R. H. HOBBS.

Machine for Raising and Heating Water.

No. 5,377. Patented Nov. 27, 1847.

Fig. 2.

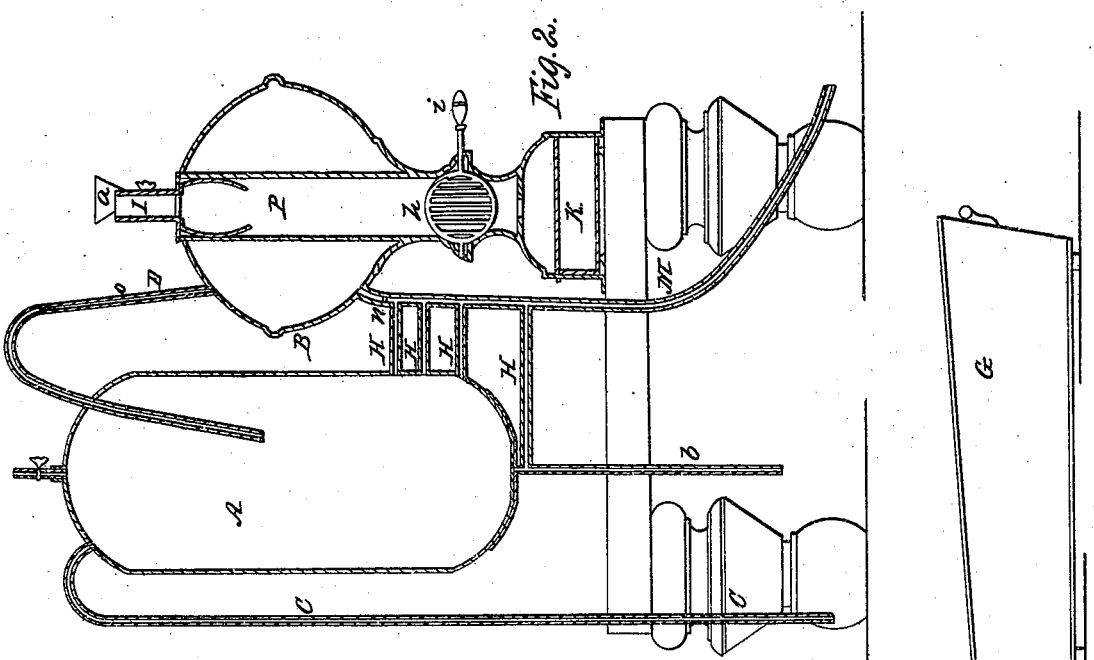
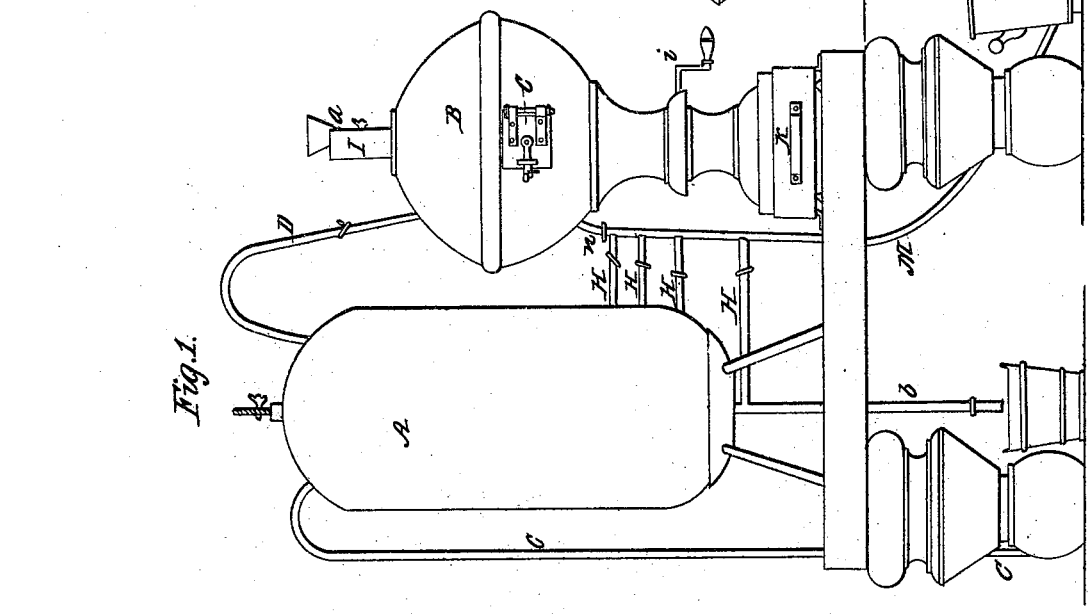


Fig. 1.



UNITED STATES PATENT OFFICE.

RICHARD H. HOBBS, OF HARTFORD, CONNECTICUT.

HEATING WATER FOR BATHING.

Specification of Letters Patent No. 5,377, dated November 27, 1847.

To all whom it may concern:

Be it known that I, RICHARD H. HOBBS, of Hartford, in the county of Hartford and State of Connecticut, have invented a new and Improved Machine for Drawing and Heating Water for Bathing and other Purposes, which I call "A Self-Replenishing Water-Heating Bathing Apparatus," and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification in which—

Figure 1 is an elevation of the apparatus, and Fig. 2, a vertical section of the same.

The same letters indicate like parts in all the figures.

The nature of my invention consists in employing in connection with a bath tub an apparatus for raising the water to be used in the bath tub and heating a portion of it, the said apparatus being combined with a series of pipes and cocks so as to regulate the relative proportions of hot and cold water to suit the temperature of the weather.

The apparatus consists of a boiler surrounding a fire chamber and grate, and a receiver of water in connection with a well or other reservoir and with the boiler and bath tub. The top of the boiler is provided with a pipe having a funnel and stop cock through which a small quantity of water is admitted to the boiler for starting the apparatus, another pipe, governed by a stop cock, which connects the top of the boiler with the top of the receiver of cold water through which steam is admitted from the boiler to the receiver to expel the air therefrom through another pipe leading therefrom to the well, in which the steam is afterward condensed by the water which then rises by the pressure of the atmosphere to fill the receiver and boiler. The pipe which extends from near the bottom of the boiler to the bath tub is placed so far from the bottom as to leave about two gallons of water at the bottom of the boiler or sufficient in quantity to generate the required steam to refill the receiver and boiler with water for a repetition of the operation, and this pipe connects with the receiver by means of several horizontal pipes one above the other, each having a stop cock and through either of these the water can be made to flow from the receiver and mingle with that from the boiler the lowest one connects with the bottom of the receiver so as to transfer to the bath tub all its contents, that being the quantity of cold water required to be mixed with the quantity of hot water to be drawn from the boiler to give the requisite temperature in the bath tub for warm weather, where the water from the receiver will be at about 70 degrees and each of the other pipes communicating with the receiver higher up so as to regulate the quantity of cold water to be drawn into the tub according to the temperature of the atmosphere. The remnant of the cold water in the receiver being discharged into the well or other recipient through another pipe in the bottom of the receiver also governed by a cock.

In the accompanying drawings (B) represents the boiler which is a spherical vessel with a vertical cylindrical fire chamber (P) within it, near the bottom of which there is a tilting grate (*h*) hung on journals with a crank handle (*i*) to discharge the fuel into the ash pan (*k*) below when it is desired to cool the apparatus. The fuel is fed into the grate through a door way (*e*) passing through the boiler. A smoke pipe (I) leads off the smoke to a chimney in any desired manner. The boiler at top is provided with a supply pipe (*d*) funnel mouthed, and provided with a stop cock, through this is admitted a small quantity of water when it is desired to charge the whole apparatus with water, this quantity being first sufficient to generate the steam necessary to expel the air in the boiler, pipes and receiver to fill these vessels with water by the condensation of the vapor. The upper part of this boiler is provided with another pipe (D,) (also provided with a stop cock (*o*), which enters the receiver (A) and extends down therein to about the middle of its height. Through this the steam is admitted from the boiler to expel the air from the receiver, and force it out through another pipe (C) which connects the top of the receiver with a well or other reservoir of water below the air also being forced down and out through the water in the well through this pipe. The temperature of the water in the well then cools and condenses the steam leaving a vacuum into which the water is forced by atmospheric pressure, which thus nearly fills the receiver and boiler, the latter through the pipe (D) which extends down into the

receiver. The fire in the furnace being extinguished, the apparatus thus remains filled with water till required for a bath.

When the water is required for a bath, fire is made in the furnace and when the water in the boiler is sufficiently heated, it is discharged from the boiler into the bath tub (G) through a pipe (M) which leads from the boiler to the bath tub, and is governed by a stop cock (*n*) the pipe opening into the boiler at such distance from the bottom as to leave in the boiler the required quantity of water to generate the steam necessary to recharge the apparatus with cold water. The hot water having been discharged into the bath tub the quantity of cold water to reduce its temperature to the degree required for a bath is to be drawn from the receiver (A) which is done through either of a series of horizontal pipes (H, H, H, H,) that connect the lower part of the receiver with the pipe (M) that leads from the boiler to the bath tub, the cock (*n*) in the said pipe being first closed, as also the cock in the steam pipe. These horizontal pipes are placed one above the other, the first or lower one connects with the bottom of the receiver the second higher up and so on to the last, each one discharging into the bath tub, a less quantity of cold water according to the temperature of the atmosphere, the first or lowest to be used in warm weather, the last or upper one in cold weather, and the intermediate ones by the same rule. If all the water contained in the receiver be not transferred to the bath tub, what remains is discharged into the well or other recipient through a discharge pipe (*b*) also governed by a cock. The receiver (A) may be of any form desired but I prefer that represented in the drawings, which is a vertical cylinder with semi-spherical ends.

It will be obvious that the boiler and furnace may be of any form and construction desired, which will effect the ends contemplated and fully explained above although I prefer that above described. And it will be manifest that more or less than four pipes may be employed to regulate the quantity of water to be discharged from the receiver to the bath tub.

I do not claim as my invention simply expelling air from a receiver by means of steam from a boiler or generator to fill the said receiver with water by the pressure of the atmosphere as this is a well known device, but

What I do claim as my invention and desire to secure by Letters Patent, is

The combination of a self acting receiver and boiler constructed substantially in the manner described for the purpose of supplying hot and cold water for bathing or other similar purposes the receiver being connected with the boiler by a syphon and having gage pipes in its sides for regulating the quantity of water discharged at one operation and the boiler having its discharge pipe situated so far above the bottom as to retain a sufficient quantity of water to fill it and the receiver with steam for a renewed operation all as herein described.

RICH. H. HOBBS.

Witnesses:
CHS. M. KELLER,
A. P. BROWNE.