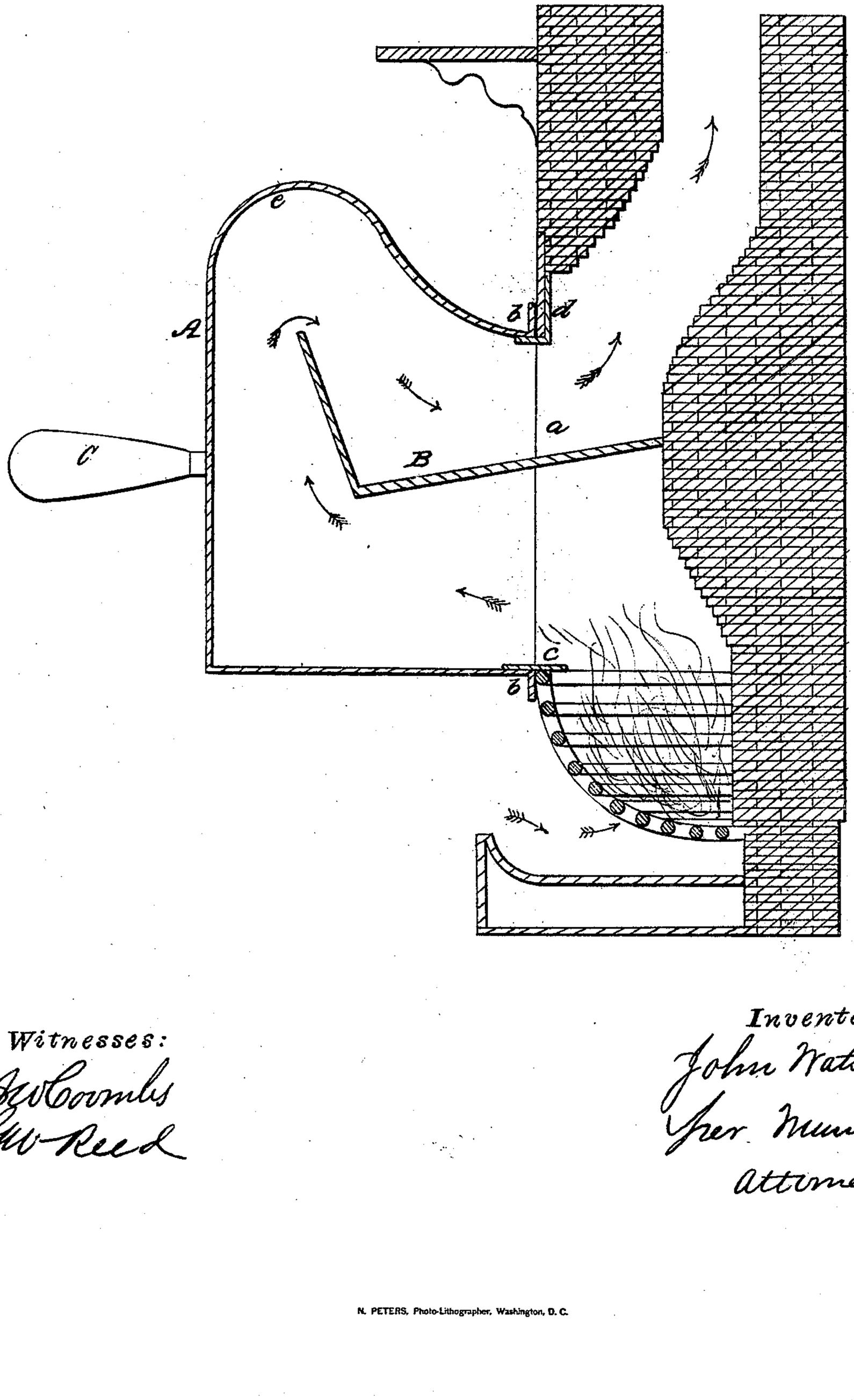
J. WATSON, Jr.

Grate.

No. 40,315. Patented Oct. 13, 1863



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UNITED STATES PATENT OFFICE.

JOHN WATSON, JR., OF LOUISVILLE, KENTUCKY, ASSIGNOR TO HIMSELF, JNO. P. LACKSTEDER AND FRANK LACKSTEDER, OF SAME PLACE.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **40,315**, dated October 13, 1863; antedated October 2, 1863.

To all whom it may concern:

Be it known that I, JOHN WATSON, Jr., of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Heat-Radiating Attachment for Grates; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, said drawing being a transverse vertical section of my invention.

The object of this invention is to obtain a simple and portable heat-radiating attachment for grates, one which may be applied to a grate and removed from it with the greatest facility, and when applied be capable of radiating a large amount of heat into the apartment.

Grates, as is well known, are not very good economizers of fuel, much of the heat passing up into the chimney with the products of combustion; but as they do not monopolize space in an apartment like a stove, they are of course preferred by those who can afford to provide the coal they will consume. Besides the comparatively large consumption of fuel, however, there is another objection attending their use, and this is, that in extreme cold weather they frequently fail to heat an apartment, and when capable of doing it require considerable time to effect it. This latter objection is fully obviated by my invention.

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

A represents a box, constructed of sheet-metal and open at one side, as shown at *a*. The open side of the box is provided with a flange, *b*, which extends all around it, and at the bottom of the open side *a* there are attached horizontal plates *c*, any proper number, to rest on the top bar of the grate, or instead of a series of plates, *c*, one continuous plate may be used, extending the whole width of the box. Two plates, *c*, placed one near each end of the box, would probably be preferable. To the upper part of the open side *a* of the box A there are attached vertical plates *d* to catch behind the upper part of the flue, the flue and the grate being shown in red in the drawing. The box A is equal in width to the length of the grate, and is of such height as to cover or fully inclose the flue opening. Within the box A there is placed a plate, B, which extends its whole width and projects out through the open front *a* sufficiently far to rest or be in contact with the back of the flue. This plate B may be slightly inclined from a horizontal position at its front part, its back part, which does not reach the back part of the box, being inclined slightly from a vertical position, so as to extend toward an arched portion, *e*, of the top of the box A.

From the above description it will be seen that when the box A is applied to the grate it will form a part of the flue, and that the plate B will cause the products of combustion to pass through the box and into the flue, as indicated by the red arrows. The box A therefore will form a heat-radiator and cause a large amount of heat to be radiated into the room which would otherwise escape up the flue.

The device may be applied to the grate at any time when extra heat is requried, and can be removed at any time with the greatest facility, the box being provided with handles C, for the convenience of applying it to and detaching it from the grate.

I do not confine myself to any particular form or shape of box, nor do I confine myself to sheet metal, for cast metal may be used, although sheet metal would be preferable.

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

The box A, provided with an open side, *a*, and a plate, B, arranged substantially as shown, or in an equivalent way, so as to be capable of being applied to a grate, to form a portable or removable heat-radiating device, as herein set forth.

JOHN WATSON, JR.

Witnesses:

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