

## **Specification of Charles Thomas Holcombe : fuel and furnaces.**

### **Contributors**

Holcombe, Charles Thomas.

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A.D. 1842 . . . . . N<sup>o</sup> 9489.

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

OF

CHARLES THOMAS HOLCOMBE.

—  
FUEL AND FURNACES.  
—

L O N D O N :

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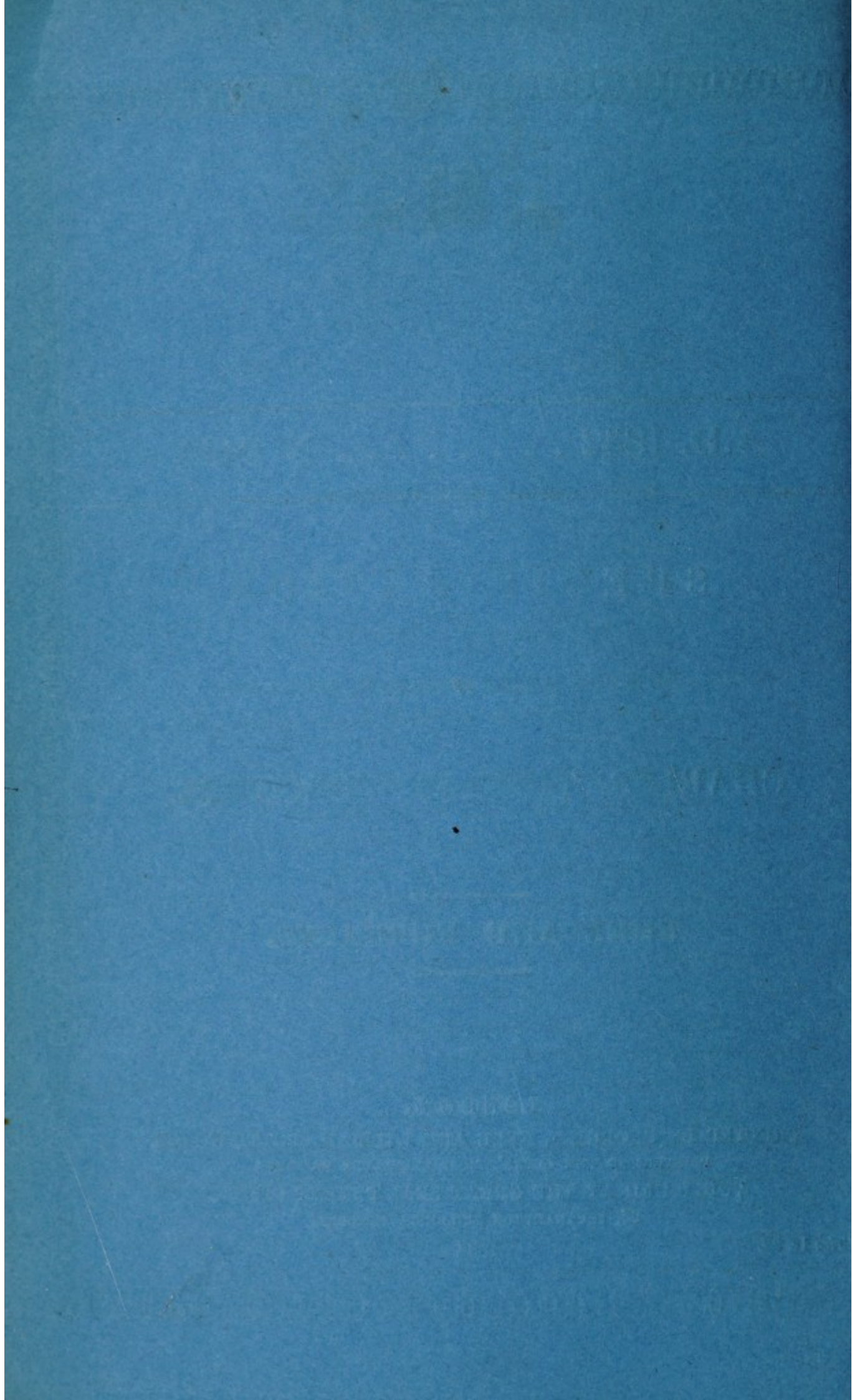
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1854.









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A.D. 1842 . . . . . N° 9489.

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**Fuel and Furnaces.**

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**HOLCOMBE'S SPECIFICATION.**

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, CHARLES THOMAS HOLCOMBE, of Valentines, near Ilford, in the County of Essex, Esquire, send greeting.**

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters  
5 Patent under the Great Seal of the United Kingdom of Great Britain and  
Ireland, bearing date at Westminster, the Thirteenth day of October, in the  
sixth year of Her reign, did, for Herself, Her heirs and successors, give and  
grant unto me, the said Charles Thomas Holcombe, Her especial license, that  
I, the said Charles Thomas Holcombe, my executors, administrators, and  
10 assigns, or such others as I, the said Charles Thomas Holcombe, my executors,  
administrators, and assigns, should at any time agree with, and no others, from  
time to time and at all times during the term of years therein expressed, should  
and lawfully might make, use, exercise, and vend, within England, Wales, and  
the Town of Berwick upon Tweed, my Invention of "**AN IMPROVED MODE OF**  
15 **USING CERTAIN MATERIALS AS FUEL; ALSO AN APPARATUS OR METHOD FOR COL-**  
**LECTING THE SMOKE OR SOOT ARISING FROM THE COMBUSTION OF SUCH FUEL, WHICH**  
**APPARATUS OR METHOD IS APPLICABLE TO COLLECTING THE SMOKE OR SOOT ARISING**  
**FROM THE ORDINARY COMBUSTION OF FUEL; AND ALSO THE APPLICATION OF THE PRODUCTS**  
**ARISING FROM THE COMBUSTION OF THE FIRST-MENTIONED MATERIALS AS A MANURE, AND**  
20 **FOR OTHER USEFUL PURPOSES;**" in which said Letters Patent there is contained a



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*Holcombe's Improvements in Using certain Materials as Fuel, &c.*

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proviso obliging me, the said Charles Thomas Holcombe, by an instrument in writing under my hand and seal, to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and to cause the same to be inrolled in Her Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said recited Letters Patent, 5 as in and by the same, reference being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Charles Thomas Holcombe, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are described 10 and ascertained by the Drawings hereunto annexed, and the words following, that is to say :—

For the purpose of making the description of my Invention more simple, I divide it into three parts. The first part whereof (being for "An Improved Mode of Using certain Materials as Fuel") consists in the application of chalk, 15 lime, soft stone, broken bricks, or any earthy substances, which in their nature are capable of retaining or being saturated with the materials herein-after mentioned as fuel for and as a means of heating retort furnaces and furnaces generally. Of the substances mentioned above I prefer and generally use chalk or lime, as being better for the immediate purpose of combustion, and more 20 valuable in respect of their products (such products constituting the third part of my said Invention herein-after mentioned); but where chalk or lime cannot conveniently be procured, soft stone, broken bricks, or any earthy substances which in their nature are capable of so retaining or being saturated as aforesaid with the materials herein-after mentioned will answer the purpose usefully. 25 These materials are coal tar, or any other mineral tar, the oil of which is produced in the distillation of coal tar which is commonly known by the name of dead oil, either in its liquid or solid state, wood tar, or any other resinous or oily or fatty matter, such as fish oil, seal oil, or animal fat, and the manner in which I make these materials available as fuel is as follows :—I take chalk, 30 lime, soft stone, broken bricks, or any other earthy substances, which in their nature are capable of retaining or being saturated as aforesaid, and break them into pieces of such a size as not to fall through the bars of the furnaces. These pieces I place in any vessel and saturate with coal tar, or any other mineral tar, the dead oil herein-before mentioned, wood tar, or any other 35 resinous or oily or fatty matter, and when so saturated, I charge the furnace in the same manner as with coals or coke. I prefer, however, and commonly use for the purpose of saturation coal tar and the dead oil before mentioned, on



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account of their cheapness ; the other materials herein-before mentioned would answer equally well were it not that at present they are more expensive. I then cause a fine stream of any of the above-mentioned materials, either mixed, to suit the convenience of the parties or the temperature of the weather, or by themselves, to run upon the chalk, lime, soft stone, broken bricks, or other such earthy substances as aforesaid, by means of a reservoir placed in any convenient part of the works where such fuel may be used, and a pipe or tube communicating from each reservoir with and over the mouth of the furnace, such pipe or tube being regulated by a stop cock or valve. As the chalk, lime, soft stone, broken bricks, or other such earthy substances as aforesaid may become calcined or burnt, and so fall through the bars, I continue to charge the furnace with the same substances so saturated in the same way as with coals or coke. The second part of my Invention being for "An Apparatus or Method for Collecting the Smoke or Soot arising from the Combustion of such Fuel," which apparatus or method is applicable to collecting the smoke or soot arising from the ordinary combustion of fuel, consists in a series of ascending and descending flues or chambers communicating with the outlet flue of the furnace or furnaces at one end, and with any shaft or chimney at the other end, by which flues the smoke as it passes from the furnace or furnaces is impeded, and the soot black or carbon collected by a number of plates or slides ; and the portion so collected is in its progress partially, and on removal of the plates or slides wholly, deposited in the receivers or reservoirs at the bottom of such ascending and descending flues or chambers. I have annexed to my Specification two Drawings, shewing the forms of the ascending and descending flues I have at present in use. The one marked with the letter A represents the flues or chambers made of brick work, stone, tile, slate, or earth, with slides to pull out similar to a common damper. The one marked with the letter B represents the flues or chambers made of cast or wrought iron, with moveable plates, which are let down and drawn up by means of chains and pullies, as represented in the Drawing. The receivers or reservoirs at the bottom of the flues are formed upon the same plan in both Drawings. For cheapness, and where space is of no object, I use the flues or chambers made of brick, stone, tile, slate, or earth, which the Drawing marked A is intended to represent ; but I do not in this my Invention confine myself to the shape or form of such Drawings, as want of room in works, or a particular scite which may be more convenient than another, may require the flues to be made of various shapes ; nor do I confine myself to the nature of the materials of which such flues or chambers



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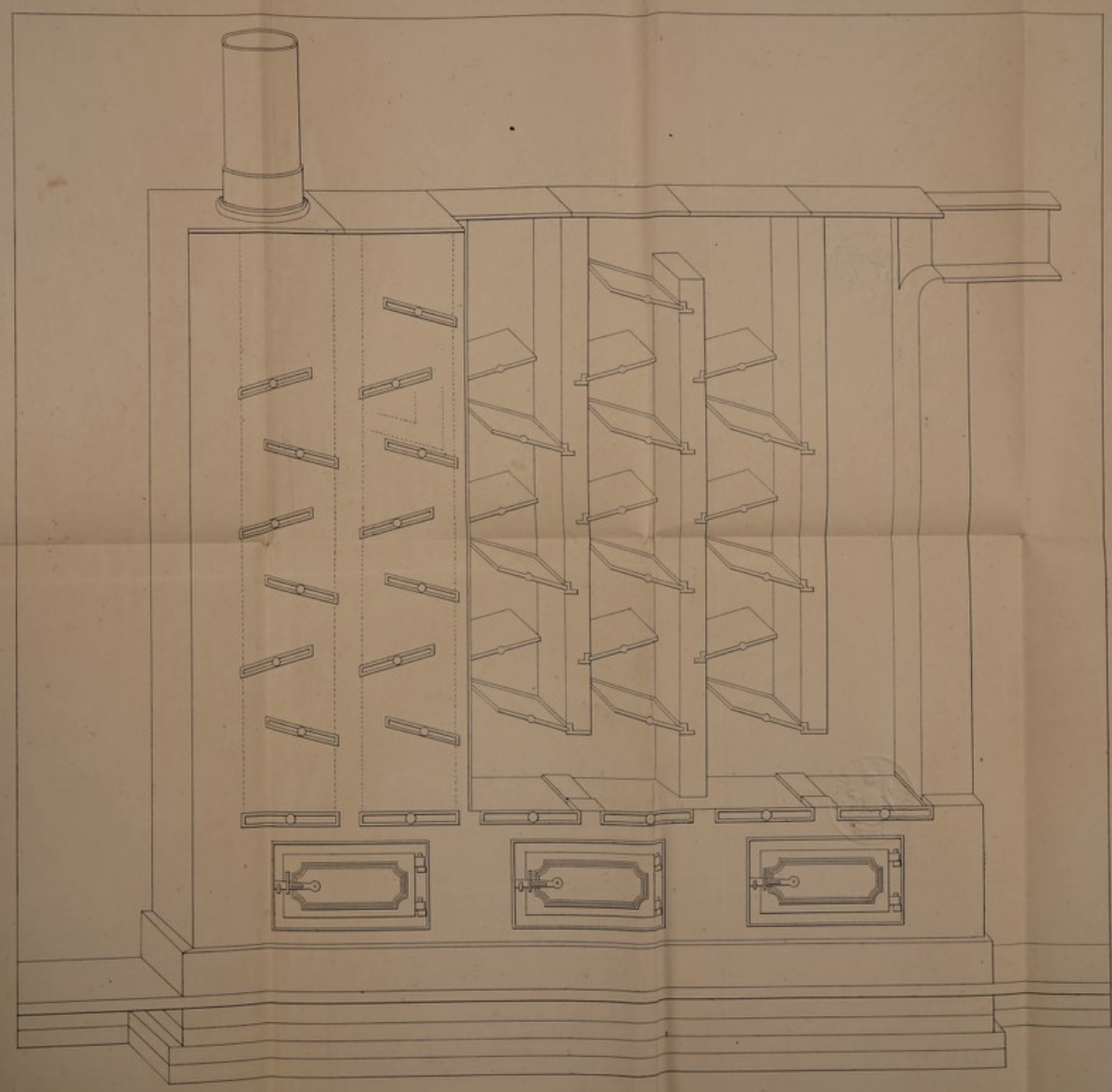
are to be constructed. The third part of my Invention being for "The Application of the Products arising from the Combustion of the first-mentioned Materials as a Manure and for other useful Purposes," consists in the collecting the soot black or carbon produced by the combustion of the materials mentioned in the first part of my Patent; and in the mixing of such soot black or carbon with 5 the refuse or calcined matter from the furnaces in the progress of such combustion. I apply this soot black or carbon, either mixed with such refuse or calcined matter, or mixed with other known manures where lime or chalk is used in preference to the other materials enumerated in the first part of my Patent. My Invention also consists in the collecting of the refuse or calcined 10 matter from the furnace, and this is applicable to be used as a mortar in the building or stopping of garden walls or other buildings where fruit trees are trained, or where insects are destructive, as I find mortar made of the last-mentioned refuse a great obstacle to insects or vermin generally. I claim as my Invention the application of chalk, lime, soft stone, broken bricks, or any earthy 15 substances which in their nature are capable of retaining or being saturated with coal or other mineral tar, or with the oil which is produced in the distillation of coal tar, and which is commonly known by the name of dead oil, either in its liquid or solid state, or with wood, tar, or any other resinous or oily or fatty matter when mixed or saturated with such material as aforesaid, as a fuel, and 20 for the purpose of heating retort furnaces and furnaces generally. I also claim as my Invention the flues or chambers described herein-before as ascending and descending flues, and shewn in the Drawings hereunto annexed as applicable to any fuel. I do not, as before mentioned, confine myself to the forms of the Drawings herein-before alluded to, or the scale upon which they are 25 drawn, nor to the materials with which they are to be made; and I also claim as part of my Invention the collecting together in manner above mentioned the soot black or carbon arising from the combustion of fuel before mentioned when mixed up with the materials which become calcined or burnt in the furnaces as herein-before mentioned as a manure. And I also claim the chalk, 30 lime, or stone, when calcined or burnt, as a mortar for the purposes herein-before mentioned.

In witness whereof, I, the said Charles Thomas Holcombe, have hereunto set my hand and seal, the Eleventh day of April, in the year of our Lord One thousand eight hundred and forty-three.

C. T. (L.S.) HOLCOMBE.



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The enrolled drawing is colored.

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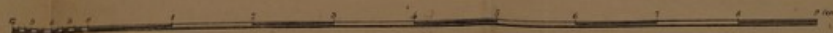
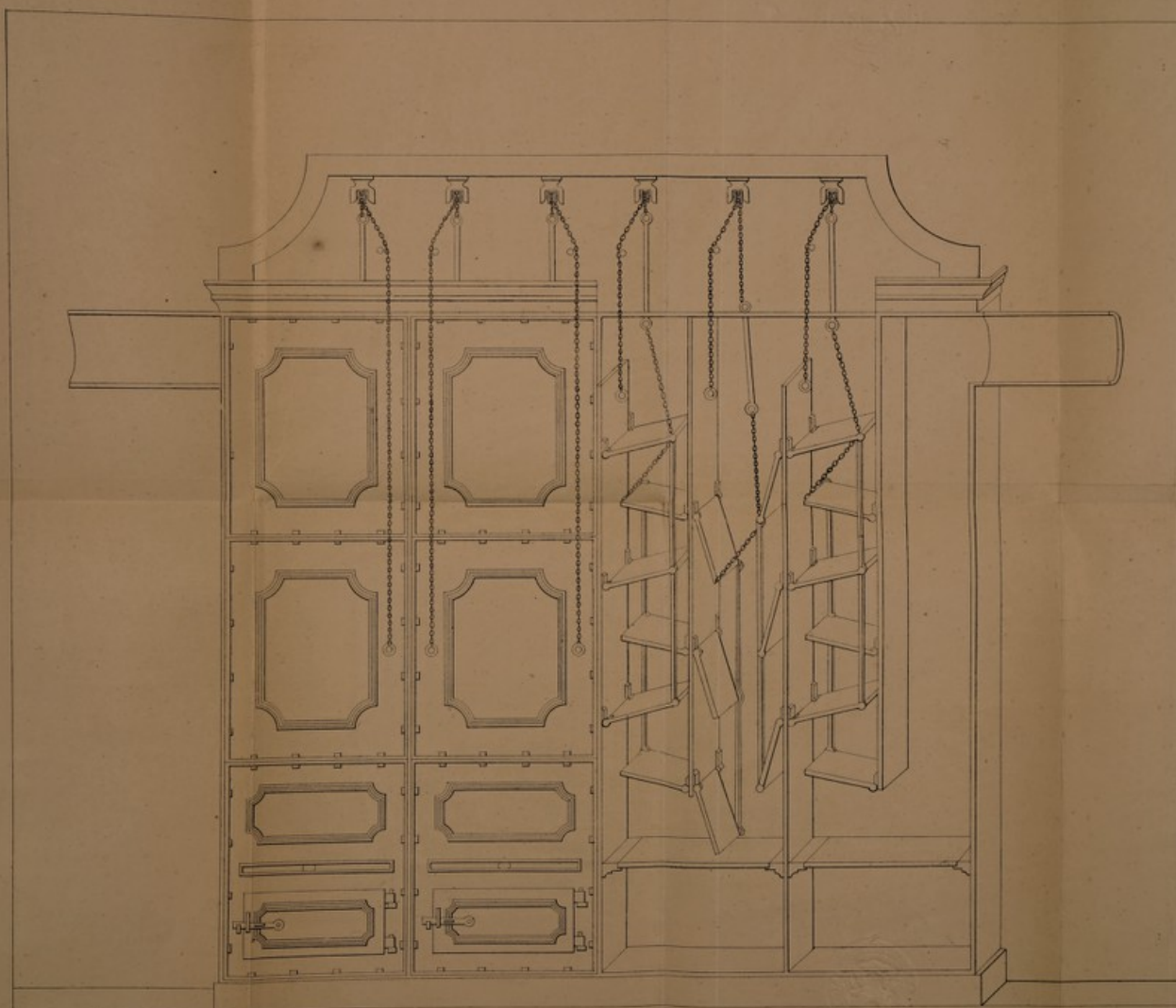


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AND BE IT REMEMBERED, that on the Eleventh day of April, in the sixth year of the reign of Her Majesty Queen Victoria, the said Charles Thomas Holcombe, came before our said Lady the Queen in Her Chancery, and acknowledged the Instrument aforesaid, and all and everything therein  
5 contained and specified, in form above written. And also the Instrument aforesaid was stamped according to the tenor of the Statute made in the fifty-fifth year of the reign of His late Majesty King George the Third.

Inrolled the Eleventh day of April, One thousand eight hundred and forty-three.

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