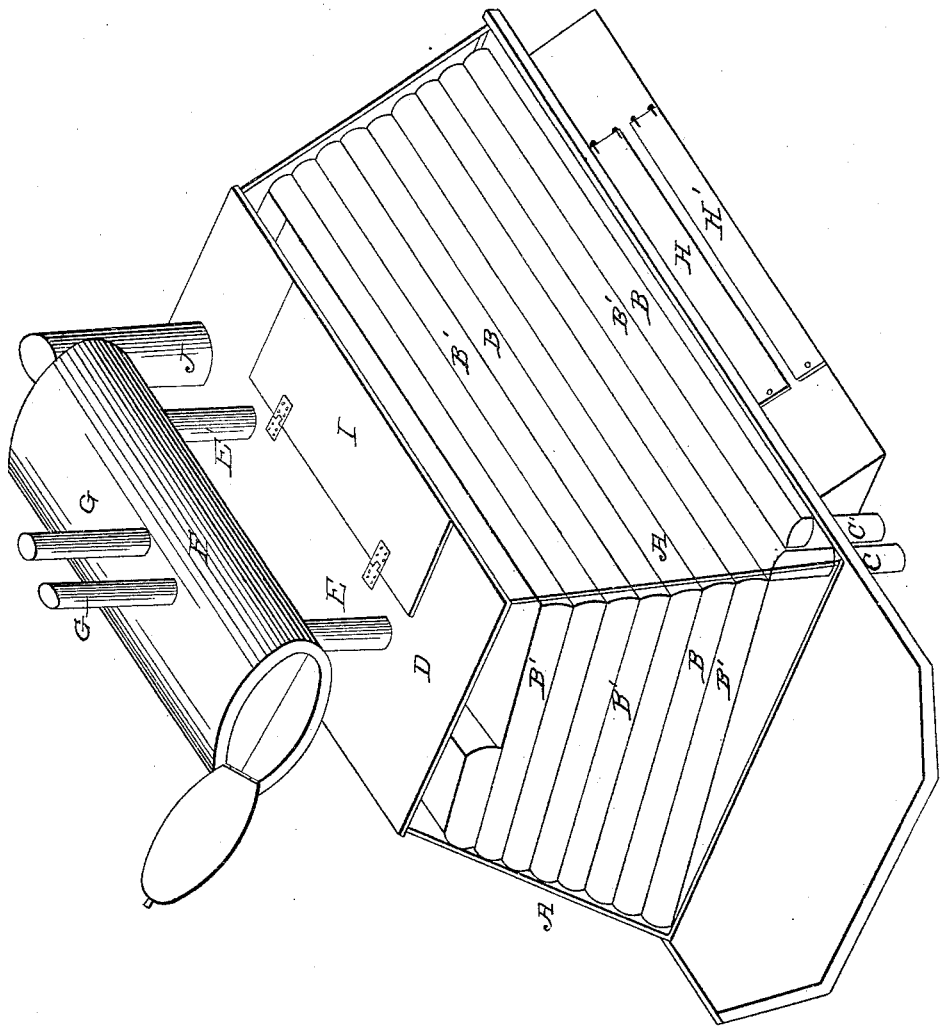
W. A. SHEPARD.

Heating Drum.

No. 2,213. Patented Aug. 11, 1841.



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WM. A. SHEPARD, OF WATERVILLE, MAINE.

COOKING-STOVE.

Specification of Letters Patent No. 2,213, dated August 11, 1841.

To all whom it may concern:

Be it known that I, WILLIAM A. SHEPARD, of Waterville, in the county of Kennebec and State of Maine, have invented certain Improvements in the Manner of Constructing Furnaces for Heating Apartments and also for Cooking; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in the constructing of a furnace, or stove, within which there is to be one, two, or more, ranges of pipes, through which air is to circulate, and within which it is to be heated, which air may be first used for cooking, and then for warming any apartment into which it may be conducted.

The accompanying drawing represents my furnace, or stove, in perspective, its sides, however, being shown as though they were transparent, for the purpose of exhibiting the arrangement of the tubes within it.

A, A, are the corners of the stove, where the plates meet which constitute its air heating apparatus. I make my stove pyramidal, its four sides sloping inward, as represented in the drawing; this form is necessary in order that the heat from the fire may act freely upon the ranges of tubes which surround its interior. There are two ranges, or series, of such tubes represented in the drawing, and marked B, B′. These enter the bottom of the stove at C, C′, and receive the cold air either from within, or without, the room. This air is to pass through the pipes B, B′, which are made either of cast or wrought iron, and are carefully joined together; from the manner in which they are arranged they are left free to expand or contract without danger of opening their joints. After passing around on the four sides of the stove, they make their exit therefrom through its top plate D, as at E, E′; they then enter the flue space on the lower side of an elevated oven F, which oven is of the ordinary construction of elevated ovens. After passing around the flue of this oven the heated air is conducted off through the pipes G, G, and conveyed to any apartment which it is desired to heat thereby.

H, H′, are the furnace and ash pit doors, which have not anything peculiar in their construction, and must, of course, be adapted to the kind of fuel employed. Care is to be taken that the heat is so arranged or that the tubes B, B′, shall not be so highly heated as to deteriorate the air passing through them, and thus render it unfit for respiration; this is a thing that can be easily managed, either by placing the fire-chamber considerably lower than the tubes, or by defending the tubes from the action of the flame by plates of iron, or other material. I, is a door in the top plate of the furnace, for the supply of fuel. J, is an ordinary flue, or smoke pipe. The furnace part is best set in brick, and when it is desired to confine the heat, so that it may not escape too freely into the apartment in which the stove is situated, its sides may be composed, either in whole or in part of brick, or of other bad conductor of heat. I intend sometimes to inclose my stove in an air heating chamber, so as to convey the air, heated by its exterior, into other apartments, by heated air tubes, in the well-known manner of effecting this object. In this case, if desired, the tubes E, E′, may be elongated, so as to heat the oven F, in an upper apartment. By this arrangement baking is performed in the elevated oven by the heated air, unaccompanied by smoke, or by others products of combustion; and the heated air may be, in like manner, made to operate upon other cooking utensils, surrounded by heated air flues.

Having thus fully described the nature of my invention, and shown the manner in which the same operates, what I claim therein, and desire to secure by Letters Patent, is—

The manner herein set forth of arranging an air heating and cooking apparatus, by surrounding the interior of an air heating stove, by ranges of tubes, within which the air is to be heated, and thence conveyed so as to pass around an oven, or other cooking instrument, and, subsequently into any apartment where heated air is required; the whole being constructed, arranged, and operating substantially as above described.

WM. A. SHEPARD.

Witnesses:

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