(No Model.)

G. T. AYER.

Grate.

No. 243,347. Patented June 28, 1881.

Fig. 3.

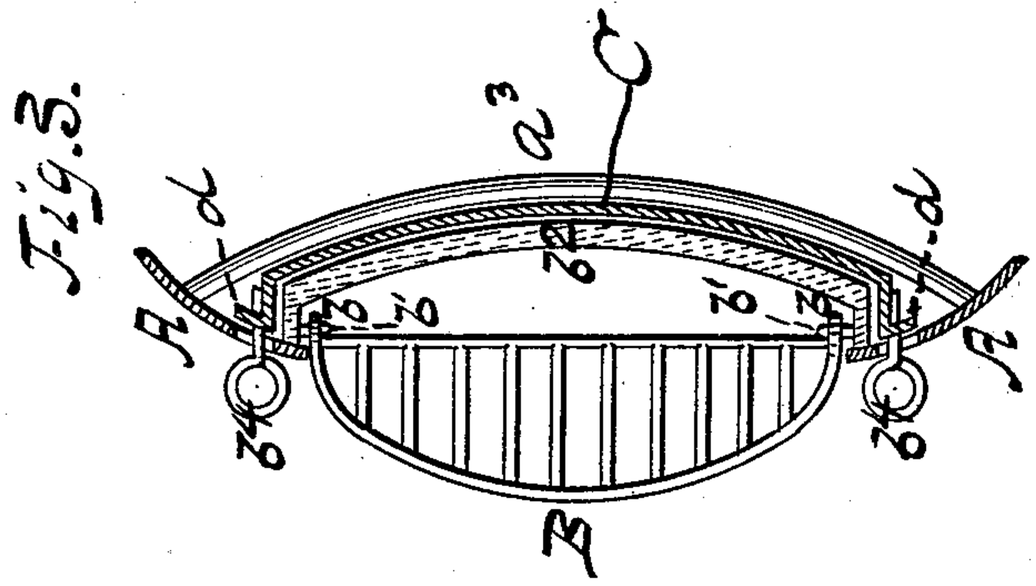


Fig. 2.

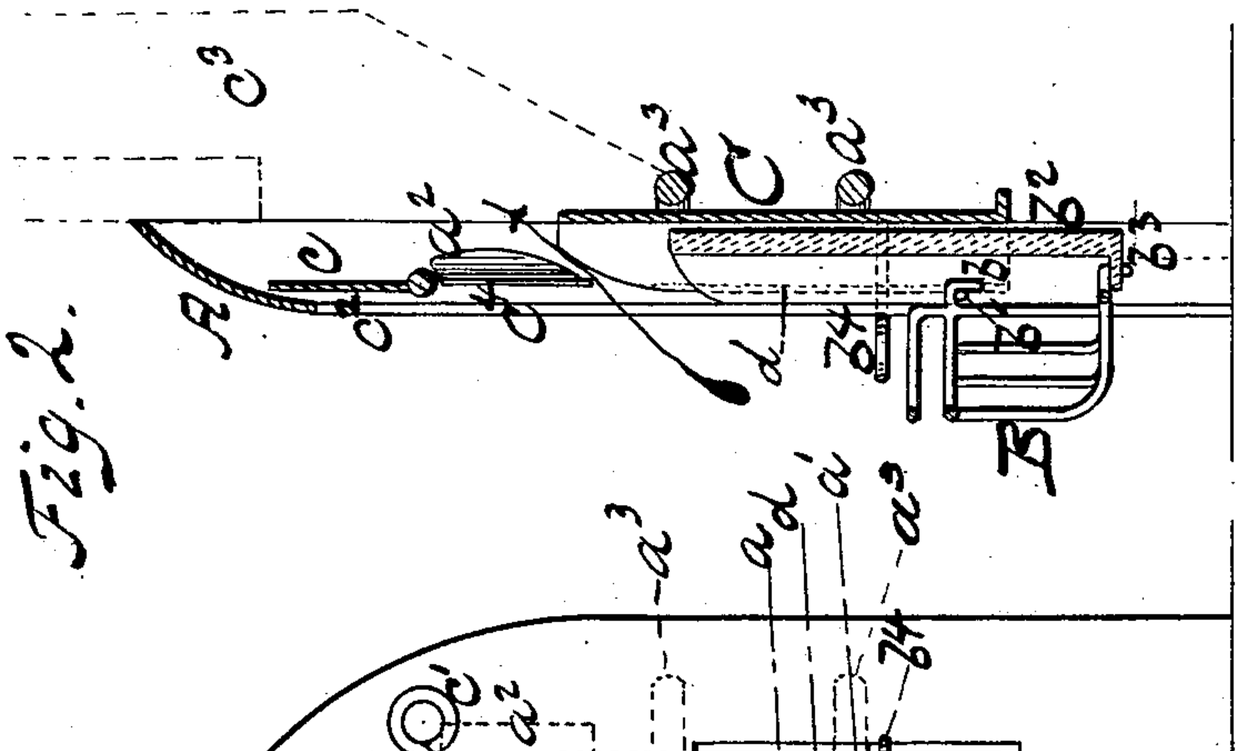
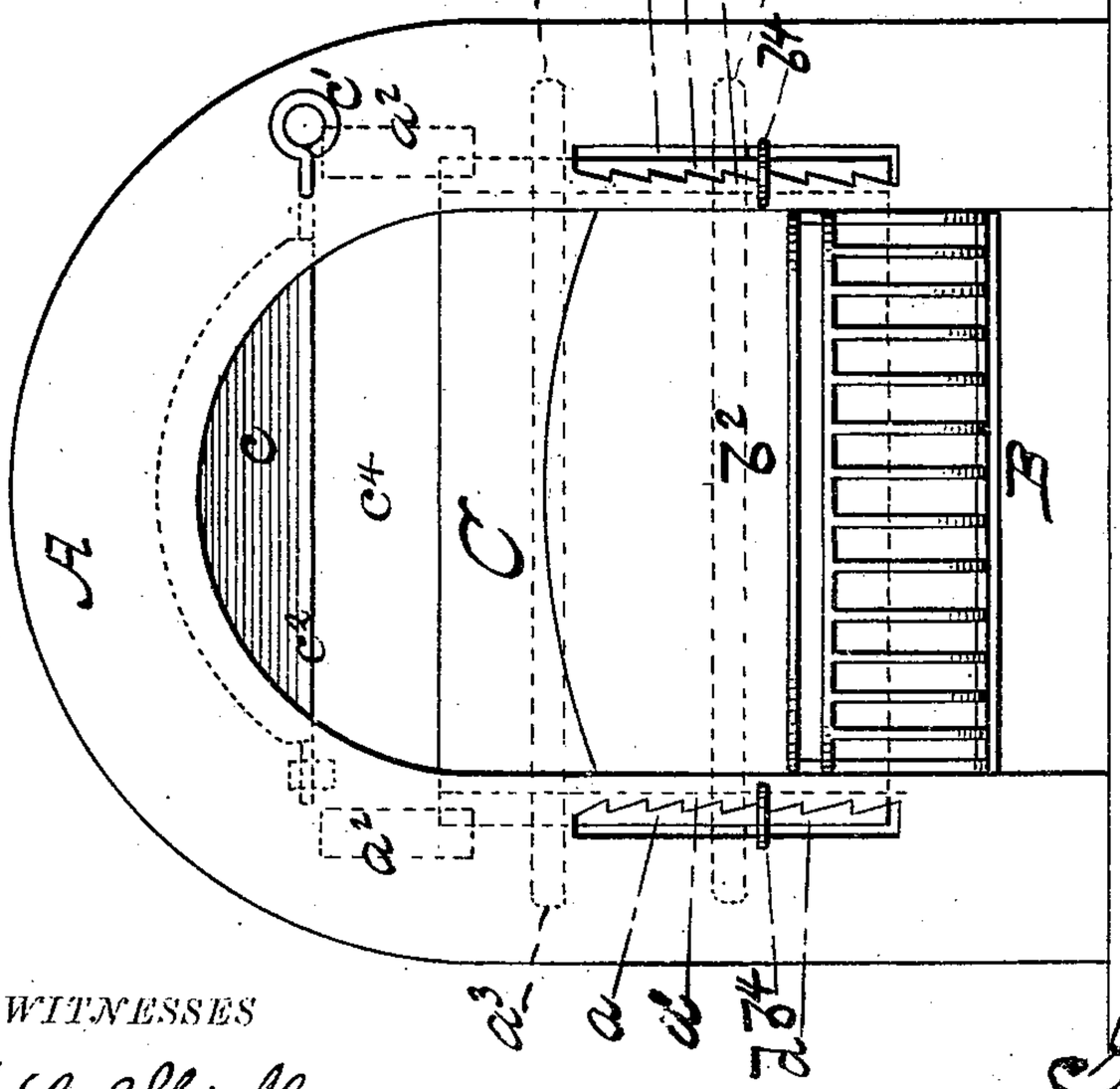


Fig. 1.



WITNESSES

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GIBSON T. AYER, OF CALHOUN, KENTUCKY, ASSIGNOR OF ONE-HALF TO JEP. C. JONSON, OF SAME PLACE.

GRATE.

SPECIFICATION forming part of Letters Patent No. 243,347, dated June 28, 1881.

Application filed March 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, GIBSON T. AYER, a citizen of the United States, residing at Calhoun, in the county of McLean and State of Kentucky, have invented certain new and useful Improvements in Grates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention has relation to improvements in grates such as are used in fire-places; and it consists in providing the same with a removable back, which slides vertically in the rear of the fire-brick back, and is held in different positions for regulating the draft and heat, all of which will be hereinafter more fully explained.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents a front view of my improved grate. Fig. 2 represents a central vertical sectional view of the same, and Fig. 3 represents a horizontal section.

The letter A designates the front or facing of the grate. This is of semicircular form at the top and rests against the wall of the room, and the same is provided with vertical slots *a* on each side of the grate. Said slots are provided with teeth *a'*. There are also applied to the inside of said facing, and near the top thereof, guideways or flanges a^2 and curved rods a^3 a^3, which connect one side of the facing to the other.

B designates the grate or fire-basket proper, which is provided with hooks *b b*, which catch over the pins *b' b'*, secured in the fire-brick b^2; and on the lower end of said grate there are hooks b^3 b^3, which enter holes also made in the brick.

C designates the removable back, which is constructed of suitable material, and placed directly in the rear of the fire-brick b^2, and between the same and the rods a^3 a^3. Said back is so constructed as to conform in shape to the brick aforesaid, and is provided with rods or handles b^4 b^4, which are attached to and on each side of said back. The handles pass through the slots *a a*, and project sufficiently to serve in raising and lowering the back, which operation will be further explained.

Near the top of the facing A is a valve, *c*, provided with a handle, *c'*, for purposes hereinafter mentioned.

Having thus given a description of the different parts of which my improved fire-grate is composed, I will now proceed to explain the manner in which it is operated.

The fire is kindled in the grate B as usual. At the same time the handles b^4 b^4 are grasped by the attendant, and the same are withdrawn from the teeth, which allows the back to fall behind the brick b^2, and the damper or valve *c* being closed, as shown in Figs. 1 and 2, leaves an opening, c^4, through which the draft enters the flue c^3. (Shown in dotted lines, Fig. 2.) When the fire is sufficiently hot, and the gases have left the coals and passed through the flue, the handles b^4 b^4 may be grasped and relieved from the teeth, after which the back b^2 is raised until sufficiently high to close the opening c^4, thus causing the heat to enter the room, instead of passing up through the flue. Said back C is guided vertically by means of the flanges *d d* coming in contact with the plates a^2 on the facing A; also, the rods a^3 a^3 support and assist in guiding the same.

It will thus be seen from the foregoing description that I construct a grate that can be so regulated that much of the heat that would otherwise escape through the flue may be forced into the room, and at the same time the valve *c* serves in closing the draft, and when reversed to that shown in Fig. 2 leaves an opening, c^2, that serves as a ventilator, and allows all the impurities that may be in the room to escape through the flue aforesaid.

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

The removable back C, provided with handles b^4 b^4, working in the slots *a a*, in combination with the facing A, grate B, and valve *c*, as shown and described, and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

GIBSON T. AYER.

Witnesses:
L. A. WATKINS,
D. D. ROBERTSON.