

L. S. LAWSON.

STAND BOILER.

APPLICATION FILED MAY 21, 1908.

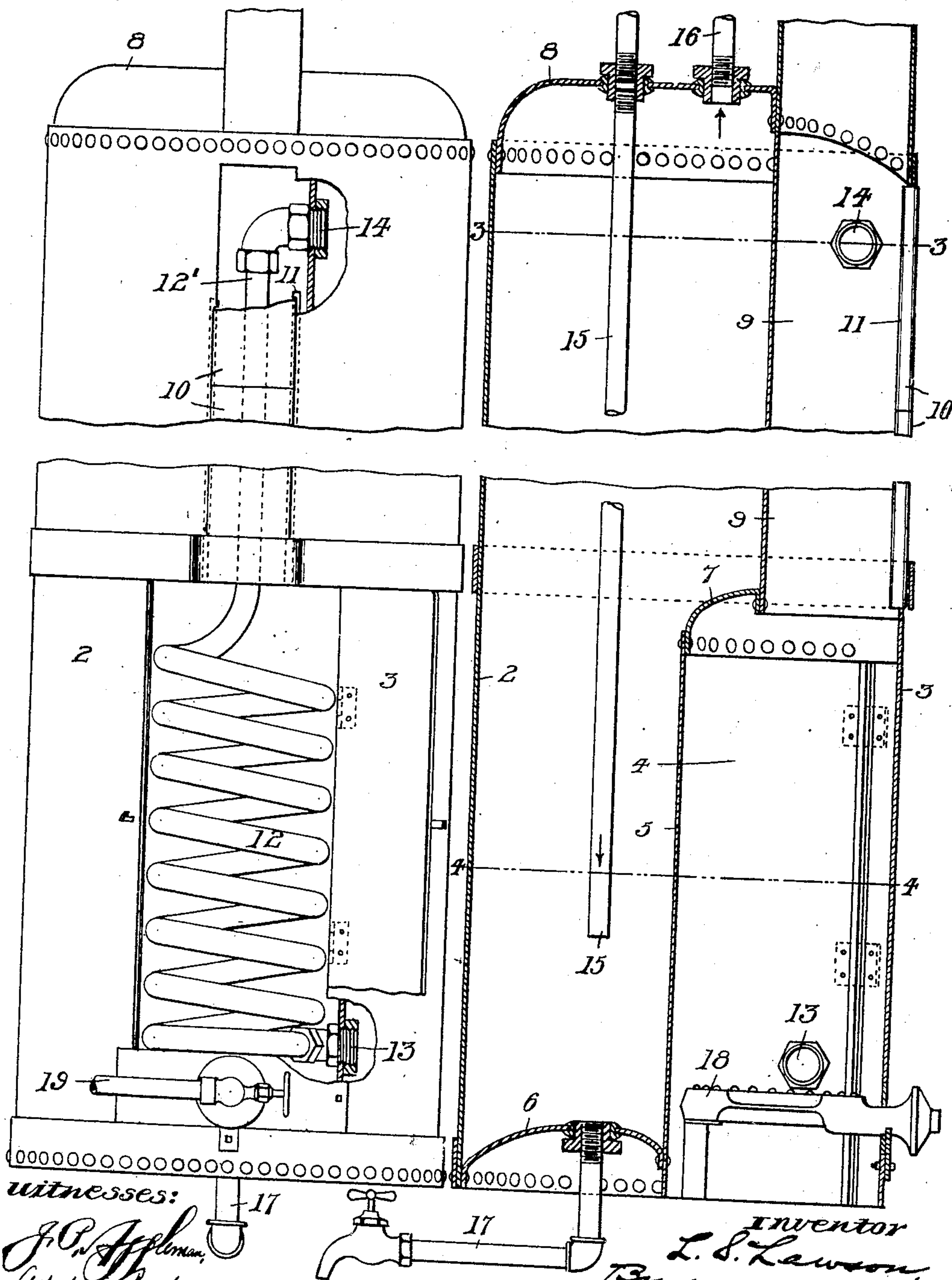
925,202.

Patented June 15, 1909.

2 SHEETS—SHEET 1.

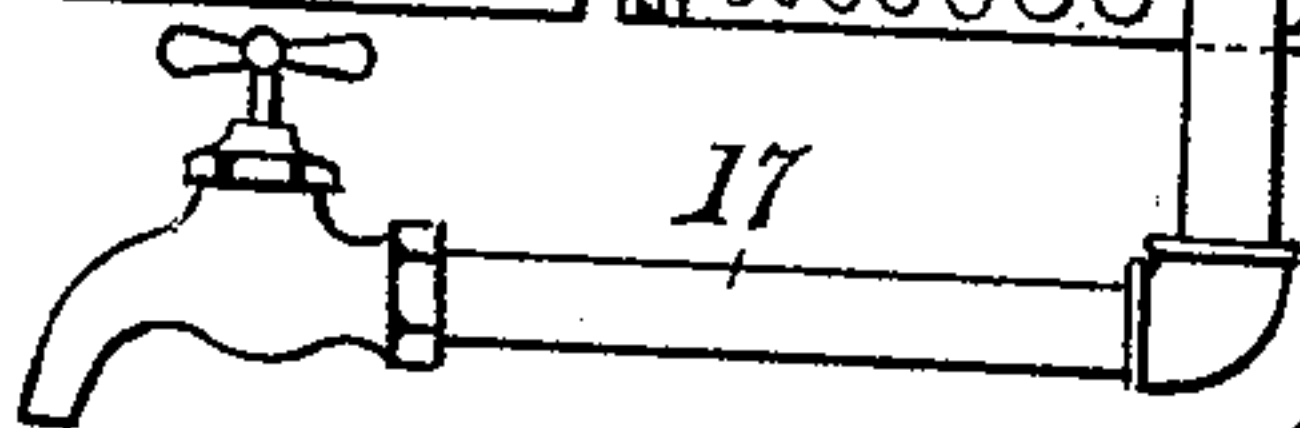
Fig. 1.

Fig. 2.



witnesses:

J. O. Appleman,  
Witness



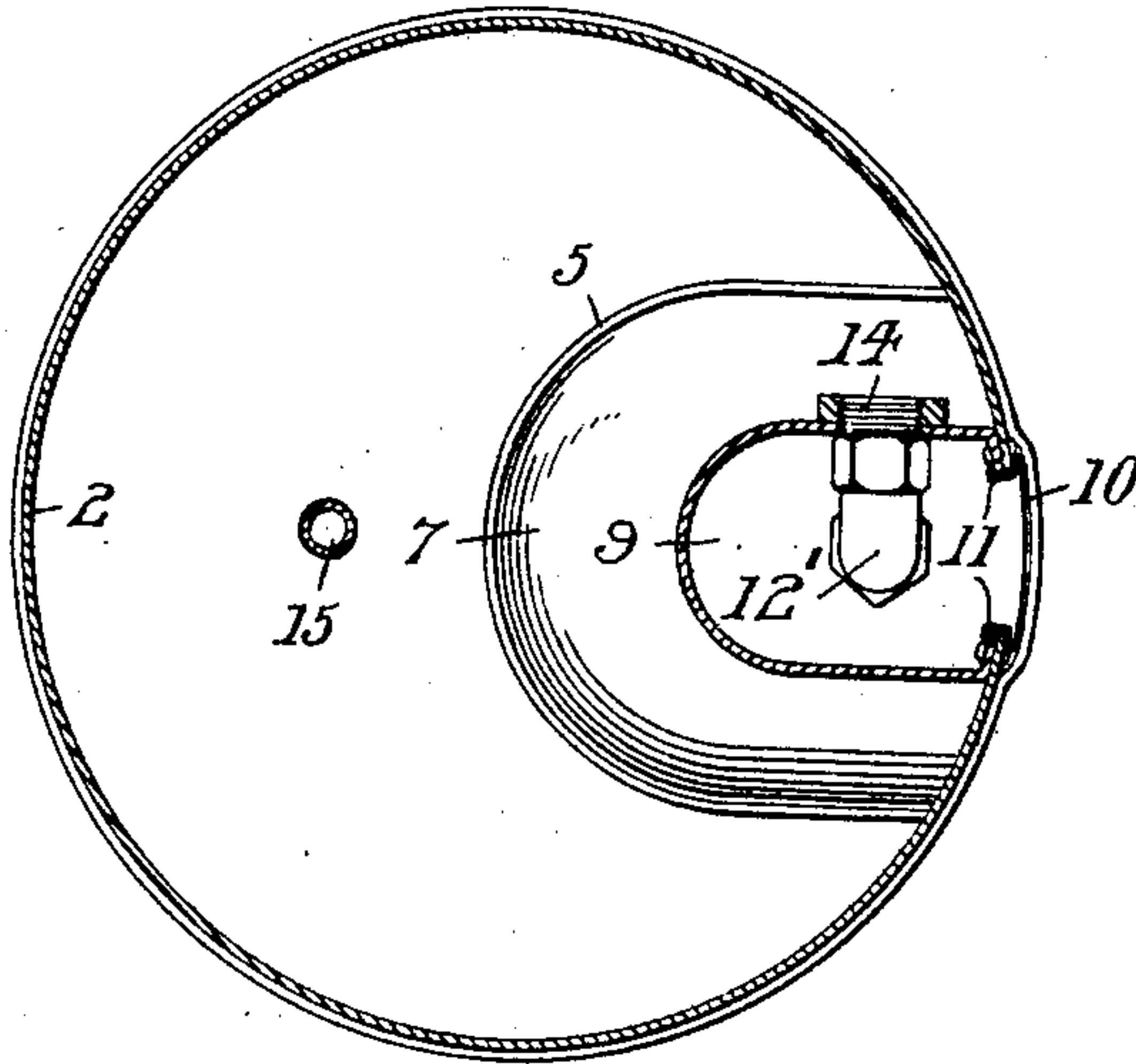
Inventor  
L. S. Lawson,  
By J. O. Appleman  
att.

925,202.

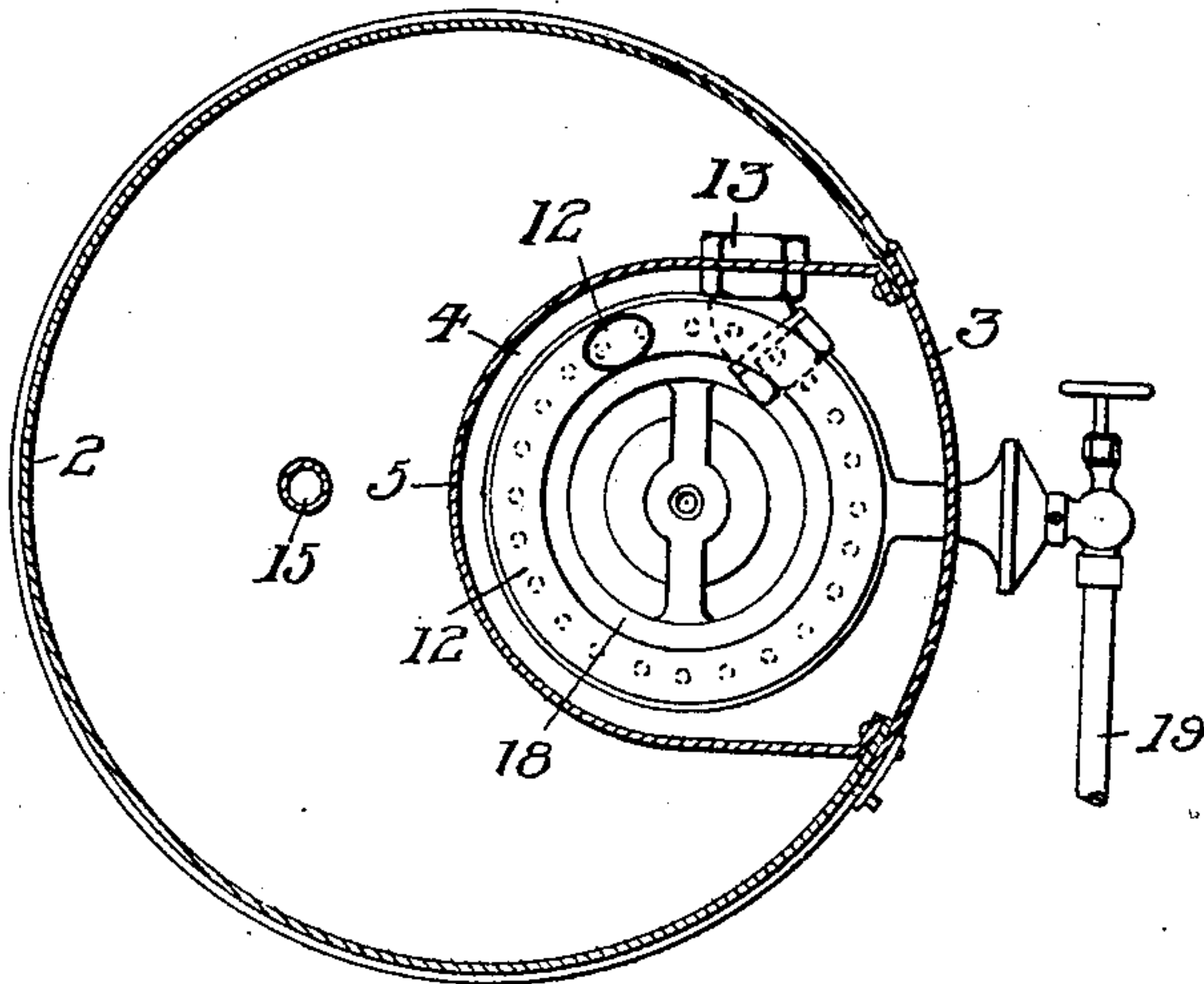
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2 SHEETS—SHEET 2.

*Fig. 3.*



*Fig. 4.*



witnesses:

*J. R. Appelman,*  
*Arthur Abraham*

Inventor  
*L. S. Lawson,*  
*By Geo. D. Smith*  
*Atty.*



# UNITED STATES PATENT OFFICE.

LINDLEY S. LAWSON, OF HOMESTEAD, PENNSYLVANIA.

## STAND-BOILER.

No. 925,202.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed May 21, 1908. Serial No. 434,103.

*To all whom it may concern:*

Be it known that I, LINDLEY S. LAWSON, a resident of Homestead, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Stand-Boilers, of which the following is a specification.

The object of this invention is to provide a stand or range boiler of improved construction having means within the boiler for rapidly heating the water, whereby both the water container and the heating means are incorporated in a single structure.

The invention is designed as an improvement in water heating apparatus now largely used, consisting of a small cylindrical gas-burning heater positioned at one side of the boiler with the coil of the heater connected at its upper and lower ends to the boiler.

In the accompanying drawings, Figure 1 is a front elevation, partly broken, of a stand boiler constructed in accordance with the invention, the coil chamber door being shown open. Fig. 2 is a vertical section with the coil omitted. Figs. 3 and 4 are sectional plans, taken respectively on lines 3—3 and 4—4 of Fig. 2.

Referring to the drawings, 2 indicates the external cylindrical shell of the boiler which is not essentially different in outside appearance from those in general use, excepting that on one side it is provided with a hinged door 3 for gaining access to the coil compartment 4. This coil compartment is located within the lower portion of the boiler, and as here shown consists of the upright curved wall 5 united with wall 2 and the boiler bottom 6 and forming an inset compartment which is closed by door 3. The crown 7 of compartment 4 is fitted to the upper end of wall 5 and to wall 2 for sealing the upper end of compartment 4 from the main water chamber, and extending from crown 7 upwardly through the boiler crown or top 8 is the flue passage 9, which latter may connect with a chimney or be provided with any other suitable outlet. This flue, though smaller than the coil compartment, is built into shell 2 in like manner, the opening through the shell being closed by removable sheet metal plates 10 having the channel-like bent edges 11 which embrace the edges of shell 2, the plates being slid upwardly into place and removed through the longer opening beneath closed by door 3. Within compartment 4 is the upright coil

12 having its lower end open at 13 to the lower portion of the water chamber. The coil-forming pipe is extended upward from the coil into flue 9, as indicated at 12', and opens laterally therethrough into the upper portion of the water chamber, as shown at 14.

15 is the dip pipe fitted in crown 8 which discharges the inflowing cold water into the lower portion of the boiler, and 16 is the hot water outlet.

17 is the drain fitted in bottom 6.

Any suitable means may be provided for heating the coil. A gas burner is preferably used, 18 indicating one form thereof.

19 is the gas supply pipe.

The advantages of the invention are that the boiler and the heating means are inclosed within a single structure. The space within the boiler shell occupied by the coil chamber is of no disadvantage, particularly in view of the fact that all the heat radiated through the coil-inclosing wall 5 is transmitted directly to the water and is not wasted as in those forms of apparatus having the heater located outside the boiler. And the same is true of the flue which is fully exposed to the water clear to the top of the boiler. Door 3 and removable plates 10 give ready access to the coil chamber and flue for cleaning and other purposes.

I claim:—

1. A stand water boiler having an inset chamber in a vertical side thereof and open laterally with means for closing the opening, and a water circulating coil and gas burning means within said chamber.

2. A stand water boiler having two laterally open and communicating chamber-forming insets in a vertical side thereof arranged one above the other, the chambers being open laterally with means for closing the openings, the upper chamber being smaller than the lower chamber and forming a flue therefor, and a water circulating coil and a gas burner located within the lower inset chamber.

3. A stand water boiler having two laterally open and communicating chamber-forming insets in a vertical side thereof arranged one above the other, closures for the open sides of the chambers, the upper chamber being smaller than the lower chamber and forming a flue therefor which extends through the top of the boiler at one side of its center, and a water circulating



coil and a gas burner within the lower chamber.

4. A stand boiler comprising a shell inclosing a water chamber, the shell having at one side an inset coil chamber open laterally through the shell, a flue pipe extending from the coil chamber upwardly through the water chamber, a coil within the coil chamber with the upper portion of the coil forming pipe extending upwardly in the flue pipe and open laterally therethrough to the upper portion of the water chamber, the lower end of the coil communicating with the lower portion of the water chamber, and coil heating means.

5. A stand boiler comprising an upright shell open at one side for a distance upwardly from its lower end, a chamber forming wall within and secured to the walls of the shell and forming an inset compartment inwardly from the open side of the shell, a flue pipe extending from said compartment upwardly through the water chamber, an upright coil within said compartment and at its upper and lower ends communicating with the water chamber, and coil heating means.

6. A stand boiler consisting of an upright

shell open vertically at one side, an inset wall secured within the lower portion of the shell at said open side and forming a coil chamber, a similar inset wall smaller than said chamber-forming wall and secured to the open side of the shell and forming an upward continuation of the chamber and connected to the water space within the shell, coil heating means, and removable means closing the open side of the shell.

7. A stand boiler consisting of shell 2 having bottom 6 and crown 8, the lower portion of the shell open at one side, a door for the opening, upright inwardly curved wall 5 secured at its edges to shell 2 at opposite sides of the door opening and at its lower end to bottom 6, crown 7 secured to wall 5, flue 9 extending from crown 7 through the upper portion of shell 2 and open through crown 8 of the shell, and the coil within the chamber formed by wall 5 and communicating with the interior of shell 2.

In testimony whereof I affix my signature in presence of two witnesses.

LINDLEY S. LAWSON.

Witnesses:

W. J. HENDERSON,  
JOHN W. BAINBRIDGE.