

No. 664,815.

Patented Dec. 25, 1900.

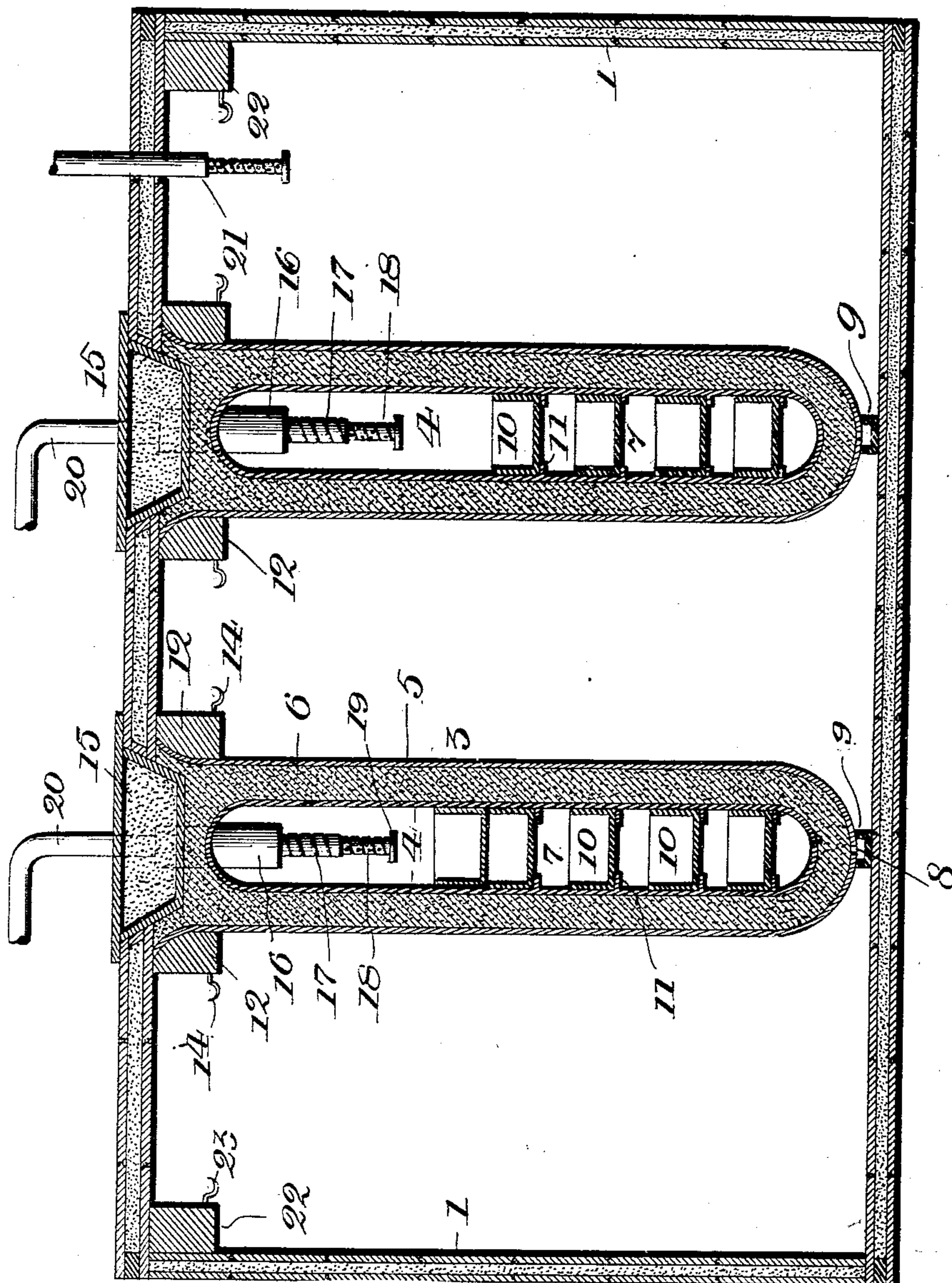
J. H. MANN.
REFRIGERATOR.

(Application filed Apr. 4, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig 1.



WITNESSES:

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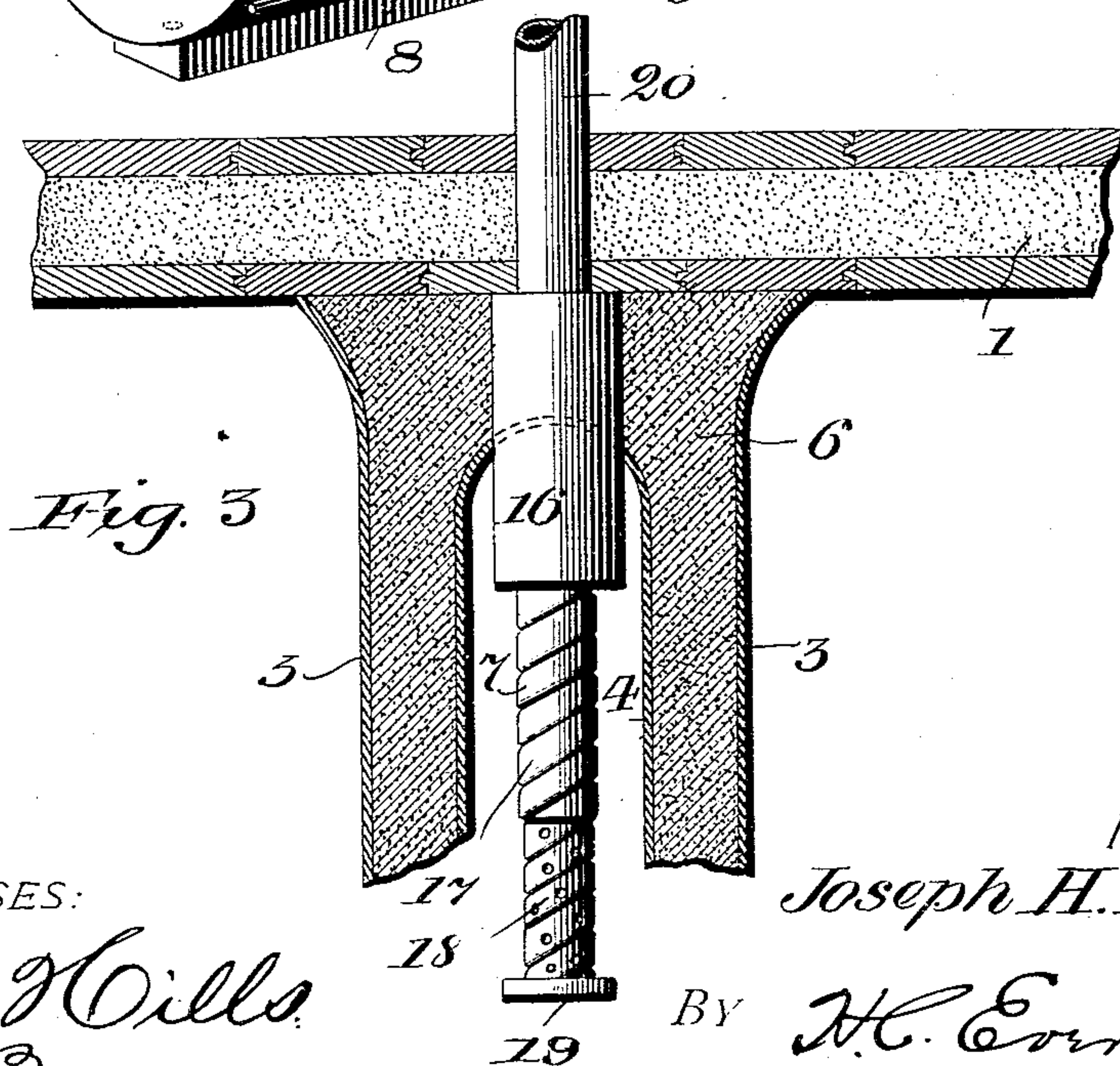
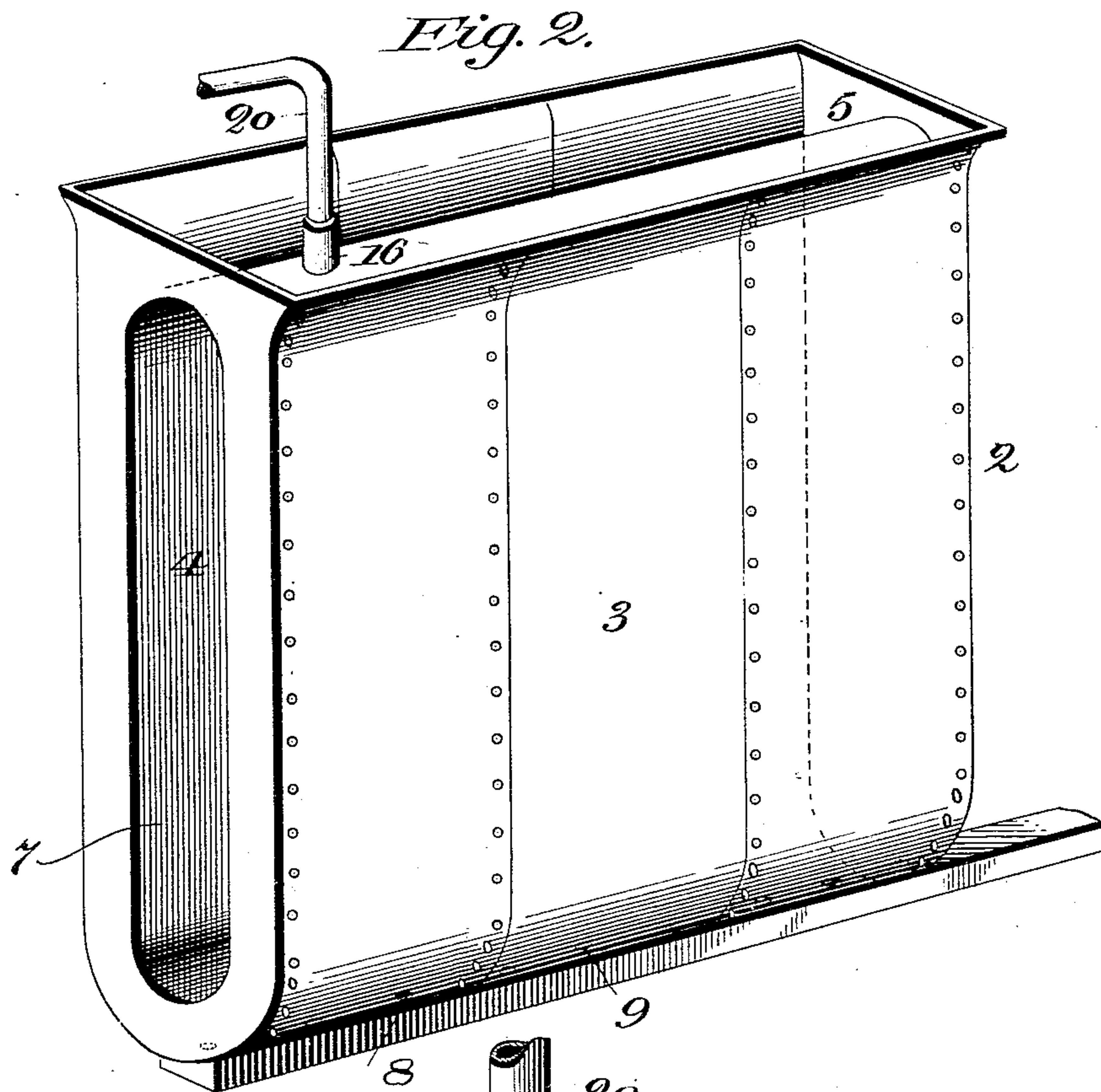
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

JOSEPH H. MANN, OF SAULT STE. MARIE, MICHIGAN.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 664,815, dated December 25, 1900.

Application filed April 4, 1900. Serial No. 11,463. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. MANN, a citizen of the United States of America, residing at Sault Ste. Marie, in the county of Chippewa and State of Michigan, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in refrigerators, and has for its general object to provide a quick, efficient, and serviceable cooling agent applicable alike to use in various places, such as portable or stationary refrigerators, dwellings, refrigerator-cars, steamships, or in other places where it is desired to provide a refrigerator for various purposes.

20 My invention consists in one or more drums or casings which are adapted to contain the cooling agent, which may be in liquid or other desired form, the drums or casings being constructed with double side walls, so as to form an interior space that may be utilized for the refrigeration or preservation of articles, said drums or casings being so located within the refrigerator-casing as to permit the utilization of the space between the drums and the refrigerator proper for the storing of articles and to permit the recharging of the drum or drums without their removal from the refrigerator-casing. Means is also provided within the drum or drums for regulating or controlling the temperature to the desired degree, together with other features of construction entering into my invention, all of which will be hereinafter more specifically described and then particularly pointed out in the claims, and in describing the invention in detail reference will be had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference will be employed to designate like parts throughout the different views of the drawings, in which—

45 Figure 1 is a transverse vertical sectional view of a refrigerator constructed and arranged in accordance with my invention. Fig. 2 is a detail perspective view of one of the drums or casings for containing the cooling agent removed from the refrigerator-casing. Fig. 3 is an enlarged vertical sectional view of

a part of the casing and drum, showing the construction of the frost-controller.

In carrying out my invention I may employ my improved drum in connection with an ordinary portable or stationary refrigerator of the usual make, and I will therefore describe and refer to such refrigerator or casing but incidentally in order to fully describe my invention. In the accompanying drawings I have shown the drums mounted in an ordinary refrigerator 1, the walls, bottom, and top of which are provided with the usual filling of charcoal or like substance for a purpose well known in the art.

65 My improved drum 2, as herein shown, is of a rectangular form, though in practice the drum will be constructed to conform to the refrigerator-casing in which it is desired to employ the same. It may be constructed of metal or other desired material, having the outer side walls 3 3 and inner side walls 4 4, with a closed bottom and open top. The side walls are suitably spaced apart, and in the space 5 thus formed between these inner and outer side walls is placed the liquid or other cooling agent 6. The inner side walls 4 4 are spaced apart, so as to form a chamber 7, which chamber or space is utilized for the storing of articles, as well as the space between the drums (when two or more drums are used) and the space between the drums and the side walls of the refrigerator proper. In this construction I practically form two drums, one within the other, the outer drum being open at its top and closed at the bottom and the inner drum being closed both at its top and bottom, so as to form the liquid or other cooling-agent receiving space 5. The outer drum is, however, provided in its bottom with small perforations 8, which communicate with the draining-trough 9, upon which the drum rests at its bottom and to which the discharge-pipe from the refrigerator proper may be connected at any suitable or desired point.

In practice it has been found desirable to use the space or chamber 7 for the storage of such articles as meats, vegetables, and the like, which may be placed upon pans 10 and slid within the chamber, and I may provide the side walls 4 4 with ledges or shelves 11

for supporting these pans or slide the pans in one on top of the other, both of which arrangements are shown in Fig. 1 of the drawings.

5 In practice it may be found desirable to secure the drums within the refrigerator-casing in different ways; but a convenient form for many refrigerators will be found to be that I have herein shown, which consists in slightly
10 curving outwardly the outer walls of the drum at their top and securing the drum rigidly to the top of the refrigerator-casing by cross-bars or cleats 12, engaging the curved or flared walls, which cross-pieces or cleats may
15 then be utilized as supports for the hooks 14, upon which articles may be suspended within the refrigerator.

When the drums which contain the cooling agent are located in a refrigerator-casing of
20 the class herein shown, I provide the same in the top with hatches 15 of a construction and form to neatly seal the top of the casing and also to close and seal the drums at their upper ends.

25 In order to control the temperature within the drums, I provide each drum employed with a frost-controller, which consists of a sleeve 16, secured in the closed top of the inner drum and extending downwardly a short
30 distance into the chamber 7. This sleeve has secured to its lower end a threaded sleeve 17, in which engages a hollow foraminous screw 18, having a thumb-nut 19 for operating the same. As this foraminous screw 18 is ad-
35 justed so as to be threaded into or out of the sleeve 17, the outlet for the cold air will be increased or diminished, according to the elevation or lowering of the foraminous screw, as will be readily apparent. An outlet-pipe
40 20 communicates with the sleeve 16 at its upper end and extends upwardly through the cover of the refrigerator-casing. I may also provide one or more ventilators for the re-
45 frigerator, as at 21 in Fig. 1, which consists of a sleeve or outlet-pipe secured in the top of the refrigerator-casing, with a foraminous screw threaded in its lower end and adjusted within or out of the sleeve in the same manner as the frost-controller. The spaces be-
50 tween the drums and between the drums and the refrigerator-casing are adapted for the larger articles that are to be stored within the refrigerator-casing, and for this purpose I have shown supporting cross-pieces 22 and
55 hooks 23, though these may be located at any desired points or dispensed with, if desired.

The drums which contain the cooling agent are preferably located within the refrigerator-casing, so that when the doors of the latter
60 are opened access may be had to the interior chamber 7 of the drums and the articles to be stored therein readily placed in position or removed therefrom, as well as the frost-controller regulated so as to readily control the
65 temperature. This frost-controller I have found to be an essential feature, since the temperature within the chamber 7 when the

doors of the refrigerator-casing are closed has been found oftentimes to be too frigid for the articles desired to be placed within the
70 drum, and such temperature may be readily regulated by adjustment of the foraminous screw, and the temperature within the refrigerator-casing may be likewise regulated by adjustment of the foraminous screw of the
75 ventilator.

It will be noticed that in the adaptation of this freezing-drum to various forms of refrigerator-casings various changes may be made in the details of construction without
80 departing from the general spirit of the invention.

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

1. A refrigerator freezing-drum consisting of an inner casing which is closed at its bottom and top, and an outer casing having closed ends and bottom and an open top, said casings being spaced apart to form an annu-
90 lar receiving-space for the cooling agent, the walls of said outer casing being flared at the top, means for sealing the top of said outer casing, and a frost-controller secured in the top of the inner casing, substantially as de-
95 scribed.

2. The combination with a refrigerator-casing, of a freezing-drum secured therein and consisting of an inner casing closed at its top and bottom and an outer casing closed at its
100 ends and bottom, and open at its top, said casings being spaced apart to form a receiving-chamber for the cooling agent, means carried by the refrigerator-casing for sealing the outer casing, an adjustable frost-control-
105 ler carried by the inner casing, and a ventilator secured in the refrigerator-casing, substantially as described.

3. The combination with a refrigerator-casing having removable hatches in its top, of a
110 freezing-drum consisting of an inner and outer casing spaced apart to form a receiving-chamber for the cooling agent, the said outer casing being open at its top and adapted to be closed by the hatches of the refrig-
115 erator-casing, a frost-controller carried by said drum, and a ventilator carried by the refrigerator-casing, substantially as described.

4. The combination with a refrigerator-casing, of a freezing-drum consisting of an inner
120 and outer casing, said inner casing having a closed bottom and top and said outer casing having a perforated bottom and open top, said casings being spaced apart to form a receiving-chamber for the cooling agent, means
125 for sealing the top of said outer casing, and means for regulating the temperature within the inner casing, substantially as described.

5. The combination with the refrigerator-casing, of a freezing-drum consisting of an
130 outer casing having a perforated bottom and an open top, an inner casing having a closed top and bottom, the space between said casings at their ends being closed, means for seal-

ing the top of said outer casing, and means carried by the inner casing and extending downwardly into the same for regulating the temperature within said inner casing, as and
5 for the purpose described.

6. A freezing-drum adapted to be secured within a refrigerator-casing, said drum consisting of two casings, one within the other, the outer casing having a perforated bottom
10 and an open top, and the inner casing having a closed top and bottom, the casings being spaced apart and the space between the casings closed at the ends of the drum, with the space between the walls of the inner casing
15 open at the ends of the drum, substantially as described.

7. A freezing-drum for refrigerators, consisting of two casings, one within the other, the outer casing having an open top, and the
20 inner casing having a closed top and bottom, the casings being spaced apart and the space between the casings closed at the ends of the drum, with the space between the walls of the inner casing open at the ends of the drum,
25 and means carried by said inner casing for regulating the temperature thereof, substantially as described.

8. A freezing-drum for refrigerators consisting of two casings, one within the other,

the outer casing having a flaring open top, 30 and the inner casing having a closed top and bottom, the casings being spaced apart and the space between the casings closed at the ends of the drum, with the space between the walls of the inner casing open at the ends 35 of the drum, and a frost-controller carried by said inner casing, as and for the purpose described.

9. The combination with the refrigerator-casing, of a freezing-drum consisting of two 40 casings, one within the other, the outer casing having an open top, and the inner casing having a closed top and bottom, the casings being spaced apart and the space between the same closed at the ends of the drum, with 45 the space between the walls of the inner casing open at the ends of the drum, means carried by the drum for regulating the temperature within the inner casing, and means for sealing the space between the casings at the 50 top of the drum, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSEPH H. MANN.

Witnesses:

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THOS. F. WADSWORTH.