F. PATEE.

THERMALLY INSULATED STRUCTURE.

APPLICATION FILED AUG. 28, 1911.

1,175,376.

Patented Mar. 14, 1916.

3 SHEETS—SHEET 1.

Fig. 1.

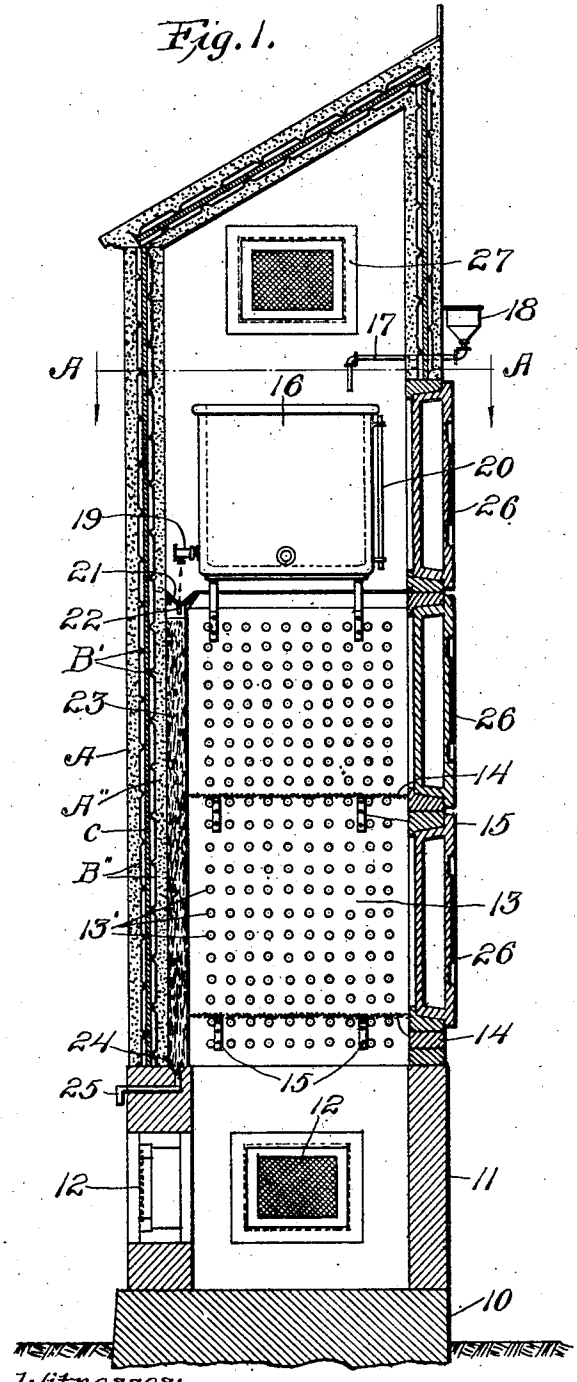
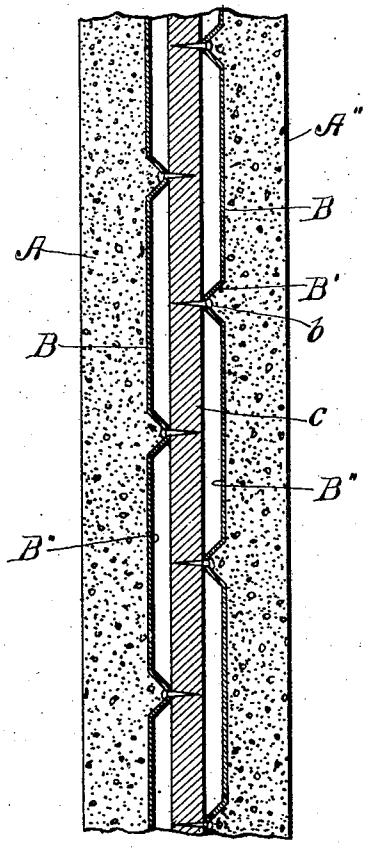


Fig. 2.



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Anna L. Walton

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3 SHEETS—SHEET 2.

Fig. 3.

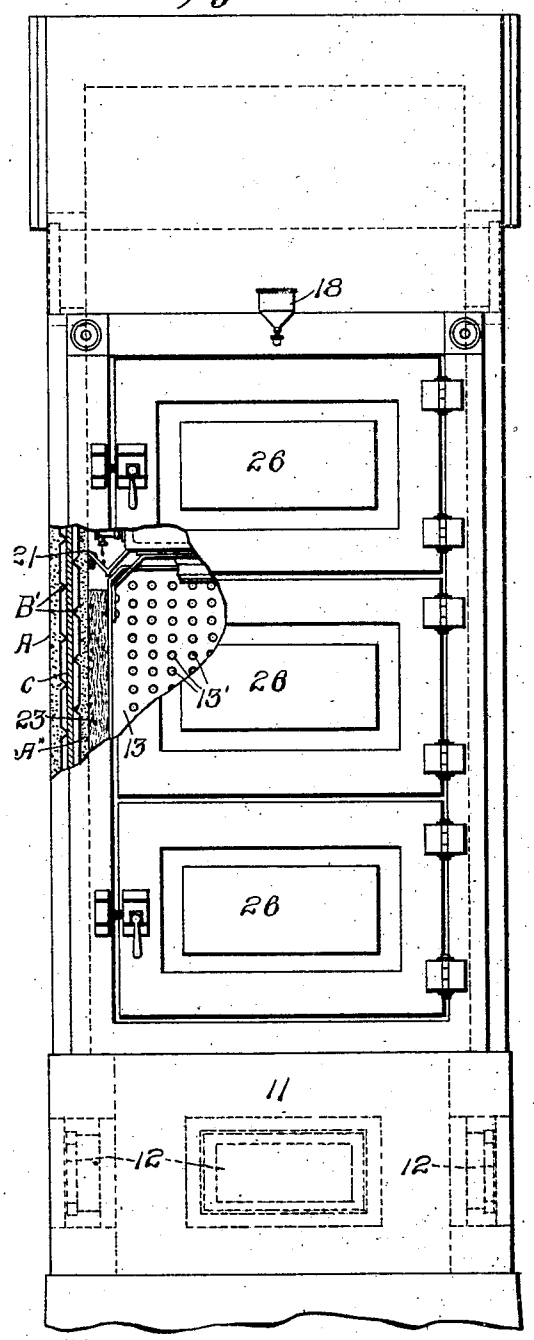
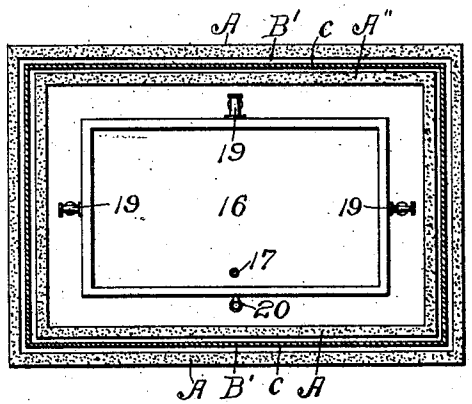


Fig. 4.



Witnesses:

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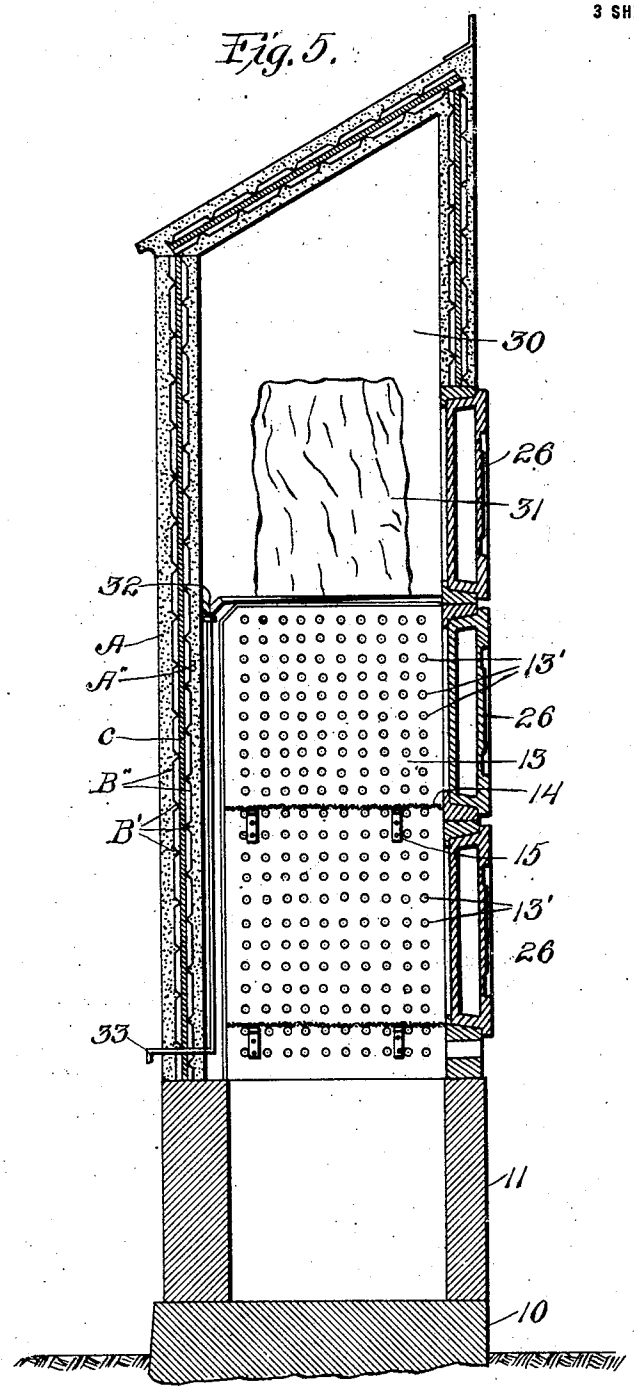
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3 SHEETS—SHEET 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

FRED PATEE, OF DENVER, COLORADO.

THERMALLY-INSULATED STRUCTURE.

1,175,376. Specification of Letters Patent. Patented Mar. 14, 1916.

Application filed August 28, 1911. Serial No. 646,493.

To all whom it may concern:

Be it known that I, FRED PATEE, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Thermally-Insulated Structures, of which the following is a specification.

This invention relates to an improvement in thermally insulated structures constructed for the purpose of protecting from heat or cold and I have shown several devices in the appended drawings embodying my improved construction.

In the drawings Figure 1 shows a longitudinal section of a refrigerator. Fig. 2 shows a detail cross section of my improved construction. Fig. 3 shows a front elevation of the refrigerator shown in Fig. 1, the front being broken away. Fig. 4 shows a transverse cross section on the line A, A of Fig. 1. Fig. 5 is a longitudinal section of an ice-box embodying my construction.

Like reference characters refer to similar elements throughout the drawings.

In Fig. 2 I have shown a detail of the preferred form of my thermal insulating structure having a wood or asbestos board center foundation member C to either side of which is secured and spaced therefrom, metal or other lathing or lining members B shown ribbed at B', the ribs B' being secured by nails *b* or other means. This method of securing the lining or lathing leaves dead air spaces B''. Secured to the outer sides of the lining members B is a coating of asbestos preferably in the form of asbestos plaster A. This provides a thoroughly efficient and practical insulating structure in which the asbestos linings A coöperate with the dead air spaces B'' to thoroughly insulate the interior of any structure embodying this improved construction.

In Fig. 1 I have shown this construction applied to a refrigerator intended for use without ice, preferably built on a concrete or other solid foundation 10 and resting on a supporting frame 11 having screened openings 12 formed therein. The body of the structure proper is formed with compartments 13 having the screened or other bottom plates 14 suitably supported upon brackets 15 and having the sides thereof apertured as shown at 13' for a purpose to be described hereafter.

Surrounding the lining of the compartments 13 is a layer of absorbent material 23. Adjacent the bottom of this lining 23 is a trough 24 having an outlet pipe 25, as shown in Fig. 1 of the drawings. Adjacent the top of the lining 23 is a trough 21 having depending supply tubes 22.

Secured to the interior of the upper part of the evaporative refrigerator is a fluid supply tank 16 supplied with fluid through a supply pipe 17 leading, from a filling spout 18 located on the side, out of the structure.

The supply tank 16 is provided with a suitable gage 20 and has outlet pipes 19 adapted to supply the fluid from the tank 16 to the troughs 21, whence it will be distributed to the top of the absorbent material 23 and percolate therethrough to the bottom of the same where any excess of fluid will be collected by the trough 24 and conducted to the outside through the pipe 25.

Suitable doors 26 are secured to the refrigerator and permit accession to the chambers 13 and supply tank 16. Located in the upper part of the structure are ventilating screened openings 27 similar to the openings 12. The opening 27 in conjunction with the openings 12 allows the circulation of warm air through the refrigerator, which coming in contact with the absorbent material saturated as it is with the cooling fluid will cause evaporation of the moisture therefrom and, as a well-known physical fact, lowers the temperature of the interior of the refrigerator very considerably. By this means I provide a structure in which the contents are cooled by the action of evaporative fluid from absorbent material, the structure being thoroughly insulated from the outside except for the desired circulation of air intended to cause the required evaporative action.

In Fig. 5 I have shown a modification of the refrigerator shown in Figs. 1 to 4 and designed for use with ice or other refrigerant, no circulation of air being intended. This device is provided at its upper portion with a chamber 30 in which is adapted to be placed the ice 31 or other refrigerant, the device being also provided with a trough 32 having an outlet pipe 33 adapted to carry off the melted ice should the latter be used, otherwise the device is similar to the structure shown in Figs. 1 to 4.

I do not desire to limit myself to the

form of my structure or device shown in the drawings or described in the specification beyond the scope of the appended claims.

I claim:

1. A thermally insulated structure comprising a central wall of asbestos board or like material of low thermal conductivity, ribbed metal lathing secured to each side of said central wall forming dead air spaces between said board and said lathing, the ribs on said lathing being alternately disposed to cause the ribs on one side of said central wall to be opposite the spaces on the other side, and asbestos composition secured on the outer side of said lathing.

2. A thermally insulated structure comprising a central wall of asbestos board, ribbed metal lathing secured to each side of said central wall forming dead air spaces on opposite sides of said central board, said air spaces having a staggered relation to prevent direct conduction of heat through the board from the ribs on one side to those on the other, and asbestos composition secured on the outer side of said lathing.

In testimony whereof, I have subscribed my name.

FRED PATEE.

Witnesses:
S. E. PRITCHARD,
ONNIE THIES.