

Specification of Henry Browne : boilers.

Contributors

Browne, Henry.

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A.D. 1821 N° 4544.

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

OF

HENRY BROWNE.

BOILERS.

L O N D O N ;

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY :

PUBLISHED AT THE GREAT SEAL PATENT OFFICE,

25, SOUTHAMPTON BUILDINGS, HOLBORN.

Price 1s. 1d.

1854.



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A.D. 1821 N^o 4544.

Boilers.

BROWNE'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, HENRY BROWNE, of Derby, in the County of Derby, Chemist, send greeting.

WHEREAS I, the said Henry Browne, did, my petition humbly represent to His present most Excellent Majesty, that, after much study and labour,
5 I had found out and invented "AN IMPROVEMENT IN THE CONSTRUCTION OF BOILERS, WHEREBY A CONSIDERABLE SAVING IN FUEL IS EFFECTED, AND SMOKE RAPIDLY CONSUMED," which I conceived would be of great public utility; and that the same had not been made or used by any other person or persons, to to my knowledge and belief; and I humbly prayed His said Majesty to grant
10 unto me, my executors, administrators, and assigns, His Royal Letters Patent under His Great Seal of the United Kingdom of Great Britain and Ireland, for the sole use, benefit, and advantage of my said Invention within that part of His said Majesty's United Kingdom of Great Britain and Ireland called England, His Dominion of Wales, and Town of Berwick upon Tweed, for the
15 term of fourteen years; and His said Majesty, being willing to give encouragement to all arts and inventions that might be for the public good, was graciously pleased to condescend to my request; and therefore, by His Royal Letters Patent, bearing date at Westminster, the Sixteenth day of March, in the second year of His reign, of His special grace, certain knowledge, and mere
20 motion, did, for Himself, His heirs and successors, give and grant unto me, the said Henry Browne, my executors, administrators, and assigns, His especial licence, full power, sole privilege and authority, that I, the said Henry

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Browne, my executors, administrators, and assigns, and every of them, by myself and themselves, and such other persons as I, the said Henry Browne, my executors, administrators, or assigns, should agree with, and no others, from time to time and at all times thereafter during the said term of years therein expressed, should and lawfully might make, use, exercise, and vend the 5 said Invention within that part of His said Majesty's said United Kingdom of Great Britain and Ireland called England, His Dominion of Wales, and Town of Berwick upon Tweed, in such manner as to me, the said Henry Browne, my executors, administrators, and assigns, or any of them, should in my or their discretion seem meet; and that I, the said Henry Browne, my executors, 10 administrators, or assigns, should and lawfully might have and enjoy the whole profit, benefit, and advantage from time to time coming, growing, accruing, and arising by reason of the said Invention, for and during the term of years therein mentioned, to have, hold, exercise, and enjoy the said licence, powers, privileges, and advantages therein granted or mentioned to be granted unto 15 me, the said Henry Browne, my executors, administrators, and assigns, for and during and unto the full end and term of fourteen years from the date of the said Letters Patent next and immediately ensuing, according to the Statute in such case made and provided; in which said Letters Patent is contained a proviso that if I, the said Henry Browne, should not particularly describe and 20 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 be inrolled in His said Majesty's High Court of Chancery within four calendar months next immediately after the date of the said Letters Patent, then that the said Letters Patent, and all liberties and advantages whatsoever 25 thereby granted, should utterly cease and become void, as in and by the said Letters Patent, relation being thereunto had, may more fully appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Henry Browne, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are particularly described 30 and ascertained in and by the Drawing hereunto annexed, and the following description thereof (that is to say):—

My Invention consists in the addition D to some boilers, and in the addition or alteration J in others, according to the differently constructed boilers already in use, or hereafter to be made, as shewn in the aforesaid Drawing as examples, 35 and herein-after stated, and which addition and alteration respectively contain water or other fluids, and being so disposed the same is heated in a speedy and effectual manner, causing at the same time the principal part of the smoke produced from the fuel employed to be rapidly consumed, decomposed, or

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converted into flame by bringing it into contact with the ignited fuel previously to its entering into the flues or chimneys, and thus also rendering it more effectual in heating the water or other fluids contained in the boilers, and causing a considerable saving in the fuel employed.

- 5 I shall now proceed to describe several methods of carrying my said Invention into effect by a reference to the Drawing affixed to this Specification, and by way of elucidating the subject. But I do not intend hereby to limit myself to the methods described in the said Drawing only, but to avail myself of every other means of adapting my said Invention, by which the same effects can be
- 10 produced, according to the construction of different boilers. In the Drawing, Figures 1 to 6 inclusive represent a boiler set in brickwork, and which boiler is ordinarily composed of the cylinders or tubes A, B, and C, and is known, from its Inventor, by the name of Woolfe's boiler, in which Figures A represents the larger cylinder or tube, and B, C, the two smaller ones. To this
- 15 boiler I have added another tube or cylinder D, which may be either round or oval, as the depth of the fire-place may require, which is so posited to contract the fire-place at E, and cause the smoke produced from the burning fuel upon the grate to descend and become ignited or converted into flame, as aforesaid, previously to its entering the flues F, F, &c. and the stack or chimney G; all
- 20 other passages from the fire-place to the chimney being closed by brickwork or otherwise. This tube or cylinder D is supplied with water or other fluid, either by means of the pipes H, H, which proceed from it and enter into the larger cylinder A on each side of it, or by means of a pipe or tube I, into which the water or other fluid may be injected by means of a pump or by the pressure of
- 25 a column of water of a sufficient height to effect the purpose of supplying the tube D. Figures 7, 8, and 9 shew a method of applying the tube D to a boiler (A), commonly known by the name of the waggon boiler, and which is to be supplied with water or other fluid, either from the boiler by the tubes H, H, or by means of the pipe I, as in the former case, the space between the tube D
- 30 and the bottom of the boiler A being filled up with brickwork or otherwise, as in the boiler before described. Figures 10 to 14 inclusive represent another waggon boiler (A), differing in shape from that last mentioned, and in which, as well as in all other boilers, except tube boilers, I produce similar beneficial effects to those described, but in a somewhat different manner; as in place of
- 35 the tube D, I here make an addition to the bottom of the boiler at J, and which is filled with water or other fluid from the boiler of course, but being first posited so as to contract the fire-place at E, as the tube D and brickwork do in the methods before described, the water or other fluid becomes sooner heated, and the effect of the fuel employed is very considerably encreased, and

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the principal part of the smoke produced from the fuel rapidly consumed or converted into flame, or decomposed, as aforesaid. I have likewise added other provisions or contrivances to this boiler, which may or may not be employed at pleasure, and whereby I also considerably encrease the effects of the fuel in heating the water or other fluids. These consist in surrounding the fire-place 5 with water, by forming the sides of the boiler double at K, K, K, and also placing over the fire a pipe or tube L, which is filled with water or other fluid from the boiler. These two last-mentioned provisions or contrivances, however, I do not mean or intend hereby to claim as of my Invention, such having been employed before. The fuel to be employed of course should not be permitted 10 to pass to the back of the grate under D or J (as the case may be) until the same has parted with the principal part of the gas or smoke which is emitted on its first ignition. Figure 1 of the Drawing is an end section of the tube, boiler, and brickwork, taken at the line M, M, in Figures 2, 4, 5, and 6; Figure 2 is a longitudinal section of the same, taken at the lines N, N, &c. in 15 Figures 1, 3, 4, 5, and 6; Figure 3 is an end section of the same, taken at the line O, O, in Figures 2, 4, 5, and 6; Figure 4, a plan of the same, taken at the line P, P, in Figures 1, 2, and 3; Figure 5, another plan of the same, Q, Q, in Figures 1, 2, 3; Figure 6, another plan of the same, taken at the line R, R, in Figures 1, 2, and 3; Figure 7 is a side view of a waggon boiler, 20 and section of the brickwork, taken at the line S, S, in Figure 9; Figure 8, an end section of the same, taken at line T, T, in Figures 7 and 9; Figure 9, a plan of the brickwork, &c., taken at the lines U, U, in Figures 7 and 8; Figure 10, a side view of another waggon boiler, and section of the brickwork, taken at the line V, V, Figure 12; Figure 11, a section of the same boiler and 25 brickwork, also taken at the line V, V, in Figure 12; Figure 12, a plan and section of the same, taken at the line W, W, in Figures 10, 11, 13, and 14; Figure 13, an end section of the same, taken at the line X, X, &c. in Figures 10, 11, and 12; and Figure 14, an end view of the same; in all of which Figures the same letters of reference apply to the same parts. 30

In witness whereof, I, the said Henry Browne, have hereunto set my hand and seal, the Tenth day of July, in the year of our Lord One thousand eight hundred and twenty-one.

HENRY BROWNE. (L.S.)

Signed, sealed, and delivered by the within-named

Henry Browne (being first duly stamped), in the presence of us,

W. EATON MOUSLEY, Att^y, Derby.

J. W. KEETLEY, his Clerk.

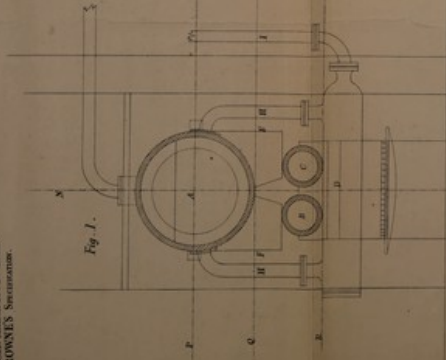


Fig. 1.

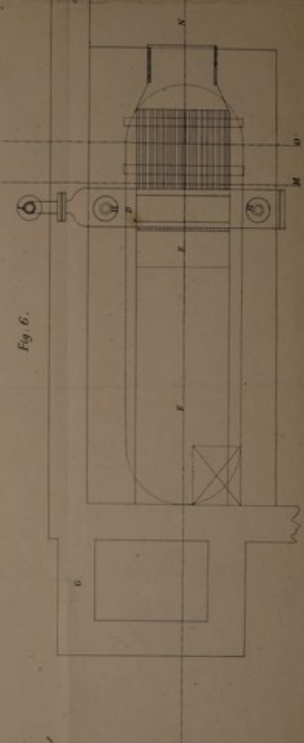
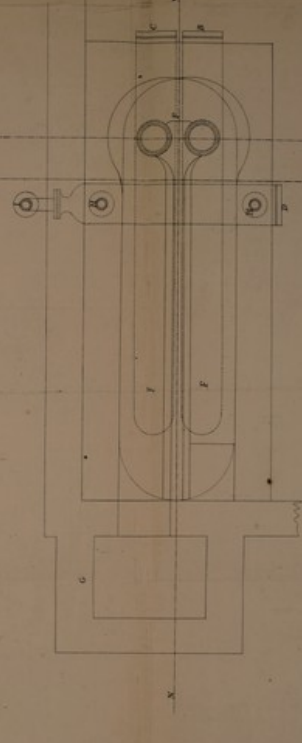
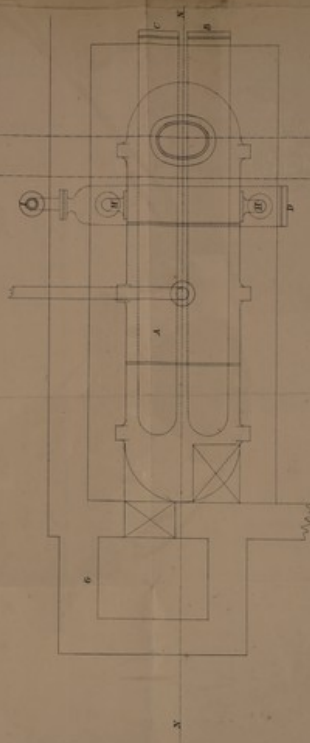
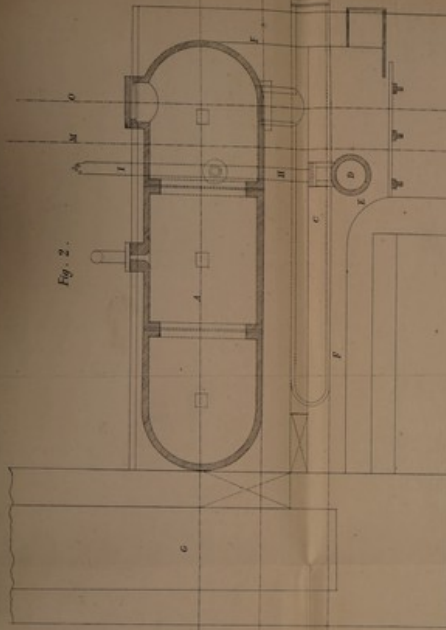
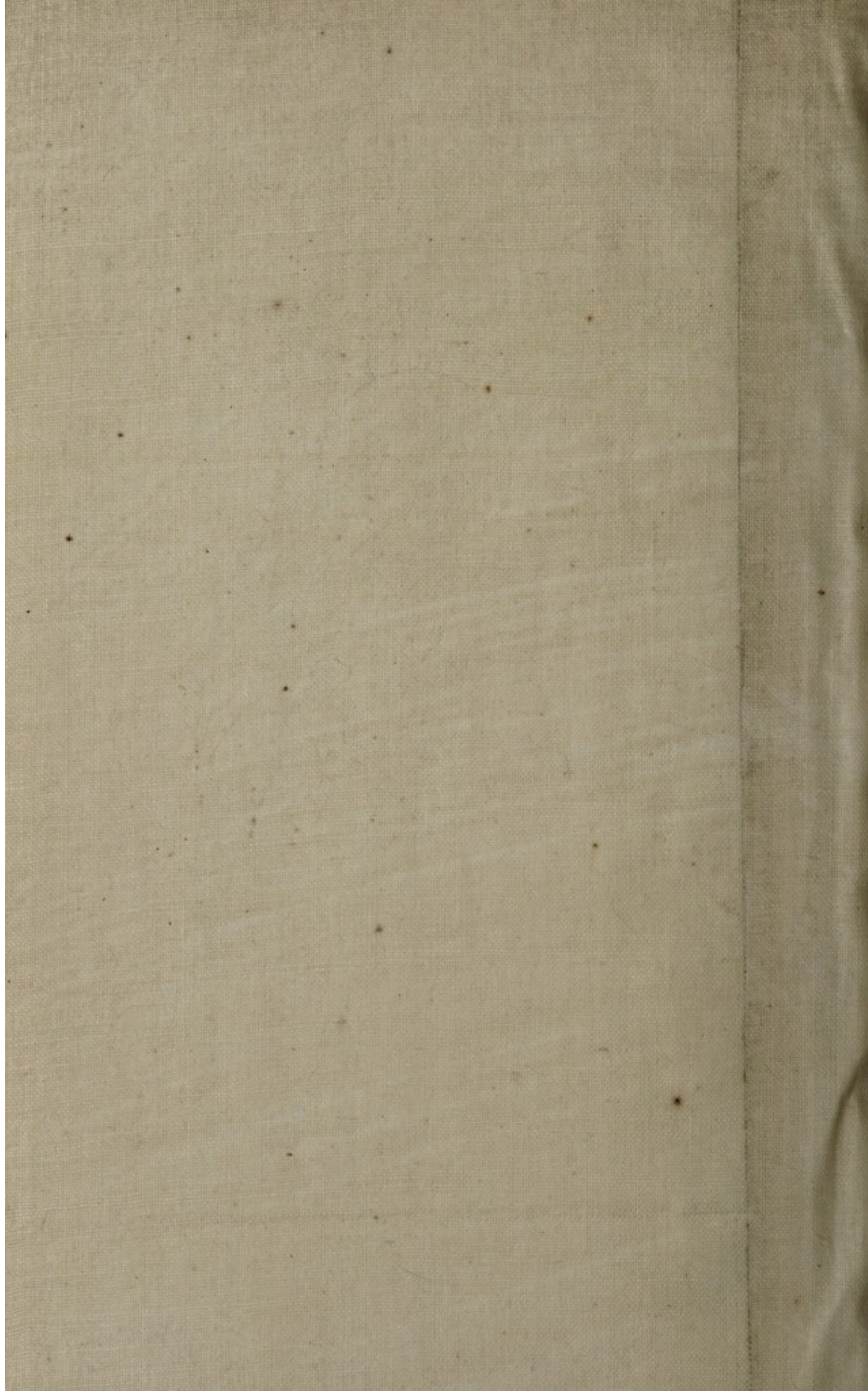


Fig. 5.





Browne's Improvements in Boilers.

AND BE IT REMEMBERED, that on the same Tenth day of July, in the in year above mentioned, the aforesaid Henry Browne came before our Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and everything therein contained, in form above written. And also the
5 Specification aforesaid was stamped according to the tenor of the Statute in that case made and provided.

Inrolled the Eleventh day of July, in the year above written.

LONDON :

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

W. EATON MOUSLEY,
a Master Extraordinary in Chancery.

Brown's Impoverishment in 1821

THE FIRST MEMORIAL, that on the same 10th day of July, in the
year above mentioned, the aforesaid Henry Brown came before me, and
in the City of New York, and acknowledged the petition aforesaid, and
that nothing therein contained, in form above written. And also, that
the petition aforesaid was stamped according to the order of the Court
in that case made and provided.

Witness my hand and seal the year above written.



Tested by the Clerk of the Court of the City of New York
in the year above written.