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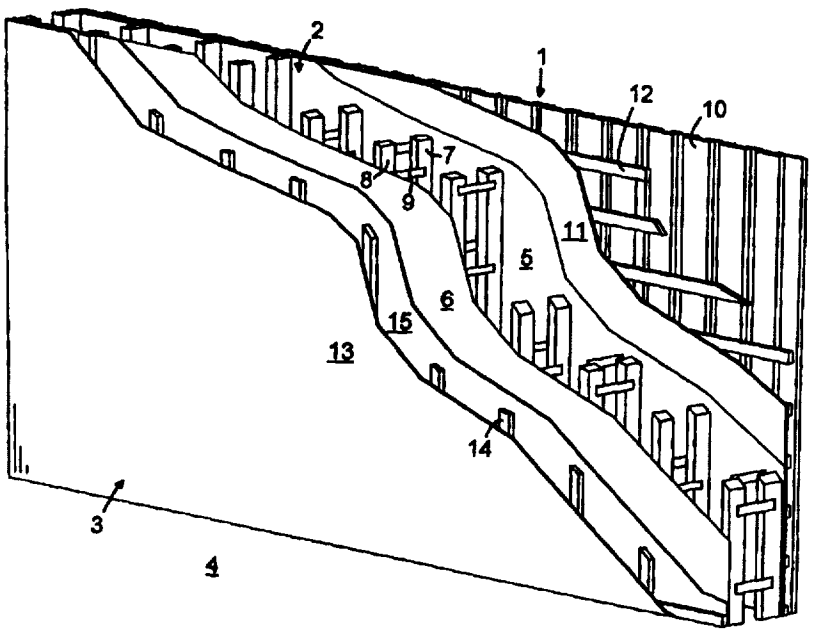
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(54) Title: WALL CONSTRUCTION



(57) Abstract

This invention relates to an outer wall, intended for buildings, preferably dwelling houses, the wall comprising an outer portion, an intermediate portion comprising insulating material and an inner portion. According to the invention the outer wall is characterized in that the intermediate portion (2) on that part, which is directed to the outer portion (1) and on that part, which is directed to the inner portion (3), has a cardboard material (5, 6), which is made in such a way that it can allow air to pass through, and that the insulating material comprises an organic material, preferably sawdust or the like, with the quality to be able to receive and emit moisture while maintaining its insulating ability.

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WALL CONSTRUCTION

This invention relates to an outer wall intended for buildings, preferably dwelling houses, the wall comprising an outer portion, an intermediate portion comprising insulating material and an inner portion.

Outer walls in houses built in later time as a rule are constructed in that way that the intermediate portion comprises an insulating layer of inorganic material, the layer having a plastic foil on its innerside, which foil is impermeable to air.

Due to the great fluctuations of temperature that the outer wall and by that the insulating layer are exposed to, there arises moisture in the insulating layer, but since there cannot be any air permeation in the insulating layer, the moisture will not dry up but instead mould is formed in the insulating layer, which of course means a bad air environment indoors and accordingly great problems for asthmatic or allergic persons. the number of which steadily grows in our society.

By the French patent document No. 2.554.847 is an outer wall previously known, which comprises an insulating layer of inorganic material, like for instance mineralwool. This insulating material is impaired by the essential drawback that its insulating ability is strongly reduced in moisture, and this moisture is remained for a long time.

The known wall is very complicated regarding its construction and is different from that one according to this invention. The known wall construction has for instance a centrally positioned partition wall, which is impermeable to air and moisture.

This invention intends to eliminate the problems with known technique and provide a wall construction, which to a high extent improves the air environment indoors for persons having allergic, asthmatic and similar troubles. Due to this invention the fresh air environment existing in houses of old time is provided, but with the essential difference that the drawback with a draughty environment is eliminated.

According to this invention the new wall construction is characterized by the fact that the intermediate portion on that part, which is directed towards the outer portion, and on that part, which is directed towards the inner portion, has a cardboard material, which is made in such a way that it can allow air to pass through, and that the insulating material comprises an organic material, preferably sawdust or the like, with the quality to be able to receice and emit moisture while maintaining its insulating ability.

A preferred embodiment of the outer wall shall be described more closely below with reference to the accompanying drawing, which shows a cutaway view of the wall.

The new outer wall comprises an outer portion 1, an intermediate portion 2 and an inner portion 3, which is intended to represent a wall in the room 4.

The intermediate portion 2 is delimited on its outer side as well as on its innerside of a ventilating cardboard 5, 6, which are made in that way that they can allow air to pass through. The intermediate portion 2 further comprises outer, vertical beams 7 and inner vertical beams 8, which are held together by means of horizontal distance plates 9, whereby there is a predetermined distance between the two cardboard layers 5, 6, which distance accordingly constitutes the width of the intermediate layer 2. The space, which accordingly exists between the two cardboard layers, is intended to be filled with an insulating material. According to this invention the insulating material comprises an organic material, preferably sawdust or wood fibre dust, and this material fills out the entire space between the two ventilating cardboard layers 5, 6 and accordingly also the space between the two opposite beams 7, 8. The beam construction leads to that the sawdust/wood fibre dust can expand and shrink without creating air pockets between the inner- and the outer side of the intermediate portion 2.

The distance plates 9 are vertically displaced in relation to each other, which has the consequence that the sawdust is allowed to move everywhere in the insulating intermediate layer. Due to that fact the risk is eliminated that cavities/air pockets shall be able to arise and by that a reduction of the insulating ability.

The insulating material has the ability to receive and emit moisture in connection with the air movements through the wall but still maintain its insulating ability. Due to the mentioned air movement all tendencies to mould formation in the insulating material are eliminated, and therefore the indoor air becomes very tolerable for persons having allergic or asthmatic problems.

According to this invention the outer portion comprises a cover board 10, a gypsum wallboard 11 and intermediate, horizontal beams 12, which parts are fastened to each other in a suitable way. When building up the wall, the outer cardboard layer 5 of the intermediate portion 2 is connected with the gypsum wallboard 11 of the outer portion 1.

The inner portion 3, according to this embodiment, comprises a gypsum wallboard 13, essentially vertical beams 14 and a wooden board 15 or the like. In this connection the wooden board 15 is fastened to the intermediate portion 2, whereas the gypsum wallboard 13 is suitably fastened on the beams 14 by nails, which beams in their turn are fastened on the wooden board 15.

Due to the existence of the beams 14 there is created a space between the gypsum wallboard 13 and the wooden board 15. In this space all electric installation shall be made, whereby no making of holes in the intermediate portion 2 needs to be done.

The new outer wall construction makes installation of different types of ventilation systems in the house possible.

The invention is of course not limited to the described embodiment but can be modified within the scope of the following claims. Thus, the outer portion 1 as well as the inner portion 3 of the wall can be made in another way.

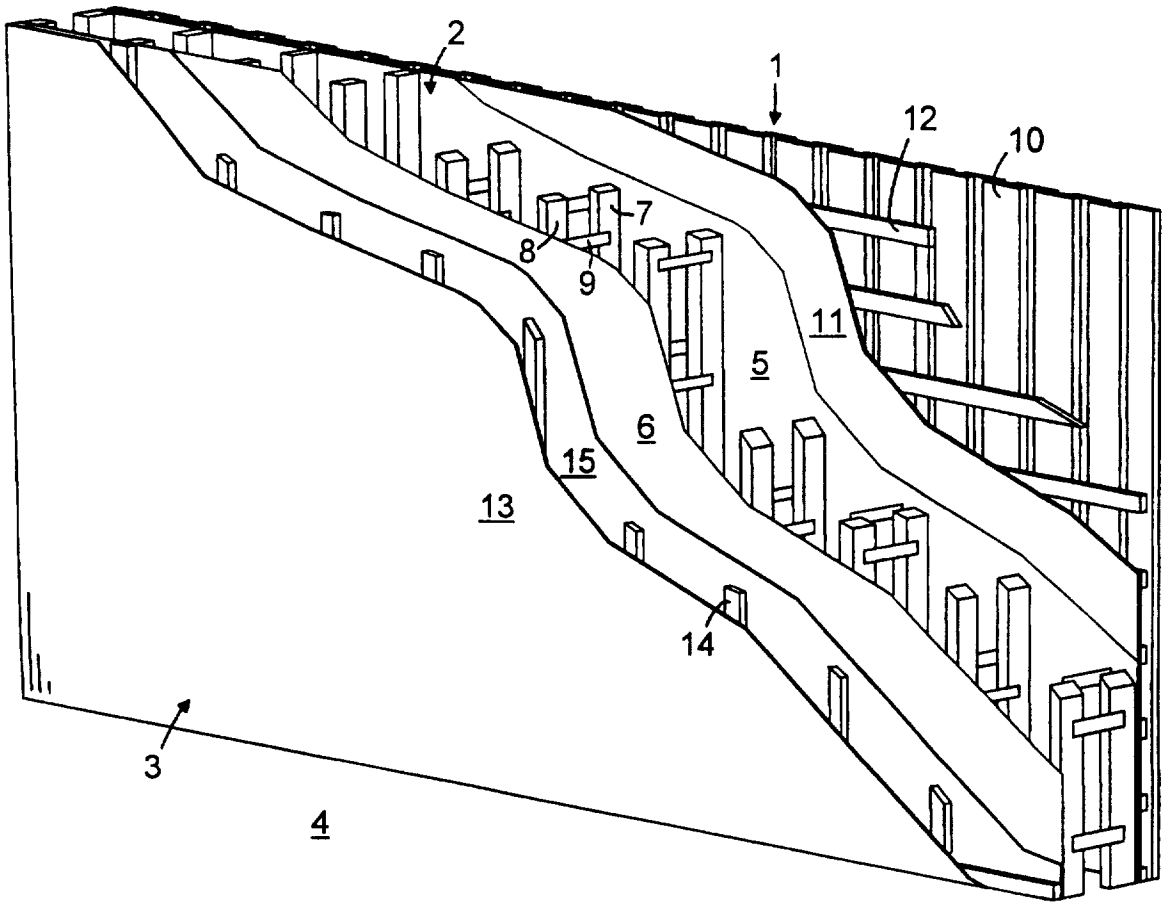
Claims

1. An outer wall, intended for buildings, preferably dwelling-houses, the wall comprising an outer portion, an intermediate portion comprising insulating material and an inner portion, c h a r a c t e r i z e d in that the intermediate portion (2) on that part, which is directed to the outer portion (1) and on that part, which is directed to the inner portion (3), has a cardboard material (5, 6), which is made in such away that it can allow air to pass through, and that the insulating material comprises an organic material, preferably sawdust or the like, with that quality to be able to receive and emit moisture while maintaining its insulating ability.

2. An outer wall according to claim 1, c h a r a c t e r i z e d in that the intermediate portion (2) comprises outer, vertical beams (7) and inner, vertical beams (8), which are held together by means of horizontal distance plates (9), whereby there is created a space between the two cardboard layers (5, 6), which are completely filled up by the insulating material, and that the mentioned distance plates are vertically displaced in relation to each other.

3. An outer wall according to claim 1 or 2, c h a r a c t e r i z e d in that the outer portion (1) comprises a cover board (10), an inner gypsum wallboard (11) and intermediate. horizontal beams (12), which parts are fastened to each other in a suitable way.

4. An outer wall according to any one of the preceding claims, c h a r a c t e r i z e d in that the inner portion (3) comprises a gypsum wall board (13), a wooden board (15) and intermediate, vertical beams (14), which parts are fastened to each other in a suitable way.


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INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 97/01294

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: E04B 2/70
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: E04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR 2554847 A1 (BLANDING, M.M.R.A. ET AL), 17 May 1985 (17.05.85), page 4, line 11 - page 5, line 24, figure 1 --	1,3,4
Y	CH 189340 A (A. OTT), 1 June 1937 (01.06.37) --	1,3,4
A	CH 230228 A (BAUSTOFF AARAU AG), 16 March 1944 (16.03.44) --	1-4
A	BYGG, HANDBOK FöR HUS-, VÄG- OCH VATTENBYGGNAD, BAND III Husbyggnad, Tidskriften Byggmästarens Förlag, STOCKHOLM 1951, Kap. 623:33, p. 562-564; Fig: 336 a) --	1-4

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

01/09/97

International application No.
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2554847 A1	17/05/85	NONE	
CH 189340 A	01/06/37	NONE	
CH 230228 A	16/03/44	NONE	