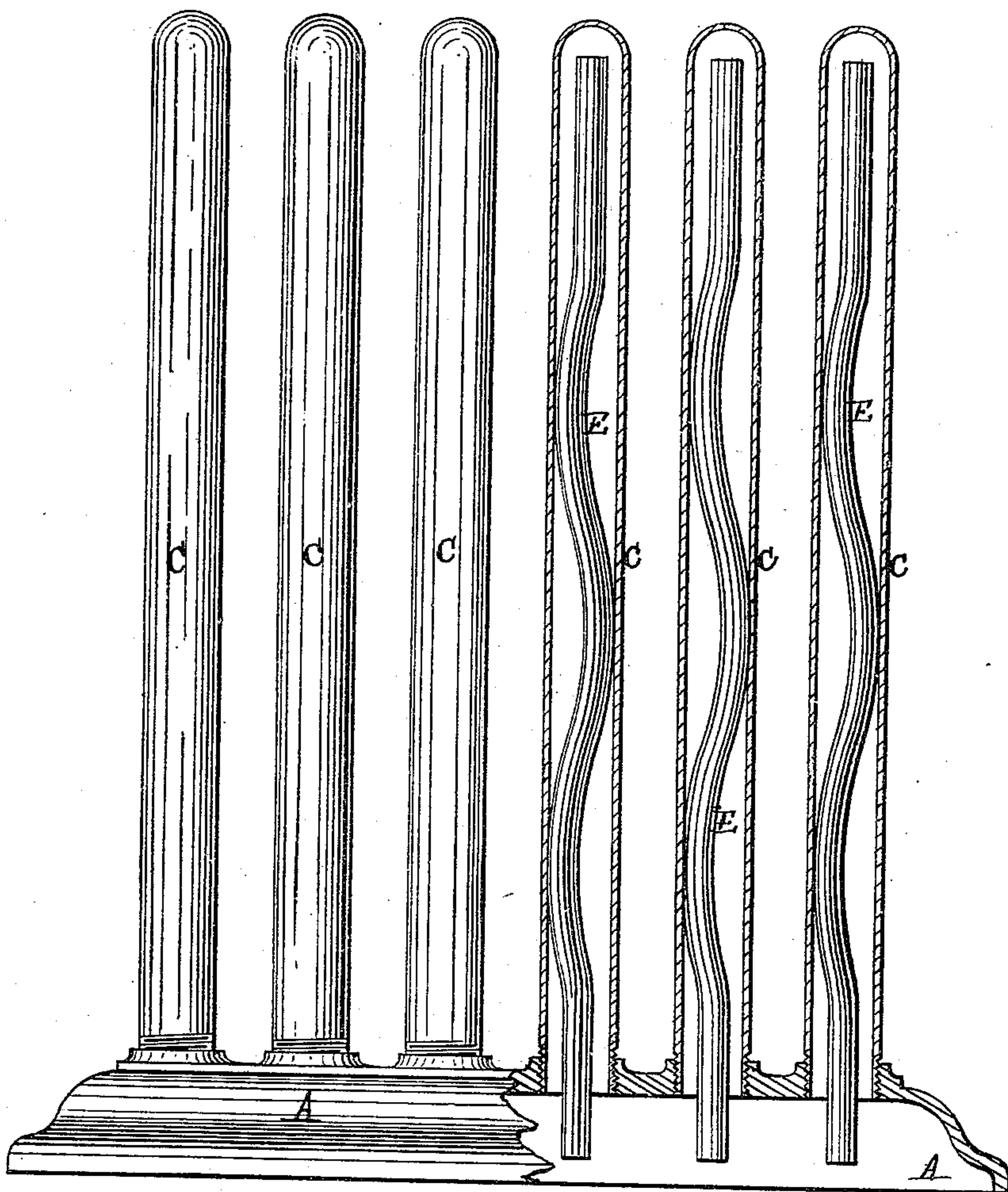


**W. J. BALDWIN.**  
**Steam-Radiators.**

No. 148,651.

Patented March 17, 1874.



Attest:  
W. P. Shelding  
Chas. E. Huston

Inventor:  
W. J. Baldwin  
By Attorney  
Thos. S. Sprague

# UNITED STATES PATENT OFFICE.

WILLIAM J. BALDWIN, OF DETROIT, MICHIGAN.

## IMPROVEMENT IN STEAM-RADIATORS.

Specification forming part of Letters Patent No. **148,651**, dated March 17, 1874; application filed January 31, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM J. BALDWIN, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Steam-Radiators, of which the following is a specification:

The nature of this invention relates to an improvement in that class of steam-radiators wherein the vertical steam-pipes, which are closed at the top, are provided with internal tubes for displacing the air, and thus insure the circulation of steam through them.

The object of the invention is to save the labor and expense of screwing the interior tubes into the base of the pedestal steam-chamber, cutting threads and slots at the lower ends of said tubes, and to avoid the necessity of screwing the interior tubes into the influent steam-tubes, as is now the general practice. The invention consists in the peculiar manner or method of securing the smaller tube within the radiating-pipe, by so bending the smaller tube as to cause its bends to strike the interior walls of the radiating-pipe at three or more points, so that when the bent tube is forced in it the pressure will keep it in place. By firmly securing the inner tube in this manner, the shaking or rattling thereof in the pipe when steam is flowing through is entirely prevented.

The accompanying drawing is a sectional elevation of my improved radiator, in which—

A represents the cast-iron steam-chamber, which forms the pedestal of the radiator. In its top are screwed the lower ends of the radiating-pipes C, which are closed at their upper ends. In each pipe C is inserted a tube, E,

before it is screwed to the pedestal. This tube E is bent back and forth in the same general line of direction, so that its curves will strike the inner walls of the pipe C at three or more points when forced into it, the spring of the bends keeping the tube in place, its upper end extending nearly to the top of the radiator-pipe, its lower end projecting into the steam-chamber A, the terminals of the pipe and tube having preferably a common axis.

The necessity of the internal circulating-tube in vertical single-pipe radiators is now generally conceded.

If such tubes are stood up loosely within the pipes, the rattling and jarring against the inner walls of the radiating-pipes follows as soon as steam is turned into them, making them objectionable on account of the noise, and to secure them in position is expensive.

The saving in labor in securing them in this manner, at present prices, is at least ten cents per tube, making eight dollars on an eighty-pipe radiator.

I do not claim, broadly, the combination of an internal circulating-tube with a radiating-pipe; but

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

The bent tube E, secured within the radiating-pipe C by the pressure of its bends upon the inner walls of said pipe, substantially as shown and set forth.

WILLIAM JAS. BALDWIN.

Witnesses:

CHAS. E. HUESTIS,  
H. S. SPRAGUE.