

(No Model.)

L. L. FRIERSON & J. BARKER.

PACKING AND REFRIGERATING VESSEL.

No. 432,868.

Patented July 22, 1890.

Fig. 1.

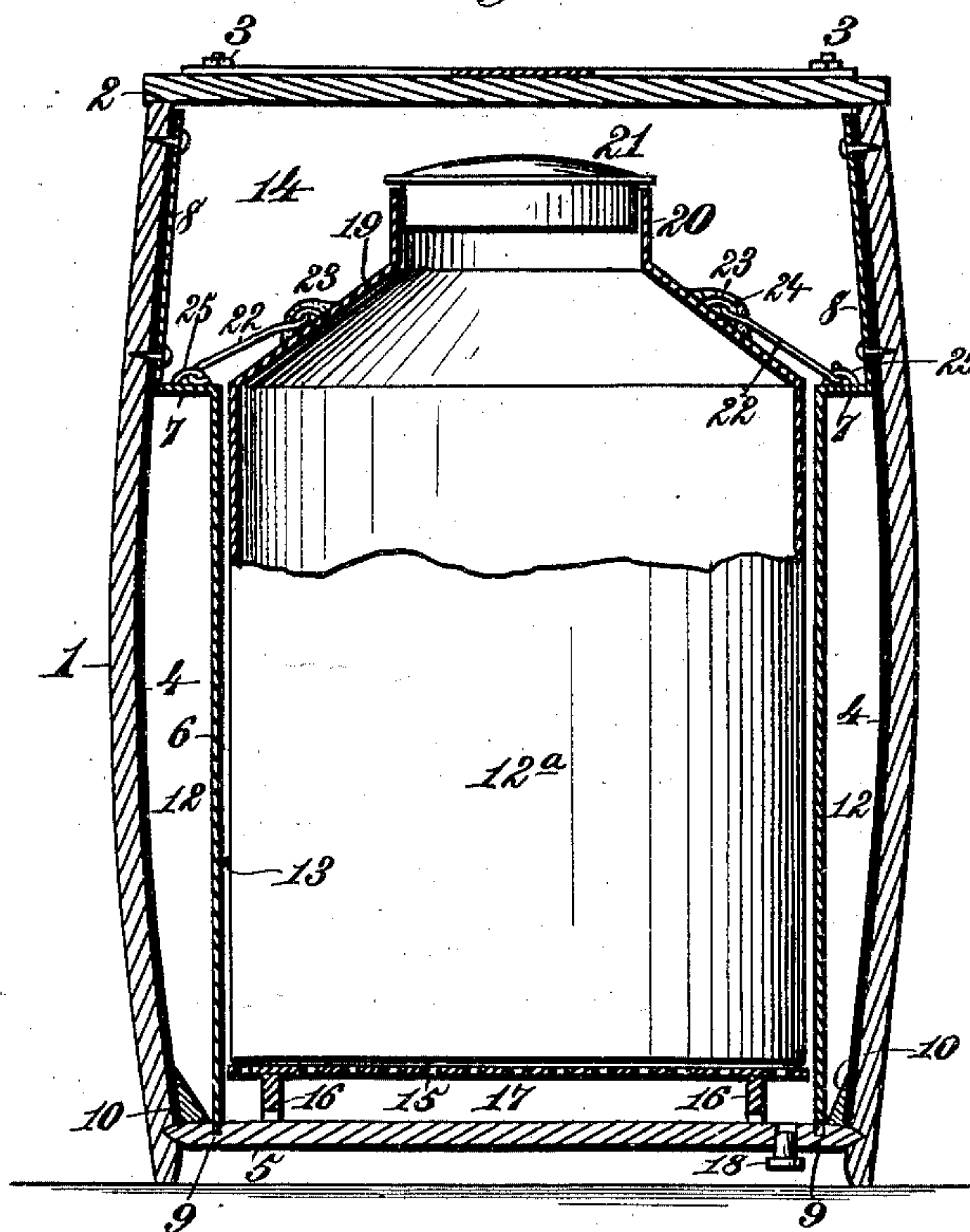
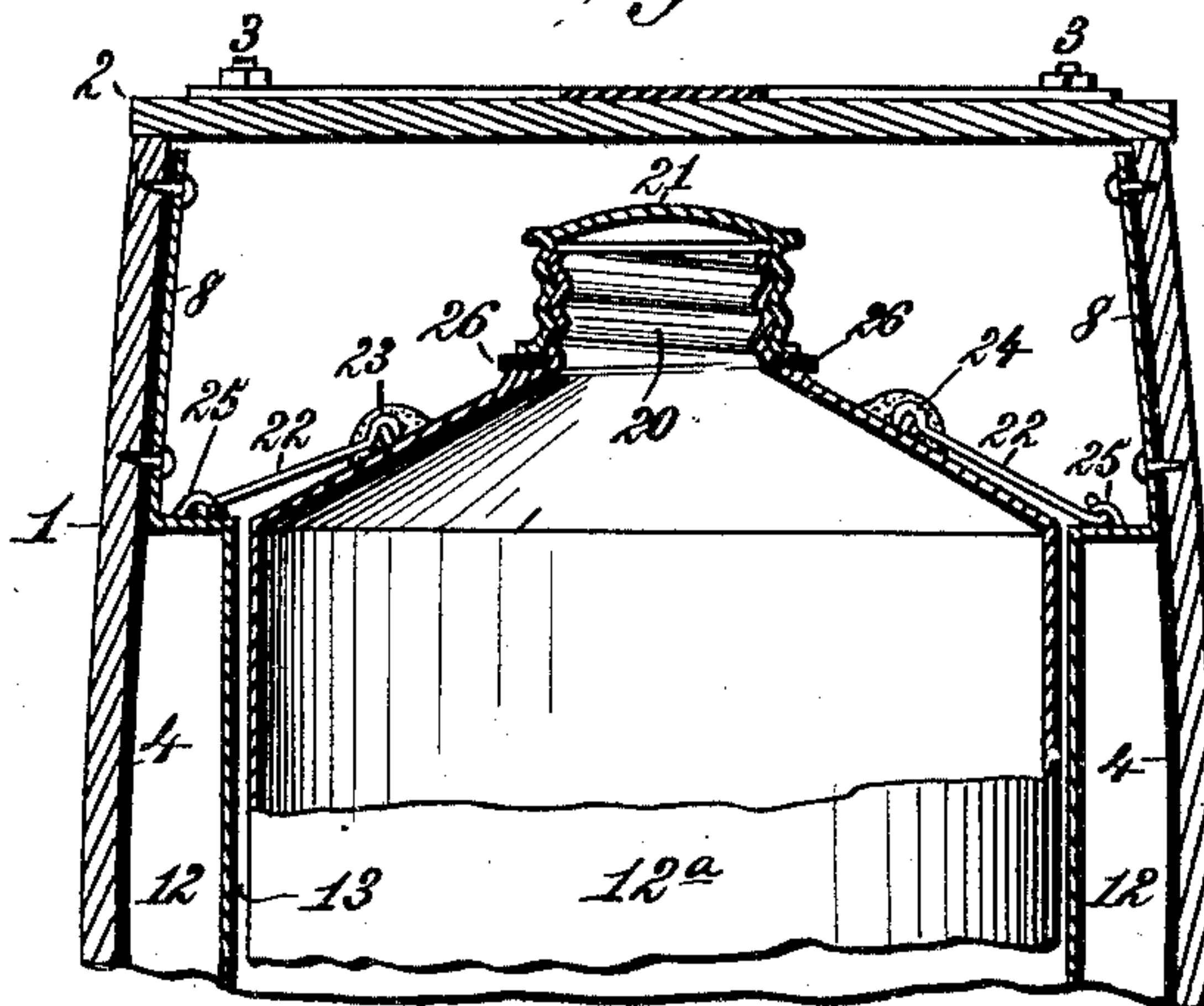


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

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PACKING AND REFRIGERATING VESSEL.

SPECIFICATION forming part of Letters Patent No. 432,868, dated July 22, 1890.

Application filed January 30, 1890. Serial No. 338,632. (No model.)

To all whom it may concern:

Be it known that we, LUTHER L. FRIERSON and JACOB BARKER, citizens of the United States, residing, respectively, at Mount Pleasant and Columbia, in the county of Maury, and State of Tennessee, have invented new and useful Improvements in Packing and Refrigerating Vessels, of which the following is a specification.

10 This invention relates to that type of refrigerating structures for preserving and transporting poultry, milk, and other food products which comprises a containing-vessel detachably arranged within an envelope or external casing having an ice-chamber in its top
15 portion, as in Letters Patent No. 410,481, issued September 31, 1889.

The objects of our invention are to improve the non-conducting properties of the structure, whereby it will more effectually exclude
20 heat and retain cold; to provide a construction that renders it possible to dispense with the packing material between the envelope and the containing-vessel, and to otherwise
25 improve the refrigerator and render it more useful and practicable.

To accomplish these objects our invention involves the novel features of construction and the combination or arrangement of devices hereinafter described in detail, and
30 specifically set forth in the claims, reference being made to the accompanying drawings, in which—

Figure 1 is a central vertical sectional view
35 of a packing-refrigerator embodying our invention, and Fig. 2 a similar view of the top portion of the structure, showing a modified construction of containing-vessel.

In order to enable those skilled in the art
40 to make and use our invention, we will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates an external wood or other casing that we will term an "envelope,"
45 having a tightly-fitting cover 2, detachably secured by fastenings 3, such as exhibited in the Letters Patent before alluded to. The envelope may be polygonal or any other desired shape in cross-section, but is preferably
50 circular and of the same general configuration as an ordinary barrel. The envelope is

provided on its inner surface with a lining 4, of felt or any other suitable material, which extends from the bottom wall 5 to or near to the cover 2, and in the envelope is arranged
55 a cylindrical casing 6, having its upper end portion bent laterally, as at 7, to form the horizontal or approximately horizontal ledge, and thence extended vertically, as at 8, and
60 secured to the envelope, with the lining 4 between, to form an air and water tight joint. The lower edge of the casing is seated in an annular groove 9, formed in the inner side of the bottom wall 5 of the envelope, and to properly
65 guide the lower edge of the casing into said groove when the former is lowered into the envelope, we provide tapering or wedge-shaped pieces 10 between the inside of the envelope and the groove. The lower edge of the casing is forced into the groove to make an
70 air and water tight joint, and thus there is provided between the casing and envelope a dead-air space 12, which we find is a desirable and satisfactory means of excluding heat and retaining cold. 75

The containing-vessel 12^a is cylindrical and of such diameter as to set within the casing and leave between the two an unobstructed surrounding water-passage 13, so that water from melting ice in the ice-chamber 14 can
80 flow down through such passage in contact with the side of the containing-vessel for cooling the latter. The bottom wall of the containing-vessel is supported by a skeleton or foraminous platform 15, having feet or
85 legs 16 resting on the bottom wall of the envelope to provide an intervening water-chamber 17, from which the water may be discharged, as occasion requires, by withdrawing the stoppers or plugs 18, (one or more,) that
90 close openings in the bottom wall of the envelope. The platform is skeleton or foraminous, to permit the cold water to come directly in contact with the bottom wall of the containing-vessel for effectually cooling the latter. 95

The containing-vessel is provided with an inclined or conical breast 19, rising above the casing 6, and which, in conjunction with the horizontally-bent portion 7 of the said casing, constitutes the bottom wall of the ice-chamber 14, and from the inclined breast rises a
100 neck 20, that receives the tight cover 21.

To steady the containing-vessel and detachably secure it in a fixed position relatively to the envelope, we provide the inclined breast 19 with elastic brace-arms 22, 5 fastened at one end, as at 23, to the breast by loops 24, and hooked at their other ends to engage sockets 25 on the bent portion 7 of the casing 6 in such manner that when the containing-vessel is inserted into the annular 10 casing 6 until it rests on the skeleton or foraminous platform or support 15 the hooked extremities of the elastic or spring brace-arms 22 can be sprung into firm engagement with the sockets 25 and thereby hold the containing-vessel in correct position, so that if 15 the structure be overturned or severely handled the containing-vessel will not be displaced.

In the modification shown by Fig. 2 the 20 construction and arrangement of the several parts are the same as described with reference to Fig. 1, except that the neck 20 on the inclined breast 19 of the containing-vessel 2 is screw-threaded, and the cover 21 is adapted 25 to screw upon the neck and seat against a packing-ring 26 on the inclined breast for securing a tight joint. This construction is desirable and useful where a fluid such as milk is to be preserved and transported.

30 In some cases the dead-air space may be filled with a packing, such as charcoal, though this is not essential; but whether or not the space be filled, the cylindrical casing must possess the construction set forth and shown, 35 and have at its lower edge an air and water tight joint connection with the bottom wall of the envelope, and at its upper edge an air and water tight joint connection with the internal surface of the envelope below its cover 40 or lid.

We are aware that dead-air spaces in refrigerators are not of themselves new, and such, therefore, we do not broadly claim.

We do not confine ourselves to the skeleton 45 or foraminous platform, for it may be otherwise constructed, but it should be elevated by supporting-legs.

We have shown the lining of the envelope and the upper part of the internal casing 50 extended upward to the cover, as this is desirable for strength and to provide a non-conducting air-tight ice-chamber; but we do not confine ourselves to the said parts extending entirely to the cover.

We do not confine ourselves to constructing the brace-arms of elastic metal, as this is not indispensable.

What we claim is—

1. A packing-refrigerator consisting of an envelope having a tight cover, a casing provided at its lower edge with an air and water 60 tight connection with the bottom portion of the envelope and having its upper end portion bent laterally in an outward direction and thence vertically, and having an air and 65 water tight connection with the inner side of the envelope to form an annular dead-air space, a support in the lower portion of the envelope, a containing-vessel resting on said support separated from the casing by an in- 70 tervening water-passage and provided with an inclined breast and tight cover, and an ice-chamber at the top of the envelope having its bottom wall formed by the laterally-bent portion of the casing and the inclined breast 75 of the containing-vessel, substantially as described.

2. A packing refrigerator consisting of an envelope having a tight cover and a bottom wall provided with a groove, a casing having 80 its lower edge seated air and water tight in said groove, and its upper portion bent laterally outward and secured air and water tight to the inside of the envelope to form an annular dead-air space, an elevated support in 85 the lower portion of the envelope, a containing-vessel resting on said support, provided with an inclined breast and separated from the casing by an intervening annular water-passage in communication with the under 90 side of the elevated support, an ice-chamber in the top of the envelope having its bottom wall formed by the laterally-bent portion of the casing and the inclined breast of the containing-vessel, and a series of swinging elas- 95 tic arms having hooked outer ends and hinged or connected to the inclined breast of the containing-vessel for holding the latter stationary and fixed to its seat within the envelope, substantially as described. 100

In testimony whereof we have affixed our signatures in presence of two witnesses.

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Witnesses:

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