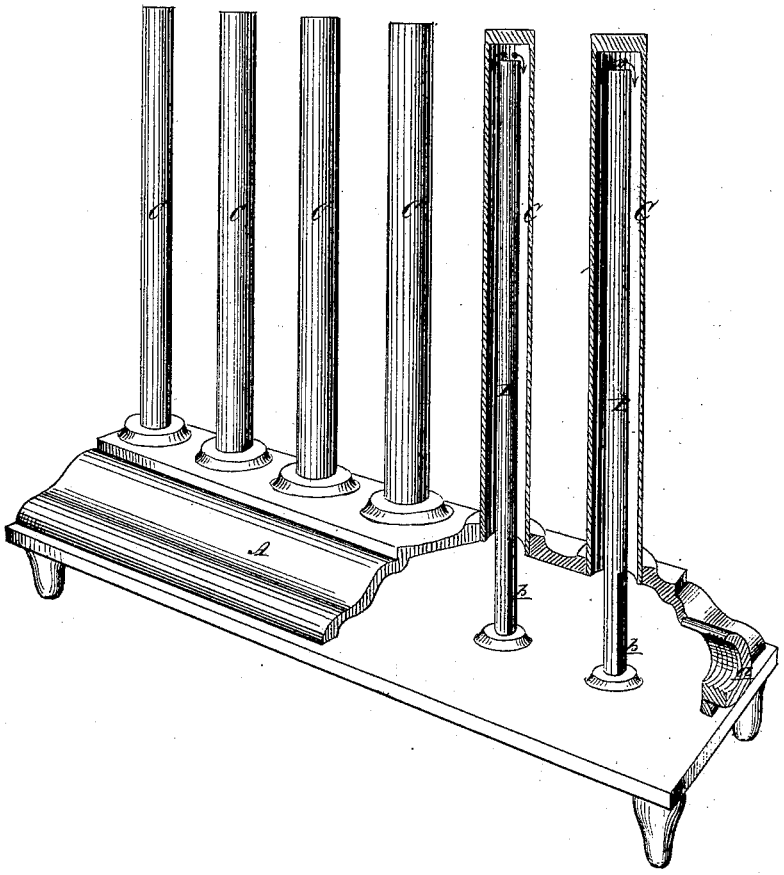
W. THOMSON.

Steam Heater.

No. 112,195. Patented Feb. 28, 1871.



ATTEST

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WALTER THOMSON, OF DETROIT, MICHIGAN, ASSIGNOR TO "DETROIT NOVELTY WORKS."

Letters Patent No. 112,195, dated February 28, 1871.

IMPROVEMENT IN STEAM HEATERS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, WALTER THOMSON, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Radiators; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which my invention is shown in perspective, and partially in section, to show the interior arrangement.

The nature of this invention relates to an improved construction of radiators for heating purposes, by means of which a greater radiating surface is obtained and more heat evolved with less waste of steam.

The invention consists in a series of radiating pipes, closed at top, and at lower end secured in any suitable manner to the top of the steam-chamber.

Within these pipes are other and smaller pipes, open at top, and at bottom secured to the bottom of said steam-chamber, a slot being cut in said pipes near their bottom ends, and within said steam-chamber, by means of which steam is admitted into said pipes, and, rising, is discharged at the open top against the closed top of the radiating pipes, whence it is deflected downward, through the space between the inner and outer pipes, in the direction indicated by the arrows in the drawing.

The slots in the inner pipes should be presented toward the entrance of the steam-pipe into the steam-chamber, so that the direct pressure of the steam may be had to force itself through the slots into the said inner pipes.

For the exit of water or condensed steam from the steam-chamber, any suitable pipe may be arranged.

By this arrangement I avoid the large number of joints usually employed in the construction of radiators. Such joints being subjected, at times, to varying pressures of steam and to various degrees of temperature, are found very difficult to keep tight, while in my construction I entirely discard them. If a joint should, by any accident, leak, that particular one is only to be removed for repairs.

In the accompanying drawing—

A represents a steam-chamber, made in any style desired, and of any suitable material, and provided with an opening, *a*, through which to receive steam.

Secured to the bottom of this steam-chamber is a series of vertical pipes, B, passing upward through openings in the top of said steam-chamber, and open at top, while near their lower ends, and within said chamber, and on the side presented to the admission of steam, they are provided with vertical slots *b*, for the purpose hereinbefore described.

Another series of larger pipes, C, is secured to the top of the steam-chamber A, and surround or inclose the pipes B. The top of these pipes C are closed, and terminate somewhat above the open ends of the interior pipes.

The steam, entering under pressure at the opening *a*, is forced by said pressure into the slots *b* of the interior series of pipes B; thence rising, is deflected by striking the top of the pipes C, and forced downward through the annular space between the outer and interior pipes, the former radiating the heat evolved from said steam.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the pipes B, provided with slots *b*, with the pipes C and steam-chamber A, substantially as and for the purposes set forth.

WALTER THOMSON.

Witnesses:

THOS. S. SPRAGUE,

MARTHA STEWART.