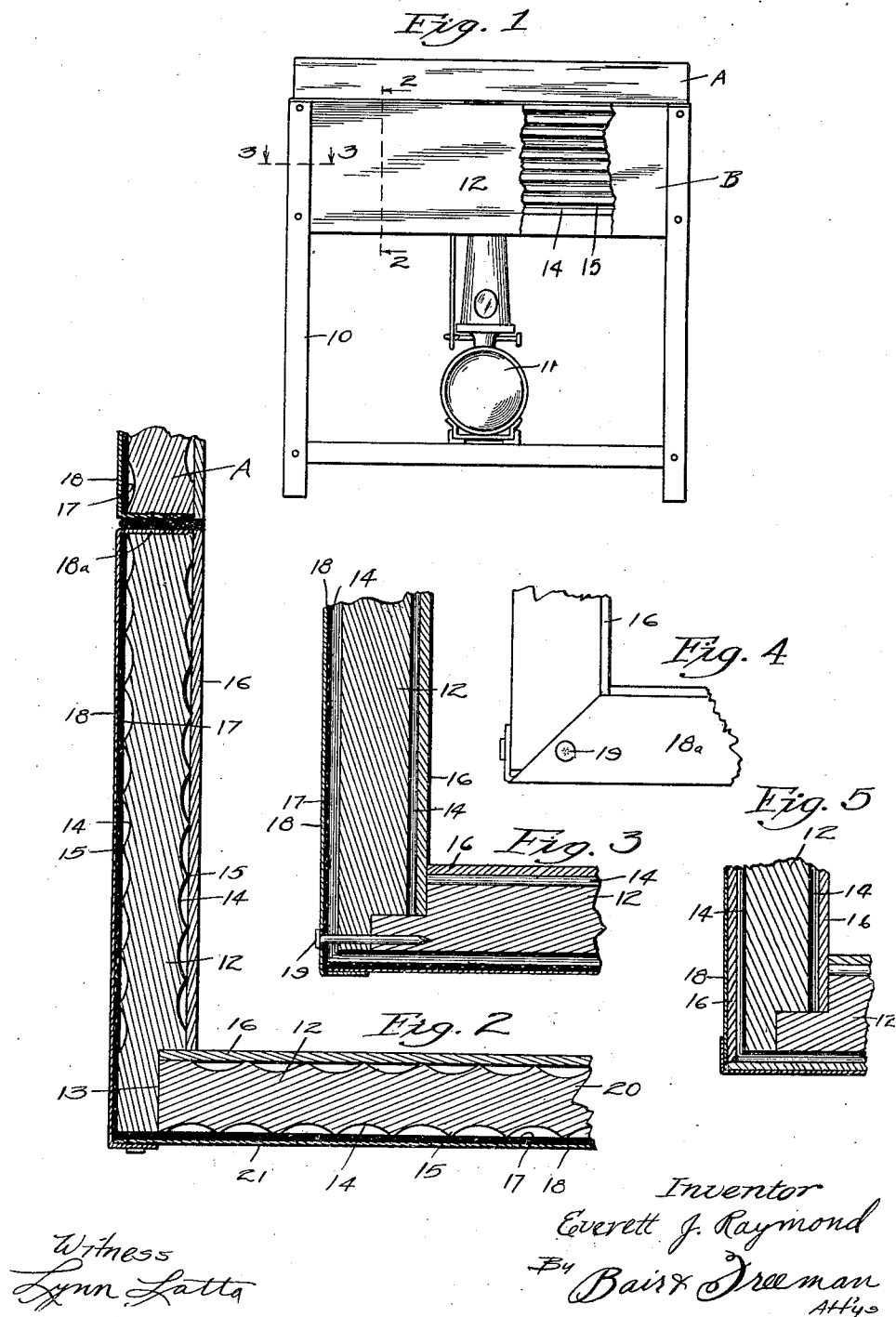


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HEAT INSULATOR STRUCTURE FOR INCUBATORS, BROODERS, WATERERS, AND THE LIKE.
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HEAT-INSULATOR STRUCTURE FOR INCUBATORS, BROODERS, WATERERS, AND THE LIKE.

Application filed July 8, 1922. Serial No. 573,757.

To all whom it may concern:

Be it known that I, EVERETT J. RAYMOND, a citizen of the United States, and a resident of Des Moines, in the county of Polk, and State of Iowa, have invented a certain new and useful Heat-Insulator Structure for Incubators, Brooders, Waterers, and the like, of which the following is a specification.

The object of my invention is to provide a structure peculiarly adapted for making incubator walls, having low thermal conductivity.

More particularly, it is my object to provide a structure for such walls, which will be effective in retaining heat in the incubator, brooder, waterer or the like, and preventing the entry of cold through said walls, and also which can be made at a very reasonable expense and assembled in the incubator by rapid manufacturing methods.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 shows an elevation of an incubator, having wall structures embodying my invention.

Figure 2 shows a detailed, sectional view taken on the line 2—2 of Figure 1.

Figure 3 shows a horizontal, detailed, sectional view taken on the line 3—3 of Figure 1.

Figure 4 shows a top or plan view of two sections of a wall at the corner thereof; and

Figure 5 shows a sectional view similar to that of Figure 3 of a slightly different form of my invention.

In the drawings herewith, whereby my invention is illustrated, I have used the reference numeral 10 to indicate generally the supporting legs of an incubator having the heating device 11, which forms no part of my present invention.

The incubator body consists of a lower box-like structure B and a top or cover member A. The body B has a bottom and side walls and the top A has a top and side walls.

It is very desirable in building incubators to so insulate the walls against the passage of heat and cold that the maintenance of an even temperature within the incubator may

be made easier. Various expensive structures and methods are employed for securing such insulation.

I have provided an extremely simple structure for accomplishing the general purpose.

The side 12 for instance of the body B comprises a board, which I run through the saw for cutting the tenon 13 to receive the bottom. By putting the proper tools on the molder, the board 12 can be cut on each side with a series of longitudinally arranged grooves 14 and ribs 15. The ribs 15 on one side are preferably arranged opposite the grooves 14 of the other side, so that the grooves on the opposite sides are staggered.

On the inside of each side wall member, I preferably secure a wall member 16 of backing board, for instance, or other heavy paper or pasteboard. This backing board 16 engages the ribs 15 and forms a series of compartments or dead air spaces between its surfaces and the walls of the grooves 14.

On the outside of the wall member 12, I similarly mount a wall member 17 of deadening felt, asbestos or some other suitable material, as shown in Figure 3, or a wall or layer of backing board 16, as shown in Figure 5, which in the same way engages the ribs 15 and forms a series of dead air pockets in coaction with the grooves 14.

Outside the deadening felt, I place a cover 18 of sheet metal, preferably galvanized iron. The galvanized iron covering 18 is preferably bent over the top of the wall member 12 and also over the bottom thereof, and the bent over portions are fastened with nails or screws 19, so that the outer surface of the wall is perfectly smooth.

The bottom 20 is similarly made with grooves 14 and ribs 15.

The grooves in the upper surface of the bottom may be dispensed with.

Where the grooves are employed, the grooves are covered with backing board 16 and the grooves under the cover are covered with deadening felt 17 outside of which is a metal casing or covering 21, which generally is similar to the casing or cover 18.

The corners of the walls 12 are preferably joined with rabbets, as shown in Figure 3.

The metal 18 at its upper edge is bent over, as shown at 18^a in Figure 4.

The top A is constructed in a similar way with its top and side walls provided with the grooves 14 and ribs 15, the backing board 16,

the deadening felt 17 and the metal outer covering 18.

It will thus be seen that I have provided a wall provided with a series of dead air spaces or compartments on each side of the wall 12. These compartments practically form two spaced dead air spaces. The compartments or spaces on one side are opposite the spaces on the other side, so that nowhere can the cold or heat pass directly through the wall of the incubator, brooder and so forth, because every such direct line passes through one of the dead air spaces. The ribs 15 serve to support the backing board or deadening felt or other material used and to form a plurality of compartments for making a very simple and inexpensive wall with low conductivity.

I can use my peculiar structure, instead of those heretofore employed, at less expense for manufacturing, labor and operations, with less expensive materials, and without increasing the overall size of the whole structure or reducing the size of the egg space.

I claim as my invention:

1. In a structure of low thermal conductivity, a wall having recesses and projections

on its opposite sides, the recesses on one side being staggered with relation to those of the other side, wall members arranged against said projections for forming staggered dead air spaces on opposite sides of the wall.

2. In a structure of low thermal conductivity, a receptacle with walls each having recesses and projections on its opposite sides, the recesses on one side being staggered with relation to those of the other side, wall members arranged against said projections for forming staggered dead air spaces on opposite sides of the wall, the walls being connected at the ends by mortised joints, whereby the ends of said spaces are closed.

3. In a structure of low thermal conductivity, a receptacle with walls each having parallel recesses and ribs arranged in staggered relations on its opposite sides, members on opposite sides of each wall secured thereto against said ribs for forming series of dead air pockets on each side of the walls, said walls being connected together for closing the ends of said air pockets, and metal coverings for said walls.

Des Moines, Iowa, June 21, 1922.

EVERETT J. RAYMOND.