

Improvements in apparatus for heating and ventilating, more especially intended for use in creating currents for the ventilation of sewers / [Stephen Holman].

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PROVISIONAL SPECIFICATION.

Improvements in Apparatus for Heating and Ventilating, more especially intended for use in Creating Currents for the Ventilation of Sewers.

I STEPHEN HOLMAN of 15 Great George Street in the City of Westminster Engineer do hereby declare the nature of this invention to be as follows:—

My invention relates to apparatus for heating and ventilating and is more especially intended for use in the ventilation of sewers wherein the foul gases are drawn therefrom by a burner or burners heating a stove or furnace and the principal object of my invention is to prevent any danger of explosion due to the ignition of combustible gases which may be present in the sewers.

According to my invention I provide an arrangement wherein the flame or flames of the burner or burners of the stove or furnace is or are provided with passages which are distinct and separate from those through which the air or gases from the sewer pass.

A convenient arrangement is to enclose the burner in a chamber from which a tube arises, this tube being surrounded by another tube or series of superposed rings provided with a cover so that the products of combustion from the stove or furnace burner or burners pass up the inner tube and down between it and the surrounding tube or rings and through an outlet provided therefor. The air and gases from the sewer pass up outside the last named tube or series of rings to the exit chamber or column. The passages may have projections or webs extending into them to afford heating surface. These projections or webs may be cast on the aforesaid tubes or either of them but preferably upon the aforesaid surrounding tube or series of rings. The passage or passages for the sewer air or gases around the aforesaid surrounding tube or series of rings may be limited to any determined area by means of a cylinder or series of superposed rings.

Dated the 16th day of November 1892.

J. H. JOHNSON & Co.,
47, Lincoln's Inn Fields, London, W.C., Agents.

COMPLETE SPECIFICATION.

Improvements in Apparatus for Heating and Ventilating, more especially intended for use in Creating Currents for the Ventilation of Sewers.

I STEPHEN HOLMAN of 15 Great George Street in the City of Westminster Engineer 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:—

My invention relates to apparatus for heating and ventilating and is more especially intended for use in the ventilation of sewers wherein the foul gases are drawn therefrom by a burner or burners heating a stove or furnace and the principal object of my invention is to prevent any danger of explosion due to the ignition of combustible gases which may be present in the sewers.

According to my invention I provide an arrangement wherein the flame, or flames, of the burner, or burners, of the stove, or furnace, is, or are provided with passages which are distinct and separate from those or from the main bulk of those through which the air or gases from the sewer pass.

[Price 8d.]

Holman's Improvements in Apparatus for Heating and Ventilating.

A convenient arrangement by which my invention can be carried into effect is shewn in vertical section as applied to a lamp post in Figure 1 of the accompanying drawing Figures, 2, 3 and 4 are transverse sections on the lines 1, 1; 2, 2; and 3, 3 respectively.

The burner is enclosed in a chamber A from which a tube G arises, this tube 5 being surrounded by another tube or series of superposed rings K provided with a cover H so that the products of combustion from the stove or furnace, or burner or burners, pass up the inner tube G and down between it and the surrounding tube or rings K and into the passages I and up through the holes J and thence to the outlet O as shewn by the arrows in full lines above the burner. 10

The outlet O is formed by the rings M and N which rest upon the topmost ring L surrounding the tube or rings K and are contracted to the necessary extent to give the required draught.

The air and gases from the sewer pass as shewn by the dotted arrows up through the last named tube or series of rings K to the exit chamber or column, the 15 apparatus being enclosed in a cylinder or casing G² provided with a door.

The rings L surrounding the rings K are to prevent radiation of heat. The passages may have projections or webs extending into them to afford heating surface. These projections or webs may be cast on the aforesaid tubes or either of them but preferably in the aforesaid surrounding tube or series of rings K. 20 They are shewn in the drawing as consisting of vertical webs *k* and cross webs *k*².

The burner or furnace may be of any suitable description, I have shewn it as consisting of an atmospheric burner, the gas pipe B admitting gas to the tube D which is provided with holes *d* by which air is drawn in. A spreader or deflector E 25 is placed upon the top of this tube the flames issuing from the holes *d*². In the ring K² in which the passages I are formed are shewn holes *i* by which air and gases from the sewer can also pass up. The remaining parts of the ring K² between the walls of the passages I may be like the other rings of the series. The rings or sections K K² and also the rings or sections L may simply rest on 30 each other so that they can be readily removed and replaced and to enable them to so rest securely, their meeting edges may be bevilled or recessed as shewn.

F is a sight tube which may be provided with a glazed cap *f* through which the burner can be observed and by removing this cap the burner can be lighted. 35

The tube D is shewn as being surrounded by a perforated chamber P the perforations being covered by wire gauze. This chamber P opens into the chamber A and the air passes therefrom into the said chamber through a plate or plates *a* with perforations preferably covered with wire gauze. The wire gauze 40 is to prevent danger of back firing.

I have described and shewn the apparatus as applied to a column for ventilating sewers and consuming or disinfecting the deleterious gases therefrom but it will be understood that it may be used for other purposes, such for instance as a stove for heating purposes, or it may be used for ventilating and consuming or disinfecting 45 foul air from hospital wards or the like.

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

1. In apparatus of the kind referred to, an arrangement of passages from the burner or burners, which passages are distinct from other passages through which 50 air or gas from the sewer or other place passes substantially as and for the purpose hereinbefore described.

2. In apparatus of the kind referred to passages for the air and gas from the sewer or other place and the products of combustion from the burner or burners the said passages being built up or composed of superposed rings or sections, 55 substantially as hereinbefore described and shewn in the accompanying drawings.

Holman's Improvements in Apparatus for Heating and Ventilating.

3. An apparatus for the purposes described the said apparatus being arranged or constructed substantially as hereinbefore described and illustrated in the accompanying drawings.


Dated this 16th day of September 1893.

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J. H. JOHNSON & Co.,
Agents.

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SHEET 1

