

Hiram C. Miles' Improved Stove
 [105.] *Fig. 1* *Fig. 2*

No. 118,629.

Patented Aug. 29, 1871.

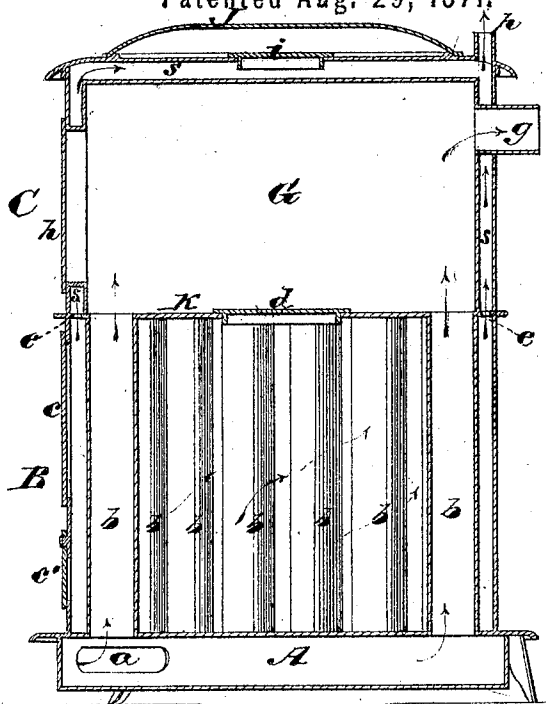
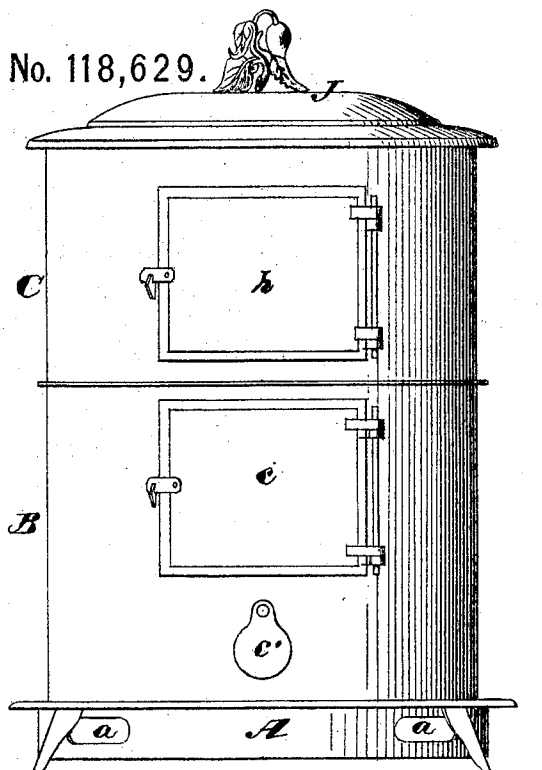
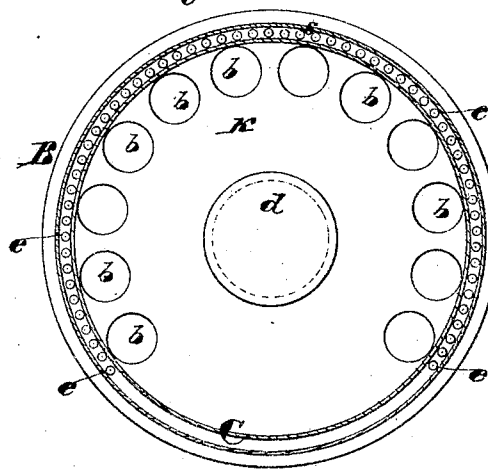
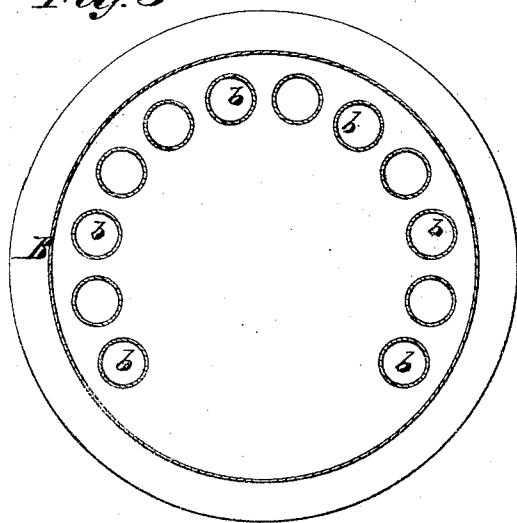


Fig. 3

Fig. 4



Witnesses.
R. P. Humphrell.
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UNITED STATES PATENT OFFICE.

HIRAM C. MILES, OF ST. JOSEPH, MICHIGAN.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 118,629, dated August 29, 1871.

To all whom it may concern:

Be it known that I, HIRAM C. MILES, of St. Joseph, in the county of Berrien and State of Michigan, have invented a new and Improved Stove; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a front elevation of the improved stove. Fig. 2 is a diametrical section through the stove from front to rear. Fig. 3 is a horizontal section through the upper section of the stove. Fig. 4 is a horizontal section through the lower section of the stove.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to stoves which are designed both for warming and cooking purposes, and which are also adapted for warming air which may be conducted into other apartments than that in which the stove is located. The nature of my invention consists: First, in the arrangement of an oven which is surrounded by double-wall flue-spaces above a series of vertical hot-air pipes, which surrounds the fire-chamber and which forms communications between said oven and a cold-air box beneath the fire-chamber, as will be hereinafter explained. Second, in a double-wall oven, which is heated by hot air rising through pipes that are arranged in a fire-chamber, in combination with a perforated annular partition which is arranged at the base of the double walls surrounding said oven, and with a passage leading into said oven, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will explain its construction and operation.

In the accompanying drawing I have represented a circular stove, but it may be made elliptical, rectangular, or of any other desired shape. For the purpose of description I shall divide the stove into two parts, to wit: A base-section, A, a fire-chamber section, B, and a cooking-section, C, superimposed one above the other, in the order named. The section A contains a chamber, which is perforated at *a a* for the introduction of cold air. This section is the lowest part of the stove, and the cold air may be taken into it directly from the room in which the stove is located, or by means of pipes the cold air may be taken from any other convenient source. This chamber or

section A is separated from the fire-chamber B by means of a horizontal partition, which has suitably connected to it a number of tubes or pipes, *b*, that rise perpendicularly through the fire-chamber, and are connected to the horizontal crown-plate K in such a manner as to communicate with the third apartment of the stove as the hot-air chamber G. The pipes *b* are arranged concentrically in the fire-chamber and isolated from the external wall thereof in such manner that the flame will have access to them all around from bottom to top. This fire-chamber is provided with a feed-door, *c*, and an air-inlet, *c'*, which latter may be wholly or partially closed by a valve or other suitable register. The outer wall of the fire-chamber may be made of sheet metal, as shown in the drawing, when the stove is used as a wood-burner, or this may be lined with cast metal or fire-brick when the stove is used as a coal-burner. When the stove is constructed for burning coal a grate will be arranged in the fire-chamber above the wall which separates this chamber from the cold-air chamber A. Above the crown-plate K is a chamber, G, which receives all the air rising through the pipes *b*, and which is formed by walls within the outer wall C and cap J. Access may be had to the chamber G through a door-way, *h*, which leads through and is isolated from a smoke-space, *s*, and from this chamber the hot air may be conducted whithersoever it may be desired through an outlet-pipe, *g*. The smoke-space *s* which surrounds the wall of chamber G, and also extends over its top, communicates with the fire-chamber by means of a great number of apertures, *e*, and from this space the smoke is conducted off through a flue, *p*. Suitable dampers or valves may be applied at the hot-air and smoke-outlets for regulating the escape of the smoke and hot air, and movable caps *i* and *d* may be applied to the stove for allowing access to their respective chambers. J is a movable cap which covers the top plate of the stove.

It will be seen from the above description that cold air from the room in which the stove is located, or from any other source, is taken into the base-chamber A of the stove; thence conducted up through a number of pipes into a chamber, G, and heated in its ascent thereto, and thence, after being reheated, is conducted out through the pipe *g*. The chamber G may be used as a cook-

ing or baking-chamber, and, if desired, when thus used, the unpleasant odors may be conducted off into the main flue by a pipe leading therein. The outer wall B of the fire-chamber may be of sheet or cast metal. If of the latter it may be corrugated vertically in such manner that the concave portions of the corrugations will correspond to the hot-air pipes *b*. If desirable, a grate may be applied to the plate that separates the fire and cold-air chambers, and a drawer for ashes arranged below this grate. Such a grate should be so arranged that it may be opened or closed at pleasure.

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

1. A fire-pot and fire-chamber combined, both of which are surrounded by hot-air pipes *b*, in combination with an air-chamber at the lower ends of said pipes and with a cooking-chamber at the upper end of said pipes, and also with an opening, *h*, a diaphragm, *k*, and perforation *e*, all constructed and arranged to form a combined cooking and warm-air heating-stove, substantially as described.

2. The opening *h* leading into the air-heating and cooking-chamber G of a stove which is constructed as herein described and shown.

HIRAM C. MILES.

Witnesses:

HIRAM BROWN,
MICHAEL W. MANNING.