

A. C. EDWARDS.

Heat Radiator.

No. 41,061.

Patented Jan. 5, 1864.

Fig. 1.

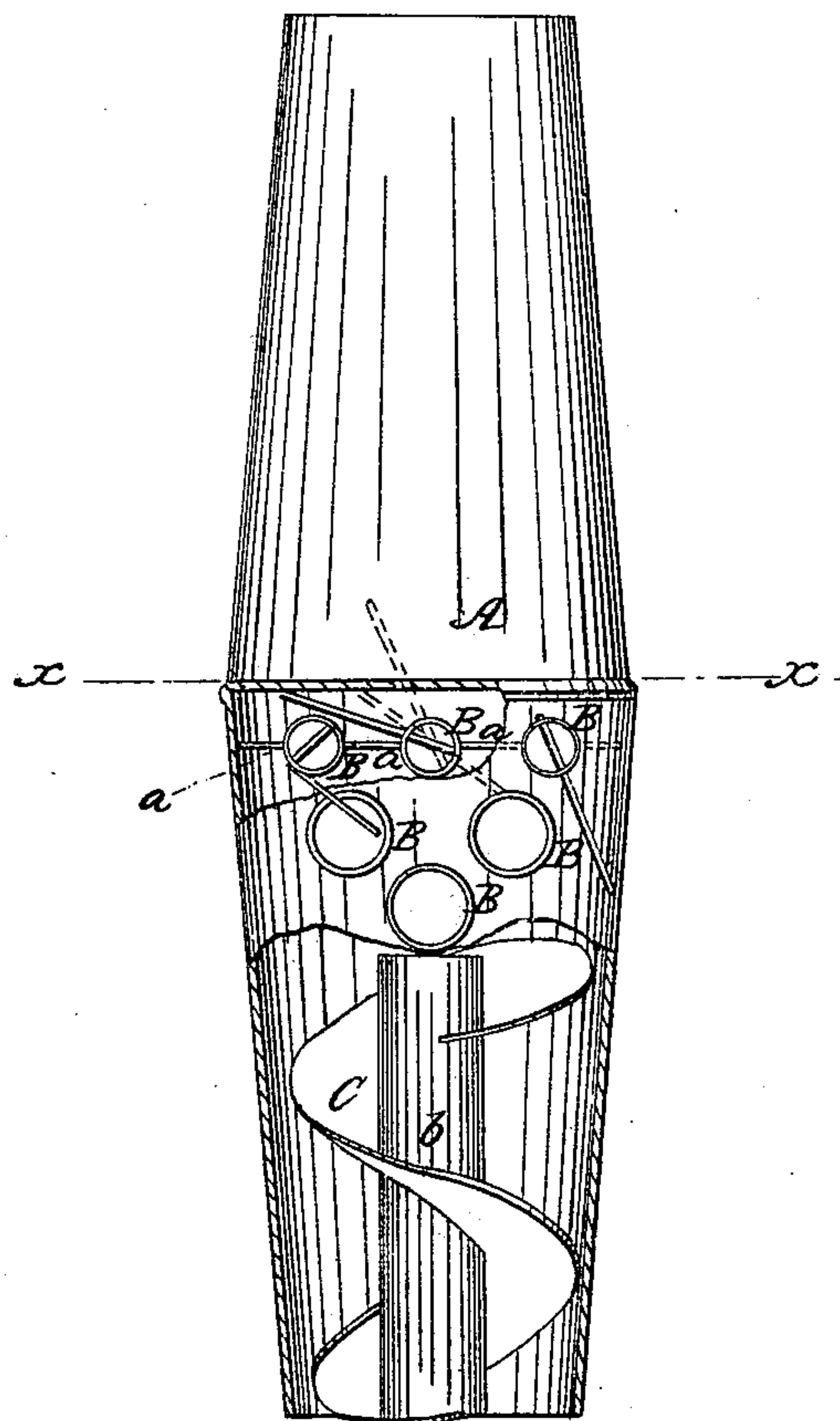
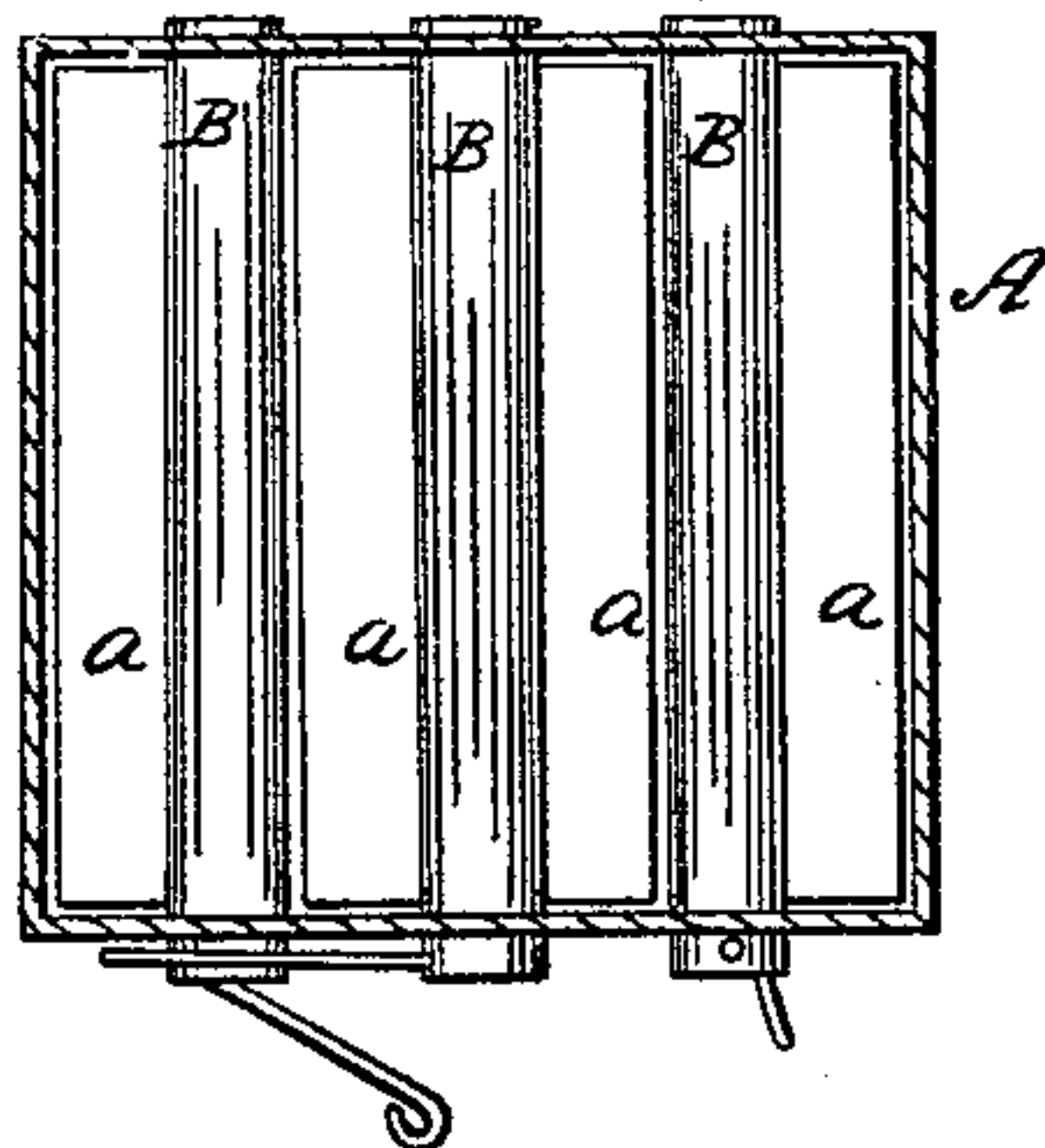


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ASA C. EDWARDS, OF SOUTHAMPTON, MASSACHUSETTS.

IMPROVEMENT IN HEAT-RADIATORS.

Specification forming part of Letters Patent No. 41,061, dated January 5, 1864.

To all whom it may concern:

Be it known that I, ASA C. EDWARDS, of Southampton, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Heat-Radiating Apparatus for Stoves, Furnaces, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention; Fig. 2, a horizontal section of the same taken in line *x x*, Fig. 1.

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

This invention consists in having a series of tubes placed transversely in a pipe connected with or leading from a stove, furnace, or any heating apparatus, the ends of said tubes communicating with the external air, and a portion of them being allowed to turn, and provided with flanges to serve as a damper, and using, in connection with the tubes aforesaid, a spiral flange, all being arranged as hereinafter set forth, whereby the heat within the pipe is radiated from it, and by a very compact and simple means.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a tube or pipe, the ends of which may be of circular form, so as to admit of being applied to an ordinary stove at the lower part of the stove-pipe, or at any part thereof, or to any part of the hot-air pipe of a furnace. The central part of A may be of quadrilateral form and somewhat greater in diameter than at its ends, as shown clearly in Fig. 1.

Through the central part of the tube A there passes transversely a series of tubes, B, the ends of which communicate with the external air. Any desired number of these tubes B may be used, and the upper ones are placed loosely in the tube A, so that they may turn therein, and provided with flanges *a* to serve as dampers, the tubes to which the flanges are attached having handles at one end for the purpose of turning or adjusting them.

C represents a spiral flange, which is at-

tached to a shaft, *b*, secured centrally in the tube A in any proper way. The flange C has an oblique or flaring position on the shaft *b*, as shown clearly in Fig. 1, so as to give a rotary or outward movement to the heated air as it passes through the tube A, the flange causing the heated air to impinge against the side of A, so that its heat will be radiated from A, and not allowed to pass centrally through it, as would be the case were the spiral flange not employed, as the hottest air is at the center of the current. The flange C also causes the heated air to be scattered or spread, so that it will strike or come in contact with all the tubes B, thereby preventing the latter from being burned out—a contingency which would occur were the heated air allowed to pass directly or unobstructed through A, or if the flame of the fire were allowed to strike directly against them, in which case some parts of the tubes would be subjected to greater heat than others. Besides, the heated air is made to take a circuitous route and time given it to part with its caloric. The external air passes directly through the tubes B and absorbs the heat therefrom.

I do not confine myself to any particular point for attaching the tube A to the pipe of the stove or furnace.

I do not claim, broadly, the employment or use of heat-radiating tubes passing transversely through a drum or tube, for they have been previously used; but,

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

1. The employment or use in a drum or pipe of a series of heat-radiating tubes, B, a certain number of which are movable or allowed to rotate, and provided with flanges *a* to serve as dampers, substantially as herein set forth.

2. The tubes B, movable or fixed, in combination with the spiral flange C, said parts being arranged within the tube A, to operate substantially as set forth.

ASA C. EDWARDS.

Witnesses:

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ARD. G. JUDD.