

Specification of Valentine Locke Lovibond : consuming smoke in furnaces.

Contributors

Lovibond, Valentine Locke.

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A.D. 1873, 21st *MAY*. N° 1844.

SPECIFICATION

OF

VALENTINE LOCKE LOVIBOND.

CONSUMING SMOKE IN FURNACES.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

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Price 8d.

1873.





A.D. 1873, 21st *MAY*. N^o 1844.

Consuming Smoke in Furnaces.

LETTERS PATENT to Valentine Locke Lovibond, of Fulham, in the County of Middlesex, for the Invention of "IMPROVEMENTS IN APPARATUS FOR CONSUMING SMOKE APPLICABLE TO STEAM BOILER AND OTHER FURNACES."

Sealed the 18th November 1873, and dated the 21st May 1873.

PROVISIONAL SPECIFICATION left by the said Valentine Locke Lovibond at the Office of the Commissioners of Patents, with his Petition, on the 21st May 1873.

I, VALENTINE LOCKE LOVIBOND, of Fulham, in the County of Middlesex, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN APPARATUS FOR CONSUMING SMOKE APPLICABLE TO STEAM BOILER AND OTHER FURNACES," to be as follows :—

This Invention relates to apparatus applicable to steam boiler and other furnaces, whereby a regulated supply of atmospheric air is supplied directly to and is deflected upon the fire at the rearward end, thus consuming the smoke and aiding combustion.

Lovibond's Impts. in Apparatus for Consuming Smoke in Furnaces.

Within the brickwork or metal forming the roof of the furnace is constructed a horizontal channel, or a pipe or pipes is or are provided extending from the front to the required distance towards the rear end. This channel or pipe or pipes is or are connected with a chamber communicating with the furnace, and the air is supplied directly to the 5 furnace.

Valves or dampers and deflectors are provided within the latter chamber, and are worked or operated by connecting rods passing from the front thereto.

SPECIFICATION in pursuance of the conditions of the Letters Patent, 10
filed by the said Valentine Locke Lovibond in the Great Seal
Patent Office on the 21st November 1873.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, VALENTINE
LOCKE LOVIBOND, of Fulham, in the County of Middlesex, send
greeting.** 15

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-first day of May, in the year of our Lord One thousand eight hundred and seventy-three, in the thirty-sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Valentine Locke Lovibond, Her 20 special licence that I, the said Valentine Locke Lovibond, my executors, administrators, and assigns, or such others as I, the said Valentine Locke Lovibond, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might 25 make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN APPARATUS FOR CONSUMING SMOKE APPLICABLE TO STEAM BOILER AND OTHER FURNACES,**" upon the condition (amongst others) that I, the said Valentine Locke Lovibond, my executors or adminis- 30 trators, 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

Lovibond's Impts. in Apparatus for Consuming Smoke in Furnaces:

Office within six calender months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Valentine Locke Lovibond, do hereby declare the nature of my said Invention, and in what manner
5 the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the Figures on the accompanying Sheet of illustrative Drawings and to the letters of reference marked thereon, that is to say :—

This Invention relates to apparatus applicable to steam boiler and
10 other furnaces, whereby a regulated supply of atmospheric air is supplied directly to and is deflected upon the fire at such a position in the furnace, and in such a direction as to meet and mix with the smoke and gases given off from the coal or fuel freshly supplied at the mouth of the furnace, when by the admixture of the fresh air with the devolved smoke
15 and gases they become ignited, and thereby utilized, and the smoke consumed without any undue admission of cold air, as is the case with ordinary furnaces.

Within the brickwork forming the roof of the furnace is constructed a horizontal channel, or a pipe or pipes is or are provided extending from
20 the front to the required distance towards the rear end. This channel or pipe or pipes is or are connected with and is or are employed merely for the purpose of conducting the atmospheric air to a chamber communicating with the furnace, and the air is supplied directly to and is deflected upon the fire.

25 A valve or damper is provided within the chamber, communicating with the furnace, and is worked or operated by a connecting rod passing from the front thereto. By this valve or damper the supply of air is regulated to the greatest nicety without interrupting the necessary direction of supply, or the supply may be entirely shut off thereby when
30 not required.

On the accompanying Sheet of Drawings Fig. 1 is a vertical section illustrating the application of my improvements to the furnace of a brewer's or distiller's copper or boiler ; and Fig. 2, a front elevation.

a represents the copper or boiler ; *b*, the furnace ; *c*, the channel con-
35 nected with the chamber ; *d* and *e*, the brickwork in which the copper or boiler is set.

Lovibond's Impts. in Apparatus for Consuming Smoke in Furnaces.

The roof or top of the furnace marked *g* is of fire-brick construction or "fire-lump," and within the brickwork there is the air passage or channel *c*, and at the end of the passage a hinged valve or damper *h*, which by means of the rod *i* and set screw or lever *k* can be so moved as to allow more or less air to pass to the chamber *d*, and thence to the 5 furnace, or entirely shut off the air, as may be required; and it is evident that a pipe or pipes may be used instead of the channel or passage *c*, as shewn.

The advantages of this arrangement are,—

Firstly. Atmospheric air is admitted at the most advantageous position 10 in the furnace.

Secondly. The direction of the air meeting the smoke, and also the manner of its mixing with it.

Thirdly. The method of regulating the supply of air.

And fourthly. Its adaptability to all kinds of furnaces. 15

Having thus described the nature of my said Invention, I claim, the improvements in apparatus for consuming smoke applicable to steam boiler and other furnaces, substantially as herein described and illustrated on the accompanying Drawings.

In witness whereof, I, the said Valentine Locke Lovibond, have 20 hereunto set my hand and seal, this Twenty-first day of November, in the year of our Lord One thousand eight hundred and seventy-three.

VALENTINE L. LOVIBOND. (L.S.)

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1873.

A. D. 1873, MAY 21, N^o 91844.
LOVIBOND'S SPECIFICATION.

FIG. 2.

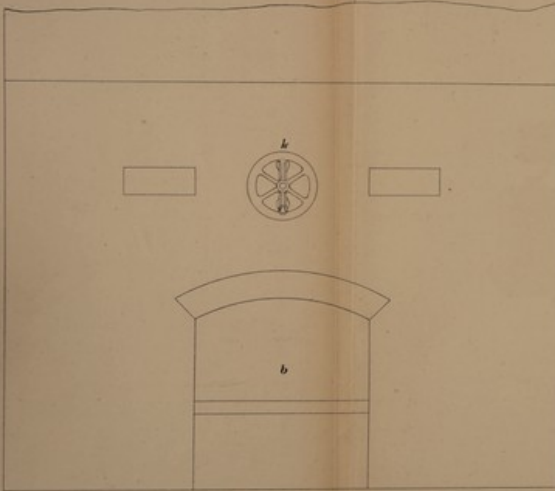
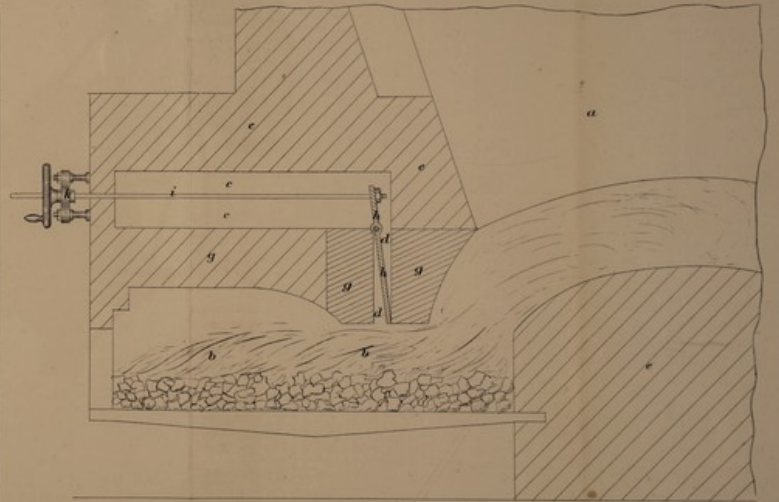


FIG. 1.



(1 SHEET)

The filed drawing is not colored.

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