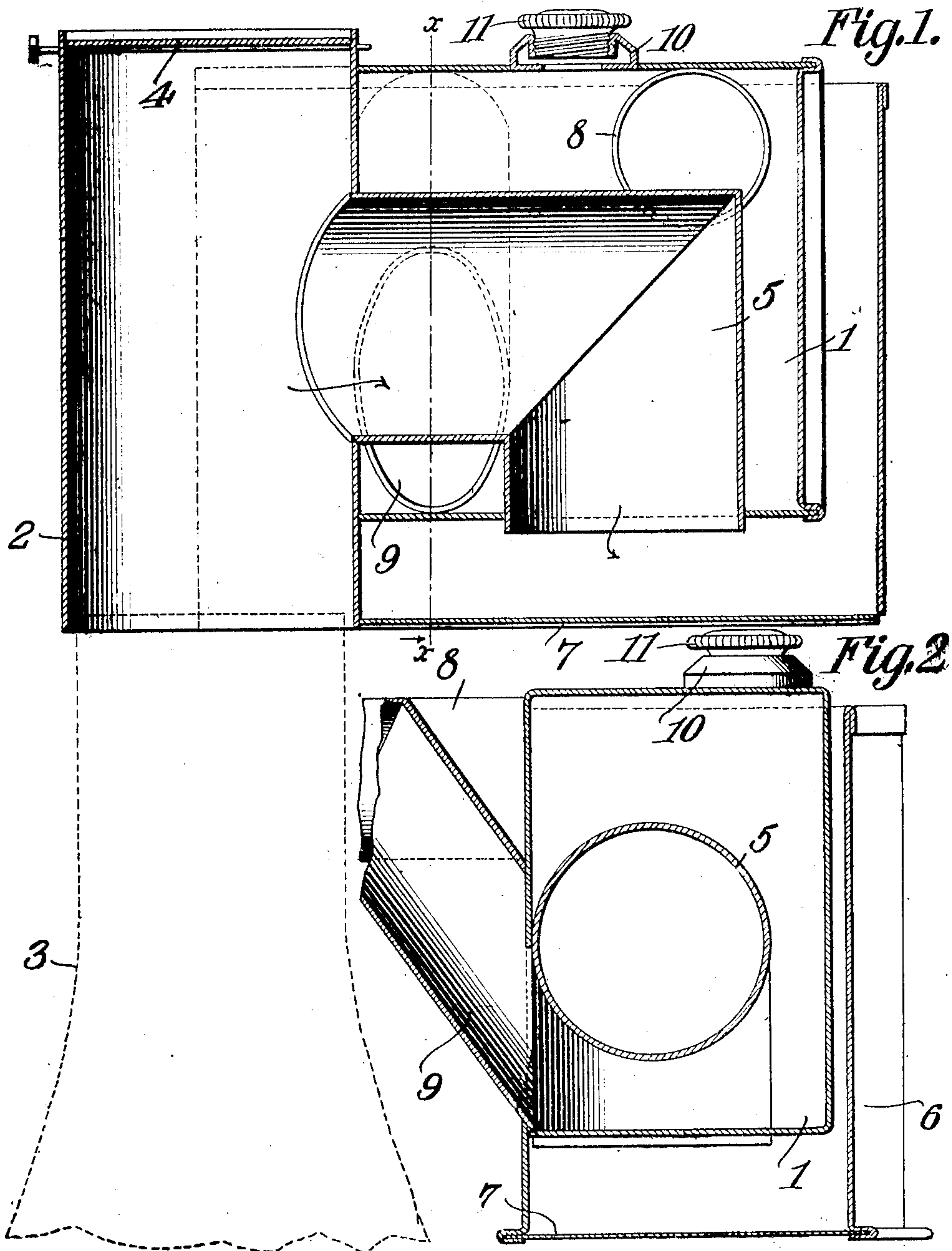


No. 875,871.

PATENTED JAN. 7, 1908

W. H. WAGNER.
INCUBATOR HEATER.
APPLICATION FILED FEB. 7, 1907.



WITNESSES:

E. H. [Signature]
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UNITED STATES PATENT OFFICE.

WILLIAM H. WAGNER, OF HEBRON, NEBRASKA

INCUBATOR-HEATER.

No. 875,871.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed February 7, 1907. Serial No. 356,227.

To all whom it may concern:

Be it known that I, WILLIAM H. WAGNER, a citizen of the United States, residing at Hebron, in the county of Thayer and State of Nebraska, have invented a new and useful Incubator-Heater, of which the following is a specification.

This invention relates to boilers for use in connection with hot water heating systems in incubators or the like.

The object of the invention is to provide a boiler which is of simple and inexpensive construction and which will distribute the products of combustion from a lamp or other heater in such a thorough manner as to quickly raise the temperature of the water within the boiler and establish a circulation through the system.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a longitudinal section through the device; and Fig. 2 is a transverse section therethrough on line $x-x$, Fig. 1.

Referring to the figures by characters of reference, 1 is a water receptacle preferably rectangular in form and having one end wall formed by a chimney 2 adapted to be placed above the lamp 3 or other device used for heating the water. A damper 4 is arranged at the upper end of the chimney for the purpose of controlling the discharge of hot gases therefrom. Extending from the chimney is an L-shaped flue 5 which is disposed entirely within the receptacle 1 and opens downward through the bottom of said receptacle. This flue is in contact with the inner face of one wall of the receptacle so that it becomes impossible for water to circulate between the flue and that wall of the receptacle with which it contacts. A jacket 6 is arranged upon one end and one side of the receptacle and the upper end of this jacket is open while the lower end is normally closed by means of a slide 7. An outlet pipe 8 extends from the upper portion of one side of the receptacle 1 and an inlet pipe 9 extends into the same side at a point below the flue 5. A filling opening 10 is formed in the top of the receptacle and is normally closed by means of a cap 11.

In using the boiler a lamp is placed beneath the chimney 2 and if the damper 4 is open the products of combustion will escape directly through the upper or outlet end of the chimney. By closing this damper, however, the hot gases will be deflected into the flue 5 and will pass downward therethrough into the bottom portion of the jacket and will then spread over the bottom to one side and end of the receptacle and escape from the top of the jacket. The hot gases will thus come into direct contact with the two ends, the bottom and one side of the water receptacle and will also contact with the walls of the flue 5. A very large heating surface is thus produced and the water within the receptacle may be quickly heated to a high temperature. The circulation will of course be established outward through the upper pipe 8 and inward through the lower pipe 9, and as the flue 5 is connected directly to that wall of the receptacle to which the pipes 8 and 9 are secured it is obvious that the water will be prevented from passing directly from the pipe 9 to the pipe 8 but will be deflected laterally by the flue toward the opposite wall of the receptacle before it can pass into the outlet pipe.

The device is very simple and inexpensive in construction and the interior parts thereof are all preferably constructed of copper or any other material which will readily conduct heat. By providing the peculiar arrangement of jacket, flue, etc., practically all of the heat may be utilized for heating the water. It is of course understood that by manipulating the damper 4 the heating effect may be increased or diminished.

By forming the bottom of the jacket of a removable slide it is possible by removing said slide to readily clean the flue 5 and the interior of the jacket.

What is claimed is:

A boiler for heating systems comprising a water receptacle having a normally closed inlet, outlet and inlet pipes communicating with said receptacle and extending, respectively, from the upper and lower portions of one wall thereof, a chimney, said chimney and receptacle having one wall in common, an angular flue inclosed within the receptacle and disposed to direct products of combustion from the chimney and through the bottom of the receptacle, said flue contacting throughout its length with said wall of the receptacle

between the inlet and outlet pipes to prevent
direct flow of water from the inlet to the out-
let pipe, a jacket spaced from the receptacle
and open at the top, and a removable bottom
5 to said jacket disposed below the discharge
end of the flue.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

WILLIAM H. WAGNER.

Witnesses:

JAMES ELLIOTT,

H. H. Sisson.