

(147.)

# E. P. DOYEN Steam Radiator

No. 122,000.

Patented Dec. 19, 1871.

Fig 1

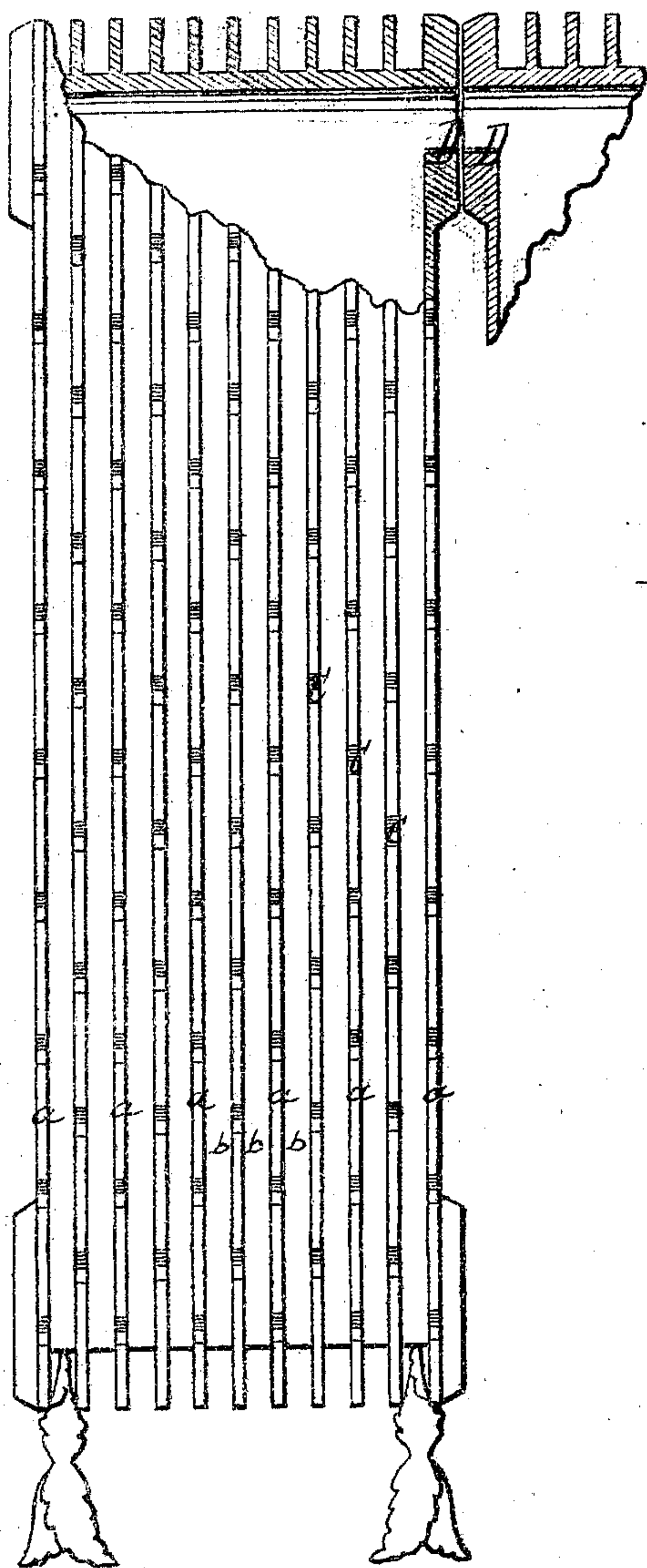
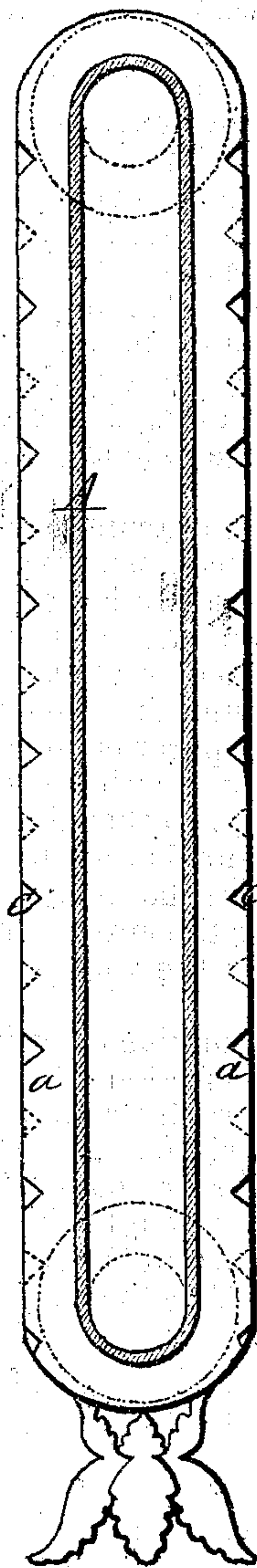


Fig 2



Witnesses  
H. B. Curtis  
Chas. W. Johnson

Inventor  
E. P. Doyen,  
Chipman & Son, Attys

# UNITED STATES PATENT OFFICE

ERASMUS P. DOYEN, OF PORTLAND, MAINE.

## IMPROVEMENT IN STEAM-RADIATORS.

Specification forming part of Letters Patent No. 122,000, dated December 19, 1871.

*To all whom it may concern:*

Be it known that I, ERASMUS P. DOYEN, of Portland, in the county of Cumberland and State of Maine, have invented a new and valuable Improvement in Steam-Radiators; 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 drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a front elevation of my invention. Fig. 2 is a vertical transverse section of the same.

This invention has relation to the improved construction of steam-radiators designed for heating purposes; and the novelty consists in constructing the apparatus in upright instead of horizontal sections, with the feathers or ribs arranged vertically, so that the air passes upward through the channels thereby formed, and is designed to be more thoroughly heated, the steam-space occupying the entire vertical length of the section, keeping the whole surface at an even temperature.

In the accompanying drawing, A indicates the upright radiator-section, of a rectangular form, and cast with the continuous ribs *a* running vertically, as shown, and around the rounded top and bottom. *b* represents the air-channels between said ribs, through which the air passes in upward currents, and is very thoroughly heated before passing off by the extended radiating sur-

face over which it moves. C represents small angular notches, not reaching to the bottom of the channels *b*, arranged in alternate order, forming diagonal rows, and designed to increase the radiating surface of the ribs in which they are made. D denotes flanged orifices at the top and bottom of the sections, whereby they are joined together to enlarge the radiator to any size.

By this vertical arrangement of the sections there is an obvious advantage in regard to space. The interior of each section, being a continuous steam-space, allows the steam to circulate without cooling, so that the vertical sections may be made high, and thus give a large radiating surface without occupying needed space.

I am aware that radiators have been constructed of tubes having corrugated exterior surfaces. I lay no claim to the invention of such radiators; but

I claim as my invention—

The upright section A of a steam-radiator, cast with a continuous interior steam-space and provided with the vertically-arranged ribs *a*, notched in diagonal rows, thereby forming a radiating surface in excess of the condensing surface, substantially as specified.

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

ERASMUS P. DOYEN.

Witnesses:

JOS. A. LOCKE,  
A. K. PAUL.

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