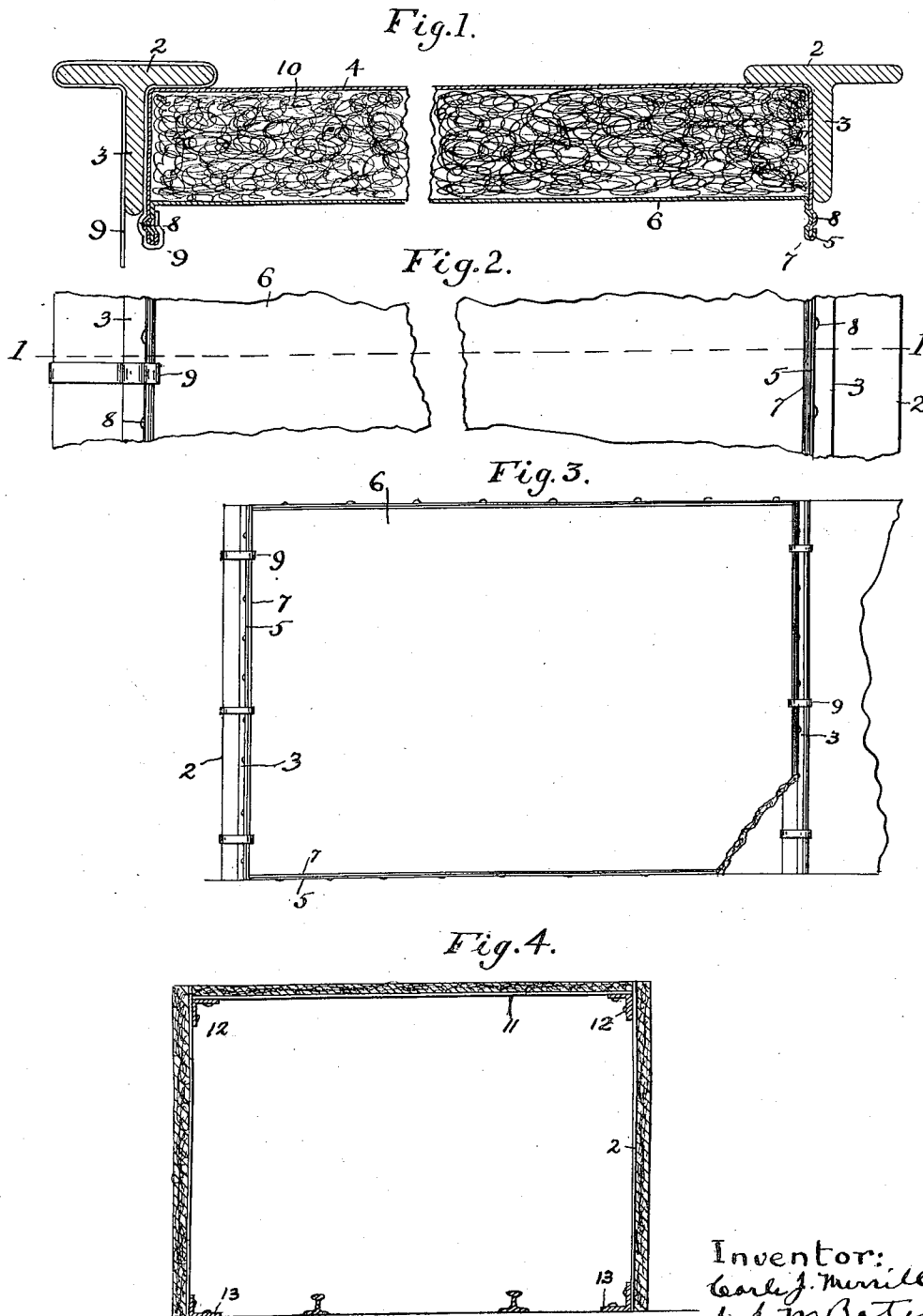


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 INSULATED BUILDING CONSTRUCTION.
 APPLICATION FILED MAY 7, 1918.

1,300,443.

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UNITED STATES PATENT OFFICE.

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INSULATED-BUILDING CONSTRUCTION.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARLE J. MERRILL, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Insulated-Building Construction, of which the following is a specification.

My invention relates to the construction of driers and other like rooms or buildings where it is desirable to have the walls insulated and at the same time fire-proof.

Such driers are made of various forms and dimensions for drying various substances and they may either be constructed wholly within a mill or other building or the drier may constitute a building by itself.

The object of my invention is to devise means by which insulated walls and ceilings of metal and insulating material may be easily and quickly erected and taken down if necessary, and which walls may be fire-proof and insulated at the same time.

Such constructions usually involve a great deal of labor as the heavy plates, when the construction is of metal, are usually of galvanized iron; are hard to handle, and when they are once formed and in position it is difficult to take them apart.

According to my invention, I form the sides of my drier or other construction whatever it may be, by upright studs having longitudinal recesses or rabbets preferably formed of T-iron. The insulated walls are made up of panels the ends of which fit in the recesses of the uprights.

Each panel is made of a pair of metal plates having their ends and sides turned at right angles to form surrounding flanges. The flanges on one plate fit closely within the flanges of the other plate so that they are closely contiguous. The two plates are separated more or less and interposed between them is a layer of insulating material which is preferably asbestos loose or in layers. Any form of insulating material may, however, be used.

One of the flanges where they overlap each other extends outwardly somewhat more than the other and is bent over it to form a bead or finish to the double edges of the flanges. These edges are now firmly fastened together by forming engaging recesses in the two plates by means of a suitable upsetting tool which is in effect a male and female die forming a cup-shaped

depression which is concave on one side and convex on the other.

The panels are secured to the uprights at intervals by means of flexible metal straps which are wrapped entirely around the uprights between the ends of the panel and the upright, and the ends of the straps are then bent over the flange thus holding them firmly against rearward displacement.

The ceilings of dry rooms or other structures are built up in the same manner.

My invention will be readily understood by reference to the accompanying drawing in which is shown the walls of a drier constructed in accordance with my invention.

Referring to the drawing,

Figure 1 is a section on the line 1—1 of Fig. 2,

Fig. 2 is an elevation of a portion of the face of the panel showing the studs in elevation.

Fig. 3 is a like view on a smaller scale and, Fig. 4 is a cross section of the drier.

The sides of the drier, which is in this instance simply an elongated covered chamber of any desired length and provided with rails through which cars may be run, are made up of a series of studs preferably of T-irons, the flange side 2 being turned inward and the web side 3 turned outward.

The panels which fill the spaces between the webs 3 are each made up of a pair of metal plates, an inner plate 4 and an outer plate 6.

The outer edges of both plates are turned out at right angles forming flanges 5 connecting with the inner plate, and flanges 7 connecting with the outer plate.

The plates are cut and bent so that the flanges fit closely together with the outer edge of one flange (in this case the flange 7) bent over the outer edge of the flange 5 to form a bead or finish. The flanges of the inner and outer plates are solidly secured together by forming at 8 an indentation or recess which locks both plates together. These cup-shaped indentations are made at frequent intervals by means of a suitable tool so that the panel when completed is a strong and solid structure. The interior of the panel or the space between the plates is filled with suitable insulating material 10, whereby the panel becomes a good insulator for heat and at the same time is fire-proof.

The panels are secured to the uprights by passing around the T-bars metal straps 9 which serve to hold the panels against rear-

ward displacement they being held in other directions by the T-bars.

The straps 9 which may be of flexible strap iron follow closely around the T-bars and their ends turn over the flanges of the panel as shown at the left hand side of Fig. 1.

In Fig. 4 I have shown a cross section of a drier constructed in accordance with my invention, the sides being formed in the same manner as illustrated in Figs. 1, 2 and 3, and the ceiling 11 in a similar manner except that the T-bars are horizontal and rest on angle irons 12 which extend longitudinally of the drier.

Similar angle irons 13 fasten the structure to the floor or base.

A drier or other building construction built up according to my invention results in a very solid structure, quickly and easily erected and taken down with little waste of material.

It will be understood that buildings or rooms of a great variety of size and form

may be made with my system as above explained.

I claim:

1. A panel for insulating building construction consisting of a pair of metal plates having their edges turned at right angles to form closely contiguous flanges, insulating material interposed between said plates, said flanges being secured together by corresponding crimping recesses.

2. A panel for insulating building construction consisting of a pair of metal plates having their edges turned at right angles to form closely contiguous flanges, insulating material interposed between said plates, said flanges being secured together by corresponding crimping recesses, the outer edges of one of said flanges being turned over the other flanges to form a finishing bead.

In testimony whereof I affix my signature.

CARLE J. MERRILL.