

Specification of James Cooke : spiral boiler, &c.;

Contributors

Cooke, James.

Publication/Creation

London : Queen's Printing Office, 1854 (London : George E. Eyre and William Spottiswoode)

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A.D. 1799 N^o 2290.

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

OF

JAMES COOKE.

SPIRAL BOILER, &c.

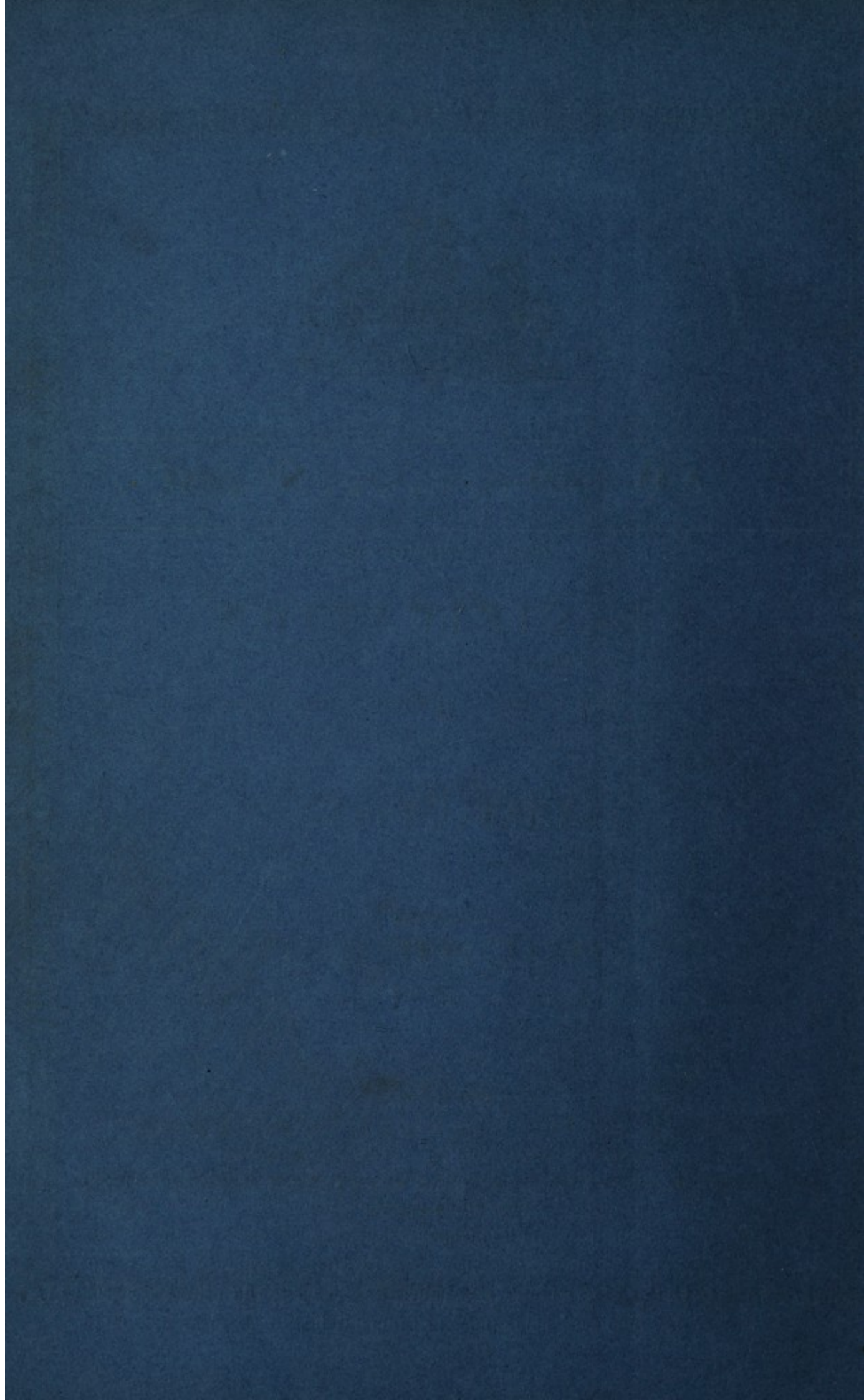
L O N D O N :

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PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY :

PUBLISHED AT THE QUEEN'S PRINTING OFFICE, EAST HARDING STREET,
NEAR FLEET STREET.

Price 5d.

1854.





A.D. 1799 N° 2290

Spiral Boiler, &c.

COOKE'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES COOKE, of Red Lion Square, near Holborn, in the County of Middlesex, Clerk, send greeting.

WHEREAS His most Excellent Majesty King George the Third, by His
5 Letters Patent under the Great Seal of Great Britain, bearing date the
Twenty-ninth day of January, in the thirty-ninth year of His reign, did give
and grant unto me, the said James Cooke, my eñors, adñors, and assigns, His
especial licence, full power, sole privilege and authority, that I, the said James
Cooke, my eñors, adñors, and assigns, from time to time and at all times there-
10 after during the term of years therein expressed, should and lawfully might
make, use, and exercise, and vend, within that part of the Kingdom of Great
Britain called England, the Dominion of Wales, and the Town of Berwick
upon Tweed, my Invention of "**AN APPARATUS, WHICH I TERM CARBO-FRUGALIST,**
BEING AN EFFECTUAL MODE OF APPLYING FIRE TO BOILERS, OVENS, AND OTHER
15 **CALDRONIC IMPLEMENTS, WHEREBY THE POWER OF THE HEAT IS VERY MATERIALLY**
INCREASED, AND THE CONSUMPTION OF FUEL CONSIDERABLY DIMINISHED, MUCH MORE
SO THAN BY ANY OTHER MODE HITHERTO INVENTED;" in which said Letters Patent
is contained a proviso that I, the said James Cooke, should, within the space of
one calender month next and immediately after the date of the said in part
20 recited Letters, particularly described and ascertain the nature of my said
Invention, and in what manner the same is to be performed, by an instru-
ment in writing under my hand and seal, to be enrolled in His Majesty's High

Cooke's Improved Apparatus for Applying Fire to Boilers, Ovens, &c.

Court of Chancery, otherwise the said Letters Patent to be void and of no effect, as in and by the said Letters Patent, reference being thereunto had, may more fully and at large appear.

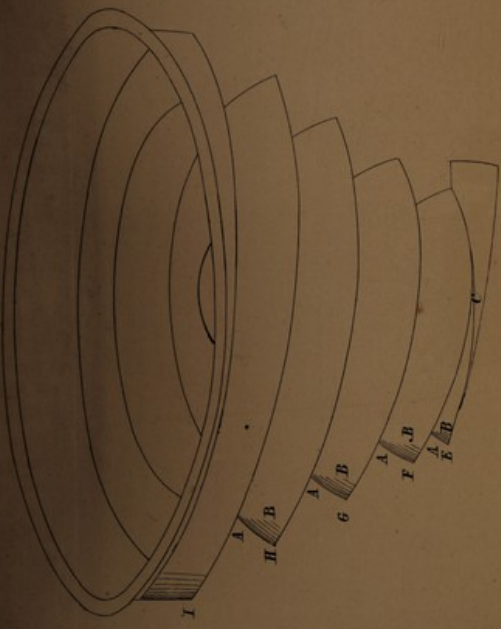
NOW KNOW YE, that in compliance with the said proviso, I, the said James Cooke, do hereby declare that the nature of my said Invention of an apparatus, which I term carbo-frugalist, being an effectual mode of applying fire to boilers, ovens, and other caldronic implements, whereby the power of the heat is very materially increased, and the consumption of fuel considerably diminished, much more so than by any other mode hitherto invented, and the manner in which the same is to be performed, is particularly described in the several Plans, Drawings, or Figures contained in the margin of these presents, with the explanations and reference thereto herein-after mentioned (that is to say):—

Fig. 1 represents a plan of a spiral boiler or vessel for heating or boiling fluids of all descriptions. The spiral boilers may be made of cast or wrought iron, or any other metal. They may also be made of different sizes and forms, viz., circular, oval, square, cylindrical, conical, or otherwise. A, A, A, A, external angles forming the outside of the boiler or vessel; B, B, B, B, internal angles forming the inside of the boiler or vessel, and comprising four spiral revolutions, beginning at C and ending at D. The external angles A, A, A, A, form part of the flue round the outside of the boiler or vessel, which may be made of different sizes, with more or fewer revolutions, according to the size of the boiler or vessel, also of different forms, viz., with acute or obtuse angles, rectangles, segments of circles, or ovals. The flue is completed by inclosing the angles A, A, A, A, with plates of cast or wrought iron, or other metal, or tiles in segments corresponding with the respective parts of the spiral revolutions, or with bricks and mortar, or other materials, so as to subtend the angles A, A, A, A, from E to F, from F to G, from G to H, from H to I respectively, thereby forming one continued spiral flue with four revolutions round the boiler from C to D. The boiler may be set in brick or stone, as in common, excepting that the flame after passing the bottom of the boiler is diverted into the flue at the lowest angle A, instead of passing into the draught or chimney, and is discharged into a draught or chimney at D, or at any other part of the flue, by means of valves for that purpose.

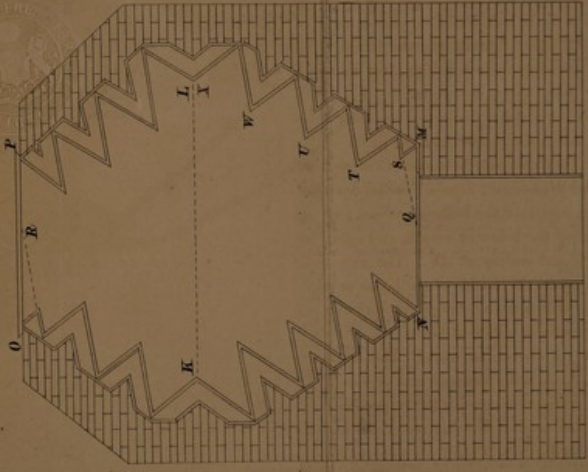
K, L, M, N, the lower part of Fig. 2, represents a section Fig 1; K, L, O, P, the upper part, represents a section of the boiler inverted and applied to it at K, L, by means of screw bolts and nuts or rivets, or other methods, so as to make it steam-tight; Fig. 2, in this state, represents a section of the boiler and flue set in brickwork, applicable to the purposes of creating steam for the

A.D. 1799. JANUARY 29. N^o 2290.
COOKES SPECIFICATION.

F I G . 1 .



F I C . 2 .



The encreased drawing is partly colored.

LONDON: Printed by GEORGE EDWARD FRYE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1851.

Mulby & Sons, Lith.



Cooke's Improved Apparatus for Applying Fire to Boilers, Ovens, &c.

use of steam engines, distilleries, and other steaming apparatus, with the spiral flue described in the boiler, Fig. 1, beginning at Q and ending at R, or the boiler, of which M, N, O, P, is a section, may be compleated in one structure. A steam pipe or pipes with corresponding appendages may be applied to a hole
 5 or holes in the top or side of the boiler, Fig. 2, but if applied in the side of the boiler, one or more revolutions of the spiral flue may be discontinued.

By inverting the boiler, Fig. 1, upon a plate of cast or wrought iron, or other metal, it will respectively become an oven for the purpose of baking or roasting, or a stove for warming rooms, &c., in which case the fire is applied
 10 under the plate or bottom of the oven, so as to be connected with the spiral flue D, or the said boiler may be inverted on a floor of metal, brick, tile, or other materials, and the fire applied by means of a furnace on the outside, or the fire may be put within the oven or stove, and connected with the spiral flue D, a piece being previously taken out of the edge of the oven or stove
 15 for a door at or near D; and by inclosing the angles A, A, A, A, at the angles E, F, G, H, I, with cast or wrought iron plates or other metal with screw bolts and nuts, or rivets, or any other means, so as to be steam-tight, without brickwork being applied to the outside of the spiral flue, the said flue will communicate a boiling heat to the inside of the boiler or vessell, and a roasting
 20 heat on the outside of the said flue at the same time; and if the internal angles B, B, B, B, are inclosed with plates of cast or wrought iron, or other metal, with screw bolts and nuts, or other means, so as to be steam-tight at the angles S, T, U, W, X, of the section, Fig. 2, an additional flue will thereby be made, so as to have a communication with the flue described as above, which
 25 will add a considerable degree of heat to the said ovens or stoves.

In witness whereof, I, the said James Cooke, have hereunto set my hand and seal, this Twenty-eighth day of February, in the thirty-ninth year of the reign of our Sovereign Lord George the Third, by the Grace of God of Great Britain, France, and Ireland King, Defender of the Faith, and so forth, and in the year of our Lord, One
 30 thousand seven hundred and ninety-nine.

JAMES (L.S.) COOKE.

Cooke's Improved Apparatus for Applying Fire to Boilers, Ovens, &c.

SINEON.

AND BE IT REMEMBERED, that on the Twenty-eighth day of February, in the year of our Lord 1799, the aforesaid James Cooke came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and everything therein contained and specified, in form above written. And also the Specification aforesaid was stampd according to the tenor 5 of the Statutes made for that purpose.

Inrolled the Twenty-eighth day of February, in the year of our Lord One thousand seven hundred and ninety-nine.

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1854.