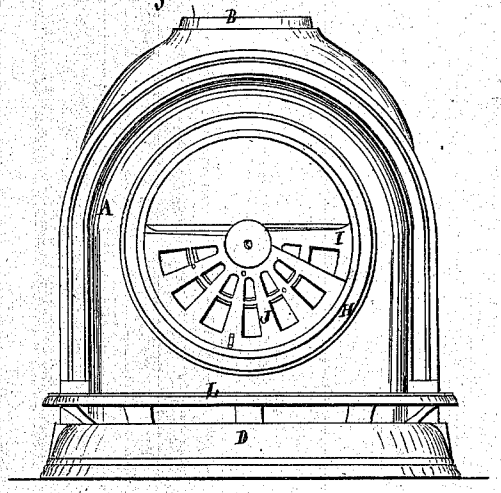
G. WELLHOUSE.

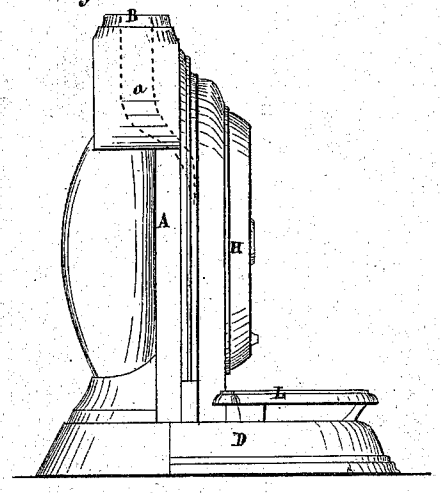
Fire Grate.

No. 112,399. Patented Mar. 7, 1871.

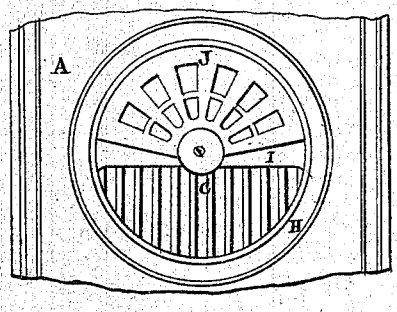
Fig, 1.



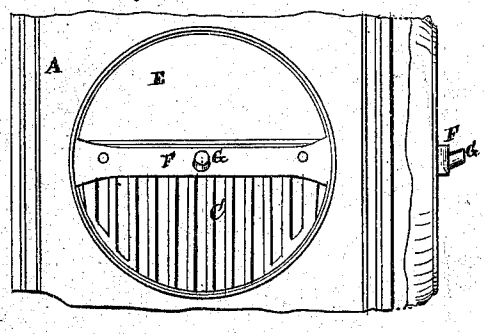
Fig, 2.



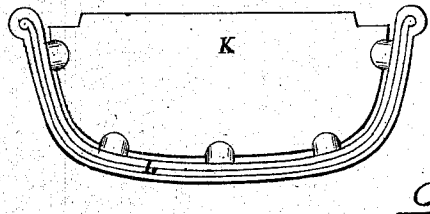
Fig, 3.



Fig, 4.



Fig, 5.



Witnesses:
J. H. Burridge,
D. L. Humphrey.

Inventor,
George Wellhouse.

United States Patent Office.

GEORGE WELLHOUSE, OF AKRON, OHIO.

Letters Patent No. 112,399, dated March 7, 1871.

IMPROVEMENT IN FIRE-GRATES.

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 WELLHOUSE, of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Fire-Grates, of which the following is a description, reference being had to the accompanying drawing making part of this specification.

Figure 1 is a front view of the fire-grate.

Figure 2 is a side view.

Figures 3 and 4 are detached front sections.

Figure 5 is a plan view of the fender.

Like letters of reference refer to like parts in the different views.

The nature of this invention relates to a fire-grate, the construction of which is such that it can be used for a stove or fire-grate, as may be elected, and the object thereof is to provide said grate with a revolving damper or blower, so that the draught can be changed from the top of the fire above the grate, or below it, as the condition of the fire may need.

It also relates to the manner of securing the said revolving blower to the stove, so that it shall remain at all times close-fitting thereto, as hereinafter more fully described and set forth.

In the drawing—

Fig. 1, A represents the body of the stove or fire-grate, and which is of the shape shown, and of which B is the flue, C, fig. 3, the grate, and D the bottom or hearth.

It will be observed that the face E, fig. 4, or the opening to the fire-grate or basket C, is of a circular form, across the horizontal diameter of which is fixed a bar, F, projecting from the middle of which is a lug, G, having an inclination upward, as shown in said fig. 4, the purpose of which will presently be shown.

To said circular opening or face E is fitted closely, but not tightly, a ring, H, one-half the diameter of which is filled with a web, I, fig. 1. The draught-openings therein correspond in size, shape, and number to the openings in the slide-damper J, attached thereto, and which it is intended to cover or close on moving it for that purpose, as shown in fig. 3, which represents the openings in the web as closed by the damper J.

In the middle of the diameter of the web referred to, and hence in the center of the ring H, is a hole, whereby said ring is hung upon the lug G, the lug forming a pivotal center, on which the ring and damper revolve.

The upward inclination given to the lug inclines the ring to press backwardly against the bar, hence the inner peripherical surface of the ring will press close in upon the rabbet around the face or opening of the fire-grate in which it is fitted and revolves.

By this means the contact of the ring with the face of the stove will be smoke-tight, and yet be free to revolve, for changing the position of the blower, above or below the grate, as may be required for the fire.

In the ordinary open fire-grate an increase of draught is obtained to the fire by the use of a blower, which consists of a sheet-iron hood placed on over the front of the grate, thereby shutting out the draught from the top of the grate, and compelling it to enter underneath and pass through the ignited fuel, thereby causing it to burn more rapidly.

The objection to this kind of blower is that it is inconvenient, for the reason that it requires to be put on and taken off each time when wanted, and be carried from the fire to some place of keeping and of safety.

Not only is this a matter of some trouble, but the blower is difficult to handle, for, being hot and blackened with soot, and therefore liable to burn and soil those handling it.

To avoid this trouble, danger, and inconvenience, I make the blower in the manner as above described, and attach it to the grate by means of the bar and lug, above referred to, the operation of which is as follows:

The position of the web or blower, as shown in fig. 1, is such as to open the upper part of the fire-place and allow a draught from the bottom of the grate through the openings of the web or blower, which, however, may be entirely closed by the sliding damper J, thereby shutting off all the draught from below the grate, thereby saving unnecessary consumption of fuel.

In the event that a strong draught is needed to make the fire burn more rapidly, the blower is turned from the position shown in fig. 1 to that shown in fig. 3, in which it will be seen that all of the lower part of the grate is open, whereas all the space above it is closed by the blower.

By this means the draught is diverted from the upper part of the fire-place and compelled to enter the grate from below.

In this second position of the web or blower the damper J may be closed or not, as may be necessary, to increase or diminish the draught.

In this arrangement of the blower it will be obvious that it is always at hand, and therefore needs but a moment to adjust it in either position, and which is easily and safely done by simply turning the ring on its pivotal center, which will carry the blower around with it, and also the damper, which, however, has an independent movement of its own, and therefore can be moved without changing the position of the blower, when so required.

On referring to fig. 2, it will be seen that the flue B extends down on each side of the fire-place near

to the top of the grate, as indicated by the dotted lines *a*, fig. 2.

By thus continuing the flue down the sides of the fire-place a better draught is obtained, and more especially should the air rush into the grate above the basket on the opening of some door, the smoke, instead of being blown out from the fire-place into the room, would be blown into the side flue, and thereby escape into the chimney above.

It will be seen that the fender, fig. 5, is constructed in one entire piece, that is to say, the plate K and the guard L are cast in one, thereby making a much neater and cheaper fender and hearth-plate than can be made in the usual way.

The above-described grate or stove can be used as either the one or the other. When used as a grate or mantel fire-place it is to be bricked up in the chimney, allowing only the front to be seen surrounded by the mantel.

In the event it is used as a stove it is mounted upon legs and stood out in the room, as ordinary stoves are. When used in this way it is a pleasant, neat, and well-constructed heater, having all the advantages of a fire-place, with greater heating capacity.

Claims.

What I claim as my improvement, and desire to secure by Letters Patent, is—

1. The revolving ring H, in combination with the stove A, substantially as and for the purpose set forth.

2. The combination of the ring H and web or blower I, in the manner as and for the purpose set forth.

3. The bar F, having a projecting oblique lug, G, for the purpose specified.

4. The ring H, blower I, and damper J, as arranged, in combination with the stove A, and operated in the manner as and for the purpose set forth.

GEORGE WELLHOUSE.

Witnesses:

J. H. BURRIDGE,

D. L. HUMPHREY.