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HEATING AND COOLING CHAMBER

Filed May 21, 1952

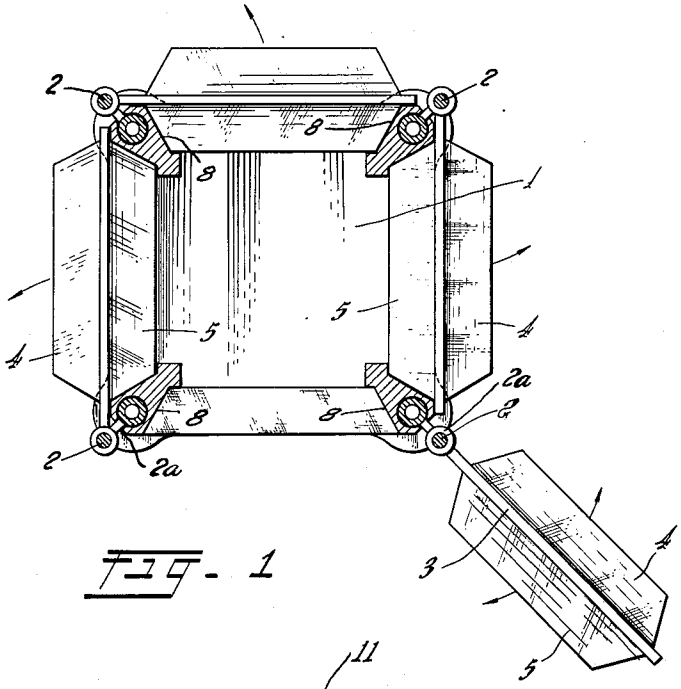


FIG. 1

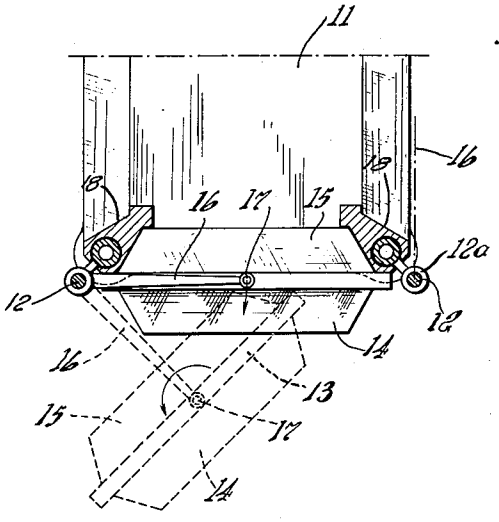


FIG. 2

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HEATING AND COOLING CHAMBER

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5 Claims. (Cl. 257—6)

For the treatment of certain materials or products it is necessary for these to be first heated and to be cooled immediately thereafter.

In order to effect this the invention provides an apparatus by means of which the heating and cooling treatments can be effected rapidly and economically.

The invention provides a chamber for alternately heating and cooling materials or articles introduced therein, one or a plurality of the walls of which chamber contain a heating device on one side and a cooling device on the other side, which devices are insulated from each other, the wall or walls being mounted for rotation in such manner that their heating side or their cooling side can be turned towards the interior of the chamber.

A simple and efficient embodiment of the chamber according to the invention is characterized by the fact that all the walls are so mounted for rotation at one of their corners that they can either close one of the side faces of the chamber or an adjacent side face of said chamber.

In another embodiment, which is also practical, the wall or walls have their transverse center or centers rotatable about a fulcrum formed by a set of arms which in themselves are pivotable about a point located near a corner of the chamber.

The invention is elucidated hereinafter with reference to the accompanying drawing.

In this drawing

Fig. 1 shows a cross section of an embodiment according to the invention, and

Fig. 2 shows a partial cross section of another embodiment.

The chamber **1**, according to Fig. 1, has vertical pivot rods **2** carried by pivot members **2***a* secured in and extending out from its corners **8**, to which pivot rods insulation walls **3** are pivotally secured. On one side of the walls **3** is a wall portion **4** which contains a cooling device, while on the other side of the walls **3** is the wall portion **5** which comprises a heating device.

By turning all the walls in one direction or in the other direction as indicated by the arrows in Fig. 1, either the cooling devices or the heating devices will be directed toward the inside of chamber **1**. The turning of the walls so that either the heating side or the cooling side faces inwardly of the chamber can be effected very rapidly.

In the embodiment shown in Fig. 2, wherein parts corresponding to those shown in Fig. 1 have been given the same reference numerals to which **10** has been added, the chamber **11** has corners **18** in which are secured pivot members **12***a* which support vertical pivot rods **12** on

which are mounted upper and lower pivot arms **16** (only the upper arm being shown). Pivot arms **16** are connected to walls **13** at central pivot points **17** so that the walls **13** may be rotated at the ends of arms **16** to cause either the wall portion **14** or the wall portion **15** to face inwardly of chamber **11**.

I claim:

1. In a heat exchanger, means defining a chamber, said chamber having fixed corners defining side openings into the chamber therebetween and a plurality of walls for closing said side openings, at least one of said walls being movable and comprising a heating means on one side and a cooling means on the other side, said heating means being insulated from said cooling means, pivot means, said movable wall being connected to said pivot means and thereby being mounted for movement to position selectively the side containing the heating means and the side containing the cooling means to face the interior of said chamber.

2. In a heat exchanger, means defining a chamber, said chamber having fixed corners defining side openings into the chamber therebetween and a plurality of walls for closing said side openings, at least one of said walls being movable and comprising a heating means on one side and a cooling means on the other side, said heating means being insulated from said cooling means, pivot means carried by a fixed corner, said movable wall being connected to said pivot means for movement to position selectively the side containing the heating means and the side containing the cooling means to face the interior of the chamber.

3. In a heat exchanger, means defining a chamber, said chamber having fixed corners defining side openings into the chamber therebetween and a plurality of walls, each of said walls comprising a heating means on one side and a cooling means on the other side, said heating means being insulated from said cooling means, pivot means carried by each of said corners, and one of said walls being connected to each of said pivot means for movement to position selectively the side containing the heating means and the side containing the cooling means to face the interior of the chamber.

4. A heat exchanger as defined in claim 2, wherein said wall is pivoted at its center on an upper and a lower arm connected to said pivot means, whereby said wall may be rotated about said arms to face selectively the heating means and the cooling means toward the interior of the chamber to cover the opening adjacent the pivot means.

5. A heat exchanger as defined in claim 3, wherein each of said walls is pivoted at its center on an upper and a lower arm connected to said pivot means, whereby said wall may be rotated about said arms to face selectively the heating means and the cooling means toward the interior of the chamber to cover the opening adjacent the pivot means.

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