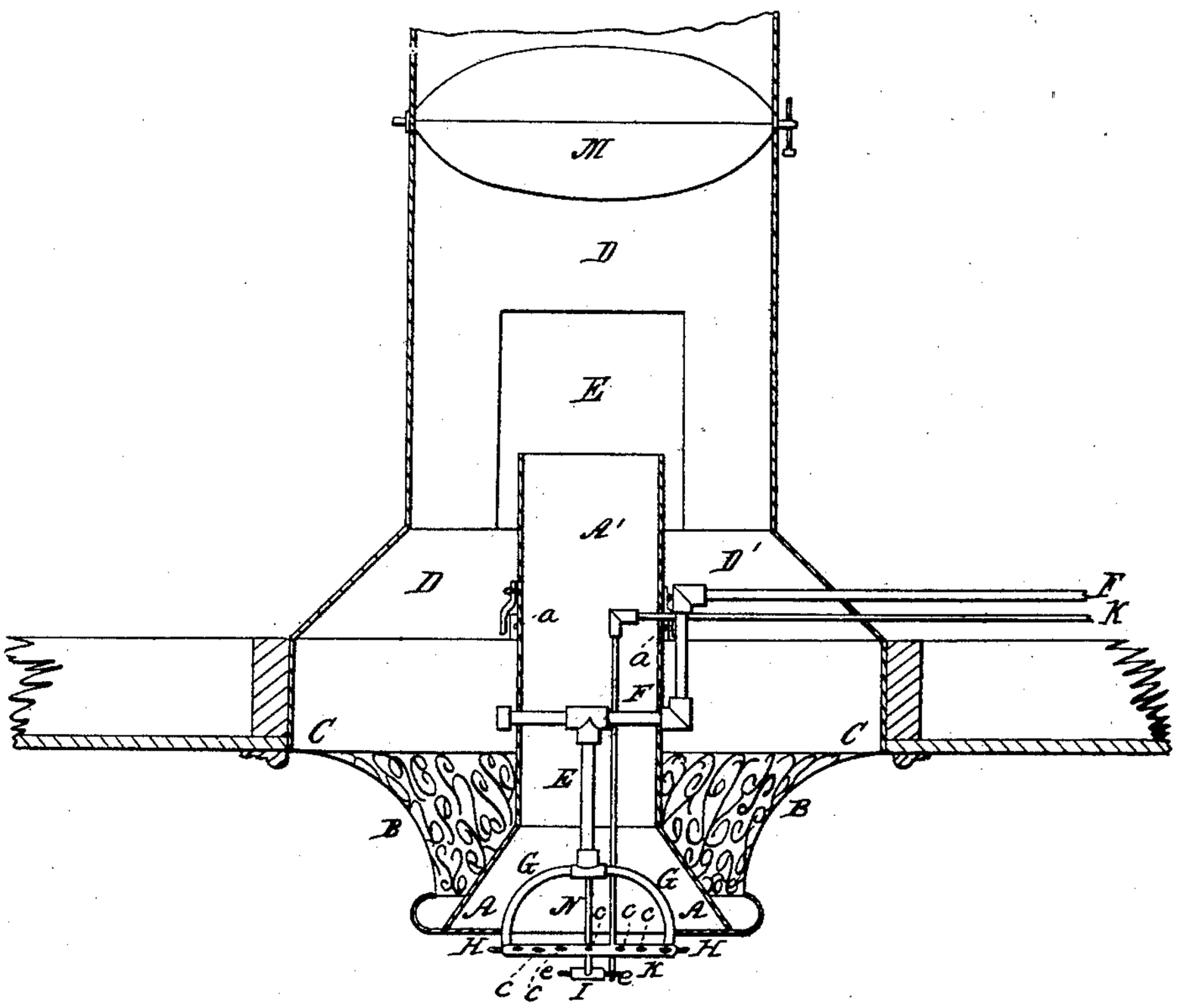
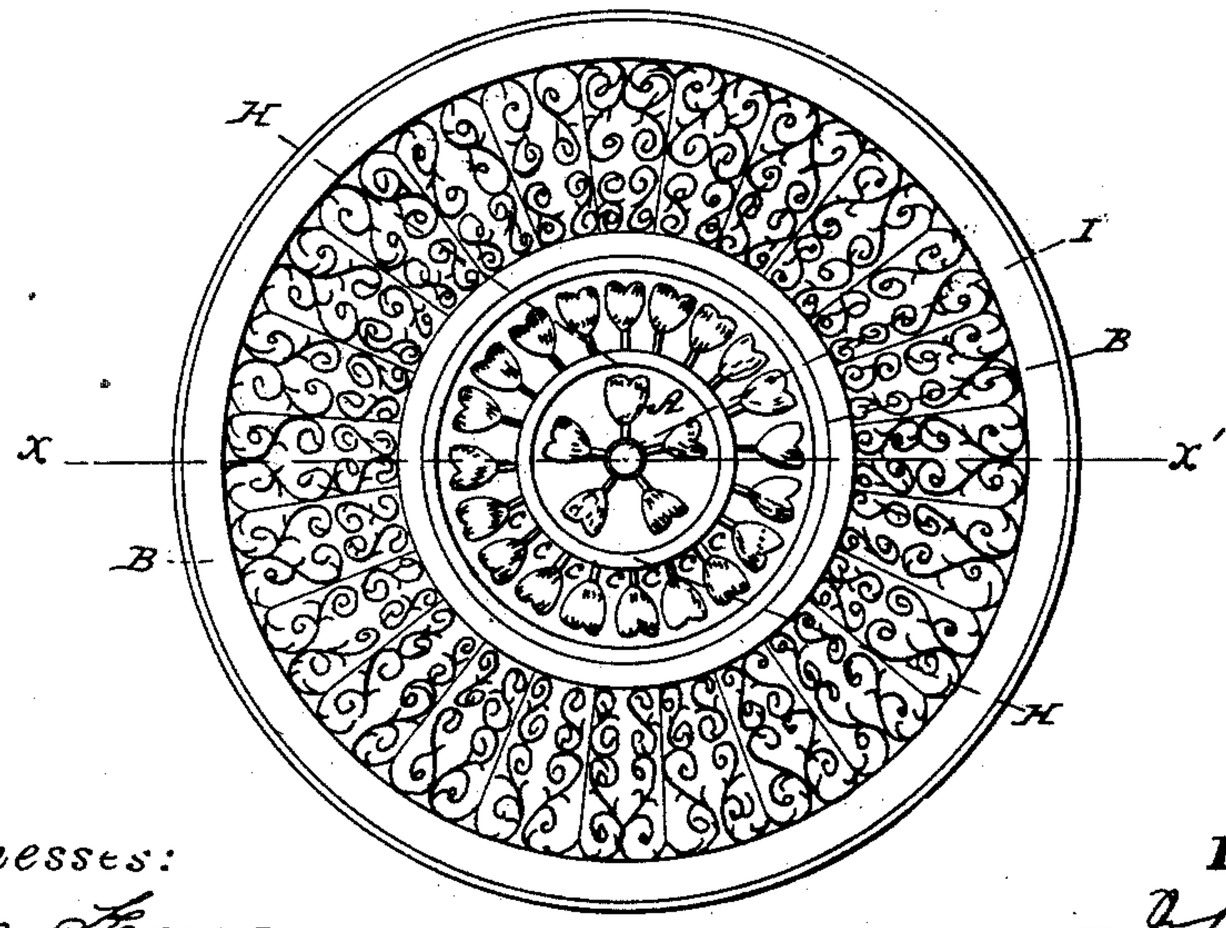
J. W. KERR.

Gasalier.

No. 28,377. Patented May 22, 1860.





Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH W. KERR, OF PITTSBURG, PENNSYLVANIA.

GASELIER.

Specification of Letters Patent No. 28,377, dated May 22, 1860.

To all whom it may concern:

Be it known that I, JOSEPH W. KERR, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sunlight-Gaseliers for Illuminating and Ventilating Purposes; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawing, forming part of this specification, and in which—

Figure 1, is a view of my improved gaselier, as it appears in the ceiling, when viewed from a point directly underneath it. Fig. 2, is a sectional elevation of my improved gaselier through the line *x*—*x*, Fig. 1.

The sunlight gaselier, as in use in England, and recently introduced into this country, consists of an arrangement of a number of burners placed near to each other, and at the flaring mouth of a funnel or trumpet shaped tube, all the burners being fed with gas from a single pipe in the center of the funnel-shaped tube. These burners are arranged in small clusters around the extremity of short gas pipes which radiate from the central pipe, something like the stamina of a flower.

My improvement consists in combining with the gaselier for illumination, an apparatus for ventilation, whereby, not only is the heated air from the gaselier, carried off, but the ventilation of the apartment is promoted, and increased brilliancy given to the light by the supply of oxygen supplied by the draft of air thus created.

To enable others skilled in the art, to construct and use my improved gaselier, I will proceed to describe its construction and operation.

In the drawing Fig. 2, A, is the inverted funnel or trumpet shaped pipe, which is placed in the center of a circular opening C in the ceiling of the apartment in which the gaselier is placed. The opening C is of considerably larger diameter than the inverted funnel A, being designed for ventilation, its size being regulated by the size of the apartment. The opening C may be circular, elliptical, square, or other convenient shape to suit the taste. The inverted funnel A projects downward for about two feet below the ceiling, and the cylindrical part A′ of the funnel rises above the ceiling in the center of the opening. The funnel A is surrounded by an ornamental metallic screw or cover B, which is attached to the flaring mouth of the inverted funnel A and extends upward, covering the entire opening C around the funnel A, and is attached at its outer circumference to the ceiling. The funnel A is held in place by iron rods *a*, *a*, extending across the opening C in the ceiling, and corresponding lugs *b*, *b*, attached to the cylindrical portion of the funnel.

F is the main gas pipe, which enters the cylindrical part of the funnel A at right angles to its axis, and from it, there descends a gas pipe E in the axis of the funnel to within a short distance of its mouth. From the extremity of the pipe E there branch two or more radiating pipes B B, which curve downward, and the extremities of which are attached to and open into an annular pipe H, situate horizontally a little below the mouth of the funnel A. From the annular pipe H radiate horizontally a number of gas burners *c*, *c*, *c*, and *c*, which are placed at uniform distances apart, and so near to each other, that when the gas is turned on, and one is lighted, the others will ignite from it. From the extremity of the gas pipe where the pipes G G are attached to it, there descends perpendicularly, a small gas pipe N which extends a little below the annular pipe H and terminates in a hollow button I from which radiate horizontally, a central cluster of burners *e*, *e*, *e*, as seen in Fig. 2.

As the gaselier is principally used in large buildings, halls, churches, &c., which have lofty ceilings, it is desirable to be able to ignite the burners of the gaseliers without reaching up to them, and for this purpose, a small gas pipe K, which is independent entirely of the main gas pipe F, is introduced into the funnel A, and hangs down so that its extremity, which is fitted with a burner, is so near the central burners on the button I, that when the burner K is lighted, and the gas is turned on, the gaselier, through the main pipes, all the burners on the annular pipe H, as well as on the button I will burst into flame at once. The design is, to leave the burner on the pipe K always burning, but as it will be a very small burner, and may be turned down very low it will not consume much gas; the gaselier burners being connected with an entirely independent pipe, the gas may be turned on or off from them without extinguishing the burner at K.

On the upper side of the opening C, is placed the ventilating pipe D, which is of sufficient diameter to ventilate the apartment; the mouth of this pipe D is made to cover the entire opening C. The pipe D is carried up through the roof of the building, and is furnished at top with a ventilating cover, such as Emerson's, for instance, or any other suitable ventilating apparatus. Near the top of the ventilating pipe D, is placed a butterfly valve M, by which the amount of draft through the ventilator, may be regulated at pleasure. An opening L in the side of the ventilating pipe D is furnished with a door, and is designed to give ready access to the pipes and burners of the gaselier.

The arrangement of gaselier and ventilator, already described, is suited to churches, halls, and other buildings where the room to which it is applied is immediately surmounted by the roof of the building. Where, however, it is desired to use the gaselier in rooms of buildings having more than one story, the several gaseliers may be connected with one ventilator, placed in the roof of the building. This I propose to effect, by having a flue or flues in the walls of the building, connecting with the ventilator, and instead of having a ventilating pipe as D placed vertically over the opening C in the ceiling, there is a horizontal ventilating pipe carried between the ceiling and the floor of the room above, and communicating with the vertical flue; care being taken to protect the floor and ceiling around the pipe with plaster of paris, or other non conductor, so as to prevent fire. In this arrangement the funnel A′ of the gaselier, is not so long as represented in the drawing Fig. 2, and will just enter the opening C in the ceiling and no more. The gas pipes will be introduced to the gaselier between the floor and ceiling as is usual in pipes for lighting dwellings, stores, &c.

The advantages of my improvement are obvious, as it avoids the heating of the apartment by gas, and secures a thorough ventilation. The arrangement of the gas burners is better, as it spreads the flame over a wider surface, and the addition of the screen improves its appearance, taking away the somewhat awkward appearance of the English gaselier.

Having thus described my improvement in gaseliers, what I claim as my invention and desire to secure by Letters Patent is—

Combining with a gaselier consisting of a cluster of gas burners placed in or near the mouth of a flaring pipe or tube, a ventilating pipe D and screen B constructed and arranged, substantially as described, for the purpose of ventilation and increasing the brilliancy of the light.

In testimony whereof the said J. W. Kerr hath hereunto set his hand.

J. W. KERR.

Witnesses:

Martin G. Cushing,

W. Bakewell.