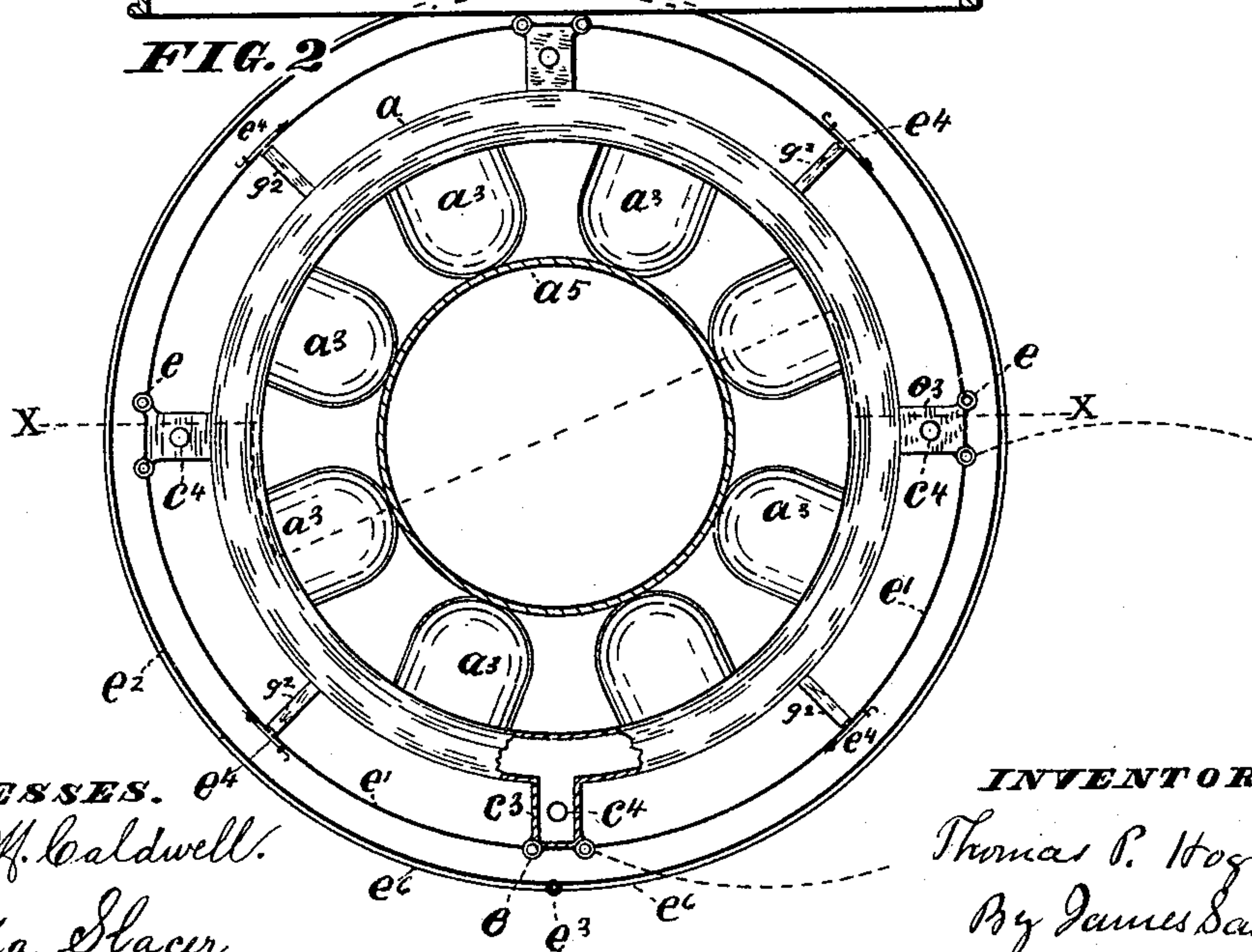
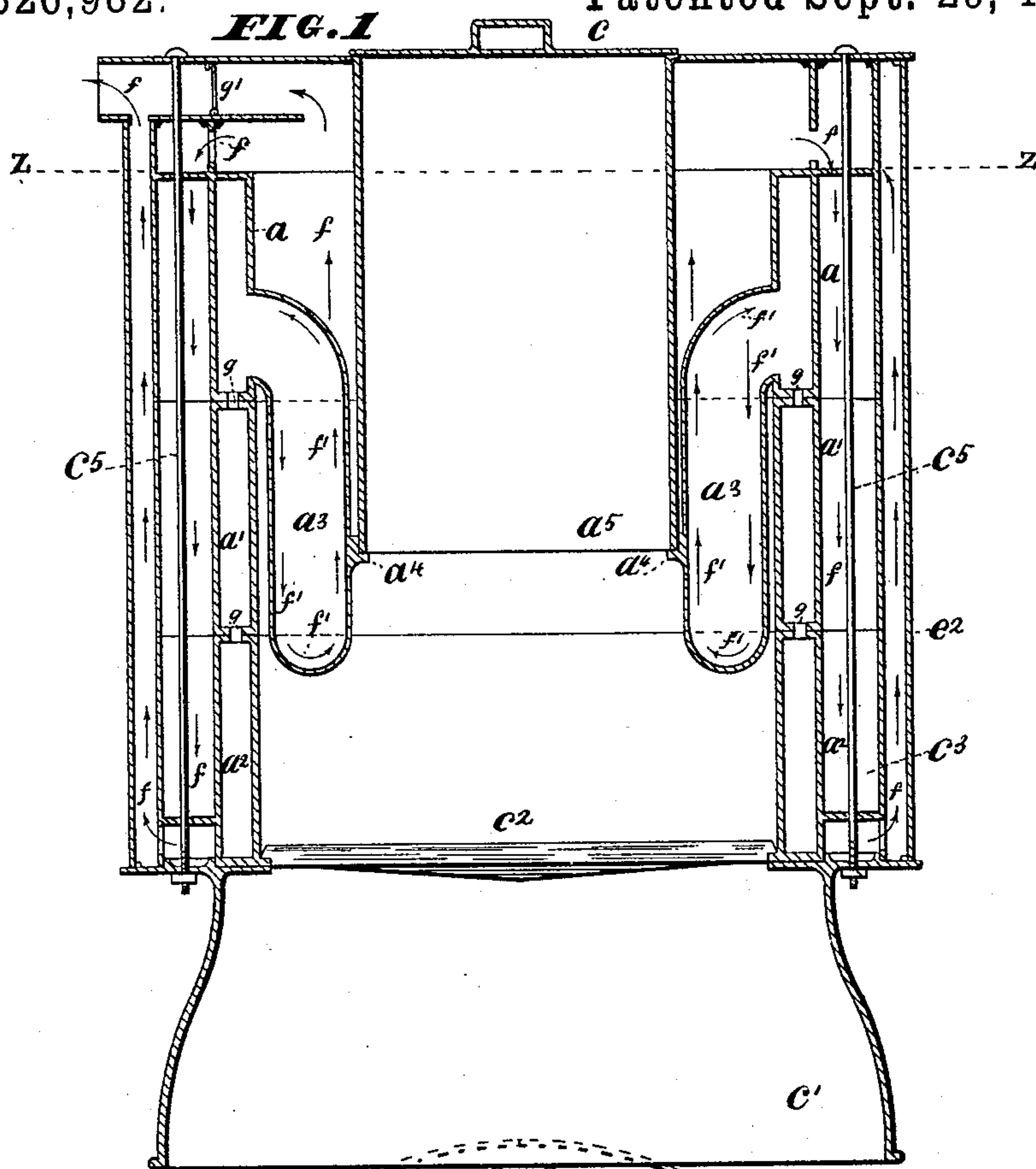


(No Model.)

T. P. HOGAN.
STEAM HEATING BOILER.

No. 326,982.

Patented Sept. 29, 1885.



WITNESSES. *Jessie M. Caldwell.*
W. Ada Slacer.

INVENTOR .
Thomas P. Hogan
By *James Sangster*
Att'y.

UNITED STATES PATENT OFFICE.

THOMAS P. HOGAN, OF BUFFALO, NEW YORK.

STEAM-HEATING BOILER.

SPECIFICATION forming part of Letters Patent No. 326,982, dated September 29, 1885.

Application filed December 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS P. HOGAN, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Steam-Heating Boilers, of which the following is a specification.

The object of this invention is to produce a cheaply-constructed, efficient, and durable sectional steam-heating boiler for heating buildings or other purposes, all of which will be fully and clearly hereinafter shown by reference to the accompanying drawings, in which—

Figure 1 is a vertical central section on line X X, Fig. 2, through the complete boiler; and Fig. 3 is a horizontal section through line Z Z, Fig. 1.

This boiler consists of a series of annular water-sections, $a a' a''$; but there may be more or less than the number of sections shown. One of the sections is provided with a series of downwardly-projecting hollow portions, a^3 . They are constructed so as to project down into the fire in the furnace, and are provided with projections a^4 , to receive the lower end of the magazine a^5 . The magazine-cover c is made in the ordinary way.

c' is the base of the boiler, made in the usual manner, and is provided with an ash-pan of any well-known construction. The furnace is also provided with the ordinary circular tipping or dumping grate, c^2 .

Each of the annular water-vessels is provided with an outwardly-projecting hollow portion, c^3 , having holes c^4 , through which the bolts c^5 pass and secure the whole together, and to each of which hinges e are secured for holding the doors e' , which form the inner casing. The object of the doors e' is to provide

the means for opening out the inside case, (after the outer case, e^2 , by opening the two halves e^6 , which are hinged together by a hinge, e^3 , has been taken off,) so that all the parts may be readily got at and cleaned, thereby providing a convenient means for taking out the soot, ashes, or dirt, that may gather during the operation of the furnace. These doors e' are secured, when closed, by an ordinary latch, e^4 , or by any other well-known means. In operating with this boiler the products of combustion take the course of the arrows f —first up through the furnace, then down through the flue, then into the outer flue, and up and out through the pipe. The arrows f' show the way in which the water circulates in the boiler.

I claim as my invention—

1. A steam-heating boiler consisting of a series of annular water-sections, each section being provided with outwardly-projecting hollow portions e^3 , having holes through which the bolts pass for securing the whole together, the upper section being provided with tubes formed in one piece with it, and which pass vertically downward between the water-sections and the magazine below the top of the lower water-section which forms the fire-box, as and for the purposes described.

2. A steam-heating boiler having the inner jacket composed of a series of doors, e' , secured by hinges to the portion e^3 of the water-sections, in combination with the outer jacket, e^2 , whereby all the flues may be readily got at, as described.

THOMAS P. HOGAN.

Witnesses:

JENNIE M. CALDWELL,
JAMES SANGSTER.