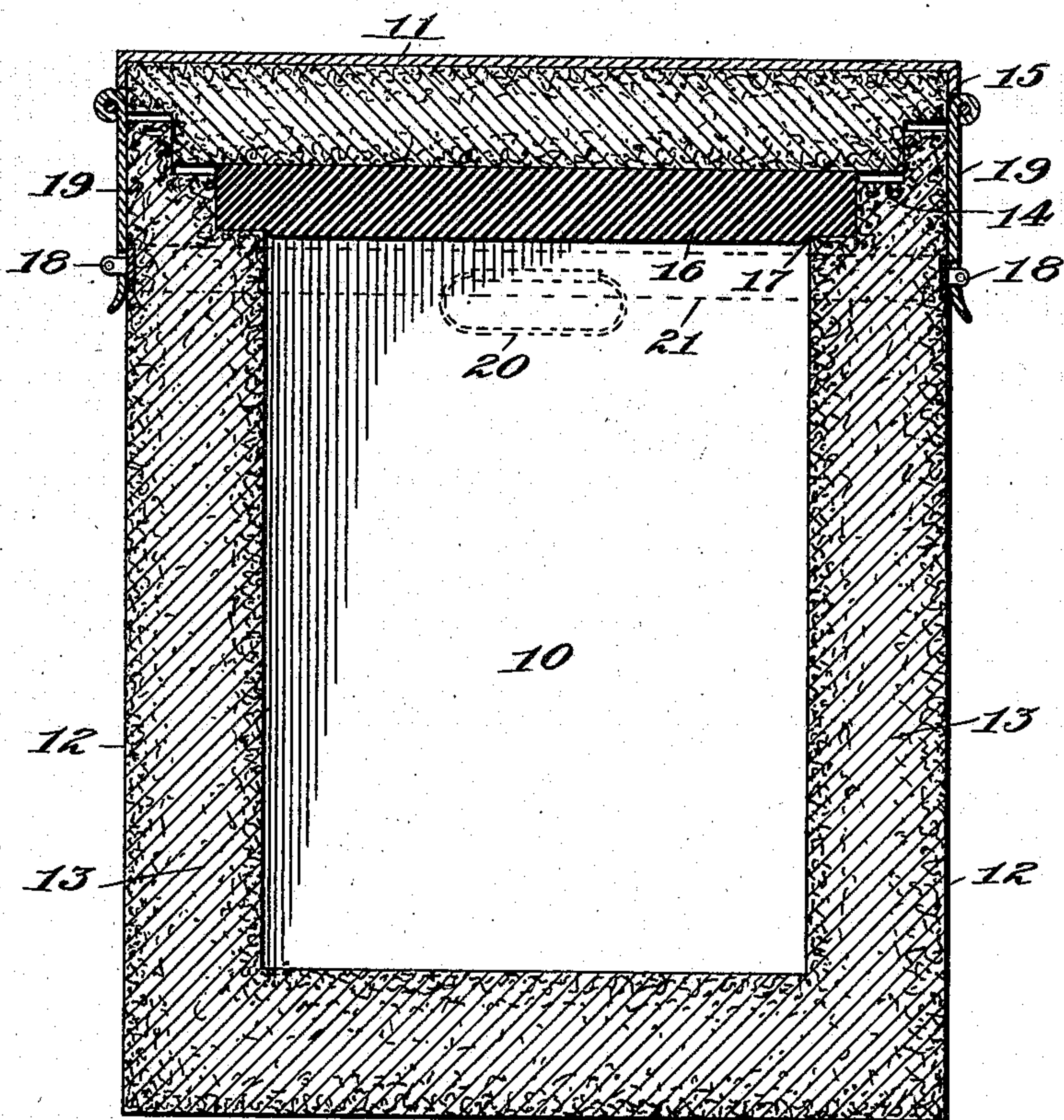


No. 885,051.

PATENTED APR. 21, 1908.

D. W. HOWLAND.
COOKING APPARATUS.
APPLICATION FILED NOV. 8, 1906.



Witnesses:

Olivier Schreiner
to C. Press.

Inventor:

Daniel W. Howland
by his attorney
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UNITED STATES PATENT OFFICE.

DANIEL W. HOWLAND, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO UNITED STATES FIRELESS COOKER COMPANY, OF SANFORD, MAINE, A CORPORATION OF MAINE.

COOKING APPARATUS.

No. 885,051.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed November 8, 1906. Serial No. 342,510.

To all whom it may concern:

Be it known that I, DANIEL W. HOWLAND, of Brookline, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Cooking Apparatus, of which the following is a specification.

This invention relates to cooking apparatus.

More particularly, it relates to apparatus for cooking by heat retained in the substance which is to be cooked. In apparatus of this character the substance is first brought to a high temperature over a fire, or by other convenient means, and is then placed within the apparatus and allowed to remain there for several hours. The apparatus is constructed so that the escape of heat is very slight. The substance remains at the temperature which it had when taken from the fire, with but little diminution, and after a suitable lapse of time is found to be as well cooked, and in many cases even better cooked than if it had remained for the usual period in proximity to the fire. In apparatus of this character many attempts have been made to devise means for retaining heat by means that should be both effective and capable of convenient manipulation under the conditions of ordinary use. Such efforts have resulted in the construction of apparatus having walls of complicated structure. By general consensus of opinion it has been thought necessary to have the wall consist of an outer and an inner shell, with intervening space filled with one or more layers of diverse material. The present invention is an improvement upon all such, and provides also an improved apparatus which is of lighter weight and greater cooking power than any heretofore known to me. It also provides apparatus which is the embodiment of simplicity in manipulating and caring for the same with due regard for the highest requirements of sanitary conditions. These objects are attained by the use of apparatus inclosed in a single wall. This wall is of substantially uniform composition, so far as its material components are concerned, but is formed with hard, impervious sides, which form the exterior of the wall; and with a light cellular or porous interior.

The accompanying drawing represents in section an embodiment of the invention.

In the drawing, a receptacle is represented,

having a body part 10 and a cover 11. Each is composed of a thickness of wood pulp or other fiber, and is formed in a suitable mold, thus giving it the desired shape, the material being subjected to pressure and to heat in the manner well known for the production of materials known as indurated fiber. By applying this treatment to a mass of great thickness, as represented in the drawing, the portion near the surface on each side becomes hard and impervious to moisture, while the interior when finished has a porous or open-work structure containing an immense number of very small cells.

In the drawing the exterior or superficial portion is indicated at 12 and the interior portion at 13, and the gradual gradation of density from the exterior surface inwardly is also indicated. The cover is of similar structure. In form it is preferably arranged to fit upon a ledge 14 on the body, and I arrange this ledge about midway of the thickness of the body walls, as shown, there being a flange 15 on the cover fitting over the outer portion of the body wall, and there being a pad 16 of rubber sponge, cork or other suitable compressible non-heat-conducting material fitting upon an interior ledge 17. This pad is normally a little thicker than the height of ledge 14 above ledge 17, so that when the cover is put in place and pressed down the pad 16 is compressed upon ledge 17, making a tight joint.

The cover may be fastened down by any convenient means, the device here illustrated being staples 18 in the body and hasps 19 on the cover. Handles 20 are attached to metal hoop 21, to which the staples are riveted; and this hoop may be set in a groove pressed or formed in the wall. The shoulder of the groove affords a firm support on which the weight of the apparatus and the strain of the cover may be borne equably, by means of the hoop 21, without metal parts piercing the wall and thus causing leakage of heat.

In operation, any desired dishes containing substances which are to be cooked may be placed within the interior of the body portion 10, and when the cover is in place no heat can escape except through the walls above described. The hard smooth surface of these walls makes absorption of heat at the interior and radiation of heat at the exterior slow, while the fibrous structure, and

particularly the light, open cellular interior structure, retards very greatly the passage of heat from the interior to the exterior of the apparatus. The surface of the material is
 5 impervious to moisture, exteriorly and interiorly, and is therefore easily cleaned and kept in perfect sanitary condition; is light of weight, owing to the lightness of the material and the open arrangement of its fibers, so that
 10 it is adapted for convenient handling; while its one-piece molded construction renders it simple and inexpensive to manufacture; and practically impossible to get out of order, which happens to previously known ap-
 15 paratus, designed for this purpose, by separation and loss of parts or distortion of the same during long-continued use, or by damage to materials through rust or absorption of odors, etc.
 20 If desired, a coating of white enamel may be baked on either the interior or exterior or both. This serves both to delay the absorption of heat into the inner surface and the radiation of heat from the outer surface after
 25 it has reached the same, by reflecting a con-

siderable portion of the incident heat rays back to the interior of the apparatus, which would otherwise be absorbed at the inner surface, and by retaining, unradiated, a considerable proportion of that which has passed 30 through the wall.

I claim:

1. Cooking apparatus, comprising a receptacle having a wall of fibrous material, the wall being of porous structure interiorly 35 and being gradually denser toward its surface.

2. Cooking apparatus, comprising a receptacle having a wall of fibrous material, the wall being of porous structure interiorly 40 and being gradually denser toward its surface, combined with a superficial coating of enamel.

In testimony whereof I have affixed my signature, in presence of two witnesses.

DANIEL W. HOWLAND.

Witnesses:

M. E. MURPHY,
 EVERETT E. KENT.