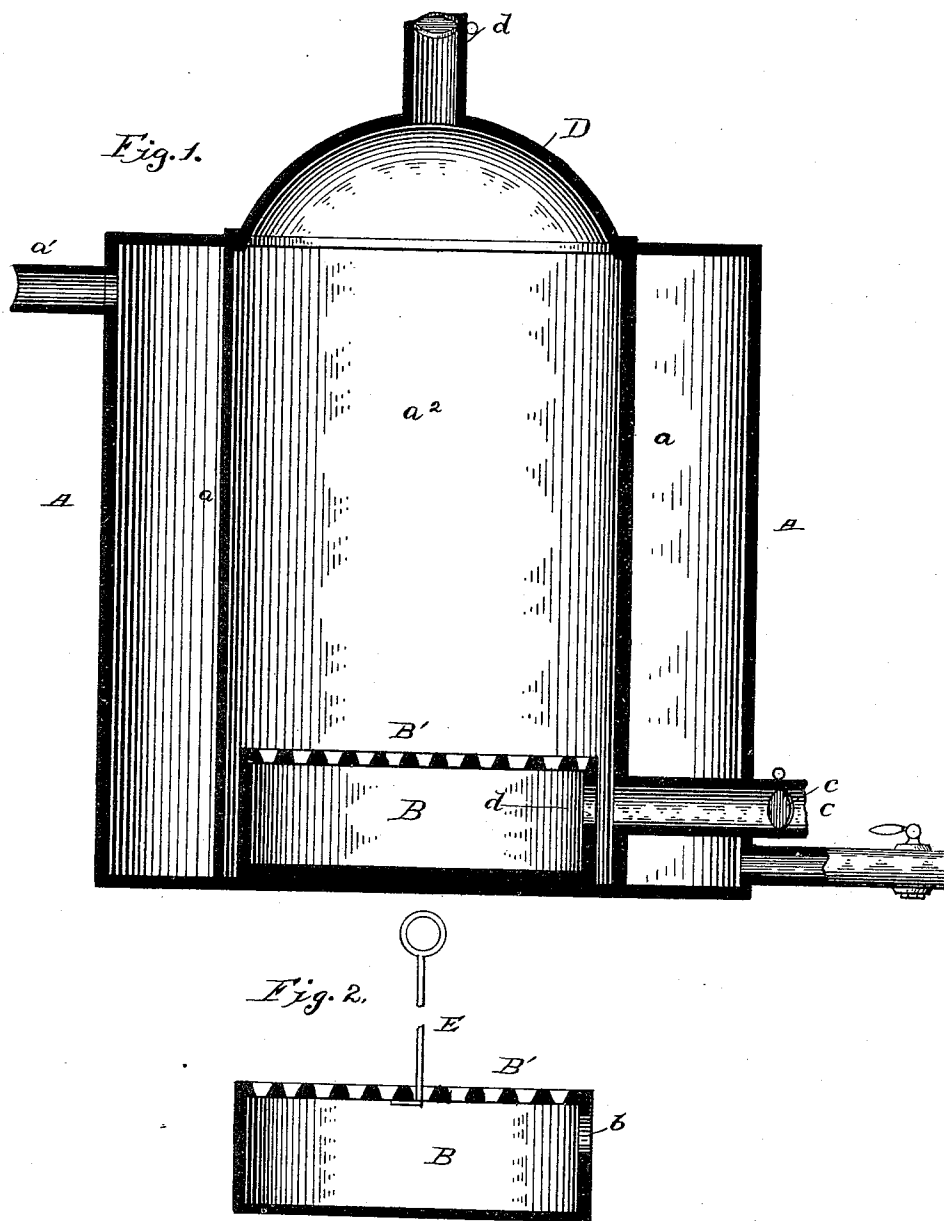


(No Model.)

J. BAUER.
BOILER.

No. 405,757.

Patented June 25, 1889.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES BAUER, OF YORK, NEBRASKA.

BOILER.

SPECIFICATION forming part of Letters Patent No. 405,757, dated June 25, 1889.

Application filed February 1, 1889. Serial No. 298,315. (No model.)

To all whom it may concern:

Be it known that I, JAMES BAUER, a citizen of the United States of America, residing at York, in the county of York and State of Nebraska, have invented certain new and useful Improvements in Boilers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention is directed to an improvement in water-heaters especially designed to heat or warm a surrounding body or column of water; and it consists of a receptacle or tank having an annular water space or chamber and centrally thereof a combustion-chamber, being adapted to contain a fire-grate applied to an ash-pit having a draft-opening in alignment with an air-inlet pipe suitably valved, while to a removable cover supplied to the inner chamber of the receptacle or tank is furnished a valved smoke exit or stack, as will be more fully understood from the following description and illustration, in which—

Figure 1 is a sectional elevation of my improved heater; and Fig. 2 is a similar view of the combined fire-grate and ash-pan removed from the tank or receptacle, and with its manipulating or removing hook applied thereto as in use.

In the embodiment of my invention I employ a tank or receptacle A, having an annular chamber or compartment *a* to contain or hold water, inlet and outlet pipes *a'* *a'* being provided for supplying the water thereto for heating and for its withdrawal after having been heated. This tank or receptacle has also a central or inner chamber or compartment *a*², being the combustion-chamber, within which is placed or disposed the ash-pan B, having combined therewith a fire-grate B', secured upon the upper edge of the pan. The ash-pan has a draft-opening *b* in one end.

C is the air-inlet pipe, having an air-regu-

lating valve or damper *c* in its outer portion. This pipe is arranged in alignment with and has its inner end opposite to the draft-opening *b* of the ash-pan to supply therethrough, under the fire-grate, the requisite amount of air to aid combustion.

The central or combustion chamber *a*² is fitted at its top edge with a cover D, which has a central smoke-exit pipe or stack *d*, also provided with a valve or damper *d'* for controlling the draft.

E is a handled or looped hook, which is adapted when grasped by the hand to engage or take hold of the fire-grate and permit of the convenient and expeditious lifting of the ash-pan with the fire-grate out of the combustion-chamber of the tank or receptacle when the same needs the removal of the ashes, &c.

By the aforesaid arrangement of parts it will be observed that the direct or immediate action of the caloric or heat is exerted or caused to impinge upon the water in the tank or receptacle, thus expediting the heating or warming of the water, while it is readily withdrawn when required for use as above noted.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The water-heater having the outer annular water-chamber, the central or inner combustion-chamber, the combined ash-pan and fire-grate, the cover having a valved central smoke exit or stack, and a valved air-inlet pipe arranged in alignment with and having its inner end opposite a draft-opening in the ash-pan, substantially as set forth.

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

JAMES BAUER.

Witnesses:

C. M. COWAN,
J. A. NEWMAN.