

(No Model.)

T. W. REES.

CIRCULATING WATER HEATER.

No. 373,754.

Patented Nov. 22, 1887.

Fig. 1.

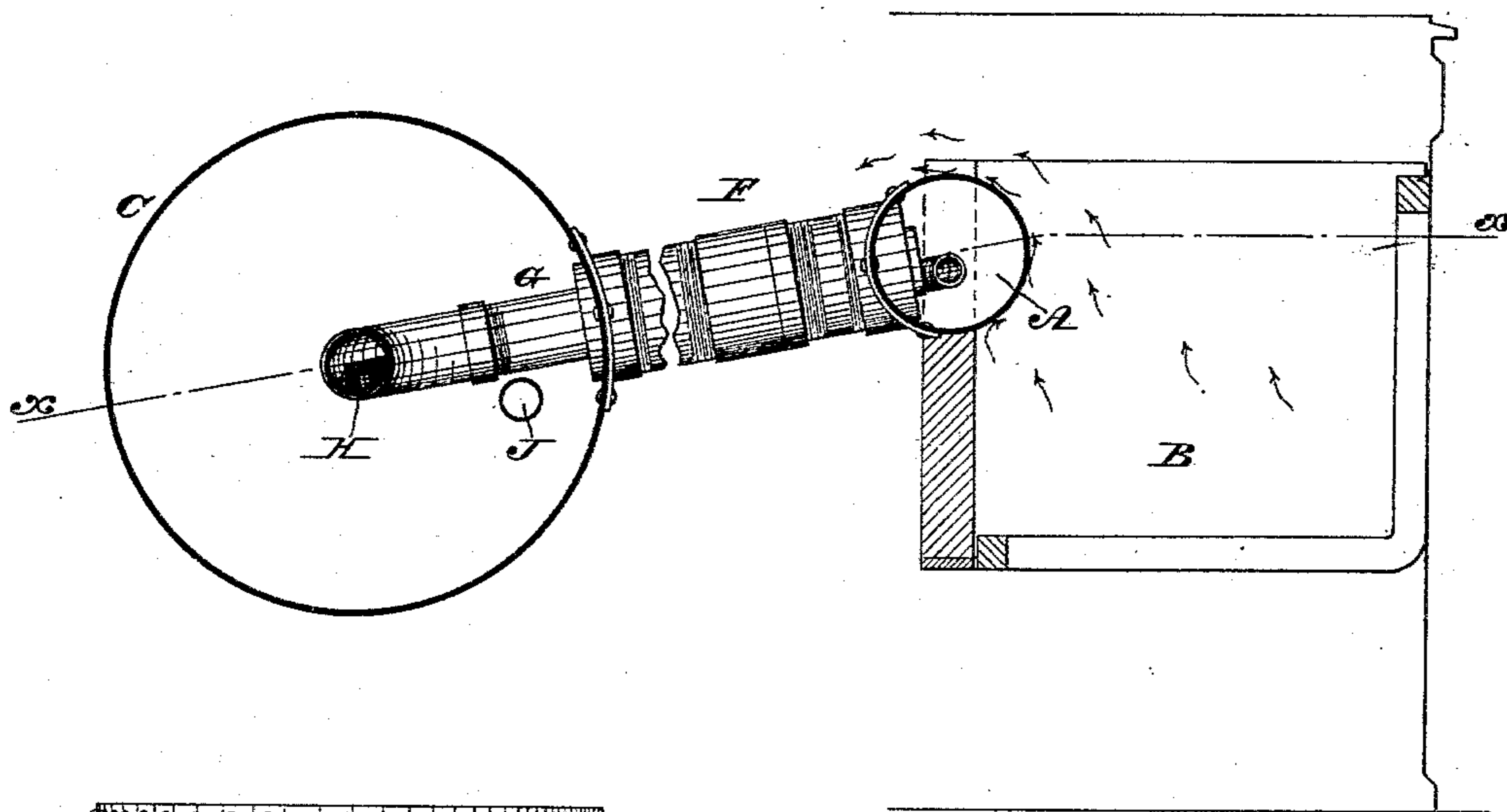
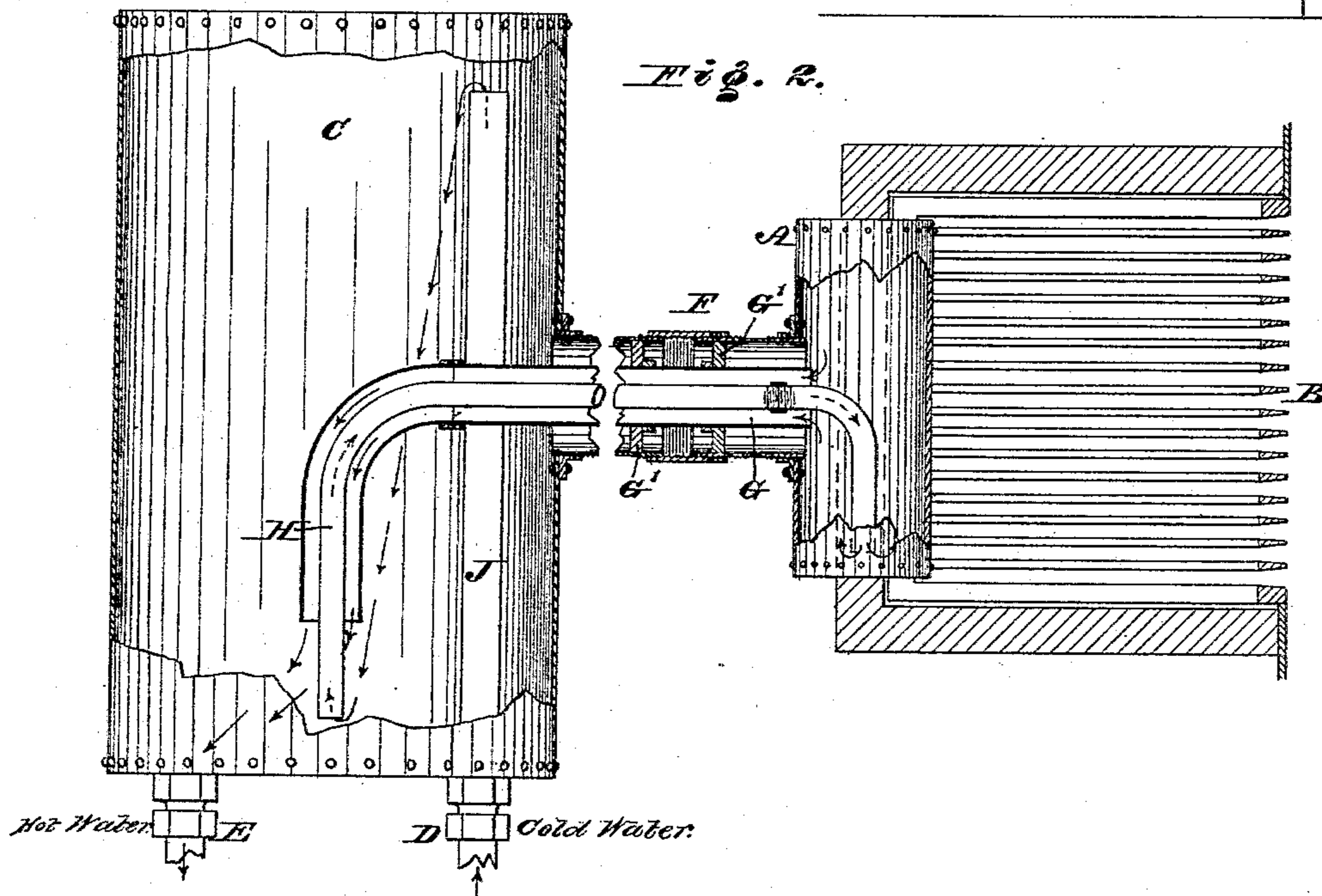


Fig. 2.



WITNESSES:

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THOMAS W. REES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
SNOWDEN & CO., OF SAME PLACE.

CIRCULATING WATER-HEATER.

SPECIFICATION forming part of Letters Patent No. 373,754, dated November 22, 1887.

Application filed April 6, 1887. Serial No. 233,872. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. REES, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Circulating Water-Heaters, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a circulating water-heater constructed substantially as hereinafter set forth, whereby an abundant supply of hot water may be produced.

Figure 1 represents a vertical section of a water-heater embodying my invention. Fig. 2 represents a horizontal section thereof.

Similar letters of reference indicate corresponding parts in the two figures.

Referring to the drawings, A represents a water back or boiler, which is located in the grate or fire place B, the latter being of usual construction.

C represents a supplemental boiler or water-holder, which is supported in any desirable manner in a kitchen or elsewhere, and containing a cold-water inlet, D, and hot-water outlet E.

Connected with the water-back A and boiler C is a pipe, F, within which is a pipe, G, whose ends open, respectively, into said parts A C. Surrounding the pipe G are annuli G', which are tightly secured to said pipe and the pipe F, and serve to close the space between the pipes F G and support the inner pipe, G. Inclosed in the pipe G is a pipe, H, whose ends open, respectively, into the water-back A and boiler C.

Within the boiler C is a pipe, J, which is open at one end in said boiler, and has the other end connected with the cold-water inlet D. Water is supplied to the inlet D, and enters the boiler or holder C through the pipe J. It then reaches the pipe H, and passes through

the same into the water-back A, where it is heated, and then enters the pipe G, whereby it is returned to the boiler C and mingles with the water admitted thereto, so as to heat the same, the circulation continuing, it being evident that the boiler C produces a large quantity of hot water.

The pipe H is subjected on its exterior to the heating action of the hot water returning through the pipe G, and its ends are respectively within the water-back A and boiler C, and heated therein. The pipe G has its exterior exposed to the hot water filling the pipe F on opposite noses of the annuli G', the several hot surfaces thus contributing to the production of the hot water.

The water-back A occupies the upper portion of the rear of the grate or fire-place B, and has much of its surface exposed to the products of combustion therein, so as to be effectively heated.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a circulating water-heater, a water-back and a supplemental boiler with a connecting-pipe, in combination with an inclosed pipe in said connecting-pipe, an annulus located in the space between said pipes, and a pipe leading from said water-back through said inclosed pipe into said supplemental boiler, substantially as described.

2. In a circulating water-heater, the supplemental boiler C, having inlet D and outlet E, and the inclosed pipe J, in combination with the water-back A, the connecting-pipe F, the inclosed pipe G, the annulus G' between the pipes F and G, and the pipe H within said pipe G, substantially as described.

THOMAS W. REES.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. JENNINGS.

Correction in Letters Patent No. 373,754.

It is hereby certified that Letters Patent No. 373,754, granted November 22, 1887, upon the application of Thomas W. Rees, of Philadelphia, Pennsylvania, for an improvement in "Circulating Water-Heaters," was erroneously issued to "Snowden & Co.," as assignees of the entire interest in the patent; that said Letters Patent should have been issued to said *Thomas W. Rees and Snowden & Co., jointly*, said Snowden & Co. being owners of one-half interest only in said invention; and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 20th day of December, A. D. 1887.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

BENTON J. HALL,
Commissioner of Patents.