

G. W. Blake,

Ventilator.

No. 100110.

Patented Feb. 22. 1870.

Fig. 1.

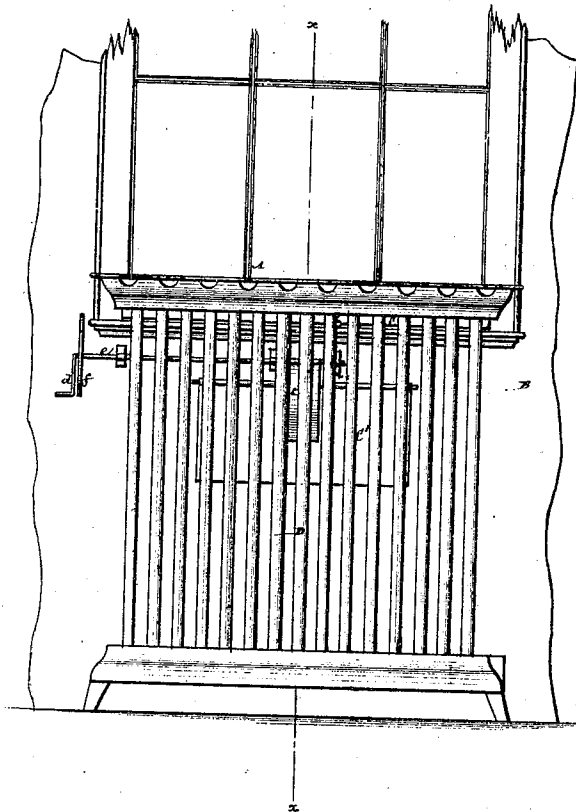
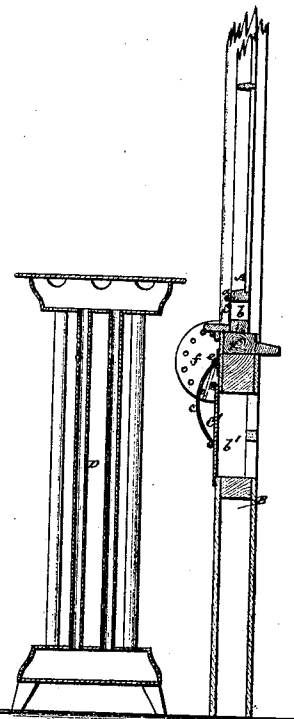


Fig. 2.



Witnesses:
Fred. Haynes
R. E. Roberts

Geo. W. Blake

United States Patent Office.

GEORGE W. BLAKE, OF NEW YORK, N. Y.

Letters Patent No. 100,110, dated February 22, 1870.

HEATER AND VENTILATOR.

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

To all whom it may concern:

Be it known that I, GEORGE W. BLAKE, of the city, county, and State of New York, have invented a new and useful Improvement in Heating and Ventilating Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a front elevation of my improvement viewed from the interior of an apartment, and

Figure 2, a vertical section taken as indicated by the line *z z*, in fig. 1.

My invention consists in a combination with a radiator, when arranged in front of a window or opposite and in proximity to the outer wall of an apartment, of a valve or covering of a self-acting character to an opening made in the base portion of the window, or in the wall opposite which the radiator is placed, and operating to open for ingress of air through the radiator to the apartment, whereby a most perfect heating and ventilating action is secured.

Referring to the accompanying drawing—

A represents a window in an outer wall B to an apartment.

C is a valve or covering hinged as at *a* to an opening, *b*, formed through the base or lower sill portion of the window, said valve being arranged to open into the apartment, so as to admit air thereto, and closing against the egress of air therefrom.

D is a radiator placed in front of the window, and in proximity to the opening *b*, covered by the valve C, said radiator being of any suitable construction that will cause the air as it opens the valve by the superincumbent pressure of the air on the outside to blow through the radiator into the apartment. It is immaterial as to the valve C when open covering the space against upward draught between the radiator and the window, as the cold air in entering will naturally drop by reason of its superior density as compared with the heated atmosphere about the radiator. Said valve C may have its extent of opening limited by any suitable stop, adjustable or otherwise, to control the amount of air admitted through the opening *b*.

By this combination and arrangement of devices a most perfect heating and ventilating action may be se-

cured, the self-acting character of the valve C insuring free ingress of air to be warmed by passing through the radiator in entering the apartment, but said valve closing by its weight, or any superior current from the inside toward the outside of the apartment, against egress of air. This automatic action of said valve will be found of great service in large rooms where radiators are arranged opposite each other and in front of opposite windows, as the same, or one at least of such opposite valves to said radiators will operate by closing to prevent a through draught from window to window. Likewise, on the radiators cooling down, such valves will close to prevent a too great chilling of the room.

When the radiator or radiators are arranged opposite and in proximity to the wall of the apartment, or between the windows, as contradistinguished from in front of a window, then instead of arranging the valve to cover an opening in the window-sill or frame, I arrange the valve as at C' to cover an opening, *b*, in or through the wall in rear of the radiator, said valve operating in the same manner as the valve C to the window as regards its automatic control of ingress and egress of air. This valve C' may have its opening action regulated or limited by a swinging stop, *e*, operated by a crank or handle, *d*, through a rock-shaft, *e*, and arrested as required by a pin made to enter any one of a series of holes in a plate, *f*, and serving as a check or stop to the crank *d*. Any other mode of adjustment, however, if adjustment be necessary, may be adopted for controlling the inward action of said valve.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination with a radiator, when arranged relatively to the window or wall of an apartment, as described, of an automatic valve to an opening made in the window or wall, said valve being so arranged and operating as that it serves to admit air through the radiator to the apartment, but is self-closing against egress therefrom, substantially as specified.

GEO. W. BLAKE.

Witnesses:

FRED HAYNES,
R. E. RABEAU.