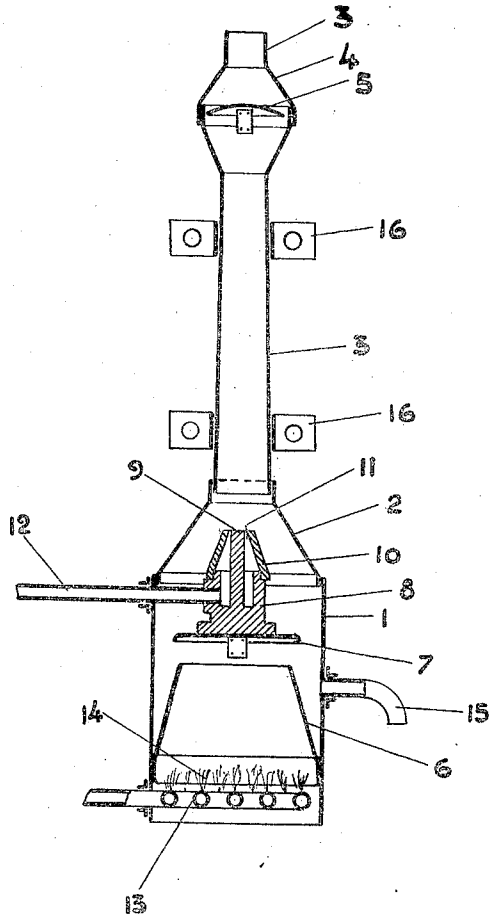
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O. A. RINGBOM

APPARATUS FOR HEATING OF WATER

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Inventor
O. A. Ringbom
By J. Thurlow
Atty.

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OSSIAN ALBERT RINGBOM, OF HELSINKI, FINLAND.

APPARATUS FOR HEATING OF WATER.

Application filed June 25, 1923. Serial No. 647,712.

To all whom it may concern:

Be it known that I, OSSIAN ALBERT RINGBOM, a citizen of the Republic of Finland, residing at Helsinki, Finland, Södra Finlands, Bank A/B Aleksanterinkatu 19, have invented certain new and useful Improvements in Apparatus for Heating of Water, of which the following is a specification.

The present invention relates to apparatus for heating water by gas, and has for its object the construction of the apparatus in such a manner that the pressure of the water on entering the geyser causes it to be sprayed or spurted upwardly through a narrow ring shaped, or annular opening, into a narrow vertical discharge pipe, where it comes into intimate contact with the products of combustion so that the water is heated and at the same time creates a forced draught.

The apparatus according to the invention comprises a cylindrical body provided at its upper extremity with a water inlet pipe, a water discharge pipe at or near the centre of the body and at the lower extremity an aperture to receive a gas ring or burner connected to the gas main.

Secured to the cylindrical body just above the gas ring or burner is a conical chamber, and secured above the apex of the cone is a plate or bracket having downwardly turned edges which project beyond and above the top of the cone. In the centre of the plate or bracket is fixed an annular member having a central pillar or spindle to which is fitted a conical closing in such a maner that surrounding the top edge of the pillar or spindle there is a narrow ring shaped opening. The annular member is bored out to receive the end of the water inlet pipe.

To the upper end of the cylindical body is fitted a conical or dome shaped member the top or restricted opening of which has fitted therein a pipe which near its extremity is enlarged to receive a baffle plate for the finely sprayed water.

The apparatus is provided with means for securing it to a wall or other convenient position.

The construction and operation of the water heating apparatus will now be fully described by reference to the accompanying drawing which represents a vertical central section.

As shown, the apparatus comprises a cylindrical lower body 1 made from sheet iron, copper, or other suitable material, above which is a concial or dome shaped member 2, to which is fitted a tube or pipe 3, which at its upper end is provided with an extension 4 supporting a baffle or check plate 5.

To the inner surface of the cylindrical body, at its lower extremity, is secured an open conical chamber 6. Somewhat above the apex of the cone of the chamber 6 is fixed a plate or bracket 7 having downwardly bent edges which, as shown, extend beyond the top edge of chamber 6. In the centre of the plate or bracket 7 is secured the annular member 8, made from iron, brass, or other metal and comprising a central pillar or spindle 9 to which is secured by means of screw threads, or the like, a conical closing 10, the upper edge of which is at the same plane as the end of the said pillar, and so arranged that between the closing 10 and the pillar or spindle 9, a narrow annular or ring shaped opening 11 is formed.

The water inlet 12 communicates with the annular member 8 as shown, while 13 represents the gas ring, burner, or the like, and 15 a discharge pipe for the hot water.

The reference numeral 16 shows bonds for securing the whole apparatus to a wall, or other convenient position.

The action of the apparatus is as follows:—

When water is admitted by pipe 12 to the annular member 8, owing to its pressure it passes out through the opening 11 in a fine spray upwardly into the pipe 3 till checked by the baffle plate 5, which deflects it downwardly against the inner surface of pipe 3, dome shaped member 2, and the inner surface of the cylindrical chamber 1 into the space between the conical chamber 6 and cylindrical chamber 1.

When the gas burner 13 is lit, the flames 14 and products of combustion in rising upwards are drawn by suction owing to the water passing out in a fine spray through the annular opening 11 so that a thorough mixing of the products of combustion with the water takes place, and the water is heated throughout.

The water in its descent, absorbs further heat from the products of combustion so that these reach the part of pipe or tube 3, above the baffle 5, quite cooled, whereas the water flows out at the discharge pipe 15, very hot.

I claim:

In a water heater, a comparatively wide lower vertical casing, a comparatively narrow upper casing, a conical portion connecting said parts, a burner in the lower portion of the lower casing, a water supply in the upper portion of said lower casing, an outlet for said water supply arranged within the lower casing and adapted to deliver the water into the upper casing to create a forced draft, a baffle located within the upper casing remote from the lower casing to deflect the water while permitting the passage of the products of combustion.

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

OSSIAN ALBERT RINGBOM.

Witnesses:

ANNE SEBROSDER.

LEA ASPELIN.