Specification of Gabriel Lewal : apparatus for consuming smoke, and for heating, warming, and drying.

Contributors

Lewal, Gabriel.

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A.D. 1863, 16th SEPTEMBER. N° 2266.

SPECIFICATION

OF

GABRIEL LEWAL.

APPARATUS FOR CONSUMING SMOKE, AND FOR HEATING, WARMING, AND DRYING.

LONDON:
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A.D. 1863, 16th SEPTEMBER. N° 2266.

Apparatus for Consuming Smoke, and for Heating, Warming, and Drying.

LETTERS PATENT to Gabriel Lewal, of 5 and 6, Philpot Lane, E.C., London, Engineer, for the Invention of "AN IMPROVED METHOD OF AND APPARATUS FOR CONSUMING SMOKE, AND HEATING AND WARMING PUBLIC AND OTHER BUILDINGS, AND FOR DRYING PURPOSES GENERALLY."

Sealed the 26th February 1864, and dated the 16th September 1863.

PROVISIONAL SPECIFICATION left by the said Gabriel Lewal at the Office of the Commissioners of Patents, with his Petition, on the 16th September 1863.

I, GABRIEL LEWAL, of 5 and 6, Philpot Lane, E.C., London, Engineer, do hereby declare the nature of the said Invention for "AN IMPROVED METHOD OF AND APPARATUS FOR CONSUMING SMOKE AND HEATING AND WARMING PUBLIC AND OTHER BUILDINGS, AND FOR DRYING PURPOSES GENERALLY," to be as follows:—

This apparatus consists of two boxes placed parallel to each other at suitable distance; the bottom or lower side of each box is left open to admit atmospheric air, which is conveyed to it by pipes or flues communicating with the exterior or any other part of the building; the top or upper side is pierced with holes in suitable positions, to each of these holes is fixed a vertical pipe or tube of any length and form adapted to the size of the apparatus, these pipes or tubes communicate with and are attached to an air chamber fixed above, from which chamber one or more pipes convey the heated air into other pipes, flues, or

chambers, placed in any position required. In the space between the pipes or tubes connected with the two boxes and the chamber before mentioned, and forming the bottom of the said chamber, is placed another chamber to contain the coal or any other fuel that may be used. This chamber has no communication with the chimney or flue except through the fire, but at the top a pipe or tube is attached to convey the excess of smoke or gas that cannot pass through the fire to an opening immediately beneath a number of fire-bars fixed at the bottom of the two boxes before mentioned; these bars are placed longitudinally and parallel to each other, or in the form of an arch, or in any other position most suitable. Affixed to the front of the boxes and the smoke chamber of the apparatus is a frame pierced with three or more openings of any suitable form, to which are fixed doors or slides for supplying the fuel and regulating the supply of air for proper combustion. The apparatus is placed in a brick chamber built in a suitable form, and in any convenient position.

The principal improvements in this Invention are, 1st, that the smoke and gas generated by the combustion of the fuel are entirely consumed, thus increasing the heating powers of the apparatus without causing any additional consumption of fuel.

2nd, that no smoke being admitted into the chimney or flue, it is only required to cause the necessary draught of air to pass through the fire to promote combustion; it may therefore be placed in any position in the building without the fear of discolouring or injuring the material or causing any annoyance or inconvenience.

3rd, that by the constant passing through the apparatus of large quantities of pure warm atmospheric air into the building a more healthy and better atmosphere is obtained.

4th, that the heat produced is divided and caused to pass round the pipes or tubes, thus increasing the heating surface, and utilising the whole of the heat generated by the fire.

Thus it will be seen that the Inventor by this principle obtains the entire consumption of the smoke, the more perfect combustion of the fuel, the utilising of the whole of the heat generated, and the introduction into the building of pure warm air that has not been brought in contact with the fire.

That portion of the apparatus for consuming the smoke is also applicable to every description of steam or other boilers, and to kilns, muffles, drying, annealing, japanning, and other stoves.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Gabriel Lewal, in the Great Seal Patent Office on the 14th March 1864.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GABRIEL LEWAL, of 5 and 6, Philpot Lane, London, in the County of Middlesex, Engineer, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Sixteenth day of September, in the year of our Lord One thousand eight hundred and sixty-three, in the twenty-sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Gabriel Lewal, Her special licence that I, the said Gabriel Lewal, my executors, administrators, and assigns, or such others as I, the said Gabriel Lewal, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "AN IMPROVED METHOD OF AND APPARATUS FOR CONSUMING SMOKE, AND HEATING AND WARMING PUBLIC AND OTHER BUILDINGS, AND FOR DRYING PURPOSES GENERALLY, BY ATMOSPHERIC AIR IN CAST AND WROUGHT IRON, OR ANY OTHER METAL AND MATERIAL," upon the condition (amongst others) that I, the said Gabriel Lewal, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Gabriel Lewal, do hereby declare the nature of my said 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 for an improved method of and apparatus for consuming smoke, and heating and warming public and other buildings, and for drying purposes generally by atmospheric air, consists of two boxes placed parallel to each other at suitable distance; the bottom or lower side of each box is left open to admit atmospheric air, which is conveyed to it by pipes or flues communicating with the exterior or any other part of the building; the top or upper side is pierced with holes in suitable positions, to each of these holes

is fixed a vertical pipe or tube of any length and form adapted to the size of the apparatus, these pipes or tubes communicate with and are attached to an air chamber fixed above, from which chamber one or more pipes convey the heated air into other pipes, flues, or chambers, placed in any position required. Or the two boxes may be removed, the pipes or tubes placed horizontally in the cold air chamber, and the flame pass through the said pipes or tubes. In the space between the pipes or tubes is placed another chamber to contain the coal or any other fuel that may be used. This chamber has no communication with the chimney or flue except through the fire, but at the top a pipe or tube is attached to convey the excess of smoke or gas that cannot pass through the fire to an opening immediately beneath a number of fire-bars fixed at the bottom of the said chamber; these bars are placed longitudinally and parallel to each other, or in the form of an arch, or in any other position most suitable. Affixed to the front of the coal chamber of the apparatus is a frame pierced with three or more openings of any suitable form, to which are fixed doors or slides for supplying the fuel and regulating the supply of air for proper combustion. The apparatus is placed in a brick chamber built in a suitable form, and in any convenient position.

The principal improvements in this Invention are, 1st, that the smoke and gas generated by the combustion of the fuel are entirely consumed, thus increasing the heating powers of the apparatus without causing any additional consumption of fuel.

2nd, that no smoke being admitted into the chimney or flue, it is only required to cause the necessary draught of air to pass through the fire to promote combustion; it may therefore be placed in any position in the building without the fear of discolouring or injuring the material, or causing any annoyance or inconvenience.

3rd, that by the constant passing through the apparatus of large quantities of pure warm atmospheric air into the building a more healthy and better atmosphere is obtained.

4th, that the heat produced is divided and caused to pass round or through the pipes or tubes, thus increasing the heating surface and utilising the whole of the heat generated by the fire.

Thus it will be seen that the Inventor by this principle obtains the entire consumption of the smoke; the more perfect combustion of the fuel; the utilising of the whole of the heat generated; and the introduction into the building of pure warm air that has not been brought in contact with the fire or red-hot surfaces of iron.

That portion of the apparatus for consuming the smoke is also applicable to

every description of steam or other boilers, and to kilns, muffles, drying, annealing, japanning, and other stoves.

In witness whereof, I, the said Gabriel Lewal, have hereunto set my hand and seal, this Fourteenth day of March, in the year of our Lord One thousand eight hundred and sixty-four.

GABRIEL LEWAL. (L.S.)

LONDON:
Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1864.