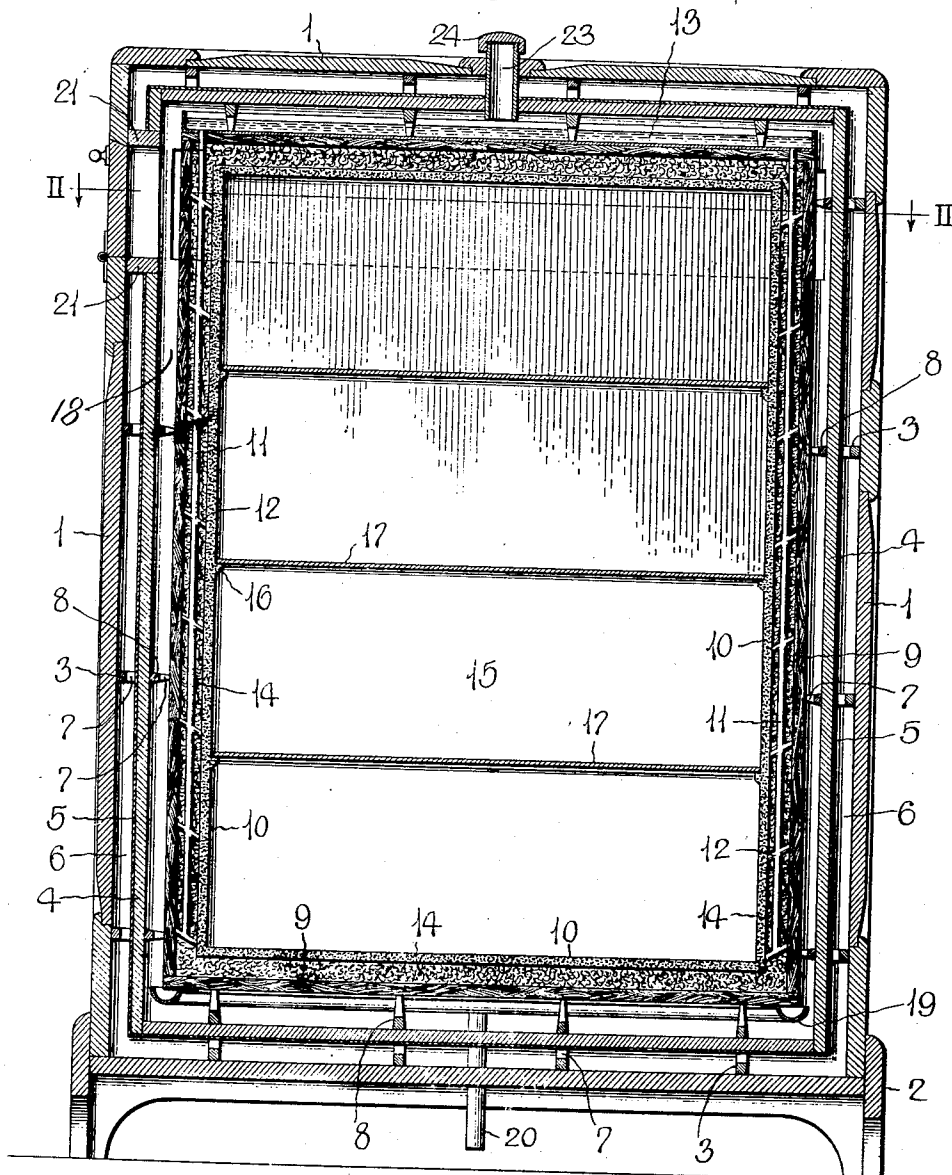


H. VON WOLFORSDORF.  
REFRIGERATOR.  
APPLICATION FILED DEC. 26, 1914.

1,171,566.

Patented Feb. 15, 1916.  
2 SHEETS—SHEET 1.

Fig. 1.



Inventor

Hans von Wolforsdorf,

By

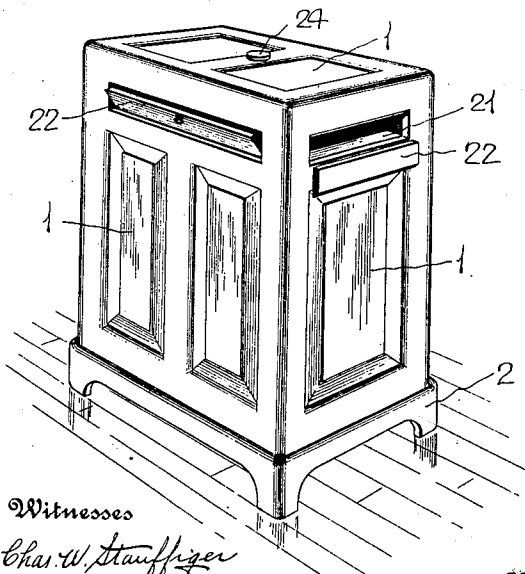
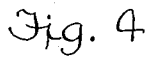
*Charles H. [Signature]*  
Attorneys

Witnesses

Chas. W. Stauffer  
Anna M. Dorr

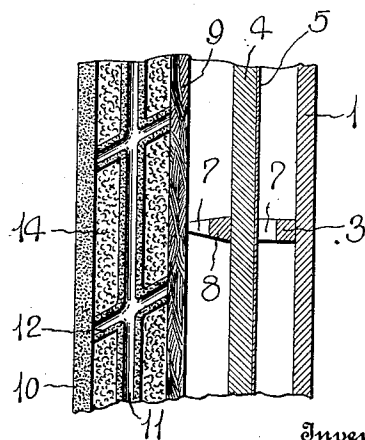
**1,171,566.**

Fig. 2.



Witnesses  
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Fig. 3.



Inventor

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# UNITED STATES PATENT OFFICE.

HANS VON WOLFORSDORF, OF DETROIT, MICHIGAN.

## REFRIGERATOR.

1,171,566.

Specification of Letters Patent.

Patented Feb. 15, 1916.

Application filed December 26, 1914. Serial No. 879,155.

*To all whom it may concern:*

Be it known that I, HANS VON WOLFORS-  
DORF, a subject of the Emperor of Germany,  
residing at Detroit, in the county of Wayne  
and State of Michigan, have invented cer-  
tain new and useful Improvements in Re-  
frigerators, of which the following is a speci-  
fication, reference being had therein to the  
accompanying drawings.

This invention relates to a refrigerator,  
and the primary object of my invention is  
to provide a refrigerator with aqueous heat  
excluding walls that insure a low tempera-  
ture in the refrigeratory compartment,  
without utilizing ice, brine or similar agents.

A further object of this invention is to  
provide an inner shell for refrigerators that  
permits of a seepage circulation of water be-  
ing maintained throughout the walls of the  
refrigerator, with little or no attention  
whatsoever as to surrounding climatic con-  
ditions, the refrigerator being built with a  
view for universal use.

The above are a few of the objects at-  
tained by the novel construction, combina-  
tion and arrangement of parts to be herein-  
after particularly described, and then  
claimed, and reference will now be had to  
the drawings, wherein—

Figure 1 is a vertical sectional view of a  
refrigerator in accordance with this inven-  
tion; Fig. 2 is a horizontal sectional view  
taken on the line II—II of Fig. 1; Fig. 3 is  
an enlarged detail sectional view of a por-  
tion of the refrigerator, illustrating the con-  
struction of a wall, and Fig. 4 is a perspec-  
tive view, upon a small scale, of the refrig-  
erator, illustrating dampers controlling the  
admission of air to the refrigerators.

In the drawing, 1 denotes a rectangular  
casing preferably made of wood, said casing  
being supported in an elevated position rela-  
tive to a floor by legs 2, thus permitting of  
a drip pan being placed under the casing.

The inner sides of the casing 1 are provided  
with spaced cleats 3 supporting a shell 4  
covered with waxed paper 5 or a thin layer  
of impervious material. The shell 4 coop-  
erates with the casing 1 in providing a dry  
air chamber 6. The cleats 3 are slotted, as  
at 7, to establish communication between  
different parts of the dry air chamber,  
which acts as an insulation and isolates the  
refrigeratory agent as far as surrounding  
climatic conditions are concerned.

The inner walls of the shell 4 are provided

with cleats 8, similar to the cleats 3, and  
these cleats support a porous structure, com-  
prising spaced walls 9 and 10. The outer  
walls 9 are preferably made of pressed or  
matted fiber of sufficient porosity as to hold  
water.

The inner walls 10 are preferably made of  
unglazed earthenware. Between the walls  
9 and 10 there are spaced vertically disposed  
porous earthen conduits 11 provided with  
angularly disposed branches 12 of a similar  
material. The upper ends of the conduits  
11 are in communication with a pan or re-  
ceptacle 13 upon the top of the porous  
structure within the shell 4 and the lower  
end of the conduits terminate in branches  
in proximity to the bottom of the porous  
structure. The branches 12 of the conduits  
assist in spacing the walls 9 and 10 and said  
conduits are adapted to conduct water to  
the walls 9 and 10 and by its evaporation  
tends to reduce the temperature about said  
walls.

Between the walls 9 and 10 and inclosing  
the porous earthen conduits 11 is a porous  
material 14, powdered or granular, and as  
an instance of such material there may be  
cited, sawdust. This material is capable of  
absorbing water and moisture, and by rea-  
son of the porosity of the entire structure,  
an evaporation takes place within the re-  
frigeratory chamber 15 formed by the po-  
rous earthen walls 10. The inner sides of the  
walls are provided with ledges 16 for sup-  
porting shelves 17.

The shell 4 cooperates with the porous  
structure in providing a moist air chamber  
18 and in the bottom of said chamber is a  
drain trough 19 that extends around the  
vertical walls 9 of the porous structure to  
collect drippings from said walls. The  
drain trough 19 has a drain or drip pipe  
extending through the shell 4 and the  
casing 1.

Communicating with the moist air cham-  
ber 18, at the back and at one side of the  
refrigerator, as best shown in Fig. 4, are  
door frames 21 extending through the shell  
4 and the casing 1. The door frames 21 are  
provided with the hinged doors, dampers or  
shutters 22 for controlling the admission of  
air to the chamber 18 and by opening or  
closing the doors 22, the circulation of air  
in the chamber 18 can be easily controlled  
and then again with the back of the refrig-  
erator or an end wall thereof against the

wall of a dwelling, one or the other of the doors 22 can be used for regulating the admission of air to the chamber 18.

To fill the pan or receptacle 13 with water, the casing 1 and the shell 4 are provided with a filler pipe 23 having a detachable cap 24. The filler pipe 23 is located centrally of the top of the refrigerator and from time to time water can be placed in the pan or receptacle 13 to flow into the porous earthen conduits 11 and seep into the sawdust 14 and the porous walls 9 and 10.

The front side of the refrigerator has a doorway 25 at the open side of the porous structure to accommodate a hinged door 26. This door has an earthen lining 27 corresponding to the walls 10 of the porous structure.

The evaporation of water in connection with the porous structure maintains a low temperature in the refrigeratory compartment or chamber 15, and with the moist air chamber 18 in communication with the atmosphere the evaporation of water can be regulated through the medium of the doors 22. I attach considerable importance to the construction of the porous structure as this structure can be used in connection with refrigerators of various types. Therefore,

while in the drawing there is illustrated a preferred embodiment of my invention, it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claim.

What I claim is:—

In a refrigerator, a casing, a shell in said casing cooperating therewith in providing a dry air chamber, a porous structure in said shell cooperating therewith in providing a moist air chamber, a drain trough in said shell at the lower edges of said porous structure, said porous structure comprising inner earthen walls, outer fibrous walls, vertically disposed earthen conduits between said walls, a receptacle on said porous structure within said shell adapted to supply water to said conduits, branches forming part of said conduits adapted to conduct water to the walls of said porous structure and a porous material surrounding said conduits and the branches thereof.

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

HANS VON WOLFORS DORF.

Witnesses:

ANNA M. DORR,  
KARL H. BUTLER.