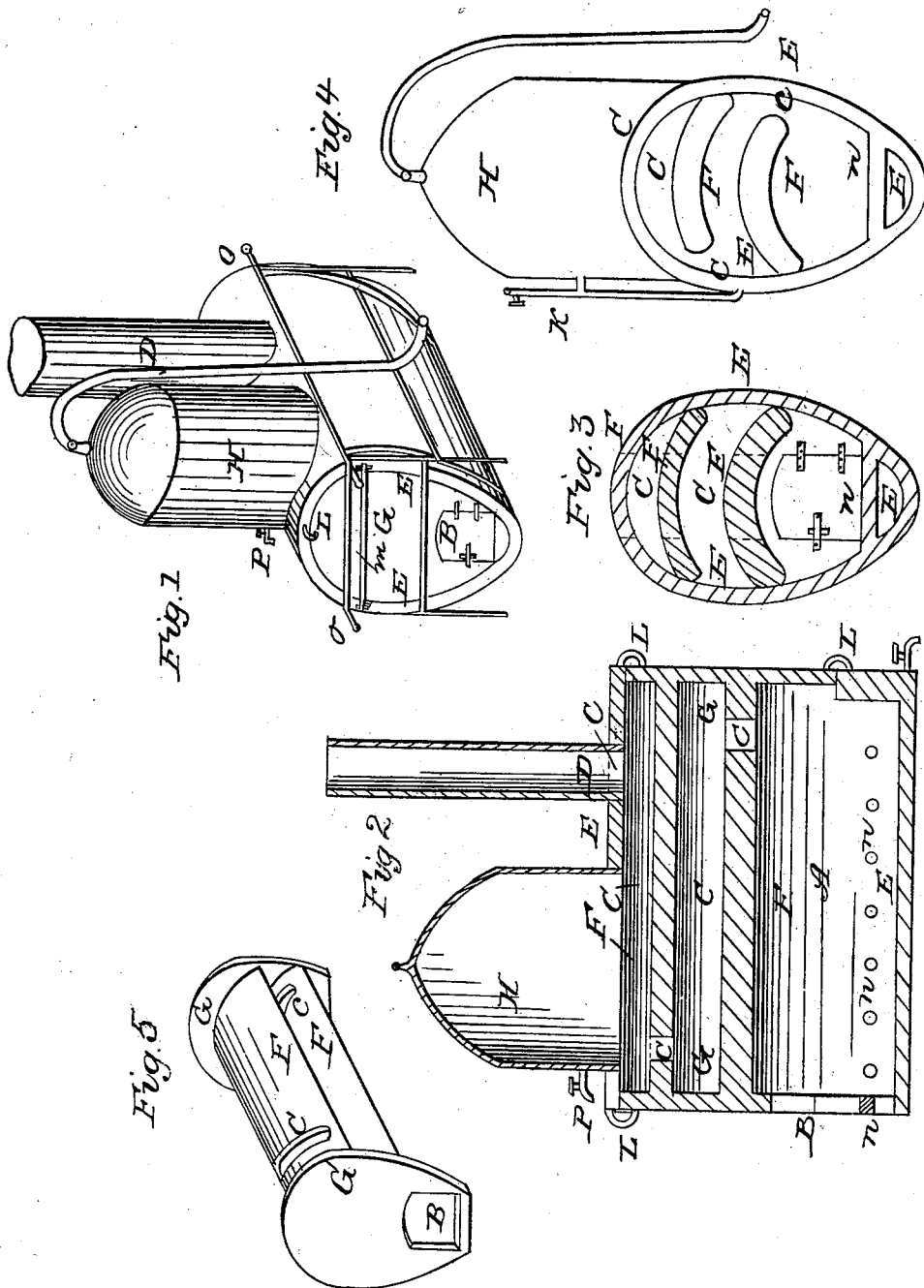


S. ATWATER.

Generator.

No. 2,926.

Patented Jan. 20, 1843.



Inventor  
Stephen Atwater.

# UNITED STATES PATENT OFFICE.

STEPHEN ATWATER, OF ROCHESTER, NEW YORK.

## PORTABLE STEAM-GENERATOR FOR CULINARY AND OTHER PURPOSES.

Specification of Letters Patent No. 2,926, dated January 20, 1843.

*To all whom it may concern:*

Be it known that I, STEPHEN ATWATER, of the city of Rochester, in the county of Monroe and State of New York, have invented a new and useful portable steam-generator for heating water, and steaming food, designed to be of great use in domestic and manufacturing purposes, inasmuch as it heats rapidly by steam generated by a very small quantity of fuel, to be denominated "Atwater's portable steam-generator;" and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figuré 1 is a perspective view; Fig. 2 a longitudinal elevation or section; and Fig. 3 is a transverse section, and Fig. 4 is a modification of Fig. 3, which would in some cases be an excellent arrangement; and Fig. 5 is a perspective view of the interior division of the boiler, representing the hollow sliding boiler heads, and the curved interior boilers which connect them together.

The following explanation of the annexed drawings will give a correct description of the different parts of this invention.

A, Fig. 2, is the fire place in which the fire rests on hollow grates; B door or entrance into fire place.

C C C C are the flues so constructed by pipes passing through the interior curved boilers as to revert the fire and smoke from end to end as in Fig. 2 or by an arrangement of the interior curved boilers, as shown in Fig. 4; it reverts from side to side of the cylinder. D, smoke pipe, being a common stove pipe.

E E E, Figs. 3 and 4, is the surrounding shell or cylinder of the boiler, may be made in any required form, and is formed by two sheets of tin, copper, or other metal, so connected at their ends as to maintain a sheet of water-enveloping the fire, interior boilers and flues, completely. F F, Fig. 5, one, two, or more curved, and nearly concentric interior boilers, laying over each other with their concave sides down, and running into the hollow sliding "boiler heads."

G G, Fig. 5, are the hollow sliding boiler heads, so constructed as to maintain a sheet of water in each end of the cylinders to which they are fitted, and into which they slide from one end. These are connected by the interior curved boilers F F as shown in

the drawings. These heads are connected with the cylinder by means of the pipes L L L, through which the water and steam pass freely.

H, Figs. 1, 2, and 4, is the steam chamber and may also be used to contain water to be exhausted in steam. I, steam pipe by which the steam is conducted to the box or barrel containing the material to be boiled, or heated up.

K is a tube through which by a funnel, the boiler may be replenished with water, when required.

L L L are curved, or angular pipes, connecting the two separable parts of the boiler, through which the water and steam pass freely. These must be so made as to be readily attached by packing, winding or by the use of couplers, or by any of the ordinary ways of joining pipes. M, Fig. 1, a latch or sliding bar, resting in retches riveted or otherwise attached to the end of the boiler cylinder, across which this bar passes for the purpose of keeping the interior and exterior divisions of the boiler from getting out of their relative places. This bar may be of iron, or any other metal of requisite stiffness. N N N, hollow grates through which the water must pass freely. O O, frame on which the boiler rests, made of iron or wood. The boiler rests in straps of sheet iron, or other metal passing under it, and fastened to the hand bars. The frame may be made in any required form. P, a try cock.

In the construction of this steam generator, copper, tin, or any other suitable material may be employed; joined either by riveting, soldering, or by any other method used in similar work, and when great pressure is to overcome the different parts of the boiler must be braced thoroughly in all necessary places.

I do not claim any of those parts, such as steam chamber, hollow cylinder, hollow grates, revertible flues, or anything else that now enters, and which have for years entered into the formation of common steam boilers, but

What I do claim as original with myself, and which I do most respectfully desire to secure by Letters Patent, is—

That combination of hollow sliding heads with curved and nearly concentric interior boilers, with the flues arranged as above described. This combination is separable from

the exterior shell, or cylinder, communicating with it by pipes on the outside, which are made to be easily joined or detached. By this it will be seen that the boiler is in  
5 two parts, an interior and an exterior. The interior part is fitted to the exterior, as to be easily drawn out at one end. Be it understood that I confine my claim exclusively to the combination of curved, and nearly  
10 concentric boilers, placed over each other with their concave sides down; the ends of which run into the hollow sliding boiler

heads, the whole so fitted to the exterior part of the boiler as to slide in and out at one end, and also the above method of ar- 15 ranging the flues. The object of this arrangement is to render all parts of the boiler readily accessible for cleaning and for repairing.

STEPHEN ATWATER.

Witnesses:

EMMOR HAINES,  
LEWIS I. LESLIE.