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## **EUROPEAN PATENT APPLICATION**

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⑤④ **Cladding boards.**

⑤⑦ A board or panel especially for use on the exterior of buildings, comprises wood or asbestos based substrate having adhered thereto a coating which comprises slices of brick, stone or tile to resemble conventional walling methods. The adhesive used to adhere the slices to the substrate is a water based adhesive, preferably a polyvinyl acetate, and contains sand, preferably silver sand, as the filler so as to resemble conventional mortar.

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CLADDING BOARDS

This invention relates to boards or panels, especially wood or asbestos based, which are coated with building material, for example, brick or stone, and which may be used as cladding for buildings.

5       An extremely economical way of erecting buildings involves constructing a steel frame and cladding this with external cladding panels so as to make a weather-proof wall. While this system is extensively used, for office blocks, industrial premises and so forth, its  
10       characteristic "prefabricated" appearance is in many cases a disadvantage.

The invention seeks to provide a form of cladding board for use with such building systems which, when in place, resembles walls built by more traditional methods.

15       According to the present invention there is provided a board or panel comprising a substrate having adhered thereto slices of stone, tile or brick.

Preferably, the adhesive used is a water based adhesive, for example polyvinyl acetate, polyvinyl  
20       alcohol or the like, since it has been found that solvent based adhesives do not give a finish which resembles the traditional product. Further, the adhesive is preferably filled with a filler such as sand, fine aggregate, or the like building material, so  
25       that the cured adhesive and filler mixture resembles

traditional sand and cement mortar pointing. For many purposes, silver sand is the preferred filler. In addition, pigment or colour may be added to the adhesive mixture to give a desired effect.

5           Embedded in the adhesive are slices of stone, brick or the like building material. These slices should be cut first to resemble a front face of a block of the material so that the finished board or panel resembles a section of brick wall, stone wall, or the  
10       like. The slices should be cut as thin as possible consistent with their remaining intact so as to reduce the weight of the panel as much as possible, and to enable as small a weight as possible of brick, stone or the like to be employed for a given surface area.

15           Examples of the substrate which may be employed are plywood, blockboard, particle board, hardboard, asbestos cement board, and plain timber, although other forms of sheeting, for example metal sheeting could be employed in certain circumstances.

20           The coated boards can be used for many applications, for instance as the walls of huts and garages and the outer walls of domestic dwellings, factories and agricultural buildings, as well as for decorative panels for use inside or outside the buildings. By making the  
25       panels uniform, a number of such panels can be assembled together to form the wall of a building the appearance of which is that of a wall which has been made by traditional brick and mortar or stone and mortar methods.

          When assembling a panel according to the invention,  
30       a space is left between adjacent slices of stone, brick or the like, through which the filled adhesive is visible thus resembling the mortar between adjacent building blocks in more traditional building methods. The use of a panel according to the invention would be  
35       very much cheaper than building a wall by the traditional

method which it resembles, both in employment of materials and in respect of building labour. The panel is durable and weatherproof and, should damage occur to any one panel, it may be removed and replaced easily.

5       An example of the present invention will now be given.

10       Polyvinyl acetate is mixed with 10 per cent by weight water to form an emulsion. Two parts by weight of this emulsion is then added to eight parts by weight silver sand (having not more than 5 per cent moisture content). The resultant mixture is thoroughly agitated until the sand is dispersed evenly in the emulsion. More water may be added at this stage to achieve the desired emulsion. The resultant adhesive is then applied  
15       to a substrate board, for example plywood, to form a coating of uniform thickness of for instance 1.5 and 2.5 mm. One inch thick slices of red brick are then applied to the adhesive in even rows leaving half inch gaps between adjacent rows and between adjacent bricks  
20       within a given row. The slices of brick are pressed into the adhesive layer to form an even surface and the adhesive is left to dry and set. Thicknesses of brick in the /

range of 5 to 40 mm have been found useful.

25       The resultant panel has the appearance of a conventional brick and mortar built wall since the adhesive which is exposed between adjacent brick slices has the same colour as conventional sand and cement mortar.

CLAIMS:-

1. A board or panel comprising a substrate having adhered thereto a coating of building material selected from slices of brick, stone or tile, by means of a water based adhesive including a filler or  
5 extender comprising sand.
2. A board or panel according to claim 1 wherein the said building material is adhered to the substrate by a polyvinyl acetate glue.
3. A board or panel according to claim 1 or  
10 claim 2 wherein the filler or extender is silver sand.
4. A board or panel according to any one of claims 1 to 3 wherein the substrate is wood or asbestos.
5. A building constructed of a steel frame attached to which are cladding panels as claimed in  
15 any one of claims 1 to 4.
6. A method for covering a wood or asbestos substrate to make an outer wall of a building which comprises cutting slices of building material to resemble a front face of the block of the material,  
20 applying an adhesive comprising polyvinyl acetate, water and sand to the substrate, and embedding said slices in said adhesive leaving visible gaps between the slices.



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# EUROPEAN SEARCH REPORT

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EP 82 30 0513.7

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. <sup>3</sup> )
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	<u>DE - U - 1 824 842</u> (E. BAUR & CO. NACHF. KG CHEMISCHE FABRIK)		E 04 C 2/26
X	* claim 1; fig. 1 *	1	
Y	* claim 1; fig. 1 *	2,4	
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	<u>DE - U - 1 902 197</u> (F. HENGST)		
X	* claims 1, 4 *	1	
Y	* claims 1, 2 *	2,4	
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A	<u>GB - A - 888 897</u> (BRAAS & CO. GMBH)		TECHNICAL FIELDS SEARCHED (Int.Cl. <sup>3</sup> )
	* page 1, lines 31 to 51 *		
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A	<u>FR - A - 1 262 154</u> (A.R. WEIR)		E 04 C 2/00
	* page 1, last paragraph; fig. 1 to 10 *		
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A	<u>AU - A - 41618/68</u> (J. KALMAR)		
	* claim 1 *		
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			CATEGORY OF CITED DOCUMENTS
			X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons
			&: member of the same patent family, corresponding document
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
Berlin	22-03-1982	v. WITTKEN	