June 26, 1934. E. WENGER 1,964,306

WATER HEATER

Filed Aug. 25, 1931

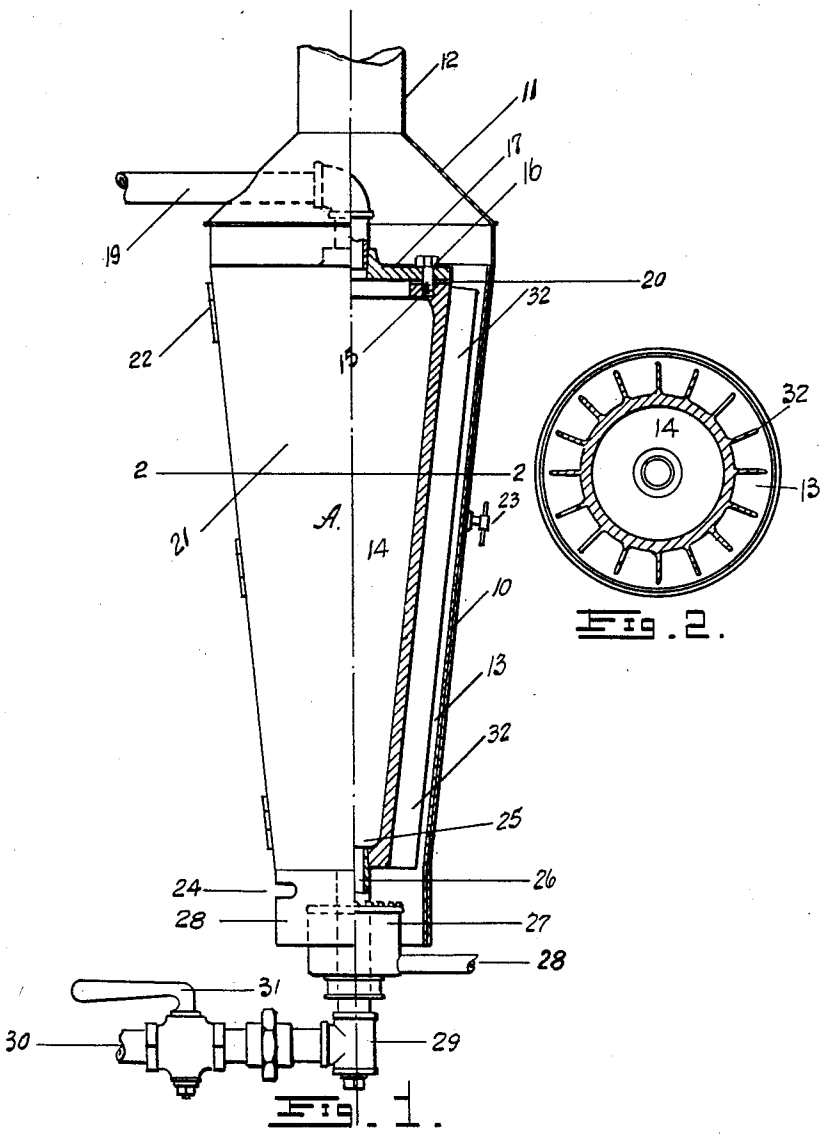


Fig. 1.

Fig. 2.

Inventor, Edgar Wenger

By W. T. Cuffe-Quinn

Attorney.

Patented June 26, 1934 1,964,306

UNITED STATES PATENT OFFICE

1,964,306

WATER HEATER

Edgar Wenger, Calgary, Alberta, Canada

Application August 25, 1931, Serial No. 559,157

1 Claim. (Cl. 122—23)

This invention relates to improvements in water heaters generally and more particularly to gas or electric heaters of this description.

The objects of the invention are to provide a domestic water heater of pyramid shape and of durable construction in which coils are dispensed with and which can be manufactured and placed on the market at a reasonable price.

Another object is to provide a coilless preferably cone-shaped water heater which will more efficiently perform the functions required of it in quickly heating water and maintaining the supply of water so heated.

With the foregoing and other objects the novel features of the invention comprise a cone-shaped casing with a similarly formed detachable head, a cone-shaped water chamber suitably arranged relative to the casing and provided with specially constructed and specially arranged fins or baffles whereby the heat is attracted to and distributed relative to the outer wall of the heating chamber, and means connecting the head and body of the casing, permitting circulation of the products of combustion for discharge through the head.

The invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof while the scope of the invention will be more particularly pointed out in the claim.

Referring now to the drawing and to the embodiment therein disclosed for illustrative purposes and in which like numerals of reference indicate corresponding parts in each figure:

Fig. 1 is a front elevation partly in section of the heater with gas as the heating element.

Fig. 2 is a section on line 2—2 of Fig. 1.

Referring now more particularly to the drawing, A, designates the water heater as a whole, here shown as heated by gas and comprising an outer casing 10, of any suitable material. This casing is preferably cone-shaped and can be of different angles and dimensions as hereinafter more fully referred to and is provided with a cone-shaped head 11, communicating with which is a smoke pipe 12.

Within the casing 10, and in spaced relationship thereto as at 13, is the water chamber 14, also cone-shaped and provided with a top flange 15, associated with which are cap screws 16, for retaining the water head 17, provided with an opening for a water discharge pipe 19, extending outwardly through the cone-shaped top or head 11. Suitable packing 20, is also provided between the water head 17, and the flange 15, of the water chamber. The hot water or discharge pipe 19, may be located in any suitable position such as in the side wall of the water chamber. The position of the smoke pipe 12, may be also varied to communicate with the heating space 13, through the outer wall of the casing 10.

The outer casing 10, is equipped with a door 21, hingedly mounted as at 22, and provided with a suitable handle 23, to ensure free access to the interior of the heater, while a window 24, provides access in the casing to light the gas burner 27, which is supplied with fuel by a pipe 28, and is arranged in the bottom of the casing 10, beneath the heating chamber 14. A pipe 26, in the bottom 25, of the water chamber supplies fluid and extends as here shown through the gas burner 27, to be connected to a T member 29, which in turn is connected to a supply pipe 30, provided with the control valve 31.

Coming now to an essential feature of the invention in the construction of the water chamber, this comprises a plurality of longitudinally spaced fins or ribs 32, projecting into the heating area or space 13, surrounding the water chamber. These fins automatically attract and concentrate the heat generated by the gas burner or other source of heat against the cone-shaped wall of the water chamber 14, thereby providing in combination with the cone-shaped construction of the water chamber improved means for more efficiently and quickly heating the contents thereof. Furthermore, these fins or baffles 32, may be varied in construction.

It will also be noted that by this construction coils are eliminated, as is well known, after a short time in use clog and have to be regularly cleaned and renewed.

In operation, the valve 31, being opened, and the burner 27, being lighted, the heat generated is interrupted in its travel upwardly by the fins 32, which attract and concentrate it against the wall of the water chamber which, being cone-shaped, causes the water in the restricted portion to heat very quickly and with this the water in the chamber generally, smoke and the like passing through the passage provided between the heating space 13, and the cone-shaped top and from thence to the atmosphere through the pipe 12. In this way, and with ready access provided to the interior of the heater, cleanliness as well as efficiency and economy in operation, is ensured.

What I claim for my invention is:

In a water heater and in combination, a single inverted cone-shaped boiler formed with spaced

vertical fins on the outer surface of the sides thereof and extending the full length of said sides, a smooth uninterrupted inner surface within the boiler, a source of heat beneath the boiler, a water intake extending through the source of heat into the boiler, a water discharge for the boiler, a removable water head for the boiler, a casing provided with a hingedly mounted full length door for the heater, a cap for the casing conforming to the contour of the water head for the boiler, and means in the casing providing access to the source of heat independent of the casing door.

EDGAR WENGER.