

Specification of Henry Stothert : ships' hearths.

Contributors

Stothert, Henry.

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A.D. 1834 N° 6736.

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

OF

HENRY STOTHERT.

—
SHIPS' HEARTHES.
—

LONDON:

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1857.





A.D. 1834 N° 6736.

Ships' Hearths.

STOTHERT'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, HENRY STOTHERT, of the City of Bath, Founder, send greeting.

WHEREAS His present most Excellent Majesty King William the Fourth, by His Letters Patent under the Great Seal of Great Britain, bearing date at
5 Westminster, the Twenty-third day of December, in the fifth year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said Henry Stothert, His special licence, full power, sole privilege and authority, that I, the said Henry Stothert, my eñors, adñors, and assigns, or such others as I, the said Henry Stothert, my eñors, adñors, or assigns,
10 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 "CERTAIN IMPROVEMENTS IN SHIPS' HEARTHES OR CABOUSES;" in which said Letters Patent is contained a proviso
15 that I, the said Henry Stothert, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in His said Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had,
20 will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Henry Stothert, do hereby declare that the nature of my said Invention, and in what manner the same is to be performed, are particularly described and ascertained in and by the following description thereof, reference being

Stoherth's Improvements in Ships' Hearths.

had to the Drawing hereunto annexed, and to the figures and letters marked thereon, that is to say : —

My Improvements in Ships' Hearths or Carbouses consist in procuring, obtaining, or collecting as fresh water all the water evaporated into steam, to be used for the purpose of cooking in such ships' hearths or carbouses where 5 the water from which the steam is generated shall be salt water or other impure water, and also in the means herein-after described of more economically condensing the steam so to be used in such cooking, and the steam to be raised from salt water or other impure water, for the purpose of converting the same into fresh water for use on board ships and vessels at sea. By 10 which said improvements a greater quantity of fresh water will be produced by a given quantity of coal to be used in ships' hearths or carbouses in boiling salt water or other impure water than can be obtained by any other ships' hearths or carbouses now in use, inasmuch as all the steam applied to and condensed in the process of cooking is converted into and procured for use as 15 fresh water, and the heat of so much of the steam which is generated, and which may not be used or required in cooking, will be more perfectly and conveniently applied to heat the water to be used for supplying the boiler after the first filling of such boiler. The manner in which the same is performed is by fixing in the boiler part of the machine or apparatus a division 20 plate or diaphragm between the space occupied by the water and that part of the boiler into which the cooking vessels are placed, in order to prevent the steam condensed into water in cooking from returning to and admixing with the salt water or other impure water in the lower part of the boiler, and by attaching to the upper side of this diaphragm a hollow chamber or cavity 25 sufficiently narrow to stand up between the cooking vessels. This chamber I call the separator. Its purpose is to convey steam from that part of the boiler which is below the diaphragm to the part above in which the cooking vessels are inserted, and by its peculiar construction and position to prevent the salt water or other impure water, when boiling rapidly or agitated by the 30 motion of the ship or vessel, from entering the upper region of the boiler in which the cooking vessels are inserted. The separator is made so as to form a chamber for the reception of steam between the part of the boiler in which the salt water or other impure water is contained and the steam generated, and the upper part of the boiler in which the cooking vessels are placed. It 35 is made of such length as the diaphragm will admit, through which diaphragm apertures are made at each end of the separator, with guards fixed at a distance from such apertures below and above the diaphragm, leaving a space of one third of the diameter of one of such apertures, and with horizontal and

Stoherth's Improvements in Ships' Hearths.

vertical divisions within the separator, so as to prevent the salt water or other impure water in the lower part of the boiler passing over with the steam into the upper part of the boiler above the diaphragm, when the water in the lower part of the boiler is agitated. From the bottom of the upper part of the boiler in which the cooking vessels are placed I attach a pipe by which the condensed steam or fresh water there deposited by the cooling properties of the cooking is conveyed to the refrigerator. By this pipe also all the superfluous steam from the upper part of the boiler not actually condensed in the cooking is conveyed into the refrigerator. Upon this pipe I place an inverted syphon so that the steam, in passing from the upper part of the boiler to the refrigerator, is compelled to resist the static pressure of about eight inches of water deposited in such syphon, the area of which syphon I make four times larger than the conveyance pipe to give the steam operating upon the cooking vessels a degree of elasticity beyond that of the atmosphere. The refrigerator is constructed sufficiently large to contain the whole contents of the lower part of the boiler below the diaphragm. I divide the refrigerator into two parts by a plate fixed about one quarter of its whole height from the bottom. The upper part I call the cistern, and the lower part the condenser. The pipe before described conveys, as before mentioned, the steam and fresh water condensed by the cooking into the condenser. The cistern is filled with cold water by a feed pipe inserted through the top, and reaching within one inch and a half of the plate at the bottom. At the top of the cistern I place a cock which is connected with the boiler, so that when the cistern is filled the water runs through such cock into the boiler, and fills the same. When the water in the cistern becomes warm, by absorbing the heat of the steam and condensed water in the condenser through the plate, and it is necessary to refill the cistern with cold water to carry on the condensation, the cistern is refilled by the feed pipe with cold water, which, passing to the bottom, and having greater specific gravity, displaces the warm water, and forces it up through the cock before mentioned, and re-supplies the boiler, or by closing such cock the warm water is displaced from such cistern by a waste pipe also inserted therein. I wish it to be distinctly understood that my Invention constituting the said improvements relate only to the apparatus usually known as ships' hearths or cabouses intended for cooking provisions and supplying fresh water on board of ships and vessels at sea. My Invention consists in the collecting so much of the steam which is condensed by the process of cooking, and preventing the same falling back and admixing with the salt water or other impure water in the lower part of the boiler, and which is effected by the means herein-before described.

Stothert's Improvements in Ships' Hearths.

DESCRIPTION OF THE DRAWING.

The same letters referring to similar parts in each of the Figures. A, fire-place; B, ash pit; C, flue; D, chimney; E, boiler; F, diaphragm, which I prefer to be of two thicknesses of metal, as shown; G, separator, with guards to prevent water passing into the upper part of the boiler; H, cooking or boiling vessels; I, safety valve; K, syphon; L, pipe leading from the syphon to the condenser; M, guage cocks and occular guage; N, discharge cocks; O, supply cock; P, manholes; Q, refrigerator or cistern; R, condenser; S, distilled water pipe; T, feed or supply pipe; U, waste pipe; V, oven or waster; W, air inlets for ovens; X, air outlets for ovens. 10

In witness whereof, I, the said Henry Stothert, have hereunto set my hand and seal, this Twenty-third day of June, One thousand eight hundred and thirty-five.

HENRY (L.S.) STOTHERT.

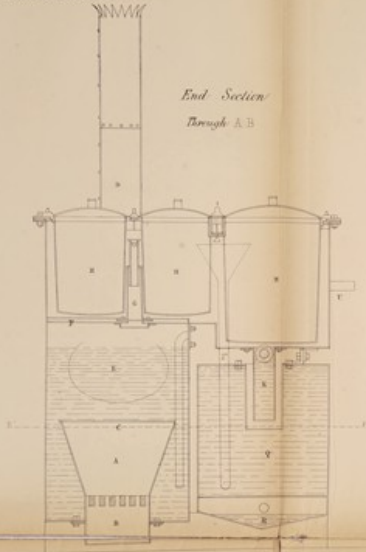
Cross. AND BE IT REMEMBERED, that on the Twenty-third day of June, in 15 the year of our Lord 1835, the aforesaid Henry Stothert came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose. 20

Inrolled the Twenty-third day of June, in the year of our Lord One thousand eight hundred and thirty-five.

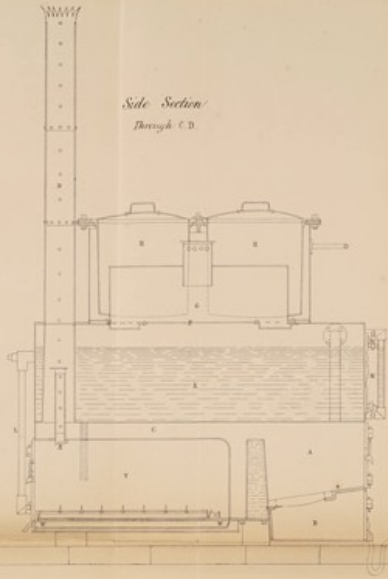
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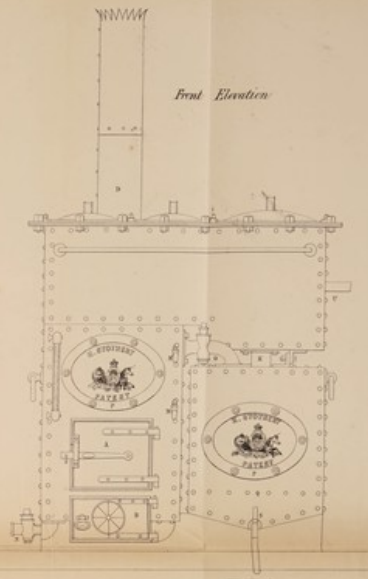
End Section
Through A B



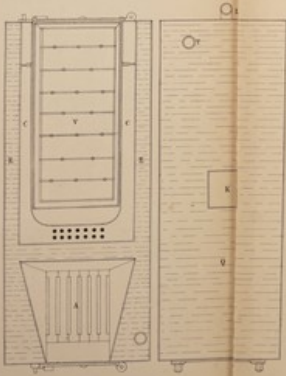
Side Section
Through C D



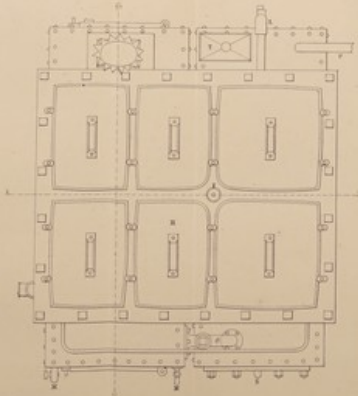
Front Elevation



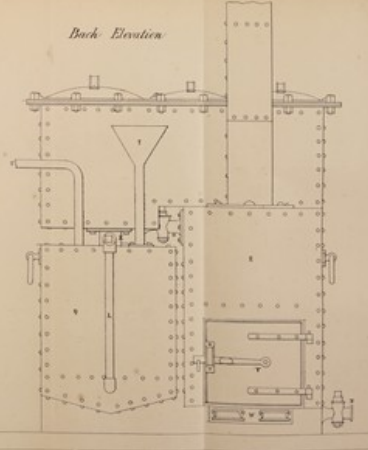
Section Through E F



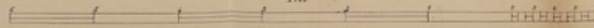
Plan



Back Elevation



Feet



The dotted drawing is altered.

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