

A. N. TREGENT.
 Steam Water-Heater.

No. 205,153.

Patented June 18, 1878.

Fig. 1.

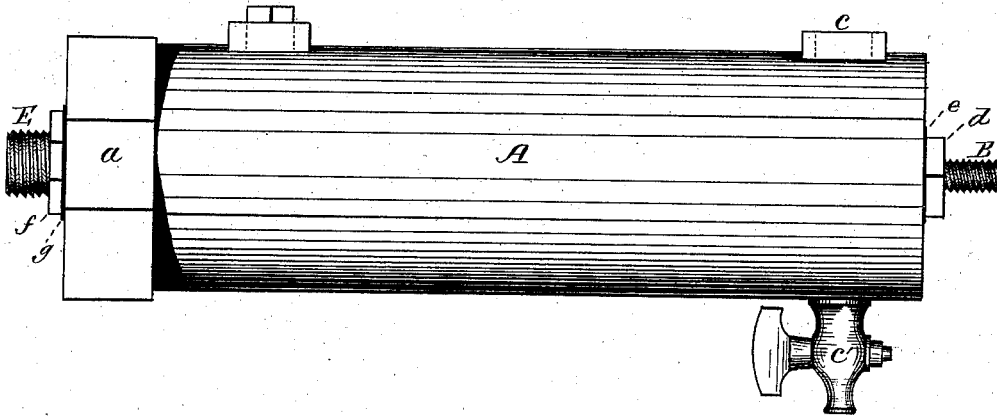
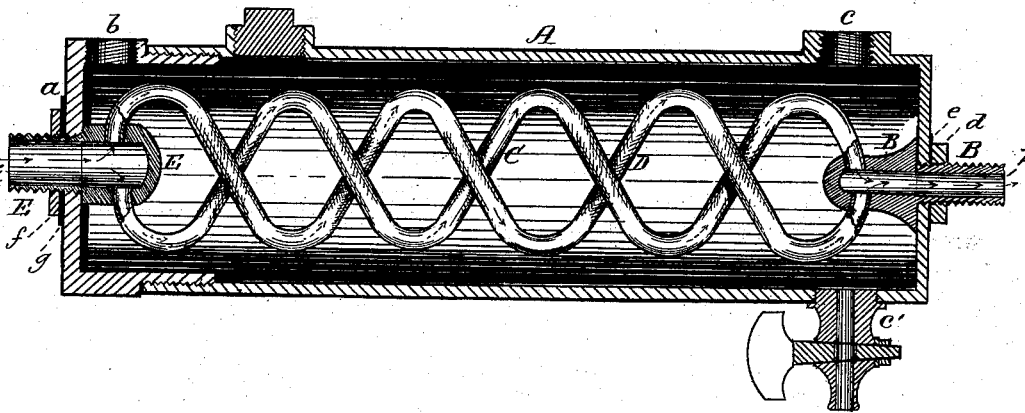


Fig. 2.



WITNESSES:
 J. H. Merrill
 Levi Bacon

INVENTOR,
 Alex'r N. Tregent.
 per Cha's H. Fowler
 Attorney,

UNITED STATES PATENT OFFICE.

ALEXANDER N. TREGENT, OF DETROIT, MICHIGAN.

IMPROVEMENT IN STEAM WATER-HEATERS.

Specification forming part of Letters Patent No. **205,153**, dated June 18, 1873; application filed May 14, 1878.

To all whom it may concern:

Be it known that I, ALEXANDER N. TREGENT, of Detroit, in the county of Wayne and State of Michigan, have invented a new and valuable Improvement in Steam Water-Heaters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my invention. Fig. 2 is a longitudinal vertical section of the cylinder or casing, showing the water-pipes and their connections with the inlet and outlet pipes.

This invention has relation to steam water-heaters, and has for its object to construct a heater in which the pipes containing the water will present to the action of the steam the greatest possible surface, and also admit of the water being heated to almost any desired degree of temperature with economy and perfect safety, while at the same time it, being simple in construction, renders it not only durable, but less liable to get out of order.

The invention therefore consists in a cylinder or other receptacle for steam inclosing two or more coils of pipe, through which the water to be heated passes, said coils being connected at one end to a single inlet-pipe, and joined at the opposite end to a single outlet-pipe.

In the accompanying drawings, A represents the steam cylinder or casing, which may be of any desired form and construction, closed at one end or other suitable place by any ordinary steam cap or connection, or, as illustrated in the drawings, by a screw cap or head, *a*, provided with an inlet, *b*, for the passage of the steam into the cylinder, said cylinder, at the opposite end, having an outlet, *c*, for the escape of the steam. The cylinder is also provided with a suitable faucet, *c'*, to let off the condensed steam.

Secured to one end of the cylinder A is an outlet-pipe, B, by a suitable screw-nut, *d*, and washer *e*, said pipe having formed upon its outer end screw-threads for the attachment of a suitable pipe or other means for the escape of the water. The inner end of the pipe B, or that part located within the cylinder A,

terminates in a head, to which is secured the ends of coil-pipes C D, thereby forming a common or single communication with the outlet of the pipe B.

To the opposite end of the cylinder A is an inlet-pipe, E, which passes through an opening in the head, and secured thereto by a screw-nut and washer, *f g*, or any other steam-tight appliance. The opposite ends of the coiled pipes C D communicate with the passage in the pipe E, similar to those of the pipe B.

It will be noticed that the outlet *h* of the pipe B is much smaller in diameter than the inlet *i* of the pipe E. Thereby the water is not allowed to escape or pass through the coiled pipes at the same rate of speed at which it is introduced, giving the steam a greater opportunity to heat the water; or, in other words, the water being exposed to the heat a greater length of time, and as the coils of pipes diverge from a single inlet and join at their opposite end with a single outlet, the full volume and force of stream of water required is retained without causing the rapid passage of the water through the coils, thereby giving the heat the greatest possible power over the water, so that the water is heated to the required degree much more effectually than the means heretofore employed.

Either live or exhaust steam may be used, as found most convenient, and the coils may be either plain or corrugated, and of any desired number.

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

The feed-water heater herein described, consisting of the cylinder A, inclosing the coils C D, diverging in opposite directions, and connected at one end to a single inlet-pipe and joined at the opposite end to a single outlet-pipe, when constructed and arranged substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALEXR. N. TREGENT.

Witnesses:

WM. C. MILLER,
P. TREGENT.