

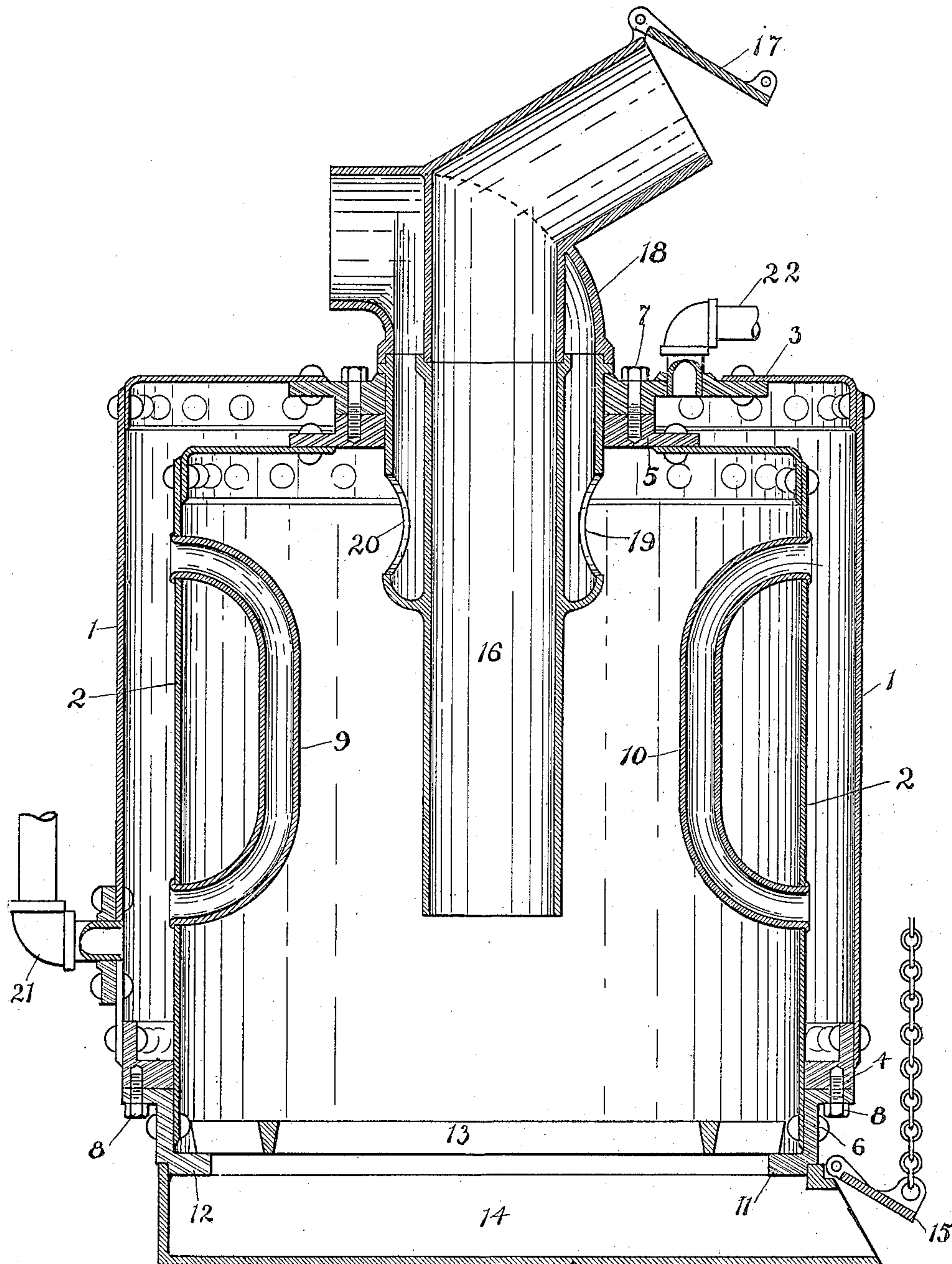
No. 821,304.

PATENTED MAY 22, 1906.

C. H. MEYERS & E. LOUDENSLAGER.

WATER HEATING BOILER.

APPLICATION FILED MAY 29, 1905.



WITNESSES:

Ernest F. Loudenslager
Jacob D. Esper

INVENTORS

Charles Henry Meyers
Edward Loudenslager

UNITED STATES PATENT OFFICE.

CHARLES HENRY MEYERS AND EDWARD LOUDENSLAGER, OF COLUMBUS,
OHIO.

WATER-HEATING BOILER.

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Specification of Letters Patent.

Patented May 22, 1906.

Application filed May 29, 1905. Serial No. 262,838.

To all whom it may concern:

Be it known that we, CHARLES HENRY MEYERS and EDWARD LOUDENSLAGER, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Boilers Designed to be Used in Connection with Hot-Water Heating Apparatus, of which the following is a specification.

Our invention relates to improvements in hot-water heating-boilers in which the inner and outer shells of the boiler are so connected together by suitable flanges or rings as to allow convenient separation for the cleaning and inspection of the inner surfaces of the plates, and is fully illustrated by a vertical section in the accompanying drawing, in which—

1 is the outer shell of the boiler; 2, the inner shell.

3 and 4 are steel rings or flanges riveted, respectively, to the top and bottom edges of 1, and 5 and 6 are similar rings or flanges riveted, respectively, to the top and bottom edges of 2. The flanges 3 and 5 and 4 and 6 are so finished on their articulating surfaces as to form water-tight joints when bolted together by the cap-screws 7 and 8.

While we prefer to attach the two shells in the manner described, it is obvious that the edges of the plate might be bent to form the required flanges or other means might be found for securing the same result.

9 and 10 are water-tubes extending into the fire-box for the purpose of increasing the heating-surface of the boiler. The ring 6 is provided with suitable projections 11 and 12 for the support of the grate 13.

14 is the ash-pan, and 15 the draft-door.

The cylindrical magazine 16 extends through the top of the boiler into the fire-box for the introduction of fuel, its top being closed by the lid 17. The upper part of the magazine 16 is surrounded by the smoke-chamber 18, the sides of which are perforated with the holes 19 and 20, through which the products of combustion pass on their way to the chimney.

21 and 22 are respectively the inlet and outlet pipes by which the boiler is connected to the heating system.

In the operation of this boiler the fuel is admitted to the fire-box through the maga-

zine 16, is burned on the grate 13, the draft being controlled by the draft-door 15. The gases pass upward in contact with the inner shell 2 and water-tubes 9 and 10, imparting their heat to the inclosed water, then passing on through the openings 19 and 20 into the smoke-chamber 18, and so on to the chimney. After the boiler has been in use for a considerable time the inner surfaces of the shell and water-tubes become incrustated with lime and other impurities from the water, in which case by the removal of the cap-screws 7 and 8 the inner and outer shells of the boiler may be separated, allowing ready access to their inner surfaces for the purpose of cleaning.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a boiler, the combination with an inner shell provided with rings at its top and bottom, the lower ring being provided with an inwardly-projecting flange, of an outer shell adapted to fit over the inner shell, and provided with similar rings at its top and bottom, the upper ring being provided with an outwardly-projecting perforated portion, the pipe secured in said perforation, and a magazine-pipe passing through the top rings of the inner and outer shells, and provided with a perforated smoke-flue, for the purpose described.

2. In a boiler, the combination with an inner shell, provided with flanged rings at its top and bottom, of an outer shell provided with rings adapted to rest on said flanges, the upper ring being provided with an apertured member, a grate resting on the flange of the inner shell, and an inlet-pipe projecting through the rings of the inner and outer shells, and surrounded by a smoke-flue having perforations formed adjacent its lower end, for the purpose described.

3. In a boiler, the combination with an inner shell provided with flanged rings at its top and bottom, of an outer shell provided with flanged rings at its top and bottom fitting over the inner shell, the flanges of the outer shell resting on the flanges of the inner shell and adapted to be bolted together, water-tubes projecting inwardly from the inner shell, a grate resting on the flange of the inner shell, inlet and outlet pipes communicating in the space between the shells, a magazine-pipe passing downwardly through the

rings of the inner and outer shells, into the fire-chamber, provided with a door at its upper end, a chamber surrounding said pipe provided with an opening at its upper end
5 and with perforations at its lower end, for the purpose described.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

CHARLES HENRY MEYERS.
EDWARD LOUDENSLAGER.

Witnesses:

ERNEST F. LOUDENSLAGER,
JACOB D. ESPER.