N° 8193 A.D. 1894

Date of Application, 25th Apr., 1894

Complete Specification Left, 24th Jan., 1895—Accepted, 2nd Mar., 1895

PROVISIONAL SPECIFICATION.

Improvements in Gas Lamps, and in the Extraction and Destruction of Sewer Gas.

I, JOSEPH EDMUND WEBB of 223 New John Street West, Hockley, Birmingham, Builder and Contractor, do hereby declare the nature of this invention to be as follows :—

This invention relates to improvements in the extraction from sewers of the gases or noxious vapours collected or generated therein, and the destruction of such gases prior to their passing into the atmosphere. It has been found that the deleterious effects of such gases may be destroyed not only by passing them through flame but also by submitting them to a high temperature. It has also been found that when the gases are drawn out from the sewer by the burning of ordinary gas a sudden flushing of the sewer might prevent any sewer gas from escaping, and thus momentarily cause the gas jets to be extinguished.

The object of this invention is to obviate the drawbacks above indicated and at the same time to produce a lamp head or frame which may be used for other purposes. To this end it is proposed to provide a lamp head connected by a pipe with the sewer and practically sealed at all other points except at the discharge opening. Within the lamp head are a series of flat flame or other burners supplied from the gas main in the usual manner. A bye-pass with a jet burner is also provided, and the air to support the combustion of this particular jet is provided by a small pipe passing through the casing into the air. The lamp is provided with the usual glasses so as to adapt it for street lighting. Surmounting the glass is a curved, funnel, or other shaped head preferably enamelled or lined with heat deflecting and radiating material, the object being to produce an intense heat at the point of combustion. As any such heat would be rapidly transmitted by radiation it is proposed to provide the head with an external sealed or other form of air jacket, or to cover it with non-heat conducting material.

Dated the 25th day of April 1894.

PHILIP M. JUSTICE,
55 & 56, Chancery Lane, London, Chartered Patent Agent,
For the Applicant.

COMPLETE SPECIFICATION.

Improvements in Gas Lamps, and in the Extraction and Destruction of Sewer Gas.

I, JOSEPH EDMUND WEBB of 223 New John Street West, Hockley, Birmingham, Builder and Contractor, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

This invention relates to improvements in the extraction from sewers of the

[*Price 8d.*]

gases or noxious vapours collected or generated therein, and the destruction of such gases prior to their passing into the atmosphere.

It has been found that the deleterious effects of such gases may be destroyed not only by passing them through flame but also by submitting them to a high temperature. It has also been found that when the gases are drawn out from the sewer by the burning of ordinary gas a sudden flushing of the sewer might prevent any sewer gas from escaping, and thus momentarily cause the gas jets to be extinguished.

The object of this invention is to obviate the drawbacks above indicated and at the same time to produce a lamp head or frame which may be used for other purposes. To this end it is proposed to provide a lamp head connected by a pipe with the sewer and practically sealed at all other points except at the discharge opening. Within the lamp head are a series of flat flame or other burners supplied from the gas main in the usual manner. A bye-pass with a jet burner is also provided, and the air to support the combustion of this particular jet is provided by a small pipe passing through the casing into the air. The lamp is provided with the usual glasses so as to adapt it for street lighting. Surmounting the glass is a curved, funnel, or other shaped head preferably enamelled or lined with heat deflecting and radiating material, the object being to produce an intense heat at the point of combustion. As any such heat would be rapidly transmitted by radiation it is proposed to provide the head with an external sealed or other form of air jacket, or to cover it with non-heat-conducting material.

An advantageous method of applying the invention is illustrated in the accompanying drawings in which Fig. 1 is a sectional elevation including the sewer and gas connections and Fig. 2 is a sectional elevation on a larger scale of the lamp head and burners.

In said drawings A is the main sewer, B the connecting pipe terminating at the base of lamp post C; travelling through which and hermetically attached to pipe B is pipe D terminating at a point beneath the main gas jets E which are supplied from the gas main F through meter G and pipe H. A small bye pass jet M is kept constantly burning the air to support combustion, being fed thereto through a small air pipe N, the object being to relight the main jets E if they should be temporarily extinguished owing to a sudden flushing of the sewers during a storm, or at other times when it would be impossible to draw the requisite air or gas from the sewer to support the combustion of the main jets.

The lamp when used for illuminating purposes will be provided with the usual glass sides I which are hermetically sealed either to the top of pipe D or to post C if that is air-tight. Surmounting the glass is a curved funnel shaped head J preferably enamelled or lined with heat deflecting material, the object being to produce an intense heat at the point of combustion, say from six to eight hundred degrees Fahrenheit. As any such heat would be rapidly transmitted by radiation it is proposed to provide the head J with an external sealed air jacket K, or to cover it with non-heat-conducting substance. An outlet L is provided for the escape of the products of combustion.

With this construction of parts it will be noted that the air or gas to support the combustion at the main jets or burners E must be drawn from the sewer, and by experiment it has been found that with ordinary flat flame burners such as are employed in street lighting the sewer gas can be drawn a distance of from five hundred to a thousand yards, and as it is compelled to pass practically through the flame, or at all events through a sealed chamber in which the temperature is, as stated, very considerable, all germs and noxious qualities of such sewer gas are destroyed before eventually passing out through the opening L to the air.

Additional reflectors and radiating surfaces O may be employed when deemed necessary, either as shown for reflecting the light, or made concave for radiating the heat toward the burners.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is :—

1. In devices for extracting and destroying sewer gas the combination with the sewer and gas connections of main gas jets, a bye-pass jet with a separate air supply, a lamp head sealed to the sewer connection but provided with a suitable outlet and a deflecting hood, substantially as described.

2. In devices for extracting and destroying sewer gas the combination with the sewer and gas connections of main gas jets, a separate air supply for at least one burner, a lamp head sealed to the sewer connection but provided with a suitable outlet, a deflecting hood and a non-heat-radiating jacket or covering, substantially as described.

3. The improved lamp head provided with a heat deflector and a non-heat-radiating jacket, substantially as described.

4. The improved arrangement of apparatus for the extraction and destruction of sewer or other noxious gases, substantially as described.

Dated the 23rd day of January 1895.

PHILIP M. JUSTICE,
55 & 56, Chancery Lane, London, Chartered Patent Agent,
For the Applicant.

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WEBB'S Complete Specification.

(1 SHEET)

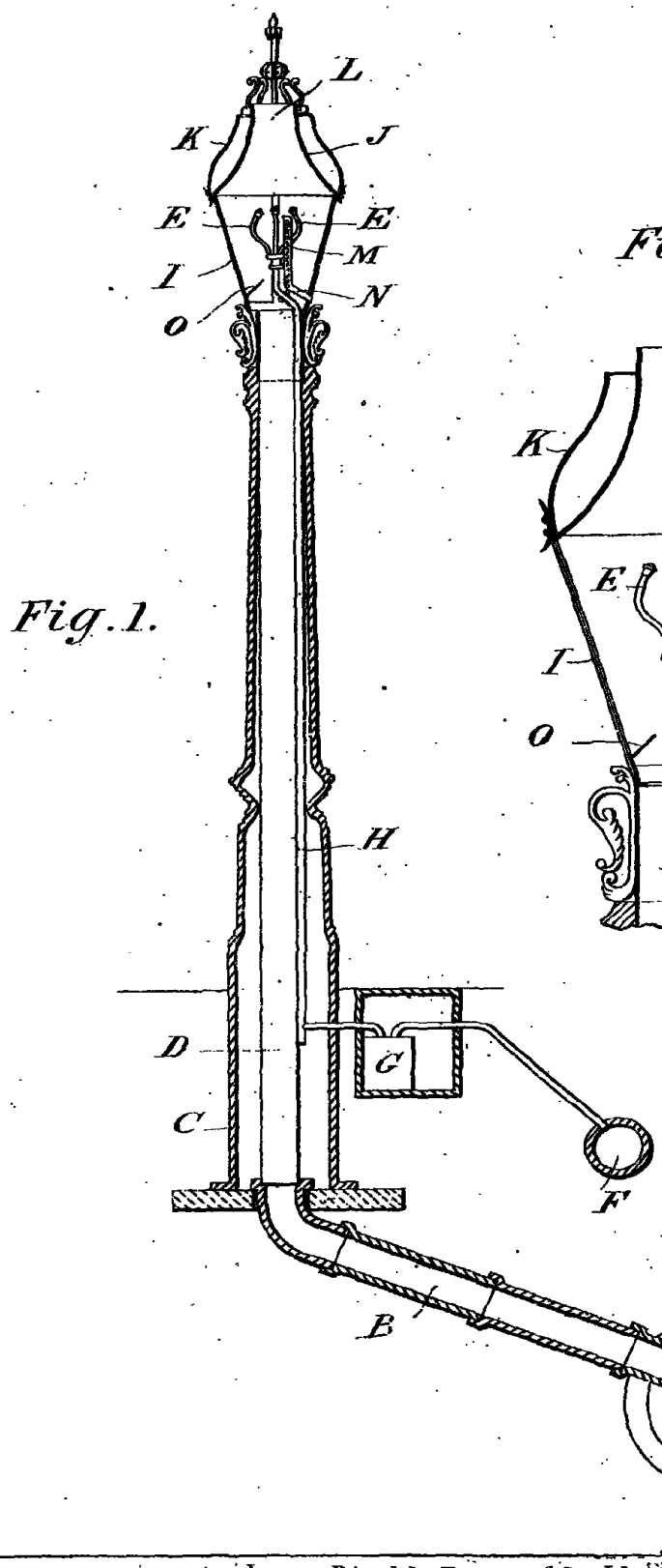
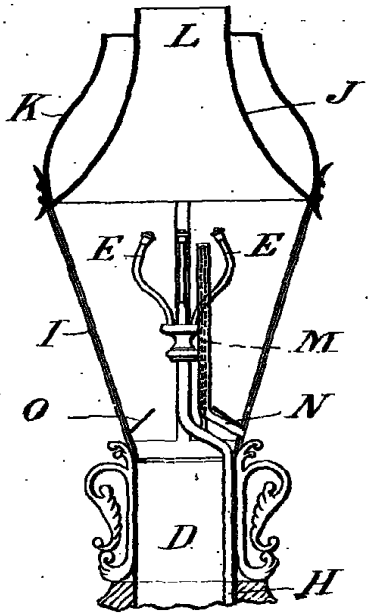


Fig. 1.

Fig. 2.



[This Drawing is a reproduction of the Original on a reduced scale]

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