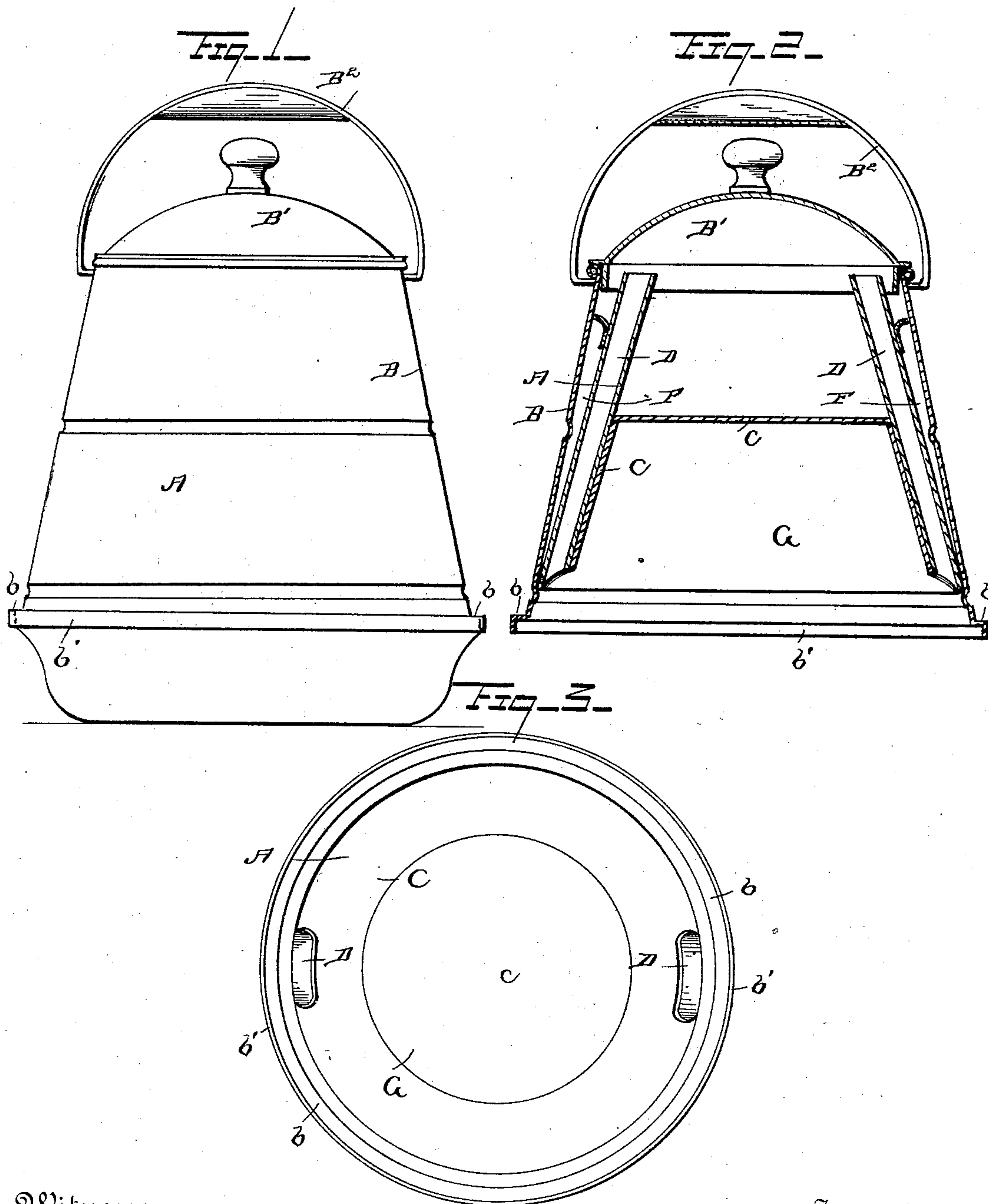


(No Model.)

T. B. KAVANAGH.  
BUTTER DISH REFRIGERATOR.

No. 347,049.

Patented Aug. 10, 1886.



Witnesses

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# UNITED STATES PATENT OFFICE.

TERENCE BOALAND KAVANAGH, OF NEW YORK, N. Y.

## BUTTER-DISH REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 347,049, dated August 10, 1886.

Application filed June 2, 1886. Serial No. 203,957. (No model.)

*To all whom it may concern:*

Be it known that I, TERENCE BOALAND KAVANAGH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Improvement in Butter-Dish Refrigerators, of which the following is a specification.

My invention relates to improvements in portable refrigerators for use on butter and like dishes; and it consists of the peculiar construction and combination of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

The object of my present invention is to provide improved means especially adapted for use in connection with butter-dishes to maintain the butter therein in a pure, hard, and palatable state while it is on the table, instead of allowing it to become oily at the edges and hard in the middle, as is the case with some devices in which the refrigerant or ice is directly under the mass of the butter and at its center. These extreme degrees in the temperature of the butter tend to destroy its delicate flavor, and also cause a considerable wastage of butter, because it cannot be worked over again with any degree of success after it has been placed on the table and reduced to an oily state at the edges.

A further object of this invention is to provide means whereby the refrigerant is kept or held out of contact with the butter to prevent deteriorating the same, and at the same time maintain the butter at a uniform temperature, and to provide such a device which will be cheap and inexpensive, simple, and strong.

In the accompanying drawings, which illustrate a portable butter-dish refrigerator embodying my invention, Figure 1 is a side elevation in position upon a butter-dish. Fig. 2 is a vertical central sectional view removed from the butter-dish. Fig. 3 is a bottom plan view.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates a portable refrigerator, especially adapted for use in connection with butter-dishes embodying my invention, which consists, essentially, of an outer

inclosing shell or casing, B, an inner shell, C, 50  
inclosed within the outer shell and arranged  
out of contact therewith at its sides, and con-  
veying tubes D, extending up into the chamber  
of the outer shell and opening through the  
lower edges of the inner shell to conduct the 55  
condensed and cold air from the space in the  
outer shell, where the refrigerant is placed,  
into the butter-dish, as will more fully ap-  
pear presently. The outer shell, B, is made  
conical in form or with inclined and con- 60  
verging sides, and it is largest at its base,  
where it is provided with an outwardly-ex-  
tended flange, *b*, arranged in a horizontal po-  
sition, and a vertical flange, *b'*, that depends  
from the free edges of the horizontal flange. 65  
The horizontal flange rests upon the upper  
edges of the butter-dish, and the vertical  
flange bears against the sides of the upper  
edge of the said dish, to effectually prevent  
the escape of the condensed and cold air from 70  
the butter-dish when the portable refrigerator  
A is placed over the same to maintain the  
butter contained therein in a palatable state  
and at a uniform temperature. The inner  
shell, C, is also made conical in form or with 75  
inclined sides, the inclination of the sides of  
the shell C being greater than the angle of the  
sides of the shell B. The lower edges of the  
inner shell, C, are secured to the inner surface  
of the outer shell, B, by means of solder or the 80  
like, and at a short distance from the lower  
edge of the outer shell, and the said inner shell  
is arranged out of contact with the outer shell,  
to provide an intermediate space or chamber,  
F, in which the refrigerant or ice is placed to 85  
condense the air in the said chamber F before  
it is discharged through the tubes or pipes D  
into the butter-dish. The upper end of the  
inner shell is closed by means of a cap or head,  
*c*, and it terminates below the upper edges of 90  
the outer shell to increase the area of the  
chamber F, and consequently the quantity of  
ice in the said chamber can be increased, and  
the lower enlarged end of the said shell C is  
left open, as shown, so that an air-chamber, G, 95  
is provided, which extends up into the shell  
C, and the air therein comes in contact with  
the walls of the inner shell, against which the



refrigerant lies, so that the air in the chamber G is kept in a cooler state than it would otherwise be if the lower end of the inner shell were closed to exclude the circulation of air therein. The conveying-tubes D are arranged at the sides of the outer shell, and between the latter and the inner shell, and the upper ends of the said tubes or pipes extend up into the chamber F, above the refrigerant therein, so that no ice or water can enter the pipes F and be conveyed thereby into the butter-dish and come in contact with and deteriorate the quality of the butter. The lower end of the conducting-pipes open into the chamber G and through the lower edges of the inner shell, and the condensed air from the chamber F is carried by the said pipes from the chamber F into the chamber G, and thence to the butter-dish, the air in the chamber G circulating freely in the same and the butter-dish, to maintain the butter at a uniform temperature. The outer shell, B, is provided with an open upper end, which is closed by a removable cover, B', so that ready access can be had to the chamber F to place the refrigerant therein or clean the chamber; and the said shell is further provided with a handle or bail, B<sup>2</sup>, so that it can be conveniently and easily carried or transported.

When the device is in use, the lower flanged edges of the outer shell are fitted on the upper edges of the butter-dish, which may be of the ordinary or any preferred form, to prevent the escape of the condensed air from the said dish, and the refrigerant is placed in the chamber F, and the cover B' replaced to prevent the escape of the cold air from the chamber. The air in the chamber is condensed by the action of the refrigerant, and it passes or escapes through the conducting-pipes D into the chamber G, from whence it passes or circulates around the butter and within the dish containing the butter. The butter is maintained or held out of contact with the refrigerant, and by means of the condensed air in the chamber G and the butter-dish it is maintained at a uniform temperature at all times without the liability to become reduced to an oily state at its edges.

The device can be made of different sizes and shapes, to adapt it for use upon butter-dishes of any construction, and it can be ornamented to suit the taste of the purchaser.

The device can also be manufactured very cheaply, and it is simple and strong in construction and thoroughly effective for the pur-

poses designed, as I have found by practical experience and tests.

Various slight changes in the form and proportion of parts and details of construction may be made without departing from the principle of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a butter-dish refrigerator, the combination of an outer shell having an open lower end, an inner shell carried by the outer shell and inclosed within the same to form an intermediate chamber, F, for the refrigerant, and having an open lower end to provide a chamber, G, in which the condensed air is free to circulate and come in contact with the said inner shell, against which the refrigerant lies, and the conducting-tubes opening into the said chambers F and G, substantially as described, for the purpose set forth.

2. In a butter-dish refrigerator, the combination of an outer shell having an open lower end, and the lateral and depending flanges adapted to be fitted snugly over the upper edges of a butter-dish, an inner shell having an open lower end and an upper closed end, the said inner shell being inclosed within the outer shell and out of contact with the same, and secured at its lower edges to the outer shell, and the conducting tubes or pipes D, opening into the chamber G formed by the inner shell at their lower ends, and extending into the chamber F above the point therein at which the refrigerant lies, so as to exclude ice and water from the pipes, substantially as described.

3. A portable refrigerator, to be detachably fitted on a butter-dish, consisting, essentially, of an outer shell having an open lower end, an inner shell inclosed within the outer shell and out of contact therewith at its sides to form an intermediate condensing-chamber, the lower edges of the inner shell being secured to the outer shell near the lower end, and the conducting-tubes opening into the condensing and circulating chambers, formed by the said shells, substantially as described, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

TERENCE BOALAND KAVANAGH.

Witnesses:

W. G. McCORMACK,  
J. W. WOOD.