement is to prevent the heat from the burner being thrown against the sides of the globe A. The globe is also protected by a current of air being created by means of the holes or perforations *f* in the base D and the slots *k* of the roof E, which are beneath its conical part and its annular projection E', the excess of air which passes through said perforation over that which is necessary to consumption by the burner being sufficient to keep the globe cool, so as to prevent breaking from sudden expansion and contraction.

When the lamp is situated at a corner of two streets I make two sides of the base of the cap L open, and have slides M M, with perforations, forming the names of the streets, so that from the light within the names are indicated at night; but when the lamp is not at the corner but a single slide is perforated. The slides may be perforated to indicate a hotel or other buildings.

I provide for preventing water, caused by rain, running into the base D from the sides of the globe A by means of the annular projection *m* on the lower end of the globe. This projection or flange I make solid or fast to the globe ordinarily; but it may be made of tin or sheet-iron if desired, and sprung into a shallow groove in the neck of the globe, and secured by means of cement.

The water is prevented running into the lamp at the upper end of the globe by means

of the roof E, as represented in Figs. 2 and 3. Instead of constructing the globe with the grooved rims *a* and *a'* the lugs may be on it and the rims on the base and roof, if found the more convenient.

It will readily be seen that the heat will be carried up from the burner through the central tube, K, so as not to heat the globe A in consequence of the current of cold air which passes through the perforation in the base D, passing up the inner periphery of the globe, as indicated by the arrows, the central draft of the heated air being made more complete by the draft of cold air through the bottom of the cap L, as above described. It will also be seen that by means of the reflector H' much light is thrown outward from the lamp which by the ordinary construction of street-lamps is thrown upward; hence a great saving of light, tending to economy in the use of gas, is attained.

Instead of constructing the base D of conical form it may be made of any other form when desired. It may sometimes be preferred to have merely a flat plate connected in the same manner as described, or otherwise, with the post and globe.

By constructing the lamp as above described, so that the different pieces may be slipped together instead of putting the parts together by means of screws and bolts, much economy is effected in making it, besides saving much time in attaching and detaching of the several parts for cleaning or otherwise.

Having thus fully described the construction and operation of my improvement in street-lamps, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the screen and reflector H with the burner B and reflector H', substantially in the manner and for the purposes set forth.

2. The combination of the globe A with the base D and roof E, when said parts are constructed and arranged in relation to each other substantially as described, and for the purposes set forth.

3. The combination of the reflector H' with the roof E, reflector H, and burner B, substantially as described, and for the purposes set forth.

4. Constructing the globe A with the annular projection *m*, for turning the water from the lamp, substantially as specified.

5. Constructing the base D with perforations *f* and the roof E with the slots or openings *k*, for causing a current of cold air to flow over the interior surface of the globe A, to counteract the heat from the burner B, substantially as described, and for the purpose set forth.

6. The combination of the cap L with the central tube, K, and the burner B, when constructed and arranged to operate in relation to the draft of said tube substantially as described.

7. The perforated names in the sides of the cap L, in combination with the burner B, substantially as described, and for the purpose specified.

In testimony that the above is my invention I have hereunto set my hand and affixed my seal this 19th day of April, 1866.

THOS. T. MARKLAND, JR. [L. S.]

Witnesses:

STEPHEN USTICK,

JOHN WHITE.