

# **Specification of George Ambrose Michaut : production and application of heat, and manufacture of coke.**

## **Contributors**

Michaut, George Ambrose.

## **Publication/Creation**

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A.D. 1847 . . . . . N<sup>o</sup> 11,997.

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

OF

GEORGE AMBROISE MICHAUT.

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PRODUCTION AND APPLICATION  
OF HEAT, AND MANUFACTURE OF COKE.

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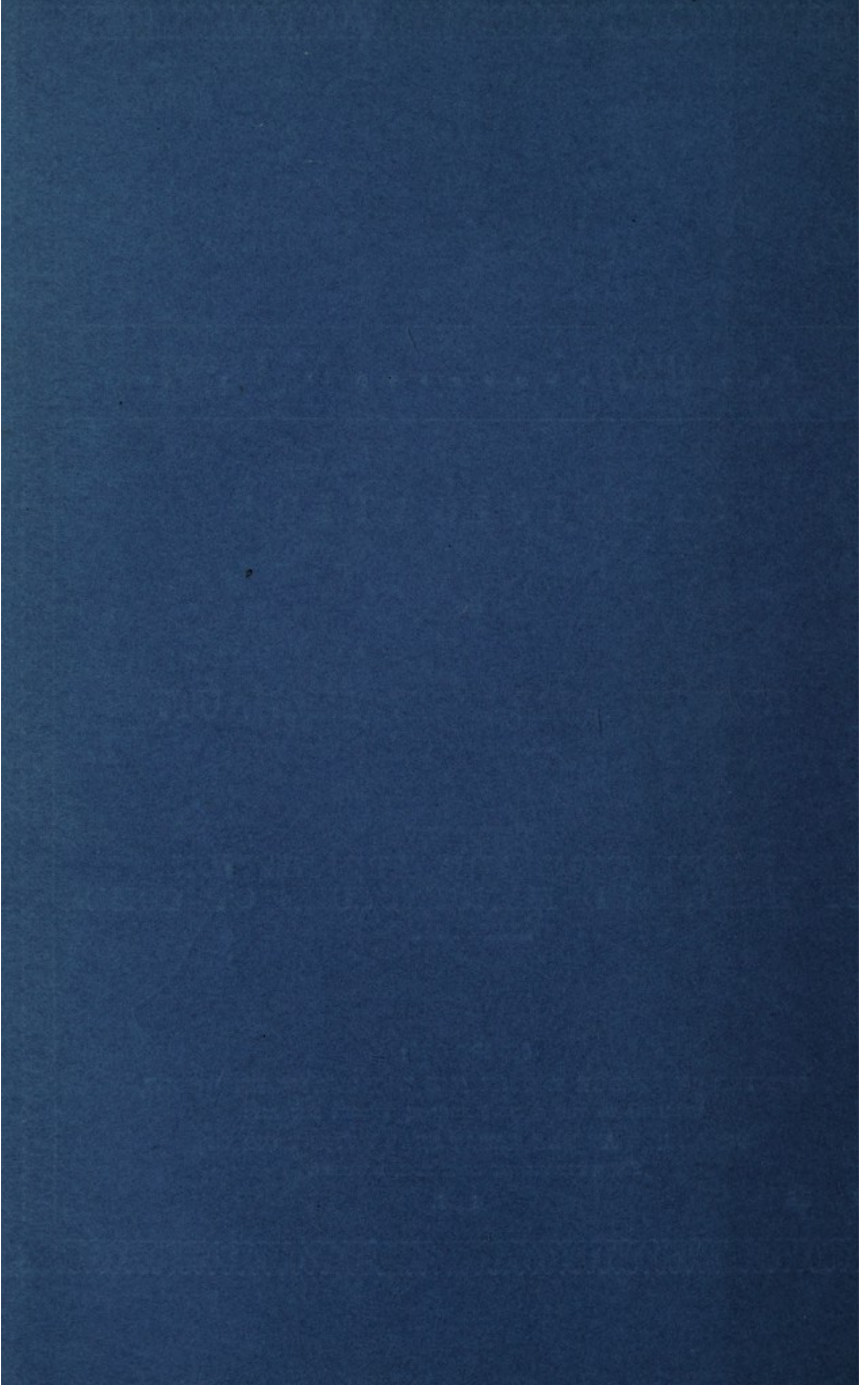
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1857.





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A.D. 1847 . . . . . N° 11,997.

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**Production and Application of Heat, and Manufacture  
of Coke.**

**MICHAUT'S SPECIFICATION.**

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, GEORGE  
AMBROISE MICHAUT, of Epieds, in France, late residing at New Bond Street,  
in the County of Middlesex, Gentleman, send greeting.**

**WHEREAS** Her Majesty Queen Victoria, by Letters Patent under the  
5 Great Seal of the United Kingdom of Great Britain and Ireland, dated  
the Fifteenth day of December, in the year of our Lord One thousand eight  
hundred and forty-seven, gave and granted unto me, the said George  
Ambroise Michaut, my eñors, adñors, and assigns, Her special licence, full  
power, sole privilege, and authority, that I, the said George Ambroise  
10 Michaut, my eñors, adñors, and assigns, and every of them, by myself and  
themselves, or by my and their deputy or deputies, servants or agents, or  
such others as I, the said George Ambroise Michaut, my eñors, adñors, or  
assigns, should at any time agree with, and no others, should and lawfully  
might make, use, exercise, and vend, a certain Invention called "**IMPROVE-**  
15 **MENTS IN THE PRODUCTION AND APPLICATION OF HEAT AND IN THE MANUFACTURE**  
**OF COKE,**" within that part of the United Kingdom of Great Britain and  
Ireland called England, Her Dominion of Wales, and Town of Berwick-  
upon-Tweed, and also in the Islands of Jersey, Guernsey, Alderney, Sark,  
and Man, and also in all Her Colonies and Plantations abroad, in such  
20 manner as to me, the said George Ambroise Michaut, my eñors, adñors, and  
assigns, or any of them, should in my or their discretion seem meet, to have,

*Michaut's Improvements in Producing Heat and Making Coke.*

hold, receive, and enjoy the said license, powers, privileges, and advantages therein granted or mentioned to be granted unto me, the said George Ambroise Michaut, my eñors, adñors, and assigns, for and during and unto the full end and term of fourteen years from the date of the now reciting Letters Patent next and immediately ensuing, and fully to be complete and 5 ended according to the Statute in such case made and provided; subject among other things to a condition or proviso that if I, the said George Ambroise Michaut, should not particularly describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to 10 be inrolled in Her said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said now reciting Letters Patent, the said Letters Patent, and all liberties, and advantages whatsoever thereby granted, should cease, determine, and become void, as, reference being thereunto had, will more fully and at large appear. 15

**NOW KNOW YE**, that in compliance with the said proviso, I, the said George Ambroise Michaut, 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 thereof, reference being had to the Drawing hereunto annexed, and to the figures and letters marked 20 thereon, that is to say:—

My Invention consists of a mode of constructing and combining a series of furnaces or ovens suitable for the manufacture of coke, and for the more advantageous production and application of heat evolved from coal in the manufacture of coke. 25

And in order that the Invention may be fully understood and readily carried into effect, I will proceed to describe the means pursued by me.

## DESCRIPTION OF THE DRAWING.

Figure 1 shews a plan in section; Figure 2, a front view in elevation; Figure 3, a plan of the roof or top; Figure 4 a vertical section of a series of 30 furnaces or ovens constructed and combined according to my Invention. The Drawing shows three furnaces or ovens combined, which is the number I believe will be found most convenient and advantageous; but I do not confine myself to that number, so long as a series of furnaces or ovens are constructed and combined together, so as to be worked in the manner herein-after described. 35 *a, b, c*, are three furnaces or ovens, each provided with fire-bars *d, d*, which occupy only comparatively a small part of the area of the bottom of each furnace or oven. Under each of the sets of fire-bars *d* is an ash-pit *e*. In

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front, at the mouth of each furnace or oven, is applied a door *f*, by which the furnace or oven can be closed, each of the doors having a hole, in order that the workman may look through to see the state of the coal within the furnace or oven; these holes, however, are to be kept closed at other times. Each  
5 ash-pit is also to be closed with a door *g*. The furnaces or ovens *a, b, c*, are divided from each other by partitions *h, h*; at the upper parts of the partitions are openings, so as to admit of a ready interchange of heat between the furnaces or ovens so communicating with each other. Openings *i, i*, are also left  
10 at the top or roof of each furnace or oven, for the purpose of applying beneficially the heat evolved during the manufacture of coke. The Drawing only shows the arrangement and construction of furnaces or ovens for the manufacture of coke according to my Invention, but it will be evident that the heat evolved from the coal passing up through the roof, either through the openings or otherwise, may be employed for heating gas retorts, lime kilns, steam  
15 or other boilers, or other apparatus requiring heat; and such apparatus will be set or fixed so as to be operated on by the heat passing away from the furnaces or ovens *a, b, c*; but I would observe that the heating of gas retorts, lime kilns, boilers, or other apparatus by heat passing from coke ovens, is not separately new, various means of employing the heat of coke ovens having  
20 before been used and proposed; but according to my Invention such heat may be more advantageously obtained and applied. I do not therefore claim the use of heat of coke ovens for such purposes, but only the peculiar mode of producing and applying heat evolved in furnaces or ovens constructed and arranged as herein described, and suitable for the manufacture of coke. In  
25 working with a series of furnaces or ovens constructed and combined according to my Invention, supposing them to have been at work and to be consequently in a heated state, the charges in the series are made in succession in such manner that the charge in two out of three may be in a high state of heat when fresh coal is placed into the other. The workman will know when  
30 to withdraw a charge, by the flame ceasing on the surface, as in the ordinary process of coke making; and so soon as such is the case, he will open the door of the furnace and withdraw the charge therefrom, and cool it with water, and he will again charge that furnace or oven with coal; and so soon as the charge is introduced the door is to be closed and ignition will soon take place by the  
35 heat of the furnace or oven and the flame from the others; and it should be understood that the ash-pit doors are to be kept closed at all times, except it be found that the combustion does not go on to the extent desired, when by opening or partially opening a door the air will rush up through the fuel on the bars of that furnace or oven, and excite the combustion. By this con-

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struction and combination of furnaces or ovens not only will coke of excellent quality be made, but I believe it will be found in most cases that an encreased yield from any given class of coal will result to what is produced from like coal by the ordinary means of working, and at the same time the heat evolved may be more advantageously applied (owing to the comparative uniformity of pro- 5 duction) to heating gas retorts, lime kilns, steam and other boilers, and other apparatus requiring heat, than can be accomplished by other arrangements of furnaces or ovens heretofore employed for like purposes.

Having thus explained the nature of my Invention, and the manner in which the same is to be performed, I would state, that I do not confine myself to the 10 precise details herein shewn and described, so long as the peculiar character of my Invention be retained; but what I claim is the mode herein described of constructing and combining a series of furnaces or ovens for the manufacture of coke, and for producing and applying heat evolved in furnaces or ovens constructed and arranged as above described. 15

In witness whereof, I, the said George Ambroise Michaut, have hereunto set my hand and seal, this Fifth day of April, in the year of our Lord One thousand eight hundred and forty-eight.

G. A. (L.S.) MICHAUT.

Taken and acknowledged by George 20  
Ambroise Michaut (party hereto),  
at Paris, in the Republic of France,  
this Fifth day of April 1848, before  
me,

THOMAS PICKFORD,

(L.S.)

Her Britannic Majesty's Consul at Paris.

A.

This is the Specification referred to in the affidavit of William Henry Ritchie, sworn before me this 14th day of April, 1848.

S. ANDERSON. 30

William Henry Ritchie, of Old Square, Lincoln's Inn, in the County of Middlesex, Gentleman, maketh oath and saith, that he is acquainted with the manner and character of the handwriting of Thomas Pickford, Her Britannic Majesty's Consul at Paris, in the Republic of France; and this deponent further saith that the signature "Thomas Pickford" set, subscribed, 35 or written in the margin of the Specification hereunto annexed, marked A. and dated the Fifth day of April instant, and purporting to be executed by George Ambroise Michaut, of Epieds, in France, late residing at New Bond Street, in the County of Middlesex, Gentleman, whereby it is stated that the

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*Michaut's Improvements in Producing Heat and Making Coke.*

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said Specification was acknowledged by him, the said George Ambroise Michaut, before the said Thomas Pickford, on the said Fifth day of April instant, at Paris aforesaid, is of the proper handwriting of the said Thomas Pickford.

5

W. H<sup>y</sup> RITCHIE.

Sworn at the Chancery Affidavit Office,  
Southampton Buildings, Chancery Lane,  
in the County of Middlesex, this 14th  
day of April 1848, before me,

10

S. ANDERSON.

**AND BE IT REMEMBERED**, that on the oath of William Henry Ritchie the Specification aforesaid was enrolled, word for word, as above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

By Att<sup>rs</sup>.

15

Enrolled the Seventh day of June, in the year of our Lord One thousand eight hundred and forty-eight.

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FIG. 2.

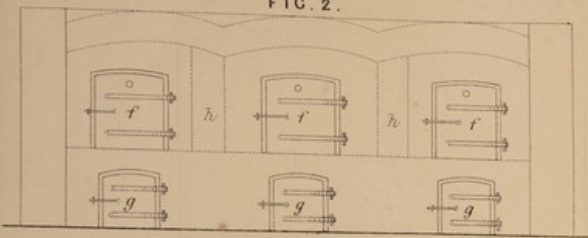


FIG. 1.

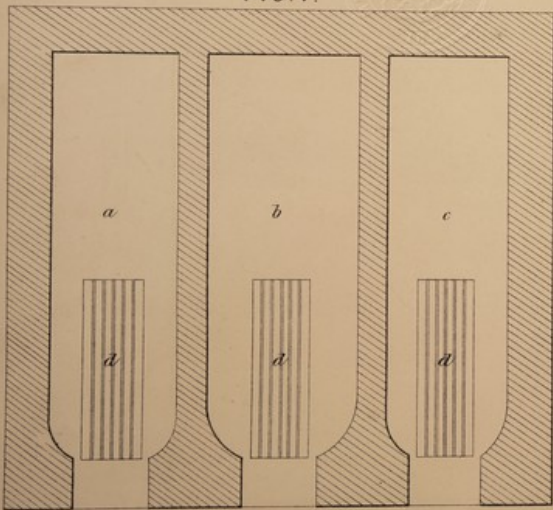


FIG. 4.

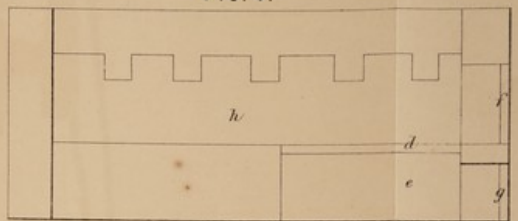
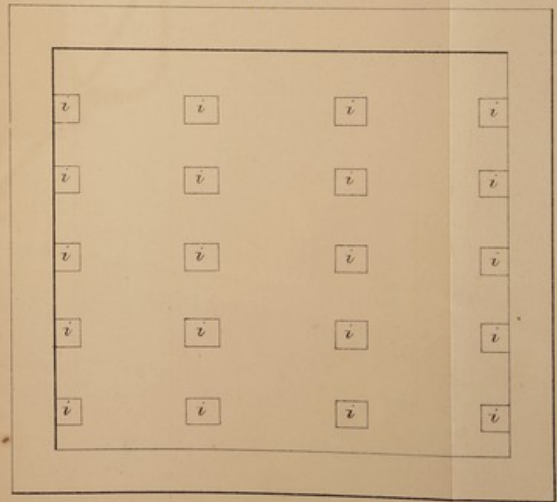


FIG. 3.



The enrolled drawing is not colored.

Scale of Feet

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