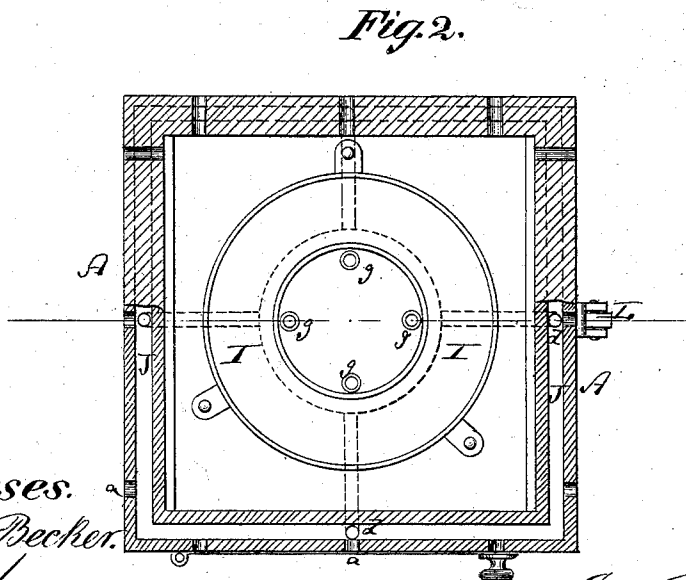
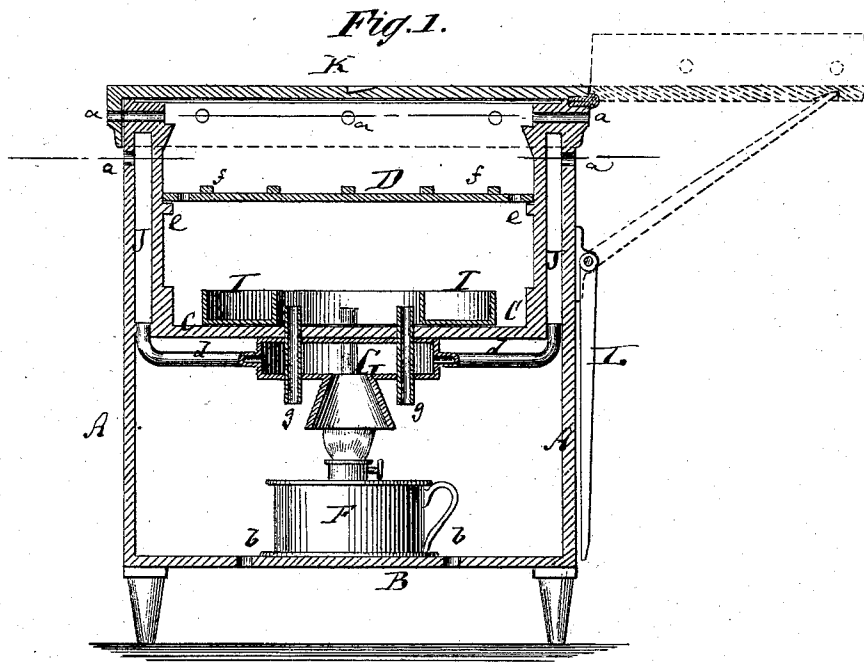


J. SUTTON.

Bread-Raising Apparatus.

No. 137,974.

Patented April 15, 1873.



Witnesses.

John Becker.
Fred. Haynes

J. Sutton
per Walter Brown & Allen
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN SUTTON, OF NEW YORK, N. Y.

IMPROVEMENT IN BREAD-RAISING APPARATUS.

Specification forming part of Letters Patent No. **137,974**, dated April 15, 1873; application filed February 17, 1873.

To all whom it may concern:

Be it known that I, JOHN SUTTON, of the city, county, and State of New York, have invented an Improved Portable Bread and Cake Raising Apparatus, or for other purposes where useful, of which the following is a specification:

My invention consists in constructing a dough-raising apparatus with a heating apparatus, and with a pan for containing and evaporating water, so that a uniform temperature and a uniform supply of moisture may be sustained.

In the accompanying drawing, Figure 1 is a vertical section, and Fig. 2 a horizontal section, of my improved apparatus.

Similar letters of reference indicate corresponding parts.

A in the drawing is a box, of wood or other material, made with holes all around, as at *a a*, for passing off the warm air after its contact with the bread in the upper apartment. B is the bottom of the box, having holes *b b* for admitting cold air to the lamp F and heater C. This bottom may be used or not, as required, the lamp being, if desired, suspended from the heater or from the inside of the box. C is a fixed floor, of sheet-iron or wood, having passages *d d* for conducting the gases of combustion, combined with the warm air, from around the lamp to the flue J. This floor C may be dispensed with in some cases, when the heater G and pan I are connected and secured to the sides of the box A. D is a loose floor, with seats or boards for holding the things to be raised, warmed, or dried. It rests on ribs *e e*, which are fixed in the box, as shown. Several apertures are formed through the floor D for the warm air to ascend to the bread, &c. In some cases the bread-pan may be supported by cleats at the sides of the box, or at its rim, the cleats to have passages or not, as may be required, and to conduct the warm air above the pan. *f f* are ribs on the upper surface of the floor D, for permitting the warm air to pass freely beneath the bread-pan. The floor D may be set to suitable height in the box, and will form a table if set quite to the top. F is a suitable oil or spirit lamp, gas or other burner, placed upon the bottom B, and regulated to give more or less heat, as required, for the purpose named. G is an air-heater, of

metal, made in suitable manner, and placed in the floor C, so that it shall convey pure warm air, through pipes *g*, to the upper apartment, while, by other pipes *d*, combined with the said heater, the gases from the lamp will be conveyed to the spaces J, or to the outside of the box, as required. *g g* are vertical air-pipes through the heater G, heated by the gases impinging on the same, for conveying pure warmed air to and through the floor C, and to the bread-compartment. These pipes may be made with the heater or not, as the case may require. I is a suitable vessel for holding water for producing vapor for moistening the warmed air, and preventing a dryness of or a crust forming on the bread, &c. This pan may be made of annular shape, as in the drawing, for permitting the air from the pipes to pass over the surface of the water, and under the bread-pan, and in all directions, absorbing the vapors and conveying them to the uppermost chamber. J are flues or spaces all around the sides of the upper apartment. They may be formed of sheet metal, or of other material, as required, and are for receiving and partially withholding the gases from the heat used, the said gases becoming mixed therein with the heated air created about the heater G, which also passes through the passages *d* to the said flue. Thus I economize much heat, and prevent the changing temperature of the atmosphere from interfering with the degree of heat which is required in the bread-raising apartment. The pipes *g* may be brought up against the box A and into the raising-apartment, and then deliver their gases through outlets *a* into the air, if required; therefore it may be made either way, to suit all. K is the cover or top of the box A, shown open by dotted lines. It may, when open, be used for kneading the bread on, &c., or for other purposes; or the cover may be turned up against a wall, or be supported by a brace, L. The brace or support L may be attached to the box in any suitable way; or another may be substituted instead, longer, and to reach from the said cover to the floor.

The operation of the apparatus is as follows: When all parts are arranged as shown the lamp F is lighted, and the flame adjusted to suit. The lamp may be used with or without

a chimney, and is placed under the opening of the heater G. The gases will immediately rise with some warm air from about the heater, through the pipes *d*, into and will fill the space J and escape. At the same moment the pure air enters the pipes *g* and passes, in a heated state, to and over and under the surface of the water in the pan I, which it evaporates, becoming intermixed with the vapors, and after imparting some of its heat and moisture to the bread, &c., it passes to the atmosphere through the passages *a a*. Thus it will continue in operation while the heat is kept up. An ordinary hand-lamp will answer, burning about twelve hours. A short time previous to making the bread the lamp should be lighted and set under the heater. The cover K is then opened, the water-pan I filled with water, (hot or cold,) the bread made in its pan in the apartment, if desired, and when properly kneaded the cover

K is shut. When the thermometer shows 100° to 110°, more or less, or when the water in the pan I is warm to the touch, the heat is found about right. The light is raised or lowered to increase or reduce the heat.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The water-heater I, arranged above and in combination with the air-heater G and lamp F, and beneath the pan-support D, substantially as described.

2. The pipes *g*, extending from below through the heater and water-chamber and through the floor C, supporting the latter for operation, substantially as described.

JOHN SUTTON.

Witnesses:

A. V. BRIESEN,
MICHAEL RYAN.