

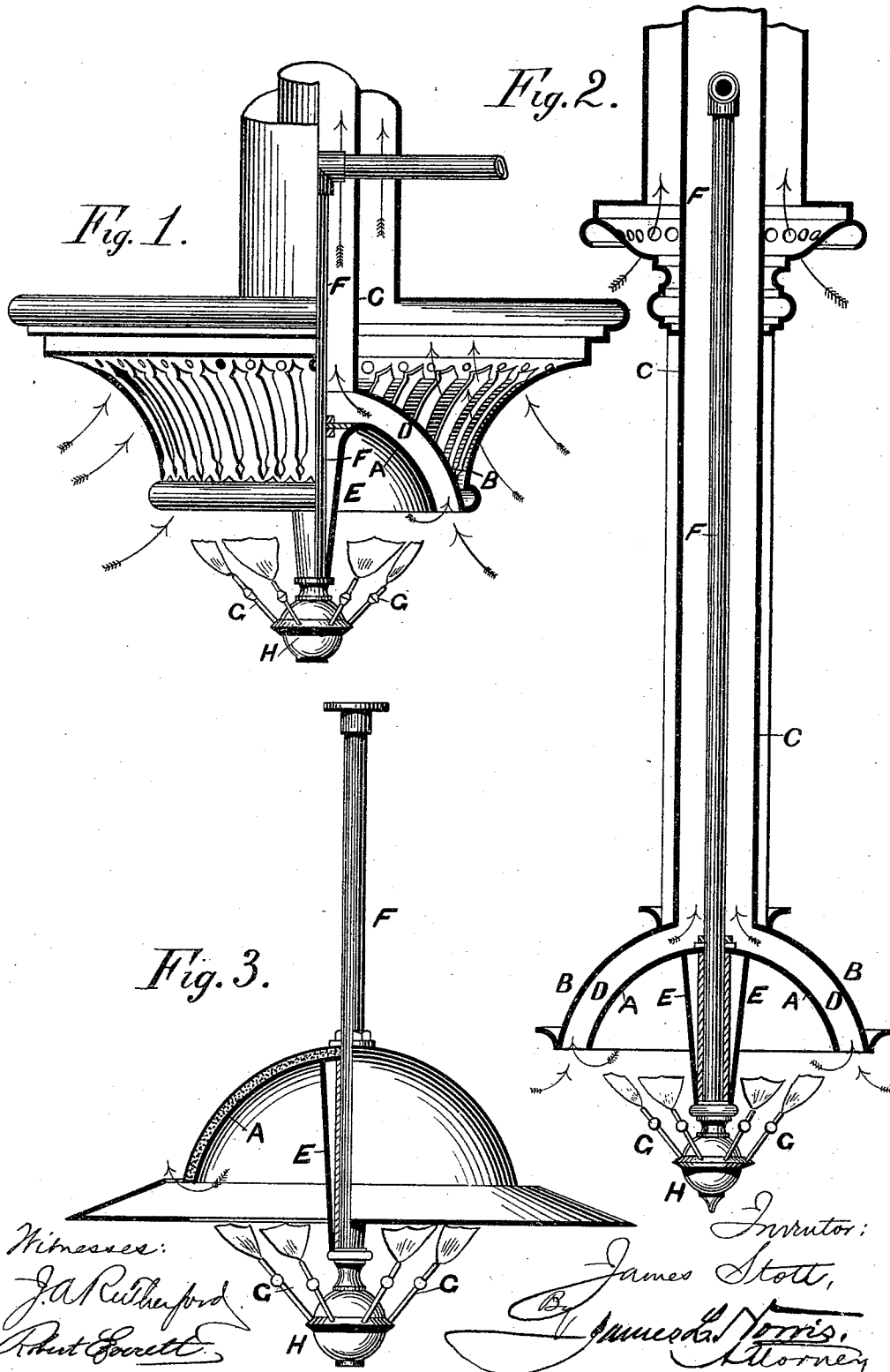
(No Model.)

3 Sheets—Sheet 1.

J. STOTT.  
GAS LAMP.

No. 443,876.

Patented Dec. 30, 1890.



(No Model.)

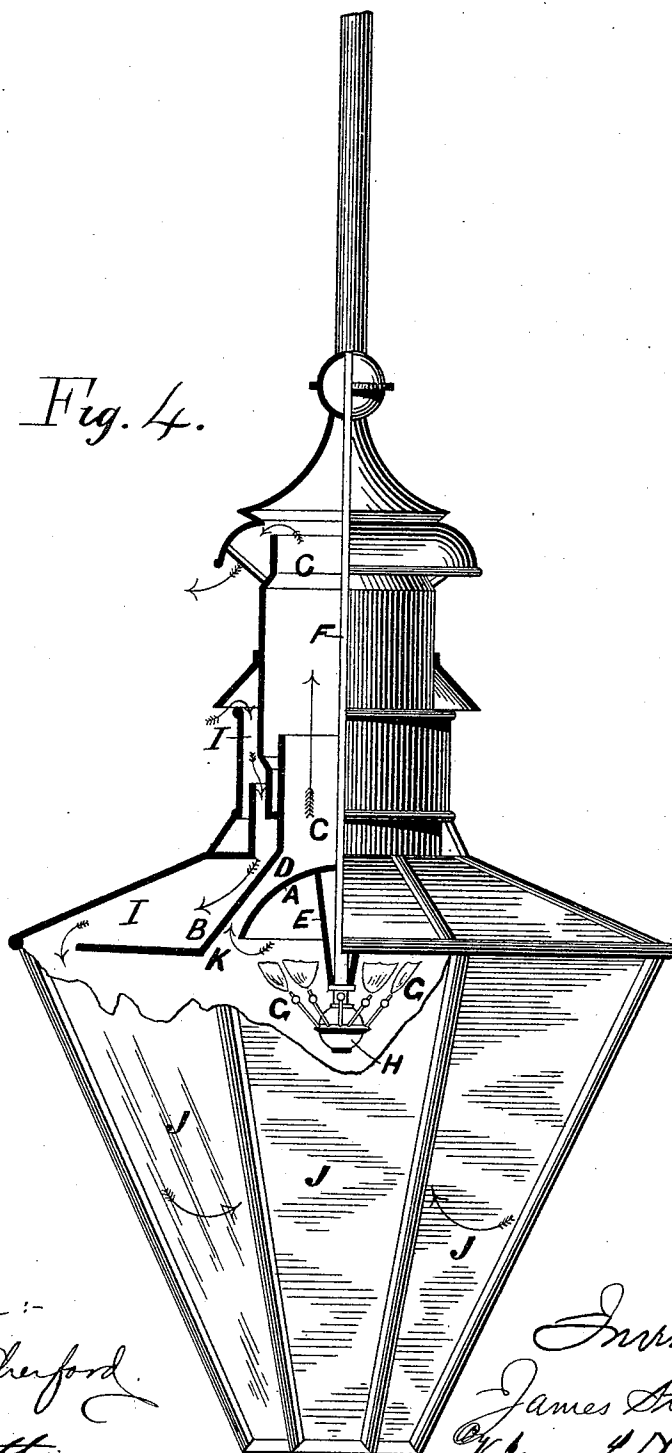
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Fig. 4.



Witnesses:-  
J. A. Ruthenford  
Robert Bonnett

Inventor:  
James Stott  
James H. Morris  
Attorney

(No Model.)

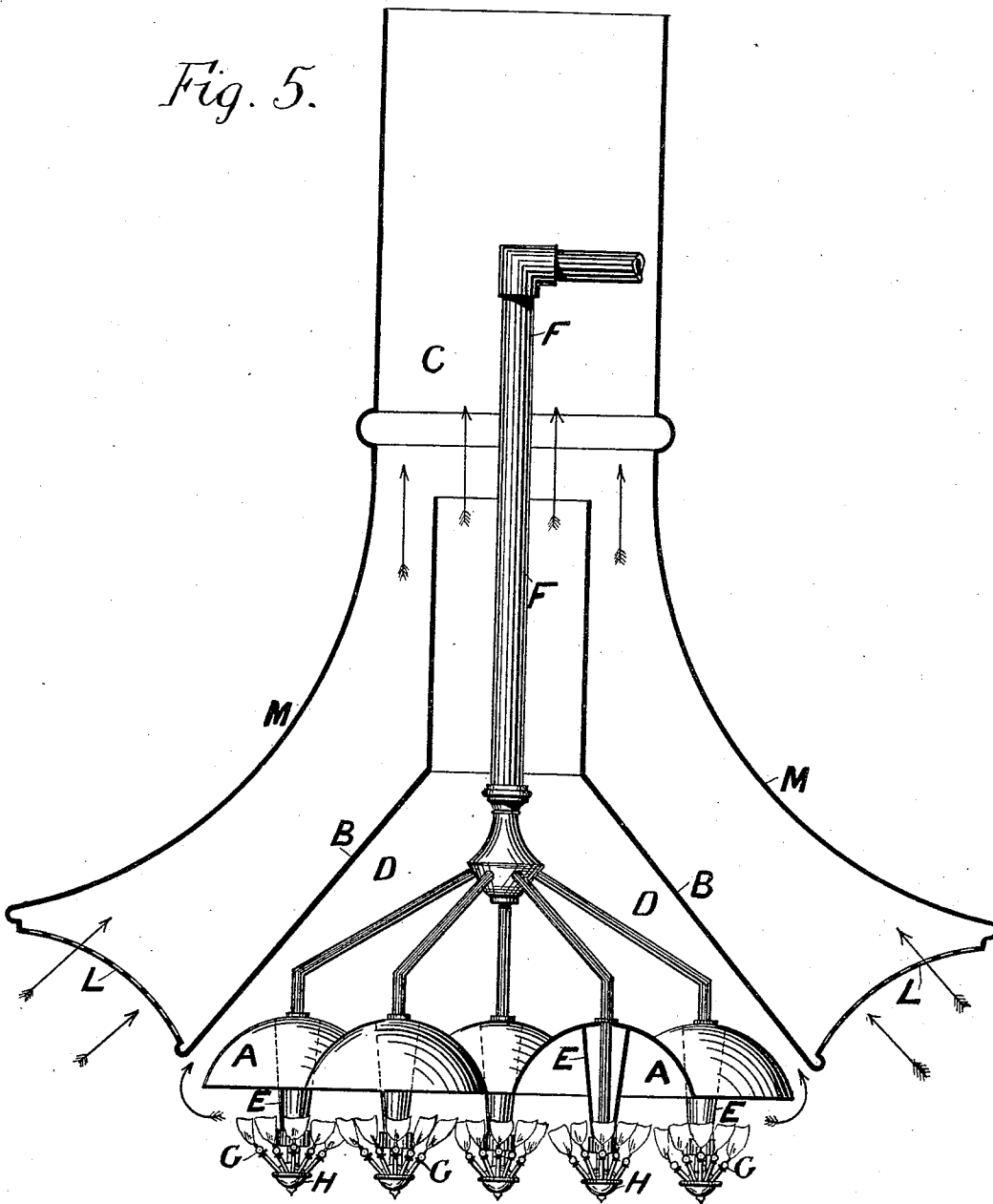
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Fig. 5.



Witnesses:-

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Inventor:

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By James L. Norris,  
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# UNITED STATES PATENT OFFICE.

JAMES STOTT, OF LONDON, ENGLAND.

## GAS-LAMP.

SPECIFICATION forming part of Letters Patent No. 443,876, dated December 30, 1890.

Application filed August 14, 1890. Serial No. 362,013. (No model.) Patented in England September 20, 1889, No. 14,884, and September 21, 1889, No. 14,929, and in Germany November 8, 1889, No. 52,923.

*To all whom it may concern:*

Be it known that I, JAMES STOTT, a subject of the Queen of Great Britain, residing at 174 Fleet Street, city of London, England, have invented new and useful Improvements in Gas-Lamps, (patented in Great Britain, No. 14,884, dated September 20, 1889, and No. 14,929, dated September 21, 1889, and in Germany, No. 52,923, dated November 8, 1889,) of which the following is a specification.

This invention relates to certain improvements in and connected with that class of gas-lamps known as the "non-regenerative light," in which the heat from the burners, preferably placed at an angle with the vertical, rises up into a dome placed above them, but in which there is no hole or outlet. The current of heat therefore descends from the dome to find an escape, and in doing so impinges upon and depresses the gas-flames, so that they assume a flattened or nearly horizontal shape, the flow of this current of heat also causing the flames or jets to become highly heated and rarefied, which produces an increase in the illuminating-power of the jets, which then burn with a nearly white light.

In the above-described lamp an objection has been found to its use in consequence of the heat formed by the burners not being distributed equally over the inside and over the outside surfaces of the deflector, thereby causing a tendency of the enamel to crack and the deflector to be rendered unserviceable. Another objection is that there is no outlet provided for the escape of the products of combustion and heat.

My invention is clearly illustrated by the annexed drawings.

Figure 1 is a part sectional elevation of a pendent gas-lamp, such as applied under the ceiling of an assembly hall, a place of worship, or other large room in a building. Fig. 2 is a sectional elevation of a pendent gas-lamp similarly applied, but where the light is required at a much lower position in a room, such as a warehouse or shop. Fig. 3 is a part sectional elevation of a pendent gas-lamp suitable for shop-windows, entrance halls, and other places. Fig. 4 is a part sectional elevation of a pendent gas-lamp for outside of buildings. Fig. 5 represents part sectional

elevation of a pendent gas-lamp for similar purposes to those described for Fig. 1, but in which clusters of burners are arranged from the same gas-supply pipe.

According to my invention I place over the aforesaid dome or deflector A a ventilating-canopy B, supported by an outlet-shaft C, carrying off all the products of combustion, which pass up round and through a circular passage D in close proximity to the outside surface of the dome or deflector A, thus maintaining the outside at a temperature nearly equal to that of the inside of the dome and preventing the cracking of the enamel due to the difference of temperature.

I form the dome or deflector A of mushroom shape, as shown in Fig. 1, with a hollow conical or tapered stem E, the smaller part of the stem being carried down to the lower end of the supply-pipe F, near the burners G. This form of deflector is made in one piece only, or in two or more parts, and the hollow conical stem E of the dome or deflector A can be separate from the upper part, as shown in Figs. 2 and 3, in which case the cone is in the form of a tube surrounding the supply-pipe F and held in position by the bulb H. The whole inside surface of the dome and stem is enameled and presents a large extent of reflective surface.

The dome or deflector A is coated or covered with asbestos, slag-wool, or other non-conducting material on the outside in order to maintain the heat and guard against cold currents of air coming in contact with the outer surface. This non-conducting material may have an outside cover of metal, if desired.

Fig. 4 shows the adaptation of my improvements to a street lamp or lantern, consisting of the burners G and the dome or deflector A, and suspended from the supply-pipe F in the upper part of the lantern J, and the lower edge of the ventilating-canopy B at K is carried down below the level of the edge of the dome A, as shown in the drawings, the object being to guide the heated air and products of combustion from the burners up the shaft C. The space I between the upper surface of the outlet-shaft and canopy C and B and the upper portion of the exterior casing of the lan-

tern J forms the passage for the current of air necessary to feed the lights in the lamp at G, as shown by the indicating-arrows in the illustration. The passage of this feed-current over the heated surface of the ventilating-shaft and canopy C and B has the effect of correcting the tendency of the glass or other outer casing of the lantern becoming overheated.

My improvements are capable of modification to suit the particular description of lighting apparatus to which the lamp is adapted, such as for sun-burners, pendent lamps, standards, and the like.

According to Fig. 5, which shows my improvements adapted to lamps of the sun-burner type, I suspend two or more cluster lights from a central supply-pipe F, and I inclose the whole number of cluster-lights in a conical or other shaped cover B, between which and the cluster-domes A the products of combustion from the burners in the clusters pass to a ventilating-shaft C, from which the outer cover M is suspended, and is connected with the inner cover and shaft B by a ventilated rim L. The contour of the inner cover B is such as to form a passage around in close proximity with the domes or deflectors A of the cluster lights, thereby maintaining a high temperature on the outside of the deflectors by the passage of the heat and products of combustion up D to the ventilating-shaft C and guarding against the access of cold currents of air, thus preventing cracking of the enamel on the inside of the deflectors A due to difference of temperature.

The deflecting-domes which I prefer to employ are of mushroom shape, with a hollow conical enameled stem E, which increases the reflecting properties of the domes. The domes may also be covered or coated on the outside with a non-conducting substance in order to maintain an equal or nearly equal temperature of the dome inside and outside, the non-

conducting composition being provided with a metal or other cover, if desired.

What I claim, and desire to secure by Letters Patent, is—

1. A gas-lamp consisting of the dome-shaped deflector A, the dome-shaped canopy B, arranged over the deflector to provide the circular heat-passage D, the ventilator-shaft C, suspending the dome-shaped canopy, and the gas-pipe F, passing through the ventilator-shaft and dome-shaped deflector and provided with burners G below the latter, substantially as described.

2. A gas-lamp consisting of the dome-shaped deflector A, formed with the central pendent hollow stem E, the dome-shaped canopy B, arranged over the deflector to provide the circular heat-passage D, the ventilator-shaft C, suspending the dome-shaped canopy, and the gas-pipe F, passing through the ventilator-shaft and hollow stem of the deflector and provided with burners G, substantially as described.

3. A gas-lamp consisting of the dome-shaped deflector A, having the central hollow stem E, the dome-shaped canopy B, arranged over the deflector to provide the circular heat-passage D, the ventilator-shaft C, the gas pipe F, passing through the hollow stem and provided with a burner G, and the flared outer cover M, having at its lower edge the surrounding ventilator-rim L, joined to the lower edge of the dome-shaped canopy, substantially as described.

In witness whereof I have hereunto signed my name, in the presence of two subscribing witnesses, this 25th day of July, 1890.

JAMES STOTT.

Witnesses:

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JOHN LEES,  
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