

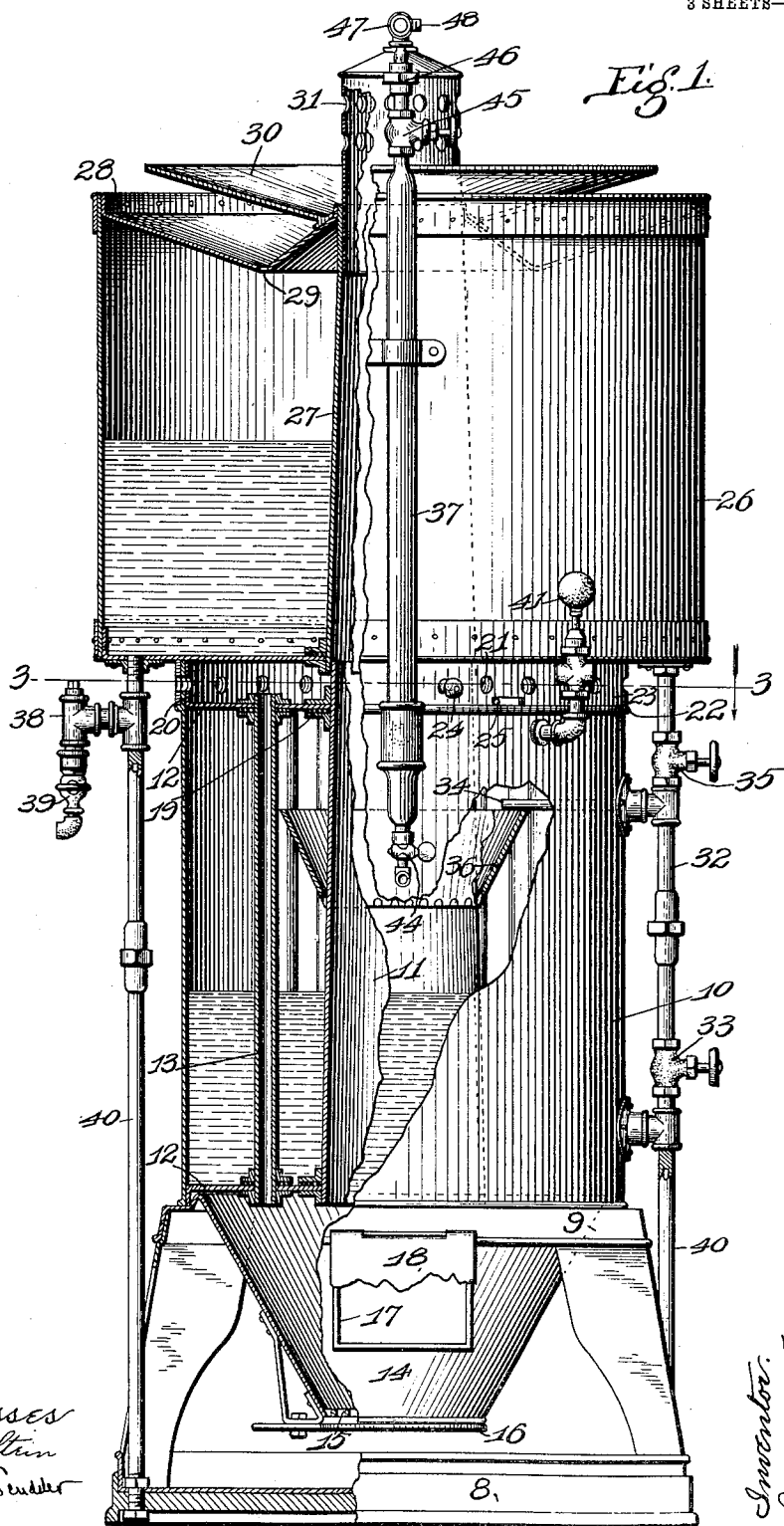
No. 884,431.

PATENTED APR. 14, 1908.

L. J. TRACY.
STEAM BOILER.

APPLICATION FILED NOV. 12, 1907.

3 SHEETS—SHEET 1.



Witnesses
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Inventor:
Lawrence J. Tracy.
by Hopkins & Co. Attys.

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Fig. 2.

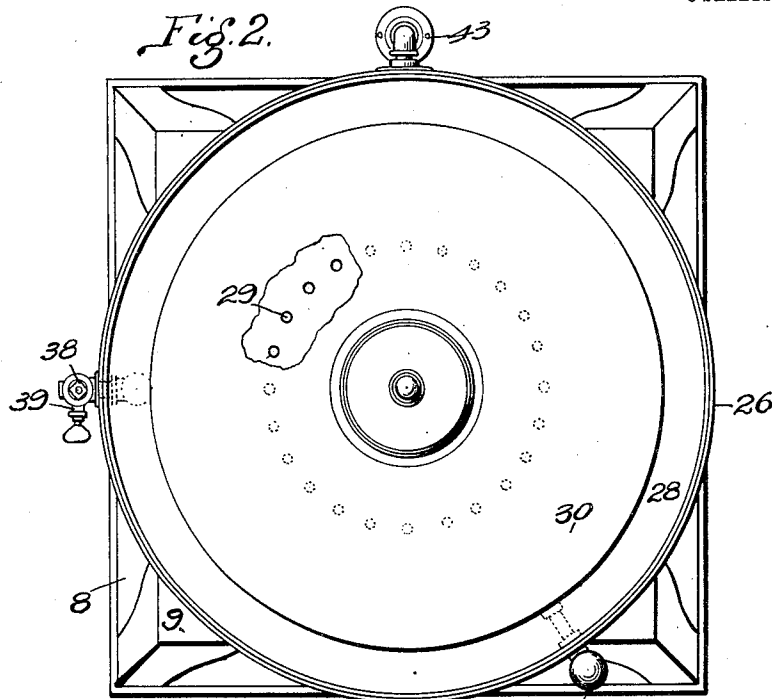
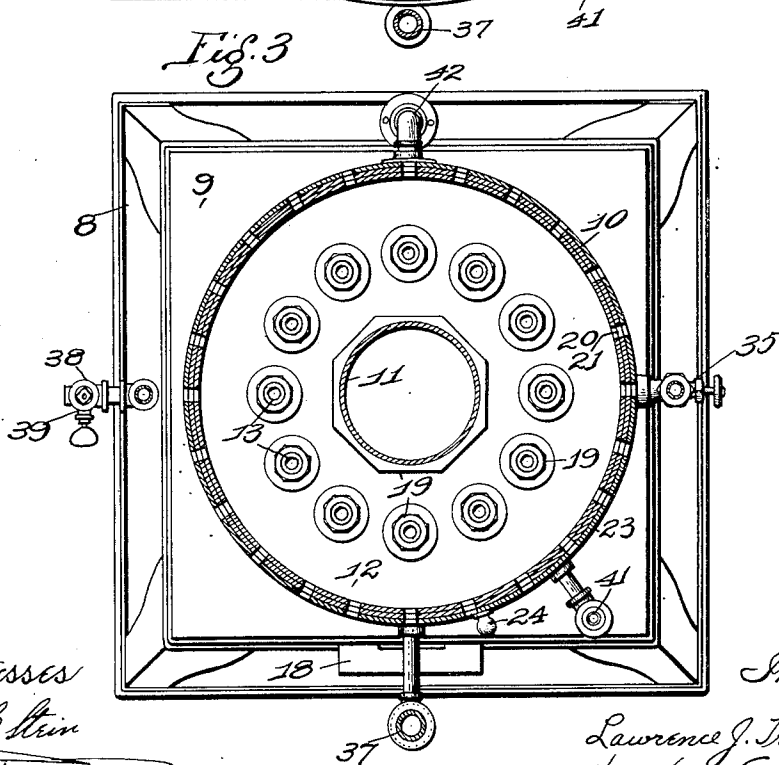


Fig. 3.



Witnesses

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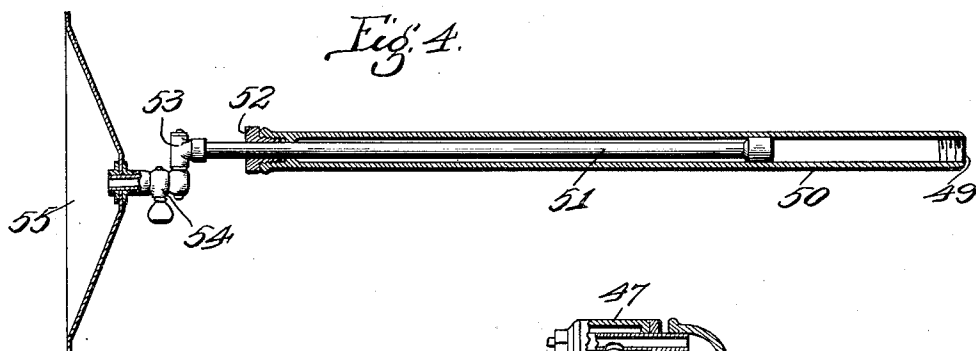
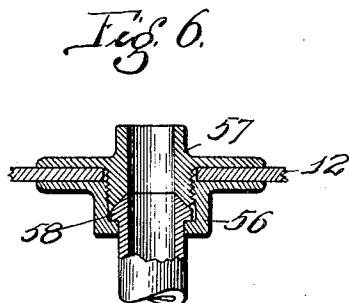
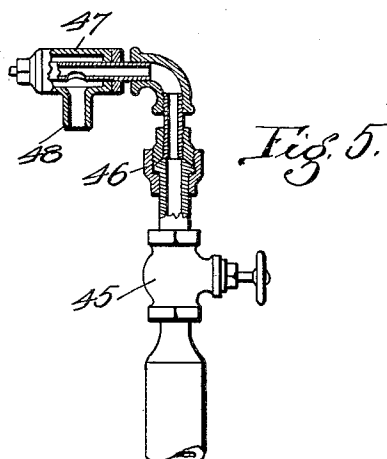
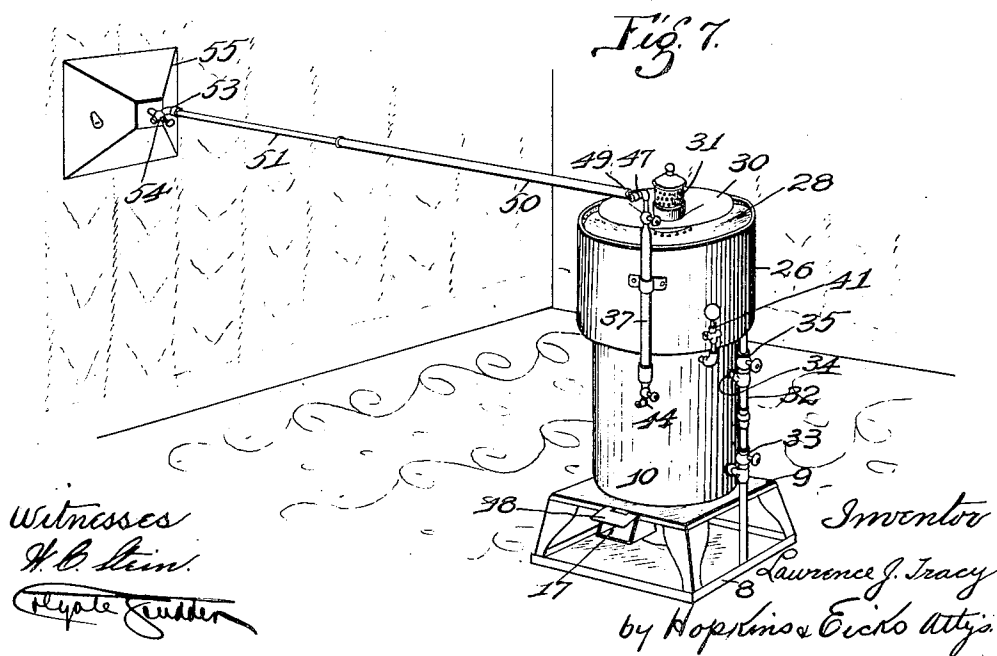
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3 SHEETS—SHEET 3.



Witnesses
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UNITED STATES PATENT OFFICE.

LAWRENCE J. TRACY, OF ST. LOUIS, MISSOURI.

STEAM-BOILER.

No. 884,431.

Specification of Letters Patent.

Patented April 14, 1908.

Application filed November 12, 1907. Serial No. 401,868.

To all whom it may concern:

Be it known that I, LAWRENCE J. TRACY, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Steam-Boilers, of which the following is a specification.

This invention relates to improvements in steam boilers, and consists in the novel arrangement, construction and combination of parts as will be fully hereinafter described and claimed.

The object of my invention is to construct a boiler of a portable type, which is designed to be conveyed into any room of a building, and for creating steam under a low pressure, the said steam to be brought in contact with the wall paper through a proper pipe connection, so that the wall paper may be easily and readily removed.

A further object of my invention is to construct a low pressure portable steam boiler, the steam created by a charcoal fire, the said boiler design to be placed in the center of a room, and from it leads a pipe connection whereby the steam may be brought in contact with the paper on the walls and ceiling for moistening the same, so that the said paper can be easily and readily removed before decorating the walls or ceiling with a new design of hanging.

Figure 1, is a front view of my invention with a part broken away and in section, showing the external and internal construction. Fig. 2, is a top plan view of the same. Fig. 3, is a horizontal sectional view taken on the line 3—3 of Fig. 1. Fig. 4, is a central sectional view of the pan and telescopic pipe, whereby the steam is conveyed from the boiler to the point to be steamed. Fig. 5 is a detail side elevation of the upper portion of the steam supply pipe, with a part thereof broken away and in section. Fig. 6 is a detail sectional view of the pipe joint made use of in connection with my invention, and Fig. 7 is a perspective view of my improved boiler together with the steaming apparatus, showing the same in operating position.

In the construction of my invention, I provide a suitable base 8, on which is mounted a supporting frame 9, and on the supporting frame is placed a boiler 10, which is provided with a central tapering flue 11. The boiler 10, is provided with end walls 12, and through the end walls project the ends of a

plurality of pipes 13, entirely encircling the central tapered flue 11. The said pipes 13, act as flues for the circulation of heat. In the supporting frame 9 is suspended the furnace 14, its bottom provided with a grate 15, and beneath the grate is pivotally mounted a damper door 16. This door is for the purpose of regulating the admission of fresh air into the furnace. At the front side of the furnace is a door opening 17, through which access may be had to the furnace for removing the ashes or kindling the fire, and the said opening is covered with a hinged door 18.

The central tapering flue 11, and the pipes 13, passing through the boiler 10, are tightly secured to the end walls 12 of the boiler, by means of the lock-nuts 19, which when properly adjusted, will form a water tight and steam proof joint. The upper end wall of the boiler is located a suitable distance from the end of the boiler shell, so as to provide a heat circulating compartment 20. The flange of the end wall and boiler shell are provided with a plurality of openings 21, and on the outside of the boiler shell, and held in position, by the bead 22 is located a ring 23, which is also provided with openings to correspond with the openings 21 in the boiler shell.

The ring is provided with an operating knob 24, by which said ring can be operated slightly to the right or left, so that the solid portion of the ring will cover the openings in the shell, closing off the draft. The movement of the ring is limited by the stop 25.

Upon the top of the boiler 10, is mounted a water receptacle 26, it being provided with a central tapering flue 27, the bottom of said flue fitting over the top end of the flue 11, of the boiler, the top 28 of the water receptacle is dished or inclined downwardly, the inner end inclined upwardly, and tightly connected to the upper end of the flue 27. At the apex to the dished end is provided a plurality of openings 29, through which water is fed in the receptacle by admitting water on the top, by a hose or pails, as found most desirable.

On the central inclined portion of the top 28, is removably placed a shield 30, which is for the purpose to catch such particles as might pass from the furnace and out through the openings 31, formed in the damper cap located in the upper end of the flue 27, and slidably mounted therein, so as to prevent

such particles from passing downwardly into the water receptacle through the opening 29.

Water is admitted from the water receptacle into the boiler by means of the pipe connection 32 and a sufficient amount is admitted by the operation of the valve 33. After the required amount of water has been admitted, the valve 33 is closed and water is continuously fed into the boiler through the small pipe 34, and regulated by the valve 35.

Around the flue 11 is placed a cone 36 into which the continuous feed of water is deposited and permitted to contact with the heated flue 11, percolating downwardly. This supply of water takes up the amount conveyed in the steam and the steam is discharged from the upper portion of the boiler through the pipe 37. On the opposite side of the boiler and connected to the under side of the water receptacle, is a pipe connection 38 provided with a drain cock 39, whereby the entire contents of the water receptacle may be withdrawn when desired.

The water receptacle, boiler, supporting frame and base are rigidly supported together by means of the closed pipes, or rods 40 connecting the pipe connections 32, and 38, with the base. The boiler is also provided with a safety valve 41 of the ordinary construction, the purpose of which is well known to the trade. The boiler and water receptacle are each provided with water gages 42 and 43, their use also being well known to the trade.

The steam pipe 37, through which steam is conveyed, is provided at its bottom with a drain cock 44, by which the condensation can be discharged, the upper end provided with a valve 45 for regulating the out flow of steam. Upon the valve is located a swivel joint 46, on which is mounted a second swivel joint 47, arranged to operate opposite to each other. The swivel joint 47 is provided with an external screw thread nipple 48, to which is attached the end 49 of the telescopic pipe 50. The telescopic pipe consists of a large pipe in which is mounted a pipe 51 of smaller diameter and leakage is prevented by the packing nut 52.

On the outer end of the pipe 51, is placed a swivel joint 53 arranged similarly to the swivel joint 47, also a stop cock 54, and to said stop cock is attached a steam pan 55, into which the steam is admitted and brought in contact with the wall when the flat surface of the pan is placed closely against the same.

By means of the several swivel joints and the telescopic pipe, the operator can readily and easily manipulate the pan, and admit the steam to any portion of the wall or ceiling, and on account of the several parts being constructed of metal, the heat is retained thus preventing the steam from con-

densing, as would be the case where rubber tubing is used.

The arrangement of my improved boiler, is such that the water located in the water receptacle is heated to a sufficient degree by the same heat which converts the water in the boiler to steam. The charcoal fire is placed in the furnace and in heating the water, the damper 16, beneath the grate of the furnace is opened, the damper cap is raised so that the openings 31 in the same, are above the end of the flue 27. The ring 23 is adjusted to have its openings come in alinement with the openings in the boiler shell, thus permitting the circulation of heat to pass upwardly through the center flue as well as the flues surrounding the center flue in the boiler. This circulation of heat has a tendency to convert the water of the boiler into steam, as well as heating the water in the water receptacle.

When it is desired to remove the entire boiler from the room, all of the dampers are closed, and in this manner checking the fire and preventing the excessive heating of the water. Should the water in the water receptacle become too excessively heated, the damper cap is completely closed by pressing the same downwardly into the top of the flue 27, this permitting the heat to circulate only through the pipes in the boiler and out through the openings formed in the boiler shell and ring beneath the water receptacle.

In order to provide a perfect pipe connection or swiveled joint, I provide an internal screw thread cap 56, which when used to support the pipe to the head of the boiler is placed under the head 12, and upon the top of the head 12, and inserted into the cap is an external screw thread flanged nipple 57. The pipe in this instance is provided with a flanged head 58, which rests in the cap and contacting with the end of the nipple forming a leak proof swivel joint.

Having fully described my invention what I claim is:

1. A portable steam boiler comprising a boiler, a water receptacle, a continuous flue passing centrally through the boiler and water receptacle, a plurality of pipes passing through the boiler around the flue, a furnace communicating with the boiler and water receptacle, means for regulating the circulation of heat between the boiler and water receptacle and a damper for regulating the circulation of heat through the center flue, substantially as specified.

2. A device of the class described comprising a boiler, a water receptacle mounted upon the boiler, a furnace located beneath the boiler, a central flue located in the boiler, and in the water receptacle a plurality of pipes located in the boiler around the center flue, a heat chamber located between the

top of the boiler and the water receptacle, a pipe connection for admitting water from the water receptacle to the boiler, a damper located in the top of the center flue of the water receptacle, means for regulating the circulation of hot gases in the heat chamber between the boiler and water receptacle, a steam supply pipe, a swivel joint connection mounted upon the steam pipe, a telescopic pipe connection, connected to the swivel joint, and a steam distributing pan whereby steam is admitted to the article desired, substantially as specified.

3. A device of the class described, comprising a boiler, a water receptacle, a furnace, a supporting frame and a base all supported together, a central tapering flue located in the boiler, a plurality of pipes extending through the boiler, a central tapering flue located in the water receptacle, and communicating with the flue of the boiler, a perforated dished head located in the water receptacle through which water is admitted to the water receptacle, a shield located upon the dish to prevent foreign matter from passing through the perforation, and into the water receptacle, a damper cap slidably mounted in the top of the flue of the water receptacle, a pipe connection permitting the flow of water from the water receptacle to the boiler, a damper located on the upper edge of the boiler to permit the circulation of heat between the top of the boiler, and the water receptacle and a steam pipe for delivering the steam, substantially as specified.

4. A device of the class described comprising a boiler, a flue located centrally in the boiler, a cone located around the flue, into which water is admitted, and allowed to percolate downwardly against the flue, a water receptacle a furnace located beneath the boiler, a central flue located in the water receptacle, and communicating with the flue of the boiler, and a plurality of dampers for regulating the distribution of heat, substantially as specified.

5. A boiler of the class described, comprising a boiler a water receptacle mounted upon the boiler, a furnace located beneath the boiler, a central flue located in the boiler and in the water receptacle, means for admitting water from the water receptacle to the boiler, and means for admitting a steady flow of water to contact with the central flue of the boiler, to keep said boiler supplied with the same amount of water, as is converted into steam, a plurality of flues for regulating the distribution of heat, a steam pipe and a means for conducting the steam to the wall or ceiling of a room, so that the wall paper can be readily and easily removed, substantially as specified.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

LAWRENCE J. TRACY.

Witnesses:

ALFRED A. EICKS,
WALTER C. STEIN.