

B. GERDELMAN.
WATER HEATER.
APPLICATION FILED JULY 5, 1907.

913,375.

Patented Feb. 23, 1909.

Fig. 2.

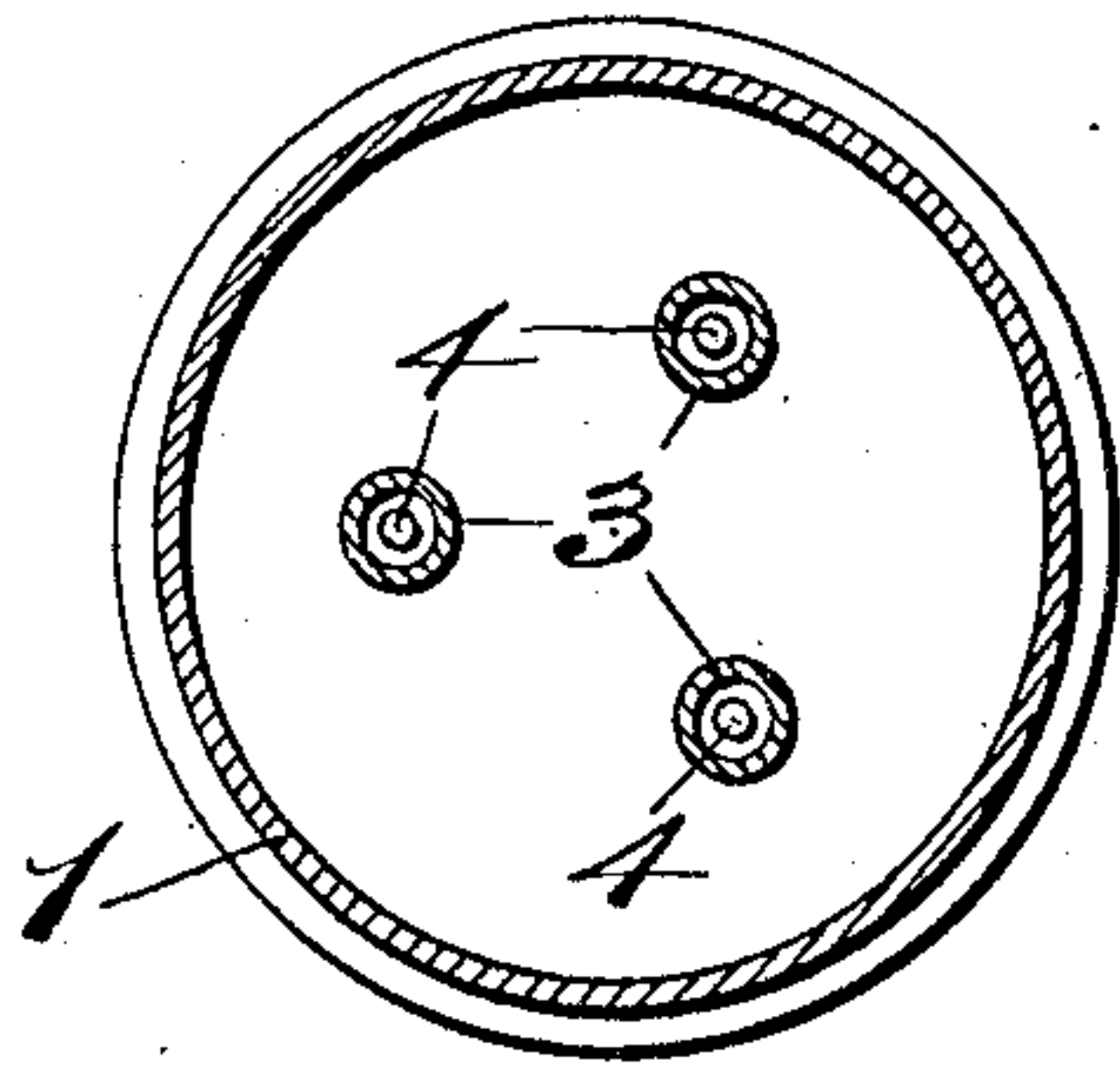


Fig. 1.

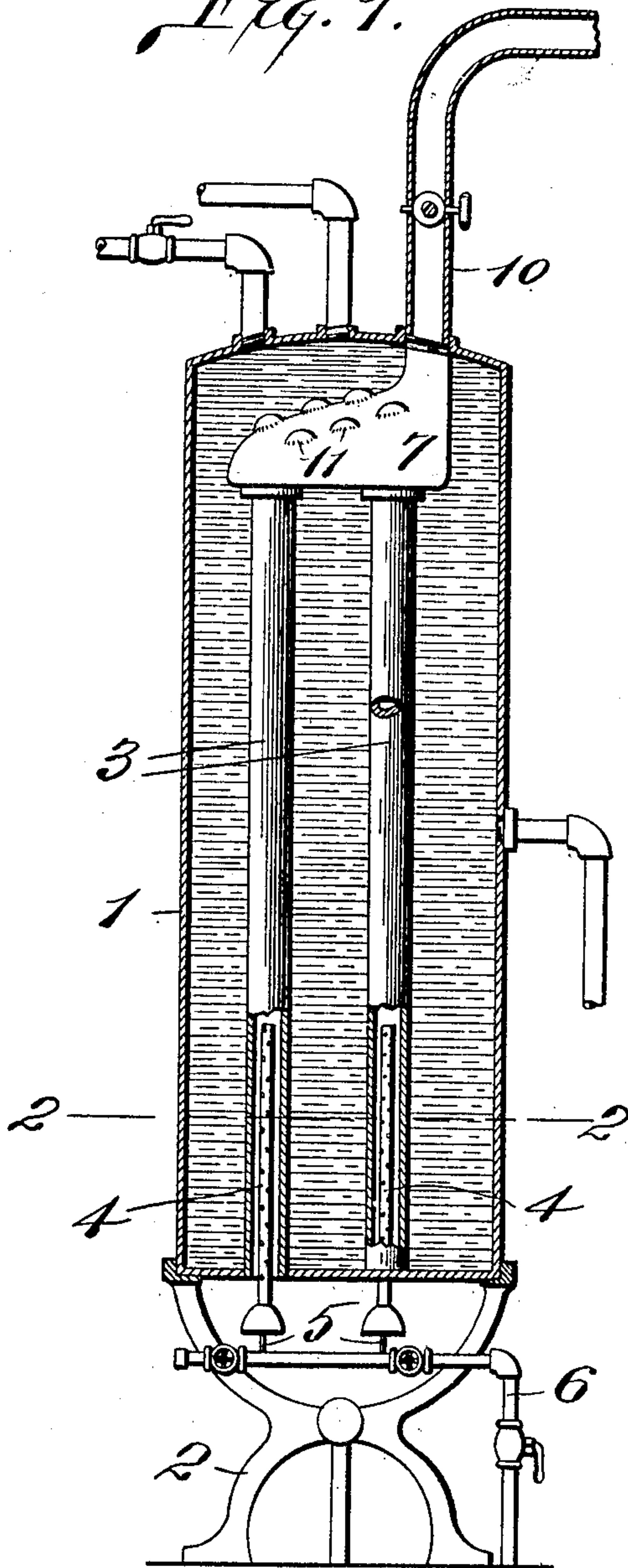


Fig. 3.

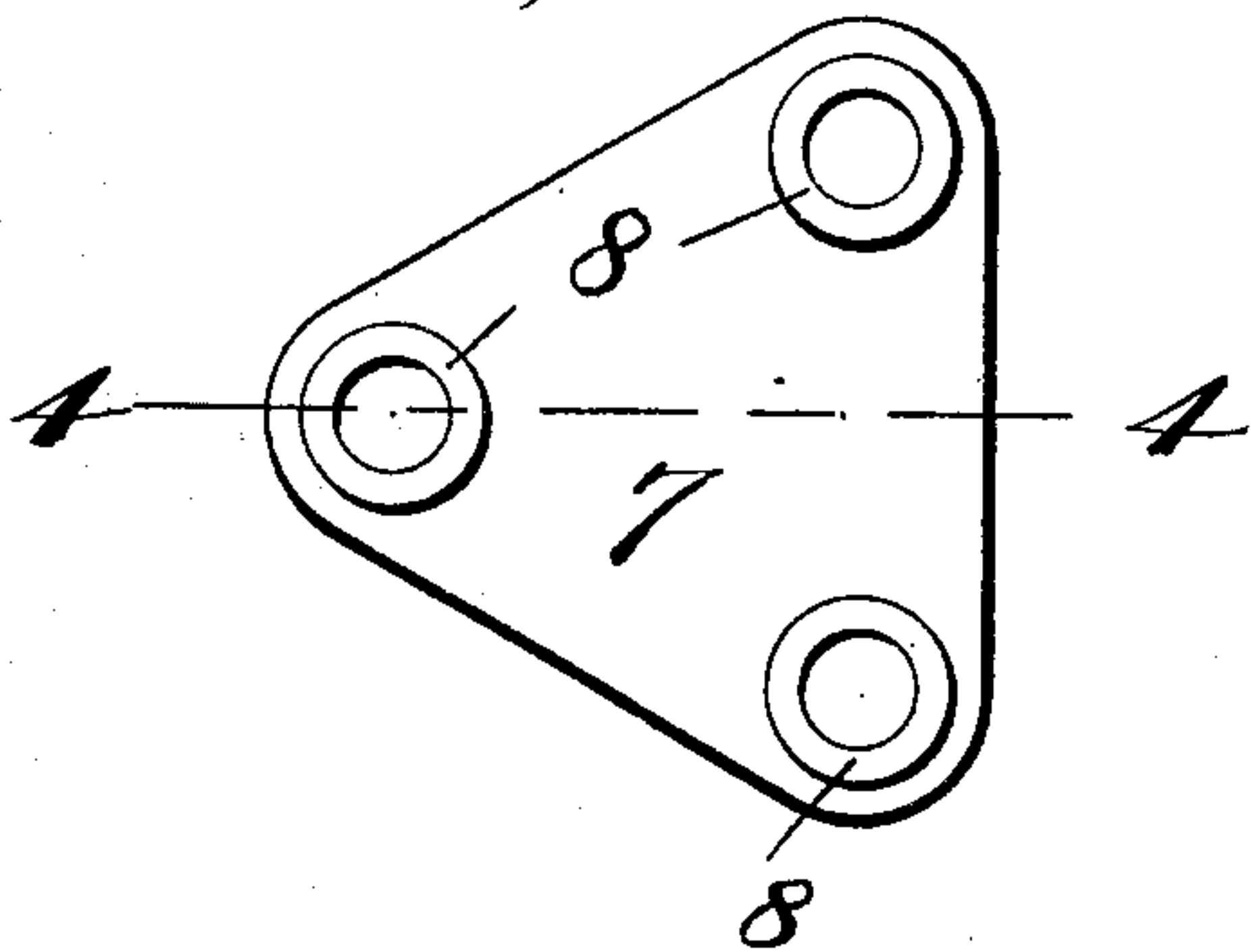
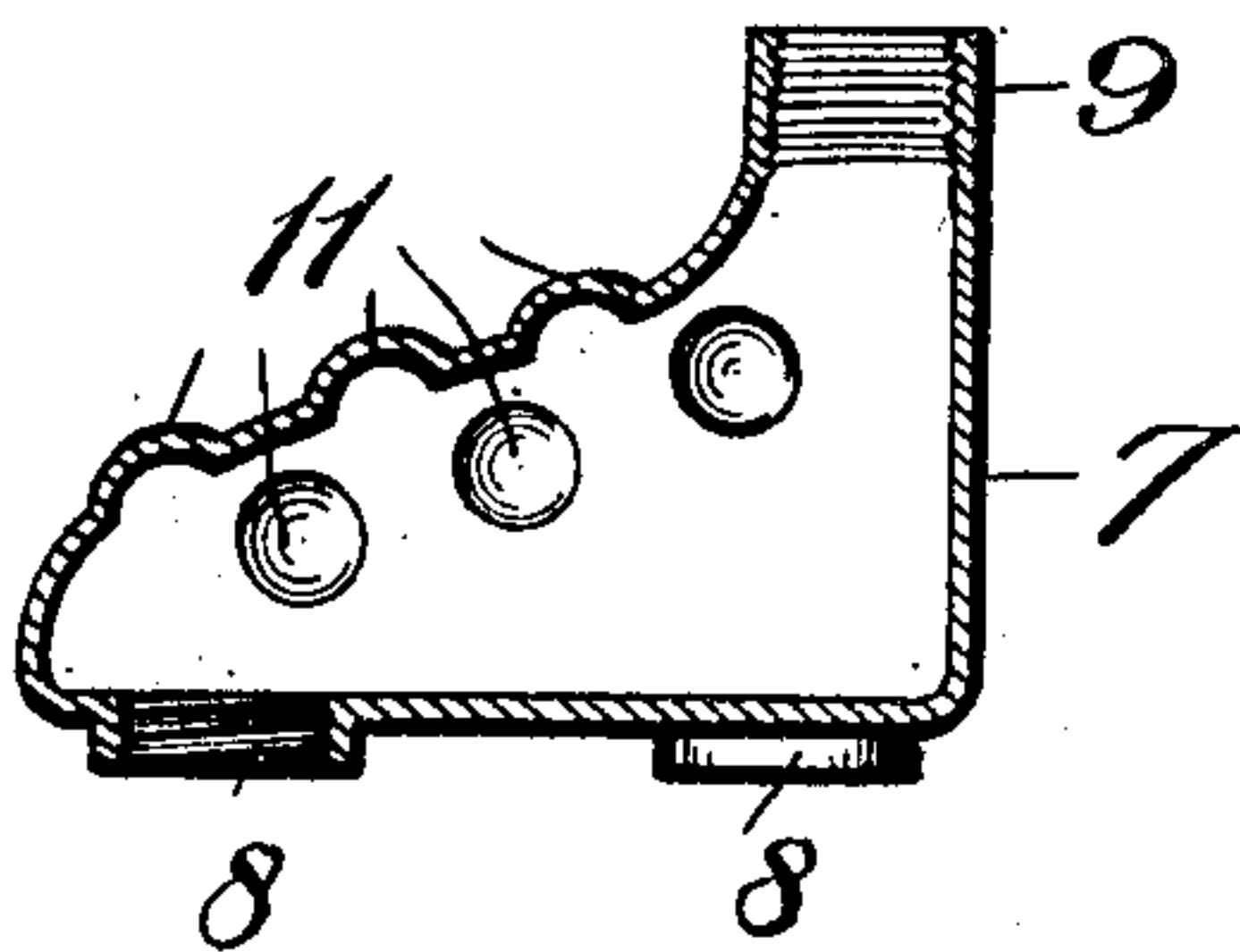


Fig. 4.



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BENJAMIN GERDELMAN, OF ST. LOUIS, MISSOURI.

WATER-HEATER.

No. 913,375.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed July 5, 1907. Serial No. 382,339.

To all whom it may concern:

Be it known that I, BENJAMIN GERDELMAN, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Water-Heaters, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a water heater, my object being to arrange a series of heating tubes in a tank, to arrange burner tubes in the lower ends of the heating tubes, and to connect the upper ends of the heating tubes by a header within the tank.

By my improved arrangement, heat from the burners is equally distributed or radiated throughout the water contained within the tank; and therefore the heating of said water is accomplished much more quickly than where the heat is applied to the lower end of the tank.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claim, and illustrated in the accompanying drawings, in which:—

Figure 1 is a vertical section taken through the center of the tank equipped with my improved heating apparatus; Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1; Fig. 3 is a bottom view of the header which connects the upper end of the heating tubes; Fig. 4 is a section taken on the line 4—4 of Fig. 3.

Referring by numerals to the accompanying drawings:—1 designates an ordinary upright range tank, which is supported by a suitable base 2, and fixed in the bottom of said tank are the open lower ends of a series of vertically disposed tubes 3, which are spaced at equal distances apart; and extending upward through the open lower ends of said tubes are the perforated burner tubes 4, into the lower ends of which are arranged to discharge the gas nozzles 5, leading from the supply pipe 6.

7 designates a hollow header, or housing, preferably constructed of metal, provided on its under side with a series of internally screw threaded lugs 8, in which the upper ends of the tubes 3 are seated; and leading upwardly from one end of the header is an

internally screw threaded projection 9, in which is seated the lower end of a pipe 10, which leads to a flue or chimney.

Formed integral with the top of the header 7 is a series of hollow protuberances 11, which are designed to hold the heat as it passes through said header, and to increase the heating surface thereof.

When my improved water heater is in use, the gas issuing from the jet holes of the burner tubes 4 is ignited, and the flames and heat therefrom pass upward through the tubes 3, through the header 7, and finally escape through the pipe 10. The heat from the tubes 3 and header 7 is radiated throughout the surrounding body of water, and as a result said water is very rapidly heated. By placing the header in the upper end of the tank and connecting all of the heating pipes thereto, a high degree of heat is maintained in the upper end of the tank; and, as a consequence, the water will be quickly heated at this point, from whence it is withdrawn through the ordinary hot water pipes.

A water heater of my improved construction is simple, easily applied for use, and, as the heating tubes extend the entire length of the water tank, a maximum degree of radiation of the heat from said tubes is attained.

I claim:—

A water heater, comprising a tank adapted to contain the water to be heated, a triangular hollow header arranged in the upper end of the tank and provided at one end with an outlet through the top of the tank, a plurality of hollow protuberances integral with the top of the header, an internally screw threaded lug integral with the under side of the header adjacent each corner thereof, vertically disposed tubes arranged at equal distances apart within the tank, the upper ends of which tubes are seated in the lugs formed on the bottom of the header, and the lower ends of said tubes being fixed in the bottom of the tank, and perforated burner tubes projecting upward into the lower portions of said tubes.

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

BENJAMIN GERDELMAN.

Witnesses:

M. P. SMITH,
E. L. WALLACE.