

Specification of William Cornelius English : apparatus for heating steam or air, applicable to boilers of steam engines, evaporators, &c.;

Contributors

English, William Cornelius.

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A.D. 1809 N° 3280.

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

OF

WILLIAM CORNELIUS ENGLISH.

APPARATUS FOR HEATING STEAM OR
AIR, APPLICABLE TO BOILERS OF
STEAM ENGINES, EVAPORATORS, &c.

LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:

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

Price 3d.

1854.





A.D. 1809 N° 3280.

**Apparatus for Heating Steam or Air, applicable to
Boilers of Steam Engines, Evaporators, &c.**

ENGLISH'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, WILLIAM CORNELIUS ENGLISH, late of Petersham, in the County of Surrey, but now of Twickenham, in the County of Middlesex, Esquire, send greeting.

WHEREAS His most Excellent Majesty King George the Third, by his
5 Letters Patent, under the Great Seal of the United Kingdom of Great Britain and Ireland, bearing date at Westminster, the Twenty-eighth day of November, in the fiftieth year of His reign, did give and grant unto me, the said William Cornelius English, my executors, administrators, and assigns, His special licence, full power, sole privilege and authority, that I, the said William
10 Cornelius English, my executors, administrators, 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 William Cornelius English, 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 of years therein expressed, should and lawfully might make, use, exercise, and vend within that part of the said United Kingdom of Great Britain and Ireland called England, the Dominion of Wales, and Town of Berwick upon Tweed, my Invention of
“ A NEW METHOD WHEREBY HEATED WATER, STEAM, AND AIR, CAN BE RENDERED
SERVICEABLE, AND MORE SERVICEABLE FOR NEW PURPOSES, AND EVERY PURPOSE FOR
20 WHICH THEY HAVE EVER BEEN APPLIED, WITH LESS EXPENCE OF FUEL THAN IS NOW USED, ESPECIALLY FOR THE PURPOSE OF WORKING THE STEAM ENGINE, AND OF WARMING

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AND HEATING BUILDINGS AND STOVES, AND ALSO VESSELS AND COPPERS FOR ALL PURPOSES, AND BY WHICH WATER, STEAM, AND AIR (HEATED) MAY BE APPLIED TO MANY PURPOSES HITHERTO UNKNOWN, AND WHICH INVENTION WILL BE OF CONSIDERABLE AND GENERAL BENEFIT AND ADVANTAGE;" in which said Letters Patent is contained a proviso that if I, the said William Cornelius English, 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 be inrolled in His Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said recited Letters Patent, that then the said Letters Patent and all liberties and advantages whatsoever thereby granted should utterly cease, determine, and become void, anything therein-before contained to the contrary thereof in anywise notwithstanding, as by the said in part recited Letters Patent, reference being thereunto had, will fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said William Cornelius English, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are particularly described and ascertained as follows, that is to say:—

Instead of raising steam to a high degree of temperature and elasticity in the boiler, as is usually done in cases where an extraordinary degree of pressure or work is required, and permitting it to pass directly from the boiler to the cylinder of a steam engine or other place at which the said steam is to be applied or used, I do raise the steam in the boiler by means of a moderate temperature, that is to say, about fifteen degrees more or less above the boiling point of water (when heated in the open air,) and I do convey the steam from the boiler into the cylinder or place aforesaid at which the same is to be applied or used through a tube or tubes or other appropriate vessels or receptacles, part or parts of which tube or tubes, vessels or receptacles, is or are exposed to the action of fire so as to produce a red heat in the same when required, and in consequence whereof the said steam is made to expand after it leaves the boiler, and becomes capable of operating in the steam engine or in any other apparatus wherein the action or effects of steam is or hath been employed, and thereby the consumption of water in the said steam, and of fuel employed in generating any determinate force, are less than would be consumed and employed in the common method of raising and applying steam. And I do further declare that the materials of which the said tube or tubes or other appropriate vessels or receptacles are to be formed or made may consist of any such metallic or other substances as are capable of supporting the heat of the

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furnace, and are not (at least in any considerable degree) destroyed by steam, and that the inner face or lining of the said tube or tubes or other appropriate vessels or receptacles must indispensably be of such a nature as to withstand the action of the steam employed, and that in this construction of apparatus I
5 prefer a lining or inside facing of brass or copper within the tube or tubes, vessels or receptacles as aforesaid, and farther that I do in general leave the communication from the boiler through the said tube or tubes or other appropriate vessels or receptacles unto the steam engine or apparatus, at or upon which the steam is intended to act, open or without obstruction as to the
10 passage thereof, but that I do also, in such applications as may require the communication to be occasional or by intervals, apply and use a valve or valves, sluice or sluices, cock or cocks, or other similar well-known contrivances, to regulate, limit, and dispose of the said communication according to the means and in the manner in which such regulation, limitation, and disposal are
15 commonly made. And I do further declare that I do also expose air to the action of heat in the said tube or tubes or other appropriate vessels or receptacles in order to expand and apply the same to the purposes herein-before and herein-after mentioned; and that I do cause the same to pass through the said tube or tubes or other appropriate vessels or receptacles by means of a
20 pump or such other instrument as shall produce the requisite motion for the supply; and, lastly, I do declare that steam or air heated according to my said method may be advantageously applied for the communication of heat to vessels for evaporating and other purposes, and to plates, floors, or chambers for drying gunpowder or other articles, and to flues or tubes for heating
25 buildings, as well as to a variety of objects which it is not necessary to enumerate or describe.

In witness whereof, I, the said William Cornelius English, have hereunto set my hand and seal, the Twenty-sixth day of May, in the year of our Lord One thousand eight hundred and ten.

30

WILLIAM CORNELIUS (L.S.) ENGLISH.

Signed, sealed, and delivered in
the presence of

SAM^l GALE,

35

Bedford Street,
Bedford Row.

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HARVEY.

AND BE IT REMEMBERED, that on the Twenty-eighth day of May, in the fiftieth year of the reign of His Majesty King George the Third, the said William Cornelius English came before our said Lord the King in His Chancery, and acknowledged the instrument aforesaid, and all and everything therein contained and specified, in form above written. And also the instrument 5 aforesaid was stamped according to the tenor of the Statute made in the forty-eighth year of his said Majesty's reign.

Inrolled the Twenty-eighth day of May, One thousand eight hundred and ten.

LONDON:

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