

J. W. ELLIOT.
Heating-Stoves.

No. 157,121.

Patented Nov. 24, 1874.

Fig. 1.

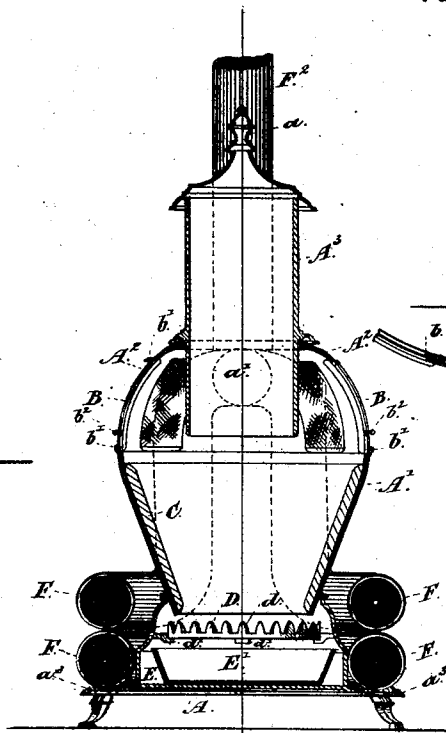


Fig. 4.

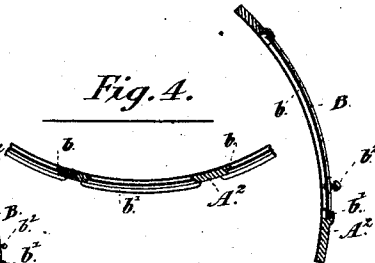


Fig. 5.

Fig. 2.

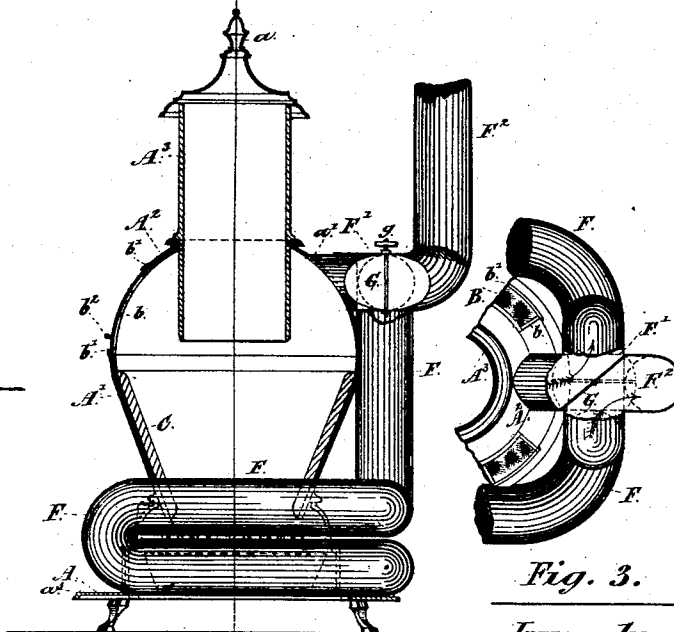


Fig. 3.

Witnesses;

Sept. 1874
Hugh Kidd

Inventor;

John W. Elliot
per S. C. Richardson

UNITED STATES PATENT OFFICE

JOHN W. ELLIOT, OF TORONTO, CANADA.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 157,121, dated November 24, 1874; application filed July 10, 1874.

To all whom it may concern:

Be it known that I, JOHN WHEELER ELLIOT, of the city of Toronto, Province of Ontario, Canada, have invented new and useful Improvements in Heating-Stoves, of which the following is a specification:

Inventors and manufacturers have been for years and still are endeavoring to produce a cheap stove which will extract the whole heat from the fuel and convey it to the atmosphere with the least possible waste. Base-burners innumerable have been designed with this object, and although some have proved so far successful, they all have one serious fault, viz., complication of parts, and, consequently, expensiveness in their construction. Rich men can, it is true, obtain a stove which will, in time, save in fuel its great cost, but to the poor man this advantage is practically denied, as he is unable to purchase so expensive an article. The object of my invention is to produce a stove possessing the main advantages of the expensive article, but so simply and cheaply constructed that the poorest may secure it. My invention relates, first, to an improvement in the manner of conveying, around the base of the stove, the smoke and heated air, and extracting therefrom all the caloric before permitting it to escape; and, secondly, in an improvement in the manner of adjusting or affixing the mica paper or lights around the body of the stove. The first part of my invention consists in having a three-way draft-passage on the smoke-vent of the stove, with radiating-pipe proceeding from each branch. The pipe coming from one of the holes, at right angles to the stove, is bent downward, and is arranged around the base of the stove, as shown, and finally enters the hole opposite to its starting-point, and communicates with the chimney, as hereafter specified. In the center of the draft-passage a valve is placed, and so formed that the draft may be directed either through the radiating-pipe, arranged around the base, or permitted to ascend straight up the chimney. By this arrangement, the full heat of the smoke is imparted to the atmosphere by radiation from the pipe kept close to the floor, which is the true principle of heating. When a rapid draft is desired, the valve is turned which opens the

direct passage to the chimney. An important feature in this portion of my invention is, that it can be applied to any kind of stove. The second part of my invention consists in having small buttons or knobs on the mica lights, and having the openings for them so formed that they can be readily sprung into place. The third part of my invention consists in certain improvements in the grate or fire-pot of the stove, as hereinafter described.

In the drawings, Figure 1 is a sectional front view. Fig. 2 is a sectional side view. Fig. 3 is a sectional detail, showing valve. Fig. 4 is a plan, showing manner of attaching mica. Fig. 5 is a sectional elevation, showing manner of attaching mica.

Like letters indicate like parts in each figure.

A is the base or table upon which the stove rests. A¹ is the fire-pot. A² is the dome or top of fire-pot. A³ is the fuel-feeder or reservoir. All these parts are cast separately and fitted together, as shown. D is the circular grate, with fingers *d*, supported by the lugs *d'* on the ash-pan chamber E. F is the radiating-pipe; F¹, three-way draft-passage; F², escape-pipe. *a*³ is the skirting or shelf upon which the radiating-pipe F rests. E' is the ash-pan. B is the mica. *b*² is a knob riveted to the mica. *b* are vertical ribs, against which the mica fits. These ribs are on the inside of the stove, and are not quite as long as the opening, on either side of which they are. The space thus left is protected by the horizontal rib or lip on the outside of the stove top and bottom of the mica-space. By this formation it is possible to cast the top or dome of stove in one piece, leaving the mica-spaces clear without any fitting. It will thus be seen that the stove can be made very cheaply, consisting essentially of five principal parts, viz., the base or table A, ash-pan chamber E, fire-pot A¹, top or dome of stove A², coal reservoir or feeder A³, each cast separately, but formed so as to come together without much fitting. The grate D rests on the lugs *d'*, and can be easily turned around by putting a poker between the fingers *d*, which act as a fence or guard for holding the coal on the grate while the cinders are being removed. In order to prevent the fire-pot getting red-hot, it may be lined either with fire-brick C, or an inner cast-

iron pot might be inserted. F^1 is the three-way draft-passage on the smoke-vent a^1 . F^2 is the escape-pipe, and which leads down and around the base of the stove, as shown in Fig. 3. The escape-pipe F^2 is closed by the valve G. This valve lies diagonally across three-way draft-passage F^1 , separating the two parts, and causing the smoke to pass down the pipe F, as indicated by arrow, around the base near the floor before it can finally escape through the pipe F, as also indicated by arrow. By this arrangement, the draft can be checked and the consumption of fuel correspondingly reduced, while, by bringing the heated air and smoke around the outside of the stove, as shown, all the caloric is extracted from it in its passage through the radiating-pipe F before it escapes. Thus all the advan-

tages of an expensive stove are possessed by a simply-constructed stove, as specified.

I claim as my invention—

1. A three-way draft-passage, F^1 , with a valve, G, and radiating-pipe F in combination with a stove, A $A^1 A^2 A^3$, substantially as and for the purpose specified.

2. The mica B, having the knob b^2 riveted thereon, in combination with the vertical ribs b and horizontal ribs b^1 , said ribs following the contour of the body of that part of the stove at which the illuminative windows are to be placed, substantially as herein specified.

J. W. ELLIOT.

Witnesses:

GEO. A. AIRD,
HUGH AIRD.