

No. 765,959.

PATENTED JULY 26, 1904.

C. A. CRIBBS.
HEATER.

APPLICATION FILED APR. 11, 1904.

NO MODEL.

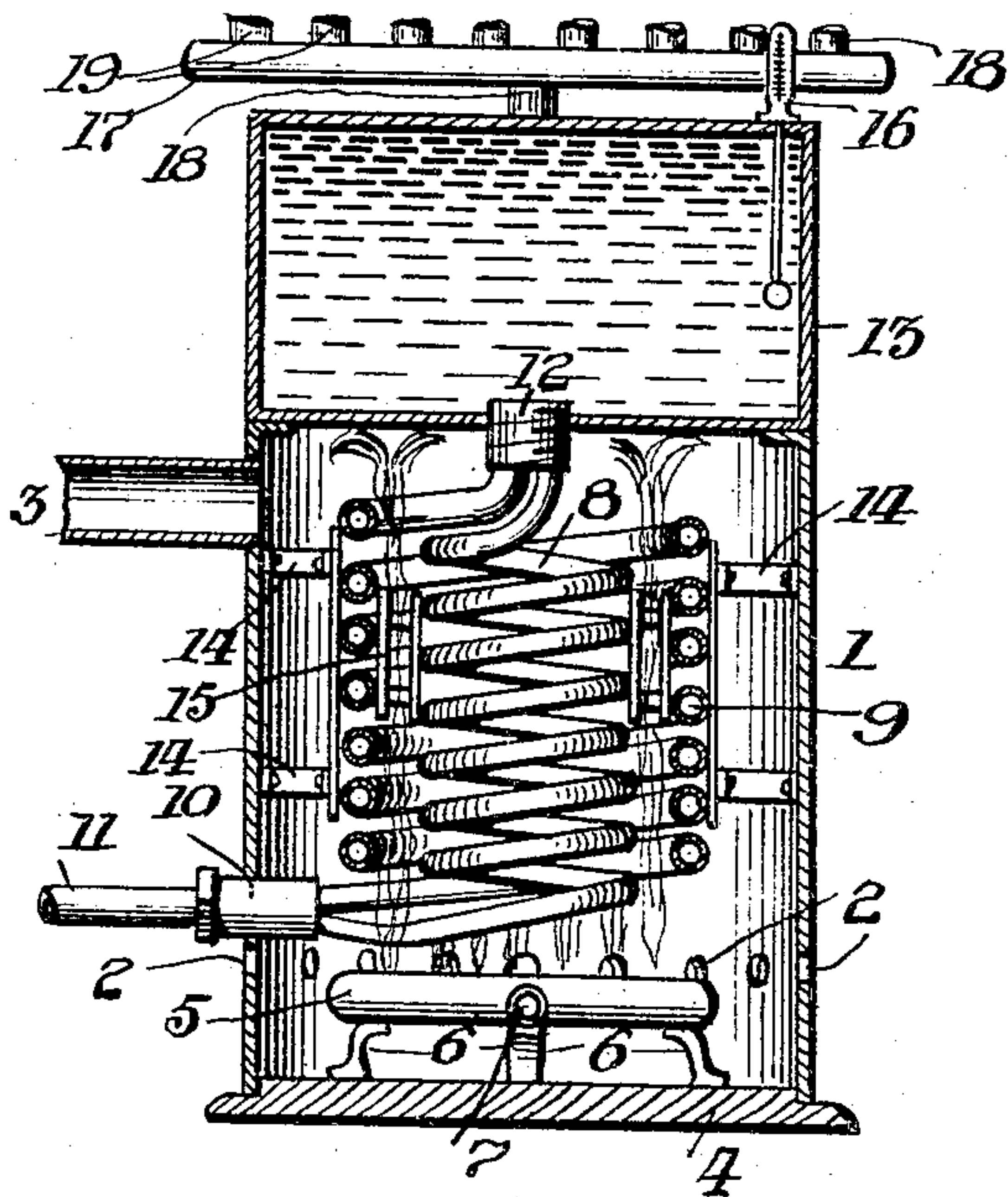


Fig. 1.

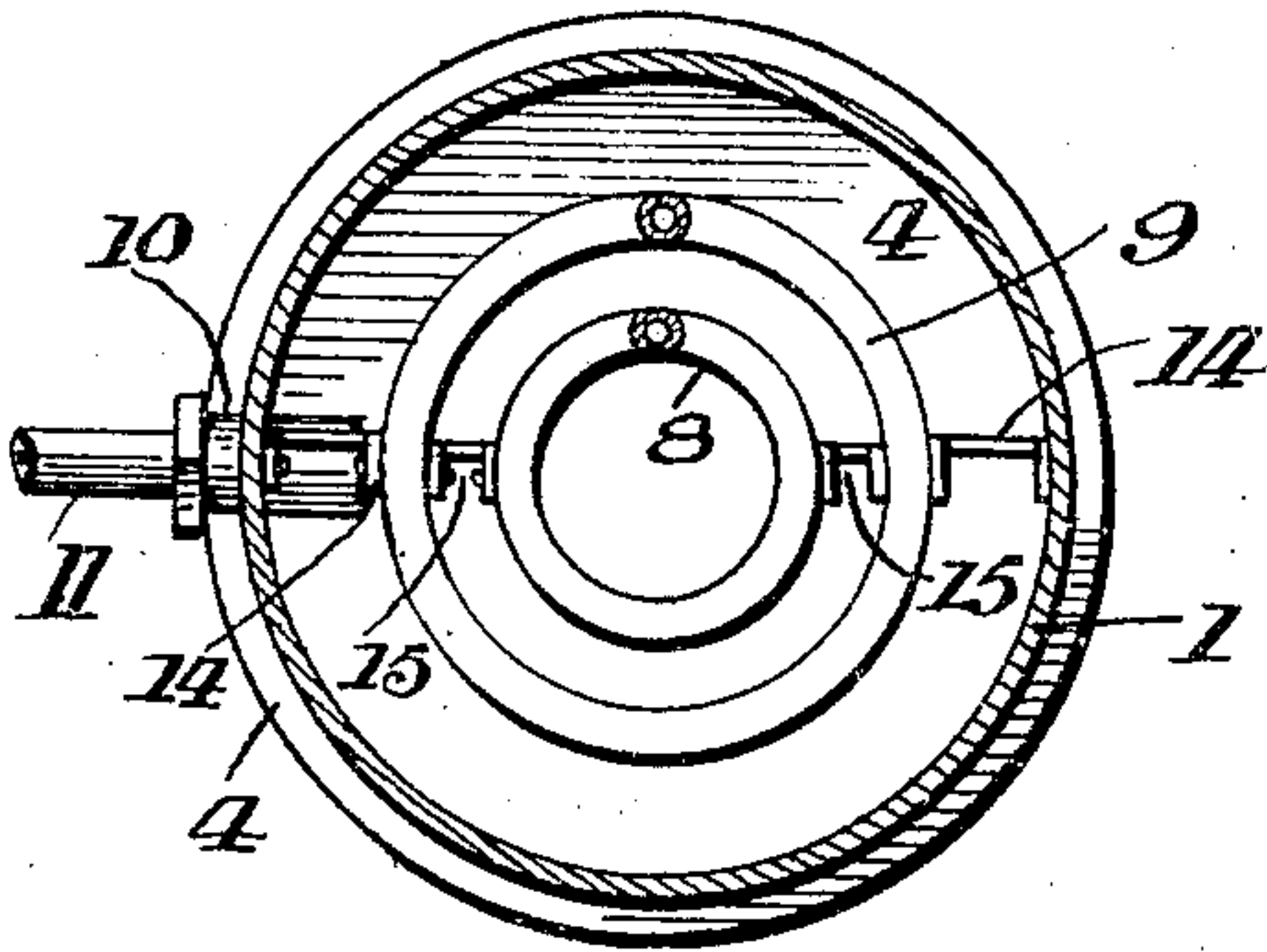


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES A. CRIBBS, OF VANDERGRIFT, PENNSYLVANIA.

HEATER.

SPECIFICATION forming part of Letters Patent No. 765,959, dated July 26, 1904.

Application filed April 11, 1904. Serial No. 202,607. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. CRIBBS, a citizen of the United States of America, residing at Vandergrift, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Heaters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has relation to water-heaters, and has relation particularly to apparatus for heating water to be circulated through the pipes and radiators of a house-heating plant or system; and my invention has for its object
15 the provision of a heater of novel form and construction which will rapidly and economically heat water for the supply of a water-heating plant and which will maintain the water at any desired degree of heat with a comparatively small consumption of fuel.

In carrying my invention into effect I provide a heater-casing, preferably of cylindrical form, upon the top of which I locate a water-tank, and within the same a double coil of
25 water-pipe, the two coils being arranged one within the other and both communicating with a common water-inlet and a common water-outlet, the latter leading to the aforesaid tank. The coils are of such size and so arranged as to
30 leave a circular space between their convolutions, and below the coils I arrange an annular gas-burner, which is so constructed that the flame from the same will be projected into the space between the two coils, whereby both
35 coils will be heated to substantially the same degree and with a minimum consumption of gas. The water-tank, which I arrange upon the top of the heater, is provided with a thermometer, by means of which the temperature of the
40 water within the same may be determined, and above the tank I arrange an annular water-pipe, communicating with the tank and provided with a number of branch pipes leading to the various radiators of the building to
45 be heated.

Referring to the accompanying drawings, Figure 1 is a vertical sectional view of a water-heater constructed according to my invention, and Fig. 2 is a transverse sectional view of
50 the same on the line *x x* of Fig. 1.

The casing of the heater (designated 1 in the drawings) is preferably of cylindrical form, as shown, and is provided with the air-inlets 2 and with the stovepipe 3, which leads to the chimney and serves to carry off the products
55 of combustion from the casing 1. The casing 1 is mounted on a base 4, and upon said base is mounted an annular gas-burner 5, which is supported upon legs 6, the burner being provided with an inlet-pipe 7. Above the burner
60 7 I arrange two spiral coils of pipe 8 and 9, the coils being arranged one within the other and leaving a space therebetween which is in vertical alinement with the holes in the gas-burner 5.
65

The lower terminals of the coils 8 and 9 enter a union 10, which is in communication by the pipe 11 with the heating system, and the upper terminals of the coils 8 and 9 enter a union 12, which communicates with a tank 13,
70 mounted upon top of the casing 1.

The outer coil 9 is supported in position within the casing 1 by brackets 14 14, and the inner coil 8 is supported within and maintained in proper position relatively to the coil
75 9 by braces 15, arranged at diametrically opposite points.

A thermometer 16 is arranged in the top of the water-tank 13, its bulb projecting into the water in the tank, and upon top of the tank
80 an annular pipe 17 is fixed, said pipe communicating with the tank by a pipe 18 and being provided with branch pipes 19, which lead to the radiators throughout the building to be heated, the return-pipes from the radiators all
85 leading to the inlet-pipe 11.

The arrangement of the water-tank, the water-heating coils, and the burner is such that the flames from the burner will mainly pass upwardly between the coils 8 and 9. A
90 portion of the flame will of course pass up the outside of the outer coil 9, and all of the flame after passing the coils and the heated products of combustion and heated air will impinge against the bottom of the tank 13. As
95 the coils 8 and 9 are preferably made of thin copper pipe, the water will be very rapidly heated and after having been heated will ascend into the tank 13, where it will be maintained in a highly-heated condition by the
100

flames, the products of combustion, and the heated air, which, as before stated, impinge directly against the bottom of the tank. The water-supply to the radiators will therefore
5 be very rapidly heated and maintained in a heated condition with a minimum consumption of gas.

Having described my invention, I claim—

10 In a water-heater, a casing having an open upper end, a water-tank mounted thereon and forming a top for the casing, a pipe communicating with the tank and provided with a plurality of branches, two concentrically-arranged coils of pipe in the casing having their
15 upper terminals discharging with the water-tank and their lower terminals connected to a

return-pipe extending through the casing, brackets connected to the casing and outer coil for supporting the latter, brackets connected to the outer and inner coil for supporting the latter, and a gas-burner arranged beneath the coils with its discharge-orifices in line with the space between the coils to direct a flame in said space and against the bottom of the water-tank, substantially as described. 20 25

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES A. CRIBBS.

Witnesses:

PRESTON E. WEISTER,
THOS. GRAHAM.