

Specification of James Tate : culinary fire-grate.

Contributors

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A.D. 1787 N^o 1589.

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

OF

JAMES TATE.

CULINARY FIRE-GRATE.

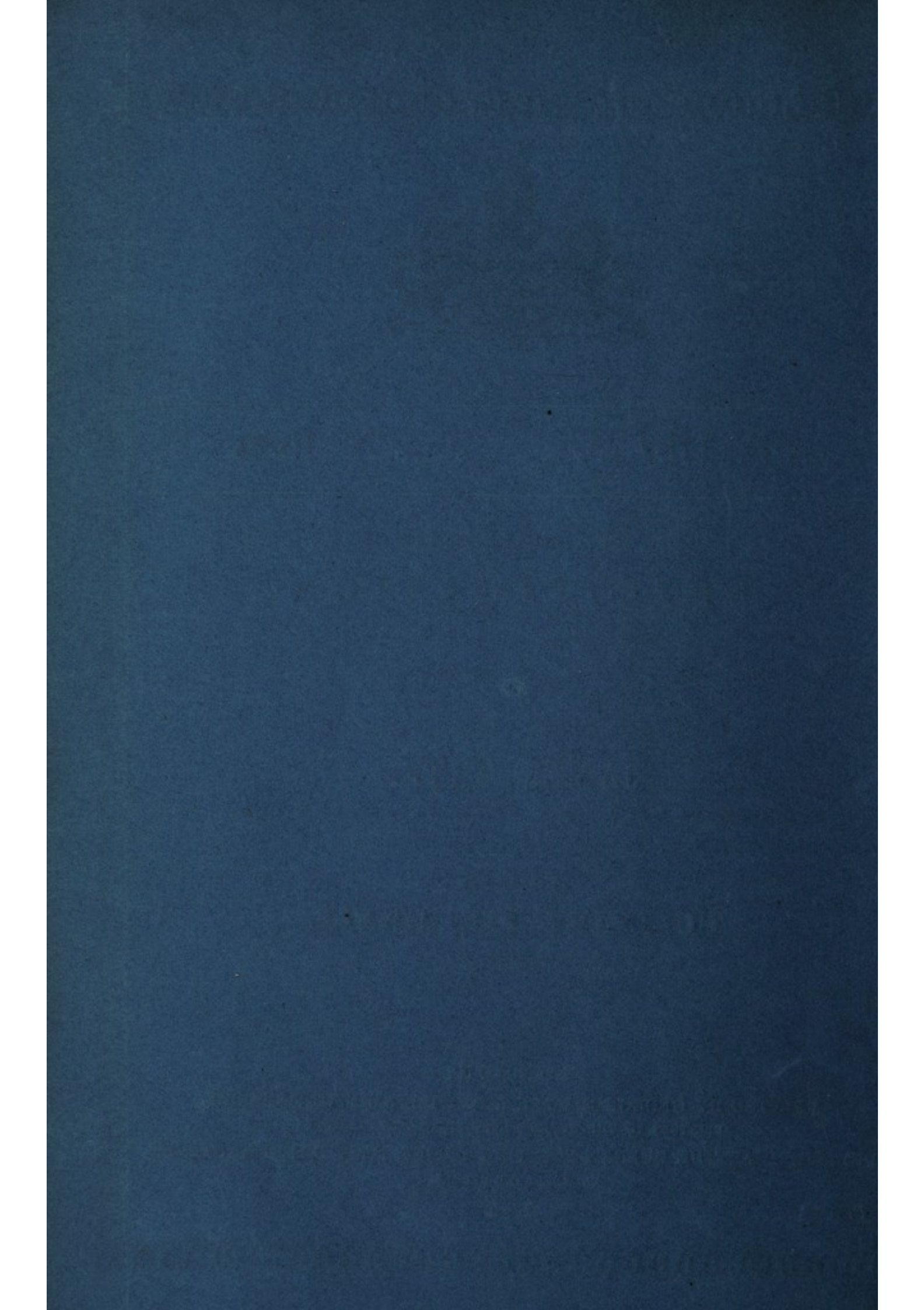
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A.D. 1787 N^o 1589.

Culinary Fire-grate.

TATE'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES TATE, of Mill Street, Conduit Street, in the Parish of Saint George, Hanover Square, in the County of Middlesex, Ironmonger, send greeting.

WHEREAS His most Excellent Majesty King George the Third, by His
5 Letter Patent under the Great Seal of Great Britain, bearing date the First day of February, in the twenty-seventh year of His reign, did give and grant unto me, the said James Tate, His special license that I, the said James Tate, during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and Town of Berwick upon
10 Tweed, my Invention of "**A FIRE-GRATE AND UTENSILS FOR COOKING, BOILING, AND WARMING ALL SORTS OF FLUIDS, UPON AN IMPROVED PRINCIPLE, AND WHEREBY MUCH FUEL WILL BE SAVED;**" in which said Letters Patent there is contained a proviso obliging me, the said James Tate, under my hand and seal, to cause a particular description of the nature of my said Invention, and how the same is to be
15 performed, to be inrolled in His Majesties High Court of Chancery within one calendar month next after the date of the said recited Letters Patent, as in and by the same, relation being thereunto had, may more fully and at large appear.

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NOW KNOW YE, that in compliance with the said proviso, I, the said James Tate, do hereby declare that my said Invention of a fire-grate and utensils for cooking, boiling, and warming all sorts of fluids, upon an improved principle, and whereby much fuel will be saved, depends upon an improved, easy, and simple application and adaption of steam from or by a common 5 kitchen range, fire grate, Bath stove, or any other open grate commonly used for cooking in kitchens, on board of ships, and in other places adapted for cooking, by means of a vessell or vessels applied to the same for the purpose of raising steam, and whereby the top of the fire will be left open, as usual, for performing those parts of cooking that cannot be done by steam, and the front 10 of the range or fire left, as usual, for roasting, and whereby the water in a washing copper or other vessell may be boiled or heated without the expence of a second fire, and whereby a closet or oven for the purpose of baking, keeping meat warm, and warming plates, dishes, and other things, may be kept hot, and whereby much fuell will be saved and the cooking utensils preserved, and 15 whereby cooking may be performed in any travelling carriage or machine, and the same kept warm or aired, as occasion may require, and whereby and by means of an improved method of applying the cooking vessells to this machine, the whole process of cooking by steam will be rendered extremely pleasant, easy, and profitable, and the nature thereof, and how the same is to be performed, 20 is described as follows, that is to say :—

The range or fire-grate is to be made in all respects as usual, except the back, which is to be made with an oblong hole nearly reaching from one end to the other ; the edge of this hole forms a rabbit, so that this part of it then resembles the frame of a door ; then a door is to be made for this frame ; this door must 25 be made with a grate or bars in the middle of the same to admit the fire to come at a vessell hereafter to be described ; these two parts or pieces together form the back of the range. The inside piece may be fastened to the other with screws or any kind of joint, or may lay upon the rabbit, which will support it, at the same time that it may be taken away or lifted up at pleasure in order 30 that the dirt may be taken from the vessell behind, and also over the grate through which the heat passes may be one or two sliding doors behind the back ; these are to be opened and shut by means of a rack and pinion, so that all draft from the fire may be excluded from passing this way, if necessary.

The different kinds of vessells for raising steam, with the manner in which they 35 are to be placed for cooking :—Two cylinders are to be made in length and diameter proportioned to the size of the grate ; these are to be joined together ;

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they then form an angle or elbow ; this vessell is to be laid behind the back of the range. The middle part of the bottom cylinder to be placed opposite to the grate in the back ; the other cylinder will then stand up in the corner of the chimney ; to this vessell, in proper places, is to be inserted one, two, three, or
5 more tubes or pipes. The first of these pipes to fill the vessell with water, and to supply it as it boils or wastes away ; the next to come out at either end of the grate, with a cock to draw off the foul settled water, when the same shall be necessary ; the next tube is inserted near the top of the cylinder in the corner. This pipe is to convey the steam to the different vessells to boil or cook with,
10 and at the top of this cylinder is placed a valve made air-tight with a gentle pressure ; this valve is to be kept down in its socket or frame by means of a spiral or other spring, or by means of a weight and leaver, so as to admit no steam to get out when the other cocks or valves are open and the machine at work, but when the other cocks are shut the steam will then force up this valve,
15 and so prevent the vessell from bursting. When this vessell is placed behind the back of the grate it may be covered with a cap or case that will leave sufficient space for the fire to operate all around and along the boiler, else an arch of brick or stone may be turned round it to answer the same purpose, so that the draft of the fire may be taken out all in one corner of the chimney or
20 at both. Together with a piece of iron or other funnel, to convey it up the chimney in this last funnel, a register may be placed to increase or diminish the draft to the boiler ; this register answers the same purpose as the sliding doors already described ; or this last-mentioned boiler may be fixed as follows, instead of being placed behind the back of the range ; (that is to say,) the back of the
25 range should not be so high as usual, and the side of the boiler to be placed next the fire would be better flat than round, the back being lower than usual ; place this boiler over the back, and just so far over the fire as the edge of the boiler may draw in between the top of the back and the bottom of the boiler, where a space must be left for that purpose ; that heat and flame that usually
30 ascended up the chimney without being applied to this purpose at the same time leave the top of the fire open, as usual, to perform those parts of cooking that cannot be done by steam, so that the front and flat side of this boiler will then form a part of the back of the grate ; this boiler may then be covered or cased with a plate of sheet iron, or arched over with brick or stone, leaving room between
35 the case and boiler for the passage of the heat and flame drawn under by the edge of the boiler to pass round and along it each way.

Steam vessells placed or fixed at the ends of the range or grates :—If these are to be fixed outside of the standards or hobs of the grate, the cylindrical vessell

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first described will answer as well as any other, but if the vessell is to be placed between the cheek of the grate and standard or hob of the same, then it must be made in an angular shape, according to the dimensions of that space between the standard or hob and the cheek of the grate, and for either of these draw the heat through the cheek in like manner as described for the back, or place 5 them in like manner as described for the second boiler mentioned to be placed over the back of the range or grate. The particular shape or construction of any of these vessells are not material, if they or any of them are well constructed to operate in the particular situations already described for them; or they may be constructed to receive a proportion of the fire from all or any of these places 10 at the same time, and in that case one side of the steam vessell or vessells will actually form the back of the range or fire-grate, or will form the cheek or cheeks of the same. All these steam vessells and other things already described may be fixed and applied as well to old as new ranges and grates.

Vessells and utensils for cooking in when the steam is applied to the inside 15 of the said vessells:—These vessells may be made of any common shape or dimensions, according to the purposes for which wanted; when the vessell is made, a short tube of a conical form is to be inserted in the same; this tube must be made as true and conical as possible, so that when another pipe or tube with a conical end or point is inserted or pushed into this one they 20 may be air-tight; if these cones cannot be made to answer the above purpose with the common materials that the vessells are made of, as copper or tin, then they are to be made of cast metal, turned and ground into each other in the same manner that valves and cocks are made water and air proof. Without these cones, which answer for the speedy, sure, and easy application 25 of the cooking vessels to the machine, the whole would be extremely troublesome, and in most cases rendered unfit for public use; the covers of these vessels may be made in the common way, except when they are made for the purpose of condensing the steam; when broth is wanted to be made therewith, then the cover to be made double, and hollow between, for the purpose of 30 receiving cold water, which will condense much steam that otherwise would evaporate, and make much finer and whiter broth than if the meat was boiled in water for that purpose.

Vessells for cooking when the steam is applied to the outside of the same:—First, a square or other shaped vessell is to be made in size according 35 to the number and size of the vessells to be boiled therewith; into this vessell fix one of the conical tubes described above; the cover of this vessell must be very close, or fastened down altogether, so that before prepared for the

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smaller vessells it will have the appearance of a chest locked up; then take as many vessells as intended to be boiled therewith, and mark the exact size of their bottoms on the cover of the large vessell; then cut holes in the cover to admit the small vessells to fall down to the brim, where a rim is
5 prepared to prevent them dropping in altogether.

The manner of applying the whole for cooking, &c.:—The pipe or tube described as coming out of the top of the steam vessell in the corner of the chimney convey through the jam of the chimney or round the same to any convenient place in the kitchen, or to any other room allotted for cooking,
10 where a bench, dresser, or table is erected to hold the vessells on; along this bench, at proper distances, insert one, two, three, or more smaller tubes into the large steam pipe. Each of these small tubes must terminate with a cock or valve, with a conical end, as before described, to fit that mentioned to be placed in the cooking vessells; then when the steam boiler
15 is filled with water and boils, apply as many vessels as is wanted to these smaller tubes and turn the cocks so that the steam will have then free access into the vessells, and will boil either filled with water or by the steam alone, and will boil the small vessells indented and fixed into the large one by the force of the steam operating all round the outside surface of the said vessells,
20 and will boil in like manner the washing copper or other vessells by conveying a tube to them, and will heat the oven hereafter described in like manner. All these different vessells for cooking, except the steam boilers, which must be made either of iron, copper, brass, tin, or earthenware, may be made of iron, copper, brass, silver, tin, pewter, earthenware, glass, stone, or wood.

25 The oven or hot closet:—This may be made in the shape of any common oven, with shelves to hold the different articles to be baked or warmed, with a door to shut close. Then place this oven in a case or recess, leaving room between the outside surface of the oven and the inside surface of the case for the steam to operate all round it; it may then be placed in a recess in the wall, or fixed to
30 the wall at any convenient place with a tube and cock to the steam boiler, as already mentioned. For cooking in travelling carriages and machines, and how the same is applied to air and warm the said carriages—and here the fuel had better be oil or spirits, and in place of a fire grate, apply a lamp upon that construction that yields most heat, as those air lamps generally called patent
35 lamps do—then construct my steam boiler, which is done so as to take up least room and receive most heat from the lamp; this steam boiler and its lamp may be fixed in any place either inside the carriage, in the coach box, or under the coachman's seat, as will be found most convenient; from this boiler a tube must

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be conveyed to a hollow box or boxes or cases inside the carriage, either fixed on the floor or top or sides of the same. When these boxes or cases are filled with the steam arising from the boiler it will diffuse a gentle and pleasant heat in the carriage, and there may be a cock to stop the current of the steam and convey it outside if it should grow too hot, and a cock or cocks, with a conical end coming out in whatever part of the carriage will be most convenient, for the purpose of applying one or more of the cooking vessels already described when any victuals is to be dressed.

In witness whereof, I have hereunto set my hand and seal, this Twenty-sixth day of February, One thousand seven hundred and eighty-seven. 10

JAMES (L.S.) TATE.

Sealed and delivered, being first
duly stampd, in the presence of

NATH. ALLEN.

CHA^s RIVERS.

15

HOLFORD.

AND BE IT REMEMBERED, that on the Twenty-sixth day of February, in the year of our Lord 1787, the aforesaid James Tate 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 20 of the Statutes made for that purpose.

Inrolled the Twenty-sixth day of February, in the year of our Lord One thousand seven hundred and eighty-seven.

LONDON :

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Printers to the Queen's most Excellent Majesty. 1854.