M. C. HAWLEY & W. LENNOX.

Base-Burning Stove.

No. 164,555. Patented June 15, 1875.

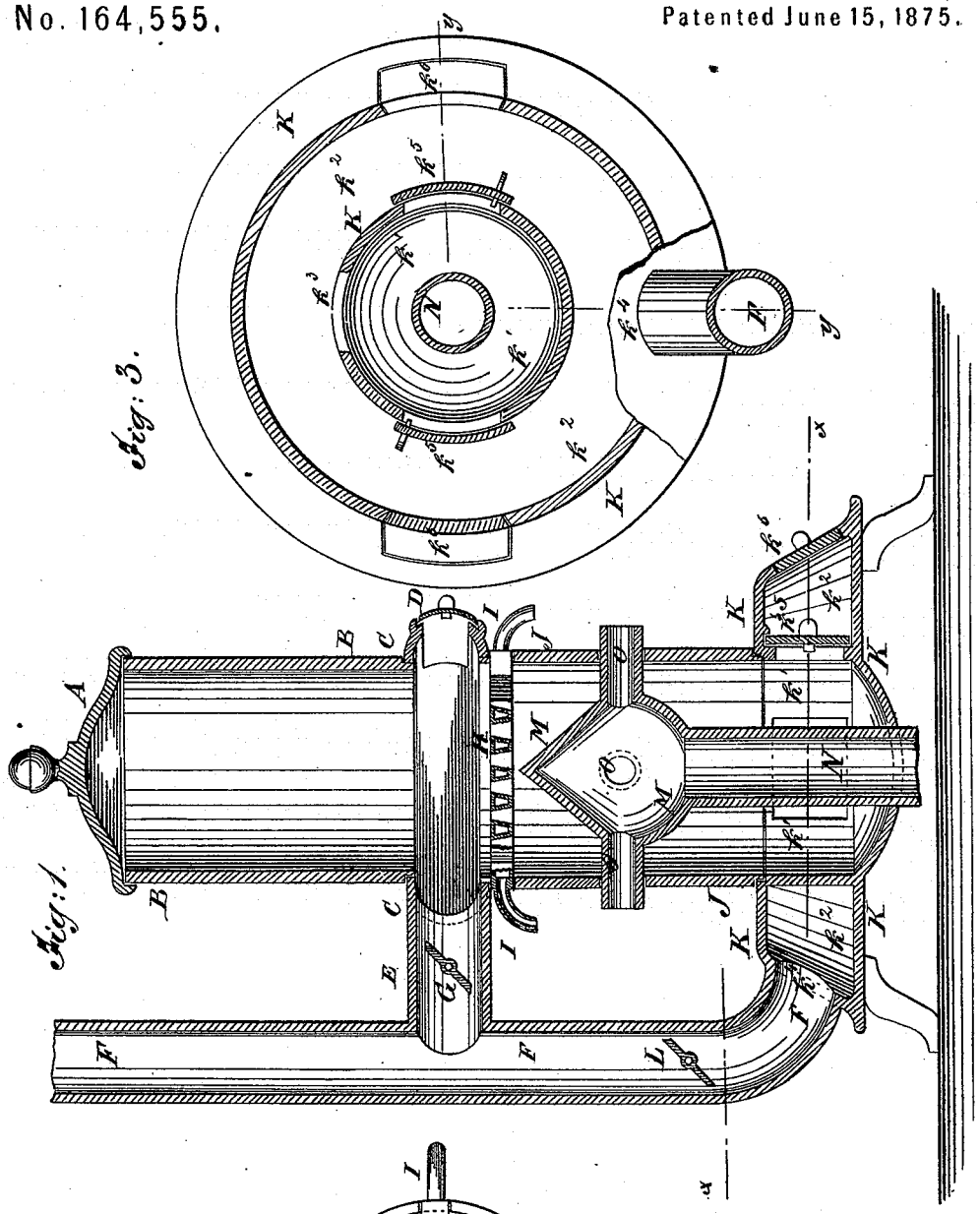

Fig. 3.

Fig. 1.

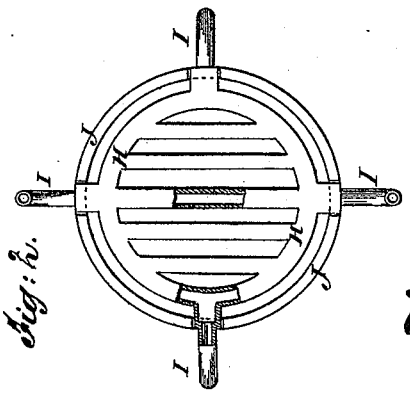

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

MELVILLE C. HAWLEY AND WILLIAM LENNOX, OF MATTOON, ILLINOIS.

IMPROVEMENT IN BASE-BURNING STOVES.

Specification forming part of Letters Patent No. **164,555**, dated June 15, 1875; application filed May 8, 1875.

To all whom it may concern:

Be it known that we, MELVILLE C. HAWLEY and WILLIAM LENNOX, of Mattoon, in the county of Coles and State of Illinois, have invented a new and useful Improvement in Base-Burning Stoves, of which the following is a specification:

Figure 1 is a vertical section of our improved stove, the base part being taken through the line *y y*, Fig. 3. Fig. 2 is a detail top view of the grate, parts being broken away to show the construction. Fig. 3 is a horizontal section of the base, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A is the cap that closes the open upper end of the coal-reservoir B. The reservoir B rests upon the upper fire-chamber C, which is made of a larger diameter than the said reservoir B, and provided with a draft-opening upon one side, closed with a door, D, to admit air to support combustion. The fire-chamber C, upon the side opposite the door D, is provided with a flue, E, leading into the pipe or flue F, and having a damper, G, placed in it, so that, by opening the damper G, the products of combustion may be allowed to pass directly into the pipe F, giving a direct draft, and by closing the damper G the products of combustion may be sent through the base of the stove. H is the grate, the bars of which are made hollow to allow air to circulate through them. The grate H is provided with four (more or less) hollow arms, I, which project out through the wall of the stove, some of which may be curved upward and some downward, to promote a circulation of air through the grate. This construction of the grate heats air and discharges it into the room, and at the same time the circulation of the air through the grate keeps it from being burned out. The grate H rests upon the lower fire-chamber J, which is made of a less diameter than the upper fire-chamber C, and which rests upon the base K. In the middle part of the base K is formed the ash-chamber k, which is surrounded by a ring-flue, k^2, into which the products of combustion enter through an opening, k^3, leading into said flue k^2 from the ash-chamber k^1 upon the side opposite the pipe F, into which the said products of combustion pass through an opening, k^4, after making a half-circuit of the base K. The pipe F is provided with a damper, L, to enable the draft of the stove to be controlled as desired. In the opposite sides of the base K, and leading through its outer and inner walls, are formed openings, closed by doors k^5 k^6, to enable the ashes to be conveniently removed. M is a conical chamber placed in the lower fire-chamber J just below the grate H, and from which a pipe, N, leads out through the center of the bottom of the base K, to admit cold air to the chamber M. The pipe N may receive air from the room in which the stove is placed, or it may be extended to receive air from out of doors. From the air-heating chamber M four, more or less, pipes, O, lead out through the walls of the stove to discharge the heated air from the said heated chamber M into the room. The chamber M, from its form, projects the products of combustion toward the walls of the stove, so as to heat said walls, and thus withdraw the heat from the products of combustion and radiate said heat into the room, thus utilizing the heat developed by the combustion of the fuel to the greatest possible extent.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The hollow grate H, provided with tubular arms I, to allow the air to circulate through the bars of said grate, in combination with the walls of the stove, substantially as herein shown and described.

2. The combination of the conical chamber M, the inlet pipe or flue N, and the outlet pipes or flues O with the grate H, the lower fire-chamber J, and the base K of the stove, substantially as herein shown and described.

3. The ring-flue k^2, formed in the base K around the ash-chamber k^1, without the diameter of the stove, and connected with the ash-chamber k^1 and the pipe F by openings in its opposite sides, substantially as herein shown and described.

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