

J. S. LEWIS.
HEATING-DRUM.

No. 170,482.

Patented Nov. 30, 1875

FIG. 1.

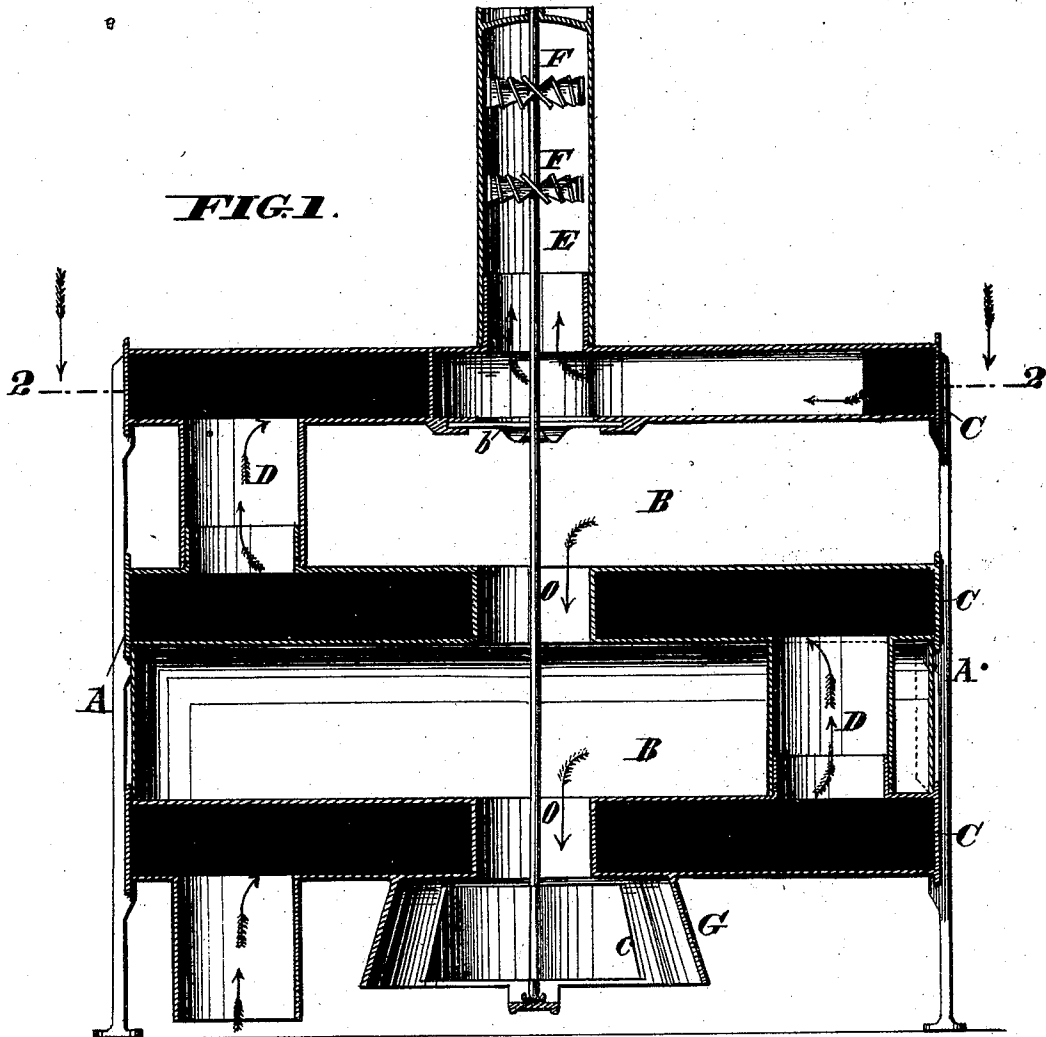
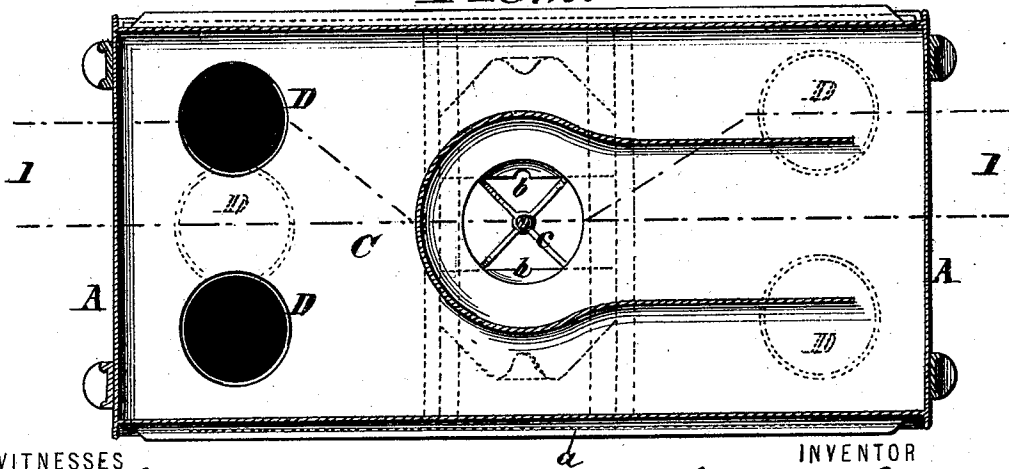


FIG. 2.



WITNESSES
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JOHN S. LEWIS, OF ELKPORT, IOWA.

IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **170,482**, dated November 30, 1875; application filed October 7, 1875.

To all whom it may concern:

Be it known that I, JOHN S. LEWIS, of Elkport, in the county of Clayton and State of Iowa, have invented certain Improvements in Combined Heating and Cooking Drums, of which the following is a specification:

My invention relates to improvements in combined heating and cooking drums, by means of which I am enabled to secure much greater economy in the use of fuel, the arrangement of the drum enabling the whole of the heat to be utilized.

The peculiar construction of my drum, while permitting its use for cooking and drying, also allows the heat generated to be utilized for warming other apartments than that in which the drum is situated.

In my improved drum the smoke passes through a series of chambers, which are arranged one above the other, and so connected that the smoke shall enter at one end and pass out at the other end of each, in succession, until it reaches the top chamber. The top chamber has its smoke-exit at the center, and within this exit a smoke-jack is arranged, consisting of one or more wheels with oblique blades on a vertical shaft. Applied to the lower end of this shaft is a fan, which acts to draw the heated air from between the air or cooking chambers of the drum through concentric openings in the center thereof, and force it toward the floor, from whence it may be conveyed, by suitable pipes, to the other apartments it may be desired to warm. The fan is surrounded by a conical protector, having its large end downward.

The spaces between the sections are closed by doors or shutters when the heat is to be utilized for cooking.

To prevent the smoke entering the cooking-chambers sliding doors are arranged on the under side of the top smoke-chamber.

In the accompanying drawing, Figure 1 is a vertical section (taken on the line 1 1) of my improved heating and cooking drum. Fig. 2 is a sectional plan thereof on the line 2.

A represents the outer walls of the drum, which it is preferred to construct of oblong shape, as shown. B are the chambers, within which articles to be cooked or dried are

placed. These chambers may be of any desired number, according to the size of the drum and the use to which it is to be placed.

When the drum is to be used simply for heating the room, or for drying fruit, &c., the sides of the chambers B are left open by the removal of the sliding doors or shutters *a*. The chambers B are closed by the doors or shutters *a* when it is desired to retain the heat for cooking, &c.

O represent concentric openings between the chambers B, and through which air is drawn by the fan *c*. C represents a series of chambers, arranged one above the other, and so connected by pipes D that the heat and smoke shall enter at one end of the lower chamber, and, after traversing the whole length thereof, be conveyed to the chambers above through the pipe D at the other end. It then traverses the second chamber to the outlet in the other end, and so on in succession, thus insuring a perfectly even distribution of the heat throughout, and causing the chambers to be thoroughly heated.

On the under side of the top of the upper section sliding doors *b* are arranged, which, when closed, prevent the smoke entering the cooking-chambers. The top smoke-chamber has its smoke-exit E at the center. Within this exit is arranged a smoke-jack, F, which consists of one or more wheels with oblique blades on a vertical shaft. Applied to the lower end of this shaft is a fan, *c*, which is revolved by the smoke-jack, and acts to draw the heated air from between the cooking-chambers C of the drum through the concentric openings O, and force it toward the floor, from whence it may be conveyed to any apartment or apartments it is desired to warm. The fan *c* is surrounded by a conical protector, G, having its large end downward.

By attaching suitable pipes to the lower end of the protector G heat may be conveyed to any rooms which require heating.

When it is desired to use the drum for cooking purposes alone the fan C and concentric openings O are dispensed with, and the smoke is permitted to pass out at the end of the drum.

The following is claimed as new, namely:

1. The combination of the drying or cooking chambers B, smoke-chambers C, sliding doors or shutters for closing said chambers, and concentric openings O for the passage of air therethrough, substantially as and for the purpose specified.

2. The combination of the concentric open-

ings O, spindle d, smoke-jack F, fan e, and conical protector G, all substantially as and for the purpose shown and described.

J. S. LEWIS.

Witnesses:

P. FLAHERTY,

CHARLES SCHECKER.