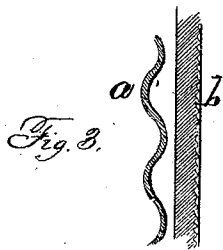
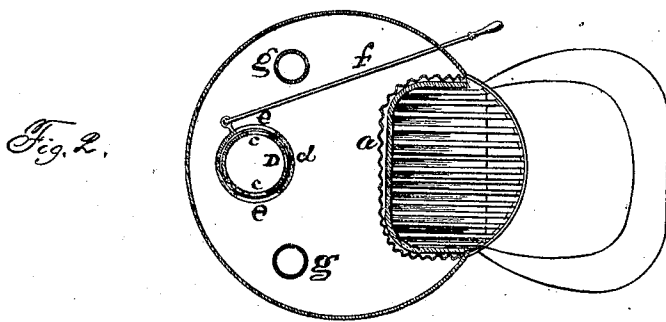
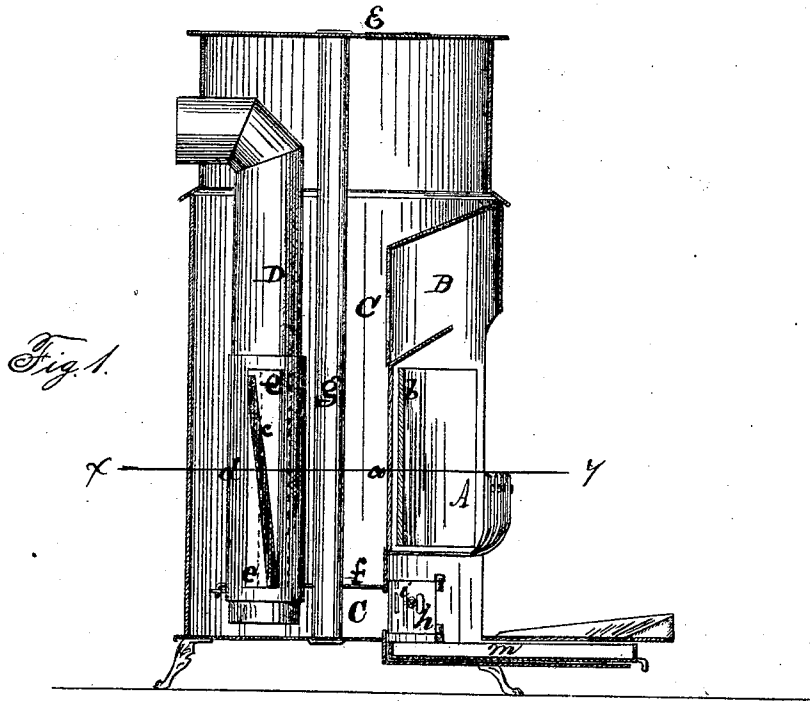


F. BARCLAY.

Improvement in Heating-Stoves.

No. 115,014.

Patented May 23, 1871.



Witnesses  
E. A. West,  
O. W. Bond

F. Barclay  
INVENTOR.

# UNITED STATES PATENT OFFICE.

FRANK BARCLAY, OF AURORA, ILLINOIS.

## IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 115,014, dated May 23, 1871.

I, FRANK BARCLAY, of the city of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Stoves, of which the following is a full description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a vertical section, except that the pipe and sleeve are not in section; Fig. 2, a horizontal section on line *xy* of Fig. 1; Fig. 3, an enlarged detail, showing the parts *a b* in a horizontal section.

My improvements are, primarily, designed to be used in open stoves burning either soft or hard coal; and consist in providing air-passages behind the fire-brick, and in the mode of regulating the draft by providing the smoke-pipe with one or more slots, closed or opened by a revolving sleeve.

In the drawing, A represents an open grate for the reception of fuel. *a* is a corrugated back; *b*, a lining of fire-brick or other suitable material. The back *a* may be plain, and the back side of the fire-brick or other lining *b* may be grooved or corrugated vertically; or tubes extending to the bottom may be placed between them. Air-passages are thus provided between *a* and *b*, into which air will enter at the bottom, and will pass out, highly heated, over the top of *b* and mingle with the flame and smoke, greatly aiding combustion. B is a flame-chamber, from which there is an opening, *f*, for the passage of the smoke and heat into the radiating-chamber C. D is the smoke-pipe, which extends down nearly to the bottom of the chamber C, and in its lower part are one or more slots, *c*, which it is best to make somewhat spiral. *d* is a revolving sleeve, in which are one or more slots, *e*, Figs. 1, 2, corresponding in number with those in the pipe. These slots in the sleeve need not be spiral, but are broader than those in the pipe.

The sleeve is operated by the rod *f*, which, at one end, is connected with the sleeve, the other extending outside the stove. By the sleeve the draft can be regulated. When the sleeve is in such position that the slots in the pipe are open the draft will be quite direct; and by turning the sleeve *d* the spiral slots in the pipe will be gradually closed, first at the top and finally at the bottom, so that they

may be wholly open, or partly open, or wholly closed, according to the position of the sleeve *d*. When wholly closed the smoke must all go to the bottom of the radiating-chamber C, and will there enter the pipe.

One or more air-pipes, *g*, are located in the chamber C, into which cold air passes from beneath the stove and out at the top. E is an opening in the top, and *h* an opening beneath the grate, for cleaning the radiating-chamber, both of which are closed when not in use. A slide, *i*, is placed below the grate, covering openings into the chamber C, which may be opened when the grate is shaken so that the dust from the ashes will be drawn into the chamber C. *m* is an ash-pan.

A series of holes may be made in the pipe D instead of the slot shown, so arranged that they can be opened or closed by the sleeve. The slots in the pipe may be vertical and those in the sleeve spiral, or both may be vertical, and so arranged that the one in the pipe will be gradually closed, and at the top first, by turning the sleeve.

I am aware that a sleeve having a vertical movement, and without slots, has been used for regulating the draft.

With my improvement a much more compact stove can be made, and other advantages attend its use.

What I claim as new is as follows:

1. The revolving sleeve *d* provided with one or more slots, *e*, in combination with the pipe D provided with one or more inclined slots or openings, *c*, substantially as and for the purposes specified.

2. The combination of the revolving sleeve *d* provided with one or more slots, with the pipe D provided with one or more inclined slots or openings, *c*, the radiating-chamber C, flame-chamber B, and fire-grate A, substantially as specified.

3. The combination of the corrugated back *a* and lining *b*, constructed as described, with the chamber B, radiating-chamber C, and slotted pipe D, substantially as and for the purposes specified.

FRANK BARCLAY.

Witnesses:

E. A. WEST,  
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