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PATENTED MAR. 26, 1907.

J. D. COLLINS.
REFRIGERATOR TUB OR BUCKET.
APPLICATION FILED OCT. 15, 1904.

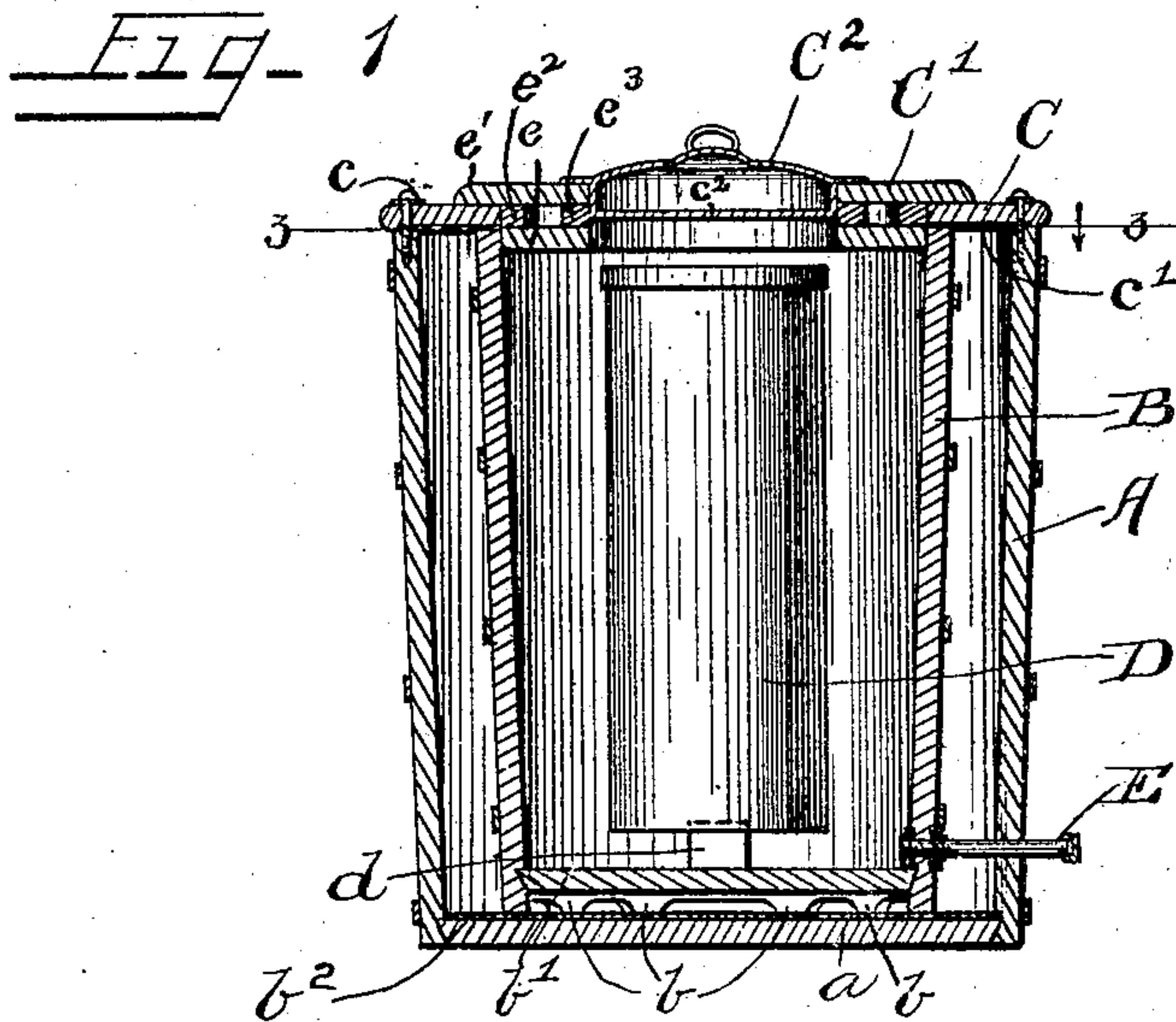


Fig. 2

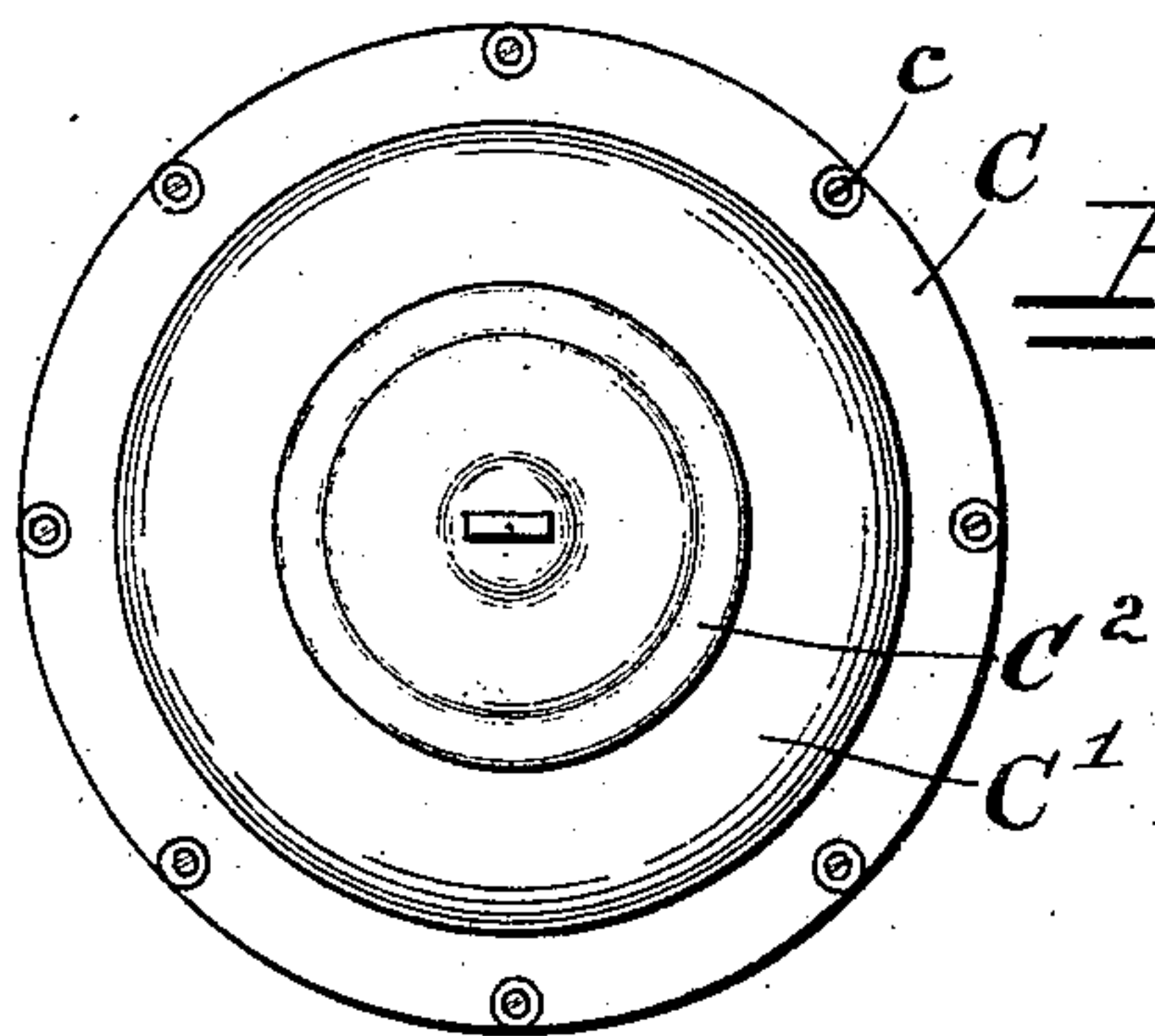


Fig. 4

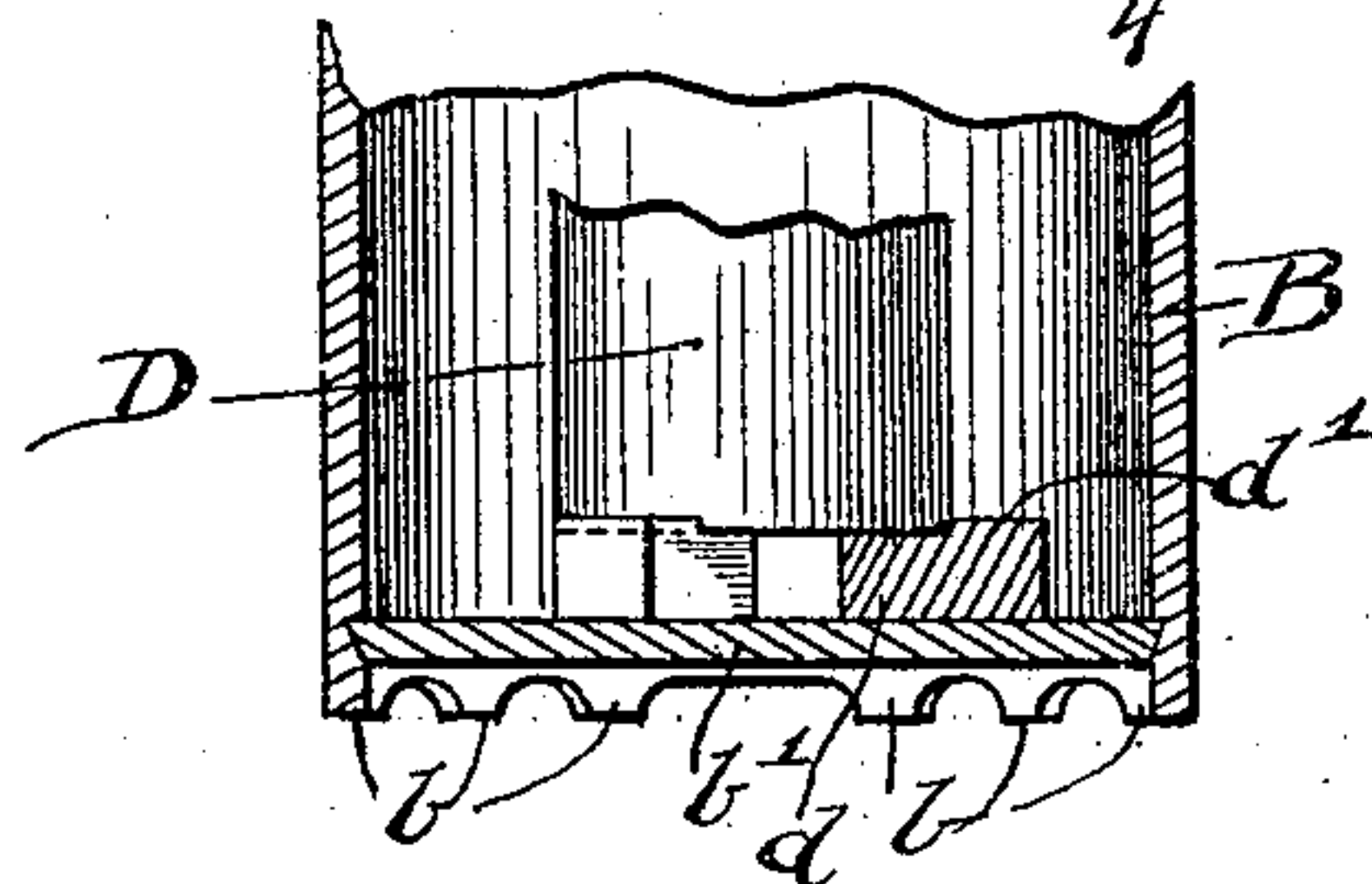
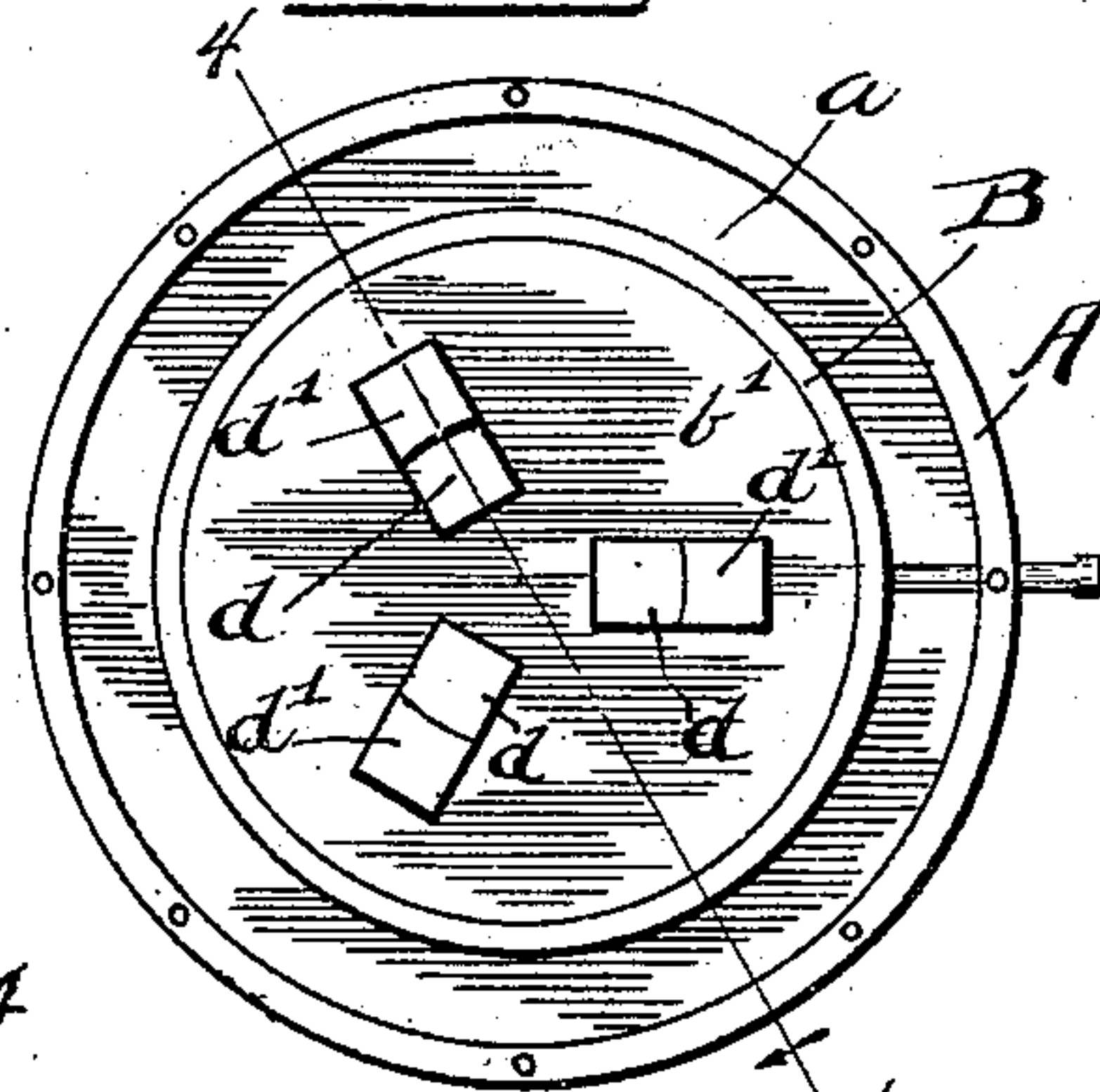


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

JESSE D. COLLINS, OF CHICAGO, ILLINOIS.

REFRIGERATOR TUB OR BUCKET.

No. 848,290.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed October 15, 1904. Serial No. 228,492.

To all whom it may concern:

Be it known that I, JESSE D. COLLINS, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Refrigerator Tubs and Buckets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in refrigerator tubs and buckets, and is shown more particularly in relation with a refrigerator tub or pail adapted for storage of ice-cream, butter, and many other commodities subject to deterioration owing to the change in temperature.

Heretofore many different devices have been used for the purpose described, and in many instances have proved unsatisfactory, owing to the fact that while insulated in parts at other parts the insulation was imperfect, permitting the effect of the ice and salt or other refrigerant used to be in part lost. It is also true in devices of the kind the retaining vessel or receptacle has usually been of a rectangular shape, rendering the same much more inconvenient to handle and requiring greater space and more of the refrigerant to pack the same.

The object of the invention is to provide a refrigerating device adapted to be insulated at all points and to afford means for economizing the refrigerating medium of whatever kind used.

It is also an object of the invention to provide a self-centering support for the can or receptacle adapted to contain the ice-cream or other material to be refrigerated.

The invention consists in the matters hereinafter described, and more fully pointed out and defined in the appended claim.

In the drawings, Figure 1 shows a central vertical section of a device embodying my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a top plan view showing the cover entirely removed. Fig. 4 is a fragmentary vertical section taken on line 4 4 of Fig. 3.

As shown in the drawings, A indicates an outer retaining vessel or tub which, as shown, tapers downwardly in the usual manner and is provided with a bottom *a*, permanently secured in place and flush with the lower end

of the staves forming the sides of the tub. Seated on the bottom *a* of said outer tub is the inner tapered tub B, the staves of which below the bottom are cut away or shaped to afford a plurality of legs *b*, which extend below the bottom *b'* of the inner tub and support the same at a sufficient height above the bottom of the outer tub to afford an air-space or a space for insulating-packing between said bottoms. The top of said tubs extends to equal height, and an annular cover C is removably secured thereon by means of stud-screws *c*, which engage in the outer tub. Said cover projects inwardly flush with the inner side of the inner tub, as shown in Fig. 1, and beneath said cover and the upper ends of the staves of said tubs is provided a gasket *c'*, of any suitable material, which affords a close fit.

An annular cover C' comprises, as shown, a lower part *e*, adapted to fit within the inner tub B, and an upper part *e'* of greater diameter, adapted to rest on the cover C. Said parts are provided with central apertures therethrough in alinement with the can, and rigidly engaged between said parts are the outer and inner rings *e² e³*, the latter of which is flush with the inner circumferences of the parts *e e'*, and the other is flush with the outer circumference of the part *e* and providing an air-space in the cover. Said cover is constructed of wood or other suitable material and is fitted into the opening in the cover C. The central aperture therein is circular and slightly greater in size than the end of a cylindric inner metallic retaining-can D, which contains the substance to be refrigerated. A closure or cover C², which, as shown, is constructed of sheet metal and provided with a partition *c²* to afford an inner air-chamber is flanged to extend outwardly on the cover C' and fits in said aperture, closing the same.

The sheet-metal containing-can D is supported above the bottom of the inner tub upon a plurality of raised supports *d*, secured upon the bottom *b'* of the inner tub B and each of which is provided at its outer end with a raised portion, forming a shoulder *d'*, which engages outside the can D and acts to center the same in place and exposing approximately the entire bottom of the can, as well as the sides, to the action of the refrigerant.

The operation is as follows: The tubs being nested one within the other afford an air-space of uniform size on all sides of the same

and also an air-space between the bottoms of the tubs, which in itself insures economy in the use of the refrigerant. If preferred, any non-conductor of heat—such as charcoal, sawdust, paper, or other suitable material—may be used as a filling for said air-spaces, though the use of the same is not necessary, inasmuch as perfect insulation can be effected by means of the air-chambers at the sides and between the bottom of the tubs.

Owing to the fact that the staves of the inner tub are cut away to afford a minimum width on the bottom of the outer tub, it follows that heat cannot readily be communicated through the bottoms to the inner chamber by means of said staves, and for the purpose of further minimizing the effect of physical contact of the reduced stave ends upon the bottom a sheet of insulating material b^2 is placed in the bottom of the outer tub and upon which the inner tub rests.

When the ice and salt or other refrigerant is filled into the inner tub about the can D, approximately the entire surface of the same, including approximately the entire area of the bottom, is exposed directly to the action of the refrigerant, inasmuch as the can is suspended or supported in said refrigerant with no appreciable physical contact or connection with the walls or bottom of the tub, except for the supports d , before described, which, however, are entirely insulated from the bottom of the outer tub by the air-space or insulation between the bottoms of the tubs. As shown, a drainage-pipe E is connected in the wall of the inner tub at the bottom by any suitable means, such as jam-nuts, to afford a tight joint and is provided with a screw-cap at its outer end adapted to be removed to permit drainage of the inner tub.

Obviously details of construction may be varied without departing from the principle

of my invention. I therefore do not purpose limiting this invention otherwise than necessitated by the prior art.

I claim as my invention—

In a device of the class described the combination with an outer tub of insulating material on the bottom thereof, an inner tub adapted to rest on the insulated bottom of said outer tub and having a notched lower flange, a can, a plurality of concentrically-arranged supports in said inner tub having their upper surfaces notched to center said can in the tub, an apertured cover adapted for engagement with said outer tub and having its inner circumference flush with the inner tub, insulating material engaged to the bottom of said cover and closely fitting between the inner and outer tubs, a second cover adapted to partly close said inner tub and comprising a flanged upper part adapted to rest on the aforesaid cover, a lower part adapted to fit closely within the inner tub and a plurality of circular parts between said upper and lower parts and forming an air-space therein, a central lid or cover concave on its inner surface and having a flange integral with the upper edge adapted to rest on the second cover, a partition in said lid affording an air-chamber and extending approximately to the middle of the flanged cover of the inner tub thereby allowing an air-space between the can and cover and completing the passage around the can and an outlet from the inner tub.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JESSE D. COLLINS.

Witnesses:

C. W. HILLS,
H. S. RUDD.