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G. MAURER

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PLYWOOD

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*Fig. 1.*

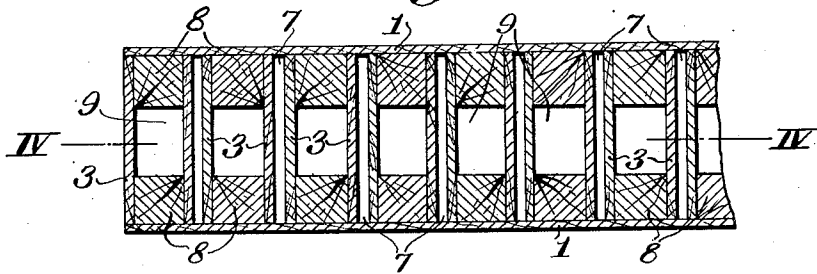


*Fig. 2.*

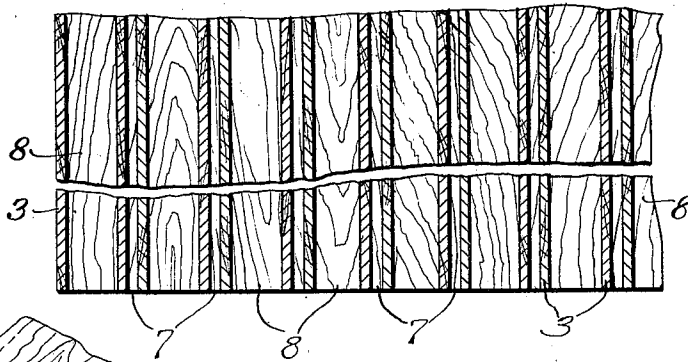
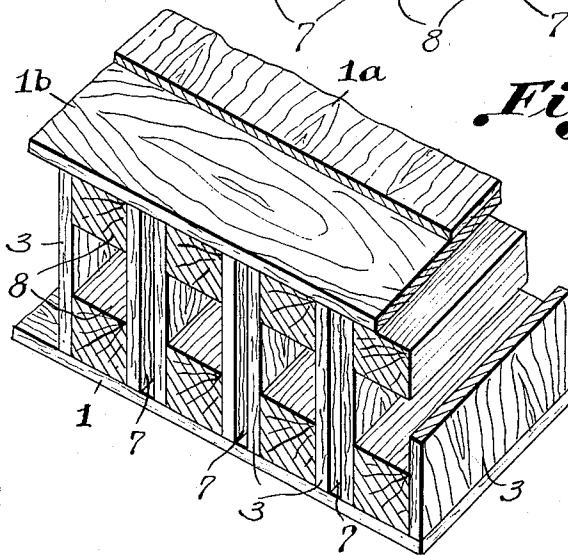


*Fig. 3.*



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## UNITED STATES PATENT OFFICE

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## PLYWOOD

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2 Claims. (Cl. 20—91)

This invention relates to composite sheets for furniture panels, doors, partitions and the like.

Hitherto, plywood panels and composite sheets consisting in a number of layers disposed the one upon the other with different grain direction, have always had the disadvantage that they become undulatory or warped, i. e., the surface does not rest flat, when the sheets absorb or lose too large a quantity of moisture.

Wood readily absorbs moisture, and the expansion or shrinkage of the wood when absorbing or losing the same takes place substantially in a direction perpendicular to the grain direction. In certain forms of composite wood sheets hitherto known the inner layer consists of pieces of wood or strips of plywood disposed and glued wholly or partly one against the other. In this case deformation of one piece or strip is transferred to the adjacent one and the deformation of all the wooden parts lying side by side will be multiplied so that waving or warping of the cover plates will result. These disadvantages are removed by the present invention where the inner layer laying between the cover plates is built up in such a way with intervening air spaces that it does not cause deformation of the surface of the furniture panel.

According to the invention a panel, door or partition including two cover plates with an inner layer consists of unitary or composite elements, e. g., simple wood strips, the grain of which or of at least one of the components of which runs perpendicular to the cover plates, each element being separated from adjacent elements by an air space or chamber.

The invention will be further described with reference to the accompanying drawing which illustrates by way of example several embodiments, and wherein—

Figs. 1 and 2 are respectively a vertical and horizontal section of a preferred embodiment.

Fig. 3 shows a perspective view of the construction according to Figs. 1 and 2, in which the cover plate consists of two layers of veneer 1a and 1b, the grains of which run perpendicular to each other.

Figs. 1 and 2 are vertical and horizontal sectional views respectively of a preferred construction of furniture panel where the spacing elements consist of composite elements separated by open inter-chambers 7. Each element comprises two cross-cut strips of thin wood 3 connected at the ends by strips or rods of long-cut wood 8. The object of this assembly is that the two strips of cross-cut wood maintain the cover veneer plates 1 of the panel or door exactly the determined distance apart and when absorbing or losing moisture no expansion or shrinkage will take place.

By this construction a spacing element with its own air chamber 9 is obtained apart from the air spaces between adjacent spacing elements. It is not permissible to dispose all the elements one against the other, however, as they would then constitute a solid body generating tensions and stresses, which would cause the surface to become undulatory under certain atmospheric conditions.

What I claim is:

1. A plywood construction, comprising two cover plates and a wooden inner core construction between said cover plates, said inner core construction comprising a plurality of parallelly arranged box beam elements, each of said box beam elements comprising a pair of substantially longitudinally grained wood strips adjacent to said cover plates, said wood strips being vertically separated by an air space, and a cross-cut wood strip glued to each side of said pair of substantially longitudinally grained wood strips, said box beam elements being so disposed within said cover plates that each box beam element is separated from the nearest box beam element by a small air space.

2. A plywood construction according to claim 1, wherein the grain of said cover plates runs at least partially perpendicularly to the grain of said box beams.

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