

## **Specification of David Jones : consuming or preventing smoke.**

### **Contributors**

Jones, David.

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A.D. 1874, 31st MARCH. N° 1115.

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S P E C I F I C A T I O N

OF

DAVID JONES.

CONSUMING OR PREVENTING SMOKE.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:

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Price 6d.

1874.







A.D. 1874, 31st MARCH. N° 1115.

### Consuming or Preventing Smoke.

LETTERS PATENT to David Jones, of Millburn, Inverness, in the County of Inverness, Mechanical Engineer, for the Invention of "IMPROVEMENTS IN MEANS FOR CONSUMING OR PREVENTING SMOKE."

Scaled the 11th September 1874, and dated the 31st March 1874.

PROVISIONAL SPECIFICATION left by the said David Jones at the Office of the Commissioners of Patents, with his Petition, on the 31st March 1874.

I, DAVID JONES, of Millburn, Inverness, in the County of Inverness, Mechanical Engineer, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN MEANS FOR CONSUMING OR PREVENTING SMOKE," to be as follows:—

The said Invention embraces a mode or modes of constructing a combustion chamber with partitions or bridges in flue or flues or passage or passages of furnaces in steam boilers or otherwise, and admitting air therein so as to cause the smoke or unconsumed gases arising from the fuel to be thoroughly mixed with air in the said chamber, thereby preventing smoke, and the said mode or modes consisting in erecting,



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disposing, or making in the flue or passage partitions or bridges across the same.

The means whereby I intend to carry the said Invention into effect, consist in the use of partitions or bridges which may, if for steam boilers, be constructed as a water space, or may be of fire-brick or any other suitable substance or material; and air may be admitted in the combustion chamber in different ways. 5

One way of admitting air to the combustion chamber is through the ash-pit and regulating damper, entering the combustion chamber at an orifice which extends across the flue or passage, allowing the air to become mixed with the unconsumed gases in the combustion chamber, thus preventing the emission of smoke. 10

The size of the combustion chamber should be proportioned to that of the furnace, and the use of a regulating damper may be dispensed with in some cases. 15

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**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said David Jones in the Great Seal Patent Office on the 30th September 1874.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, DAVID JONES**, of Millburn, Inverness, in the County of Inverness, Mechanical Engineer, send greeting. 20

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Thirty-first day of March, in the year of our Lord One thousand eight hundred and seventy-four, in the thirty-seventh year of Her reign, did, for Herself, Her heirs and successors, give and grant unto the said David Jones, Her special licence that I, the said David Jones, my executors, administrators, and assigns, or such others as I, the said David Jones, my executors, administrators, or 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 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 MEANS FOR CONSUMING OR PREVENTING SMOKE,**" upon the condition (amongst others) that 30



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I, the said David Jones, 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  
5 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 David Jones, do hereby declare the nature of my said Invention, and in what manner the same is to be  
10 performed, to be particularly described and ascertained in and by the following statement:—

The object and intention of my said Invention relate to a mode or modes of constructing a combustion chamber with partitions or bridges in flue or flues or passage or passages of furnaces in steam boilers, or  
15 otherwise, and admitting air therein so as to cause the smoke or unconsumed gases arising from the fuel to be thoroughly mixed with air in the said chamber, thereby preventing smoke; such mode or modes of erecting, disposing, or making in the flue or passage, partitions or bridges across the same, being exemplified by the descriptive statements  
20 herein-after contained and the Drawing accompanying these Presents.

The nature of my said Invention and the means whereby I intend to carry out the said object and intention consist in the use of partitions or bridges which may if for steam boilers be constructed as a water space, or may be of fire-brick or any other suitable substance or material, and  
25 air may be admitted in the combustion chamber in different ways.

For example, one way of admitting air to the combustion chamber is through the ash-pit and regulating damper, entering the combustion chamber at an orifice which extends across the flue or passage, allowing the air to become mixed with the unconsumed gases in the combustion  
30 chamber, thus preventing the emission of smoke.

The size of the combustion chamber should be proportionate to that of the furnace, and the use of a regulating damper may be dispensed with in some cases.

Having thus described and ascertained the nature of the said In-  
35 vention, I will now in further compliance with the condition in the said Letters Patent contained, proceed to more fully and particularly describe and ascertain the same with reference to the accompanying Drawing,



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therein particularly describing and ascertaining in what manner the same is to be performed or carried out in practice.

## DESCRIPTION OF THE DRAWING.

The Drawing shows the application of my Invention to a Cornish boiler, by a longitudinal section in which A represents the flue or passage of such boiler; B, B, being the fire-bars of the furnace, and the arrows represent the course of the fluids or gases from the furnace which pass over a bridge D and are deflected by the drop or inverted partition or bridge E into a combustion chamber F which is formed by another partition or bridge G. Air being admitted into it through ash-pit H and regulating damper K, that enters the combustion chamber at an orifice L which extends across the flue or passage, allowing the air to become mixed with the unconsumed gases in the combustion chamber, thus preventing the emission of smoke.

Different dimensions of combustion chambers may be required for different sizes of furnaces, and a regulating air damper may or may not be used to admit and regulate the quantity of air into the said chamber, as this can be done through the fire hole doorway.

Having now particularly described and ascertained the nature and object of my said Invention, and in what manner the same is to be performed and carried out in practice, I hereby declare that I claim the Invention of "Improvements in Consuming or Preventing Smoke," the nature or character whereof is herein-before described by the words preceeding the words "Description of the Drawing," which said Invention is illustrated by the Drawing accompanying these Presents.

In witness whereof, I, the said David Jones, have hereunto set my hand and seal, this Twenty-sixth day of September, in the year of our Lord One thousand eight hundred and seventy-four.

DAVID JONES. (L.S.)

Witness,

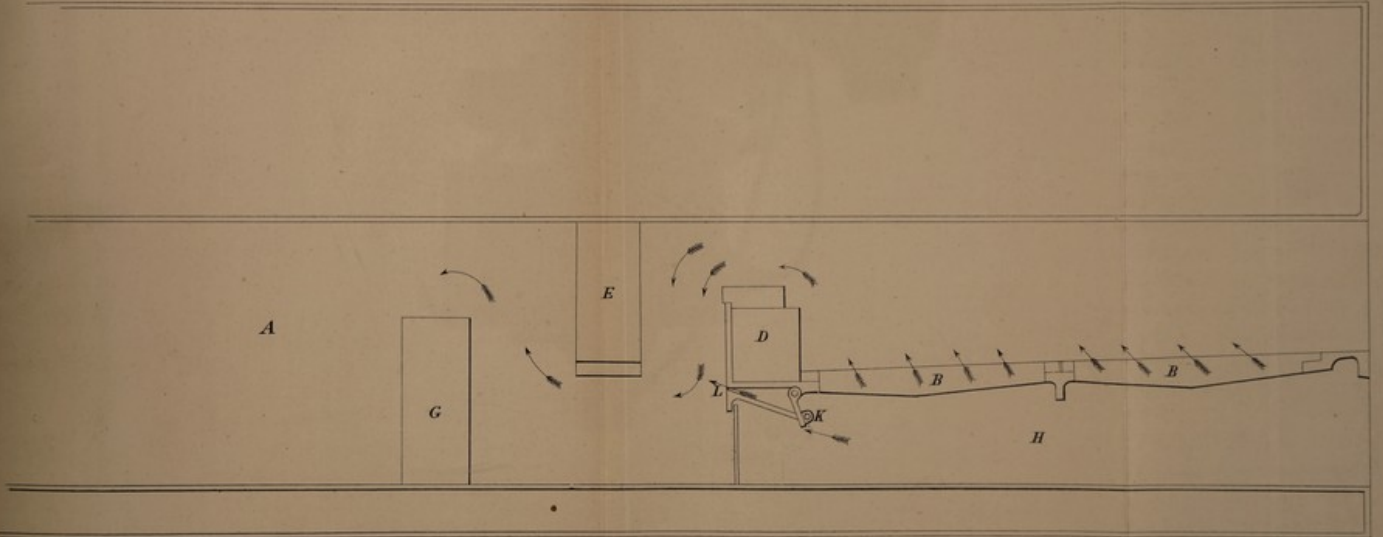
JAS. FORSYTH,

Inverness.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,  
Printers to the Queen's most Excellent Majesty. 1874.

A.D. 1874. MAR. 31. N<sup>o</sup> 1115.  
JONES' SPECIFICATION.



*The filed drawing is partly colored.*

Drawn on Stone by Malby & Sons.



