R. S. MAINS.

Heating and Cooking Furniture.

No. 208,251. **Patented Sept. 24, 1878.**

Fig. 1.

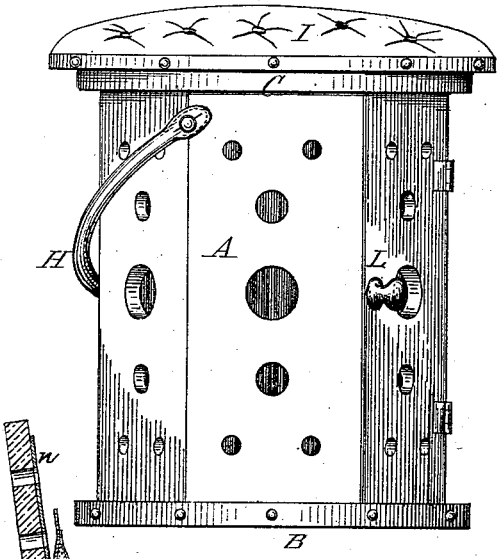


Fig. 4.

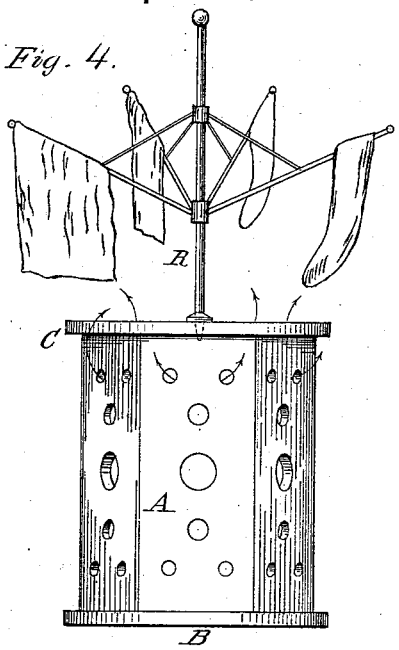


Fig. 2.

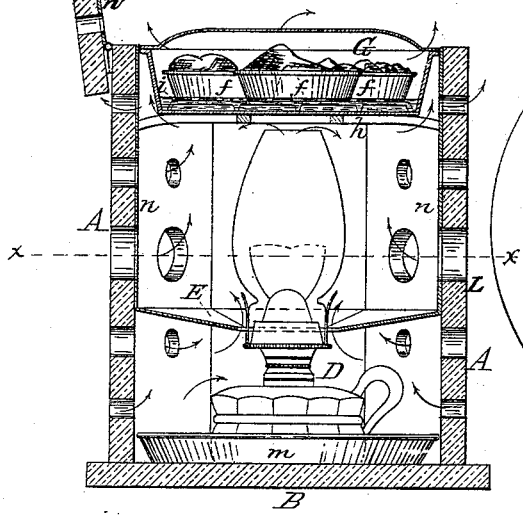
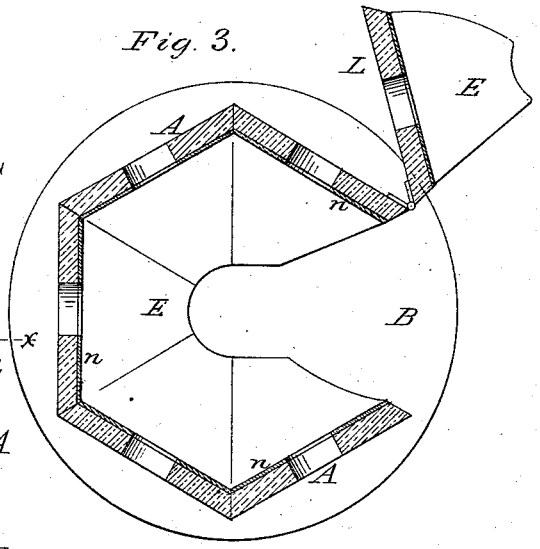


Fig. 3.



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RANDOLPH S. MAINS, OF NEW YORK, N. Y.

IMPROVEMENT IN HEATING AND COOKING FURNITURE.

Specification forming part of Letters Patent No. **208,251**, dated September 24, 1878; application filed March 15, 1878.

To all whom it may concern:

Be it known that I, RANDOLPH S. MAINS, of New York city, have invented certain new and useful Improvements in Heating and Cooking Furniture, of which the following is a specification:

The object of my invention is mainly to provide a simple, neat, and compact device for heating and cooking purposes, of such a construction as to present the appearance of an ordinary piece of furniture, yet adapted for a variety of uses.

To this end my invention may be stated to consist in a heating or cooking device formed of an inclosing cylinder or casing provided with a fixed base, a movable cover, and lateral swinging door, and having a transverse diaphragm fixed to the inner sides of the casing, with a movable segment thereof secured to the swinging door, in combination with an inclosed lamp rising through the diaphragm.

It also consists, more particularly, in the special construction of the transverse diaphragm with relation to the inclosing-casing, the lateral door, and the inclosed lamp, as hereinafter fully set forth and claimed.

In the drawings, Figure 1 is an elevation of my improved device, shown as a heater and as adapted for a seat. Fig. 2 is a vertical section thereof, shown in use as a cooker. Fig. 3 is a transverse section on line *x x*, and Fig. 4 represents the device used as a heater and clothes-drier.

As shown in the drawings, A represents the body of the device, which consists of a drum or casing, preferably of hexagonal form, and having a fixed base, B, and a movable or hinged lid, C, and a lateral swinging door, L. The casing incloses a lamp, D, and is preferably built up in sections, as represented in Fig. 3, one of which is hinged to act as a door, L, through which the lamp may be inserted or removed, the lamp being preferably placed in a shallow dish, *m*, in the bottom of the casing A. Thus formed I prefer to construct the casing of wood of about three-fourths of an inch in thickness, the sides being perforated to admit air to the lamp, as shown. The wood has the advantage of being cheap, of forming a non-conductor, and of presenting a neater appearance in an apartment more in harmony with ordinary furniture.

When the lid C is raised or removed, as represented in Fig. 2, the opening of the casing is free to permit cooking operations, as shown, and when the lid is closed it forms a seat or table, which, when the device is not used as a cooker, may be utilized for other purposes. The lid is also preferably provided with a removable upholstered cushion, I, (shown in place in Fig. 1, (thus adapting the device as a chair or stool when not otherwise used, and thus presenting the more pleasing appearance of ordinary furniture. When in this condition, with the inclosed lamp lighted, it forms an effective foot-warmer or a warming-seat, on which the person may sit.

The interior of the casing is divided into two chambers by a transverse diaphragm, E, the lower one of which forms a cold-air chamber, in which the lamp D is situated, the burner and chimney rising through a central opening in the diaphragm, as seen in Figs. 2 and 3. The draft of the lamp causes a constant current of cold air to be drawn through this central opening, which, rising around the burner and reservoir, as indicated in Fig. 2, always preserves the same in a cool and safe condition, and this constitutes an important feature, without which the lamp is liable to become dangerously heated.

The space above the diaphragm forms the heating-chamber, and when the casing is formed of wood I prefer to line the same with a metal lining, *n*, preferably of bright tin, to form a reflecting-surface to prevent the accumulation of heat in the sides of the casing.

The diaphragm E is fixed to the inner sides of the casing, and is preferably made concave, to also act as a concentrative reflector, to throw the heat upward and outward, and one segment of this diaphragm is carried by the door L, which, when swung out by the opening of the door, as shown in Fig. 3, permits the insertion and removal of the lamp, and which, when swung in, when the lamp is in place, retains the same centrally in the casing and prevents the possibility of its being upset.

The movable lid C is perforated, as shown in Fig. 2, to admit the escape of the heat when closed, and is also provided with a reflecting lining or facing, *n*, and a central non-conducting pad, F, formed preferably of a plaster filling held between two metal disks, as repre-

sented, and which serves to deflect the heat from concentrating on the wood of the cover when the same is closed.

In the top or opening of the casing is fitted a cooking-chamber, G, supported on a grating, *h*, which extends across the casing and is secured to the sides thereof, as shown in Fig. 2. This cooking-chamber consists of a metal dish or pan, provided with a cover, as shown, and inclosing a series of smaller inner vessels, *f f*, which are radially arranged within and removable from the larger external vessel. The food to be cooked, which may be of various kinds—meat, vegetable, and fruit—is placed in these small vessels, while a small quantity of water is placed surrounding them in the large inclosing-vessel, and about level with the top of a grating, *i*, placed on the bottom of the outer vessel, and on which the small vessels rest. When the outer vessel is heated, the small inner vessels, with their contents, become enveloped in an atmosphere of steam, which quickly accomplishes the cooking, and in a very superior manner. By this construction it will be observed that all the heat of the lamp is most effectively utilized for the cooking-chamber. Being suspended directly over the lamp, it receives the direct heat therefrom, which is spread over and rises up its sides, and as the sides of the casing are non-conducting, no heat is carried off thereby, but is, on the contrary, reflected from its brightly-lined sides and thrown, by the reflecting diaphragm E, upward upon the cooking-chamber, thus concentrating all the heat thereon, so that with but a small lamp I am thus enabled to cook a quantity and variety of food in a most rapid, perfect, and economical manner.

The cooking device shown is also well adapted for baking bread, potatoes, and meat.

The article to be baked is placed upon the grating *i*, within the chamber G, but without any water, and when the vessel is covered the baking is thus accomplished very perfectly.

For giving a vapor-bath my device is also very conveniently adapted. When the lamp is turned moderately high, the person may sit directly upon the lid or cover C, or upon a chair under which the device is placed, water, medicated or otherwise, being placed in the chamber G, and, the person being enveloped in a blanket, the hot air and vapor penetrate around the body, and thus quickly accomplish the desired effect.

Fig. 4 represents the device used as a clothes-drier. A clothes-rack, R, formed of a central upright, provided with a series of folding radial arms, is inserted in the top of the casing, and the hot air from the inclosed lamp, rising from the perforations of the casing, rapidly effects the drying of such articles as may be placed upon the rack.

My device is specially adapted for small households, for picnic parties, camps, yachts, boats, &c.; and to this end I provide the casing with a handle, H, (shown in Fig. 1,) by which the device may be conveniently carried from place to place; and it will be observed that this construction admits of its further use as a lantern at night.

My invention may, of course, be also embodied in a larger and less portable form, and may be adapted to settees and to the seats of passenger-cars, thus forming warming-seats. I also propose making the invention in the form of a kitchen-safe or cabinet containing a series of lamps or heating-chambers, the same principles of construction, as described, being, however, maintained throughout in each instance.

Either a removable oil or gas lamp may be used in my improved device, as will be understood; but the use of an ordinary oil-lamp is more generally contemplated.

I prefer to employ a non-conducting material in the sides of the casing, as described, such as wood or pottery, and to line the same with a reflecting metal; but the device may be constructed of sheet or cast iron.

I do not claim, broadly considered, a lamp-stove casing formed of wood with a reflecting-lining, nor a transverse partition placed over the lamp; but

What I claim as my invention is—

1. A lamp-stove formed of an outer casing, A, provided with a fixed base, B, a movable cover, C, and a lateral swinging door, L, and having a transverse diaphragm, E, fixed to the inner sides of the casing, with a movable segment thereof secured to the swinging door L, in combination with an inclosed movable lamp, D, rising through the diaphragm E, substantially as herein shown and described.

2. A lamp-stove casing, A, provided with a transverse diaphragm, E, having a laterally-movable segment, the withdrawal of which permits the insertion of the lamp, and the replacement of which prevents the displacement of the lamp, substantially as set forth.

3. A lamp-stove casing, A, provided with a transverse diaphragm, E, fixed to the inner sides of the casing, and having a movable segment thereof carried on a swinging door, L, on the side of the casing, substantially as and for the purpose set forth.

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Witnesses:

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