(No Model.) 2 Sheets—Sheet 1.

J. P. B. SADTLER.

WATER HEATING BOILER.

No. 588,016. Patented Aug. 10, 1897.

Fig. 1.

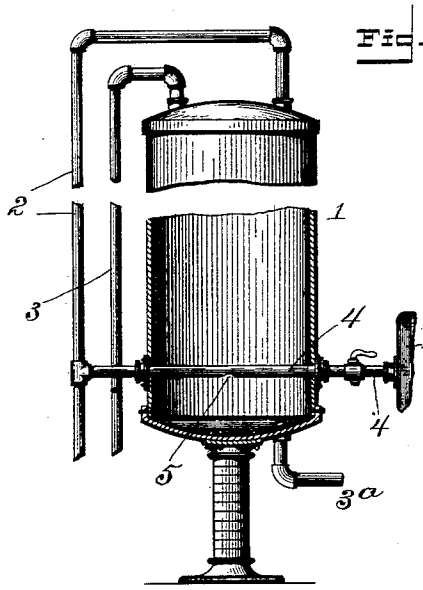


Fig. 1a.

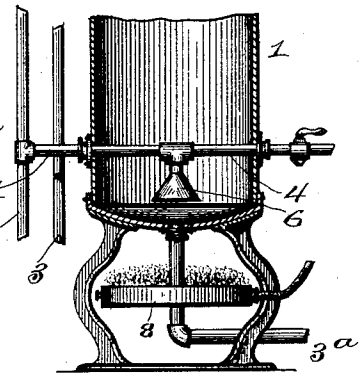


Fig. 2.

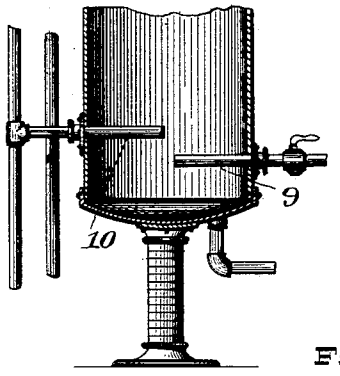


Fig. 3.

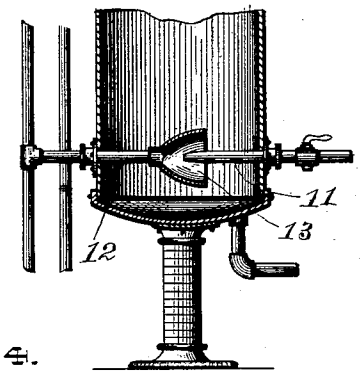
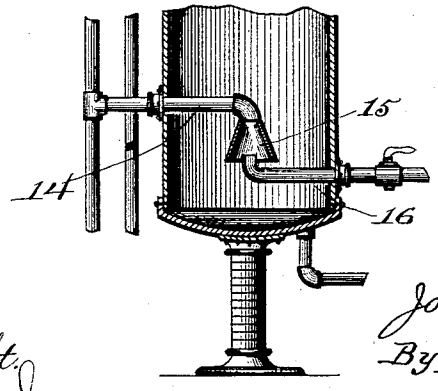


Fig. 4.



Witnesses:
Fenton S. Pelt.
John S. Stumpf.

Inventor:
John P. B. Sadtler
By C. F. Pelt
Attorney.

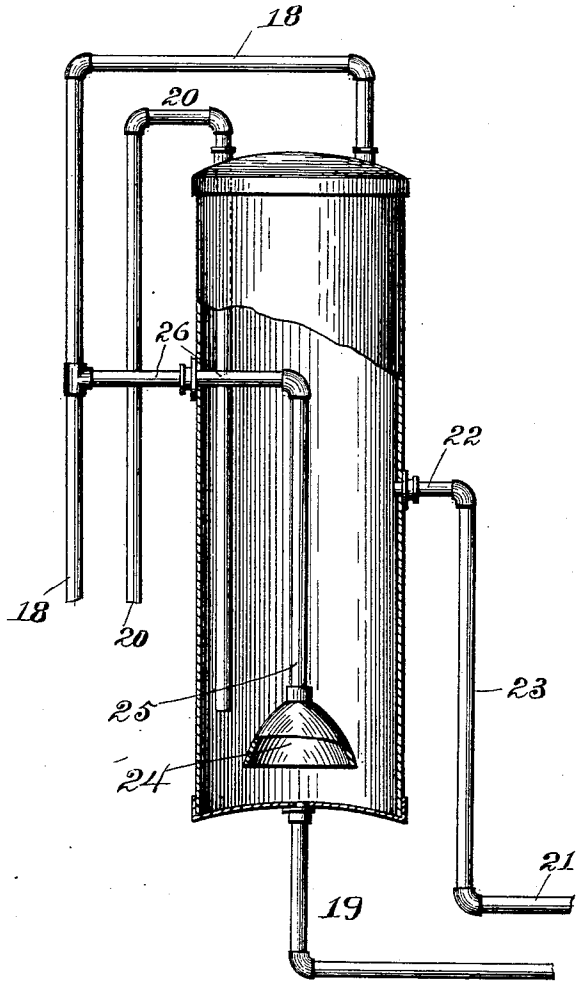
(No Model.) 2 Sheets—Sheet 2.

J. P. B. SADTLER.

WATER HEATING BOILER.

No. 588,016. Patented Aug. 10, 1897.

Fig. 5.



Witnesses
Fenton S. Belt.
John S. Stumpf

Inventor
John P. B. Sadtler
By C. F. Pelz
Attorney

UNITED STATES PATENT OFFICE.

JOHN P. B. SADTLER, OF BALTIMORE, MARYLAND.

WATER-HEATING BOILER.

SPECIFICATION forming part of Letters Patent No. 588,016, dated August 10, 1897.

Application filed February 16, 1897. Serial No. 623,719. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. B. SADTLER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Water-Heating Boilers, of which the following is a specification.

This invention relates to an improvement in water heating, and particularly to a water-heating boiler.

The invention is designed to render the ready and quick use of water in a range or other water-heating boiler immediately upon the entry of hot water from the range water-back into the boiler, or when the range is cut off to render the water heated in the boiler by heat applied at the bottom ready for immediate use without circulating the water through the boiler in the usual manner.

The prime object of my invention is to provide a water-heating tank or boiler having the usual water-circulating pipes, with a supplemental pipe connection from the boiler to the usual hot-water-discharge pipe, whereby hot water may be obtained for use as it enters the boiler or as it may be heated therein without heating a great body of water or without circulating such heated water through the boiler and through the usual hot-water-discharge pipe in the usual manner.

A further object of the invention is to provide an ordinary water heating and circulating boiler with means whereby hot water may be passed transversely through or from the boiler and rendered ready for immediate use simultaneously with the heating of the water without the necessity of circulating the hot water through the boiler and hot-water-discharge pipe in the usual manner.

The invention consists in the novel construction and arrangement of parts, and resides, essentially, in making a supplemental hot-water connection from the boiler to the usual hot-water-discharge pipe, so that at whatever point in the boiler the water is of greatest heat hot water may be drawn directly from such point.

In the accompanying drawings, forming part of this application, Figure 1 is an elevation, partly in section, of an ordinary range-boiler connected to a water-back, showing my invention applied. Fig. 1ª is a similar view showing a hood depending from the transverse pipe with a gas-burner applied. Fig. 2 is a similar view showing the transverse pipe of Fig. 1 divided and without a hood. Fig. 3 shows the transverse pipe divided, one end of which is enlarged to receive the other end. Fig. 4 is a like view showing a pipe suspending a hood over the induction-pipe. Fig. 5 is a sectional view of a boiler having a hood suspended at the bottom of the boiler by a vertical pipe connected through the side of the boiler to the usual hot-water pipe.

The same numeral references denote the same parts throughout the several figures of the drawings.

1 denotes an ordinary range-boiler having the usual hot and cold water pipe connections 2, 3, and 3ª, respectively.

The supplemental hot-water pipe 4 is connected to the boiler 1 lower down or nearer the bottom of the boiler than is customary and extends transversely through the boiler. The pipe 4 has an opening 5, from which may depend a hood 6, and from the boiler the pipe 4 communicates with the hot-water pipe 2, so that hot water may be consumed directly from the water-back 4ª without circulating through the boiler in the well-known manner. The hood 6 acts as a funnel in drawing water from the boiler when the range is cut off and the water is heated by the application of a gas-burner 8 to the bottom of the boiler, and the water is consumed at its highest temperature directly from the source of heat.

Referring to Fig. 2, the supplemental transverse pipe is made in two sections, one section 9 for hot-water induction and the other section 10 for hot-water discharge. These sections are readily screwed in from opposite sides of the boiler until their inner ends stand in close proximity one above the other near the bottom of the boiler, or, as shown in Fig. 3, the end of the sections 11 and 12 end opposite, one having an enlargement 13 to receive the end of the other section. Both of these forms accomplish the same results as the continuous transverse pipe in Fig. 1 when connected to a water-back.

In Fig. 4 is shown a pipe 14, extending to about the center of the boiler and provided with a depending funnel or hood 15, opening from the pipe. The induction-pipe 16 ex-

tends into the boiler and ends under said funnel or hood and may carry cold water into the boiler to be heated under the hood by a suitable heater applied to the bottom of the boiler.

Referring to Fig. 5, the usual hot-water pipes 18 and 21 and cold-water pipes 19 and 20 are employed. The induction hot-water pipe 22, connected to the said pipe 21 by a pipe 23, enters the boiler about midway its length. A hood 24 is suspended inside and near the bottom of the boiler by a vertical hot-water pipe 25, which opens into the hood and is connected through the side of the boiler to the hot-water pipe 18 by a transverse discharge-pipe 26.

I do not wish to be understood as limiting myself to a single transverse pipe or to a pipe or pipes with a hood or funnel, inasmuch as the pipe may be divided or used in sections and the funnel dispensed with.

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

1. The combination with a boiler having the usual induction and discharge hot-water pipes, and a cold-water-induction pipe, of a supplemental hot-water-discharge pipe from the boiler and connected to the said usual hot-water-discharge pipe upon the outside of the boiler, as set forth.

2. The combination with a boiler having the usual water-circulating pipes, of a supplemental hot-water-discharge pipe extending from the inside of the boiler and connected to the usual hot-water-discharge pipe upon the outside of the boiler, as set forth.

3. The combination with a boiler having the usual water-circulating pipes, of a supplemental hot-water-discharge pipe extending through and from the boiler in communication with the latter, and connected to the said usual hot-water-discharge pipe upon the outside of the boiler, as set forth.

4. The combination with a boiler having the usual water-circulating pipes, of a supplemental discharge-pipe extending from the boiler and connected to the said usual hot-water-discharge pipe upon the outside of the boiler, and a hood opening into the boiler and connected to the said supplemental pipe, as set forth.

5. The combination with a boiler having the usual hot and cold water pipes, of a supplemental discharge-pipe connected to the hot-water-discharge pipe and extending into the boiler, an open hood in the boiler, and a vertical pipe connecting the hood with the said supplemental pipe, as set forth.

In witness whereof I hereunto set my hand in the presence of witnesses.

JOHN P. B. SADTLER.

Witnesses:

JOHN S. STUMP,

J. S. BENNETT,

E. P. BURKET.