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(71) Applicant: **Bertolotto Porte S.p.A.**
Torre San Giorgio (IT)

(72) Inventor: **Garis, Elio**
10067 Vigone (IT)

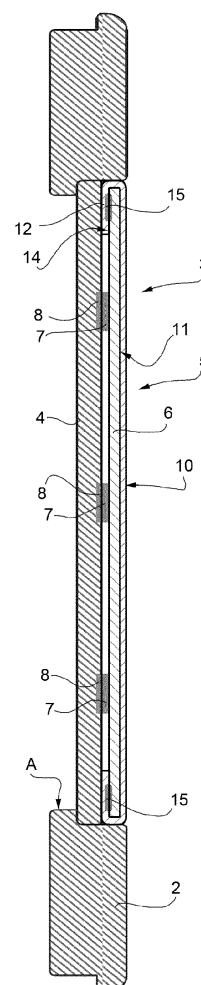
(74) Representative: **Mola, Edoardo et al**
Studio Torta S.p.A.
Via Viotti, 9
10121 Torino (IT)

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(54) **Configurable structural assembly, particularly for doors and partitions or coating walls**

(57) A door (1) or a wall is implemented using a configurable structural element (5) which has a coupling frame (4), a coupling and supporting panel (6) and a flexible sheet material (10) for coating the panel (6); at least the sheet material 10 being interchangeable and selectable among a plurality of sheet materials having chemical-physical characteristics, aesthetic features or colours/colour hues different from one another; first releasable connecting elements (7) being interposed between the panel (6) and the coupling frame (4) and second releasable coupling elements (15) being interposed between the coupling and support panel (6) and the sheet material (10).

FIG. 2



Description

[0001] The present invention concerns a configurable structural assembly, particularly for doors and partitions or wainscoting panels.

[0002] In particular, the present invention concerns a configurable structural assembly, for example for an interior door, to which the following description will explicitly refer without loss of generality.

[0003] As is known, a door generally comprises a structure which is adapted to be coupled to a respective supporting frame fixed to the wall so as to rotate around a hinge axis or to translate parallel to itself and to delimit one or more openings or compartments partially or completely closed by panels made of different materials, for example wood or glass, blocked against a rebate of the structure by frames permanently fixed to the structure or by means of adhesive materials.

[0004] Before finishing of the door, the closing panels are selected by the purchaser according to the characteristics of the environment in which the doors are installed. Once the door has been finished and/or after use of the door, it can no longer be arbitrarily modified without avoiding damage and very often the aesthetic results are not completely satisfactory. In any case, any modification of the door requires disassembly and transport thereof to the workshop for modification, the intervention of skilled personnel and, after the modification, re-positioning and re-assembly of the door. The above-mentioned operations are time-consuming and entail high costs, making it uneconomic and not expedient to modify the existing door with respect to the purchase of a new door.

[0005] Analogous considerations apply both to partitions and to coating walls produced by assembling identical or different panels.

[0006] In both these latter cases, one or more closing, filler, coating or simply decorative panels are normally used, arranged flush with, protruding from, or recessed below, a more or less complex supporting frame and in any case permanently fixed to the floor and/or to lateral walls.

[0007] Also in these cases, the panels used originate with the partition or with the coating wall and are permanently connected to the respective supporting frames and, in some cases, also to one another so as to make disassembly thereof practically impossible. The object of the present invention is to provide a configurable structural assembly, which simply and inexpensively solves the above-mentioned problems and, in particular, a structural assembly with production characteristics that allow simple and rapid modification or reconfiguration of the door or walls with limited costs and without the need to remove the door or at least part of the walls from the zone or area in which they are mounted.

[0008] According to the present invention, a configurable structural assembly is provided, according to claim 1.

[0009] The invention will be now described with reference to the attached figures, which illustrate some non-

limiting embodiment examples thereof, in which:

figure 1 is an exploded schematic perspective view of a preferred embodiment of a configurable structural assembly produced according to the principles of the present invention and associated with a door frame;

figure 2 illustrates, in cross section and on an enlarged scale, the assembly coupled to the door of figure 1;

figures 3 and 4 illustrate two different variations of a detail of figure 1; and

figure 5 illustrates the configurable structural assembly of figure 1 coupled with a fixed frame of a wall.

[0010] In figure 1, the number 1 indicates, as a whole, an interior door with an interchangeable panel. The door 1 comprises a surrounding frame or structure 2 which, in the example described, delimits one single compartment A. According to a variation not illustrated, the structure 2 delimits two or more identical or different compartments A.

[0011] Independently of the number and/or shape of the compartments A, one or more of the compartments is closed by a configurable or modifiable structural assembly 3, in turn comprising its own supporting and coupling frame defined, in the example described, by a common panel made of wood or other supporting material and permanently connected to the structure 2. According to a variation not illustrated, the frame 4 is replaced by simple cross members or by a perforated panel or by individual coupling elements fixed spaced from one another.

[0012] Again with reference to figure 1, the structural assembly 3 furthermore comprises a removable and modifiable panel 5 to vary the visual or aesthetic characteristics of the door 1, as will be described in detail below.

[0013] In the particular example described, the panel 5 comprises, in turn, its own supporting and coupling frame which, in the particular example described, is defined by a panel 6 for coupling to the frame 4 and made, expediently but not necessarily, of wood or another material having stability of form. The panel 6 is coupled to the frame 4 in a releasable manner, for example by means of a plurality of magnets 7 carried by the frame 4 or the panel 6 and coupled with corresponding metallic portions 8 carried by the other element, either the frame 4 or the panel 6, or by means of other equivalent releasable coupling joints, for example of the snap or tear type.

[0014] The panel 5 comprises a sheet material 10, expediently a fabric or a non-woven fabric but also a paper material separate, independent and separable from the panel 6 and covering an extended surface 11 of the panel 6.

[0015] The sheet material 10 has a surface greater than the surface 11 and therefore has an annular peripheral portion 12 which projects beyond an outer peripheral edge 13 of the panel 6 and is turned up about the periph-

eral edge 13 and facing an annular peripheral surface 14 of the panel opposite the surface 11.

[0016] The upturned portion 12 is directly connected to the panel 6 by means of releasable connecting elements 15, expediently of the tear type known as "scrotch" or by means of elastic or non-elastic tie rods (not illustrated) interposed between opposite parts of the upturned annular portion 12 or between the upturned portion 12 and the panel 6.

[0017] According to a variation not illustrated, the upturned portion 12 is connected to the panel 6 by double-sided elements or other equivalent releasable connecting elements, for example of the snap type.

[0018] The sheet material 10 is selected from a plurality of sheet materials having chemical-physical characteristics, aesthetic features or colours/colour hues or designs/graphics different from one another.

[0019] In particular, with reference to figure 3, the sheet material 10 bears one or more additional decorative or structural elements 20 identical to or different from one another, in this specific case bodies in relief, whereas according to the variation of figure 4 the sheet material is provided with openings 21 of different form and/or shape through which the panel 6 below or a further underlying sheet or plate element can be seen.

[0020] Alternatively, other portions of sheet material identical to or different from the sheet material 10 can be laid over the sheet material 10.

[0021] The connection of the panel 5 to the frame 4 in a releasable manner allows, after completion of the door 1 and, above all, with the door mounted, disconnection of the panel 5 from the supporting frame 4 with the greatest of ease, removal in situ and immediately after, just as easily, of the sheet material 10 coating the panel 6, selection of a new and/or different sheet material and coupling, again in situ, of the new sheet material to the panel 6 before re-coupling the new panel 5 thus formed to the frame 4 2 obtaining a new door, at least in terms of aesthetics or image.

[0022] From the above it is evident that the characteristics described above allow the production of a "door with interchangeable panel or reconfigurable door", i.e. a door which initially arranged in a given environment can be easily converted or adapted if the characteristics of the environment change or simply if a change in style or colour/colour hue of the door is desired.

[0023] It should be noted that the adaptation or modification does not require disassembly of the door and can be performed entirely in the room where the door is mounted without using dedicated equipment or skilled labour, without modifying parts of the structure and without dirtying the surrounding area in any way.

[0024] In addition, the possibility of customising the door in situ allows the door to be mounted without the panel 5, subsequently selecting and forming the panel 5 according to the final characteristics of the room, for example according to the colour of the walls or the furnishing style.

[0025] From the above it is evident that modifications and variations can be made to the door 1 described without departing from the protective scope defined by the independent claims.

[0026] In particular, the structure 2 could delimit more than one compartment and thus comprise more than one configurable structural closing assembly 3, which could close the relative compartment only partially.

[0027] Furthermore, the frame 4 and/or the panel 6 could be different from those indicated and be perforated, for example, to reduce the weight.

[0028] Lastly, the frame 4 could be replaced with a removable or modifiable body identical in construction terms to the configurable panel 5 with the same or different sheet material. In this case, the two panels 5 could couple to the structure 2, which therefore defines a supporting frame thereof, in the manner described above, and/or be coupled to the structure 2 and connected to one another in a releasable manner defining a supporting frame for the other, again by means of magnets or other equivalent releasable coupling devices.

[0029] Lastly, the upturned portion 20 may not necessarily be annular and/or be replaced by upturned appendices.

[0030] According to a variation, the frame 4 could be an intermediate frame and two panels 5 be arranged on opposite sides of the frame 4 and connected to the frame 4 in opposite positions and in a way identical to or different from the one described, but always in a releasable manner.

[0031] In this way both the faces of the door can be customised or follow the style or colour variation of the environment in which they are mounted.

[0032] In the variation illustrated in figure 5, the configurable structural assembly 3 constitutes part of a configurable wall 30.

[0033] The wall 30 comprises its own frame or structural panel 4a, which is functionally equivalent to the frame 4, and is permanently connected to or constitutes part of a fixed intermediate frame to define a partition.

[0034] Alternatively, the frame 4a is directly or indirectly connected to a fixed wall, for example a masonry wall, to define a configurable wall for coating said fixed wall.

Claims

1. A configurable structural assembly, particularly for doors and partitions or coating walls, the assembly comprising a coupling element adapted to be fixed to a supporting body and a configurable panel carried by said coupling element, said configurable panel comprising a coupling and supporting frame and a flexible sheet material separate and separable from said coupling and supporting frame; at least said sheet material being arranged to at least partly cover a first surface of the coupling and supporting frame and being interchangeable and selectable among a

plurality of sheet materials having chemical-physical, aesthetic features or colours/colour hues different from each other; the assembly further comprising first releasable connecting means interposed between said coupling and supporting frame and said coupling element and second releasable connecting means being interposed between said coupling and supporting frame and said sheet material.

2. An assembly according to claim 1, **characterized in that** said coupling element comprises at least one panel. 10
3. An assembly according to claim 1 or 2, **characterized in that** said sheet material comprises a peripheral portion turned up about at least one segment of an outer peripheral edge of said coupling and supporting frame and facing a second surface of said coupling and supporting frame opposite to said first surface. 15
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4. An assembly according to claim 3, **characterized in that** said second releasable connecting means are interposed between said turned up portion and said coupling and supporting frame. 25
5. An assembly according to any one of the preceding claims, **characterized in that** said second coupling means comprise tearing or snap-wise releasable connecting means. 30
6. An assembly according to any one of claims 1 to 4, **characterized in that** said second coupling means comprise tie rod means interposed between outer peripheral portions of said sheet material or between outer peripheral portions of the sheet material and said coupling frame. 35
7. An assembly according to any one of the preceding claims, **characterized in that** said first coupling means are magnetic or tear connecting means. 40
8. An assembly according to any one of the claims from 1 to 6, **characterized in that** said first coupling means are snap-wise releasable connecting means. 45
9. An assembly according to any one of the preceding claims, **characterized in that** it further comprises at least one structural or ornamental element carried by said sheet material. 50
10. An assembly according to any one of the preceding claims, **characterized in that** said sheet material is a fabric or a non-woven fabric or a paper material. 55
11. An assembly according to any of the preceding claims, **characterized in that** it comprises two of said closing elements arranged in positions opposite

to each other.

12. A configurable door comprising a frame and a configurable structural assembly associated with said frame and implemented according to claim 1.
13. A configurable wall comprising a frame and a configurable structural assembly associated with said frame and implemented according to claim 1.

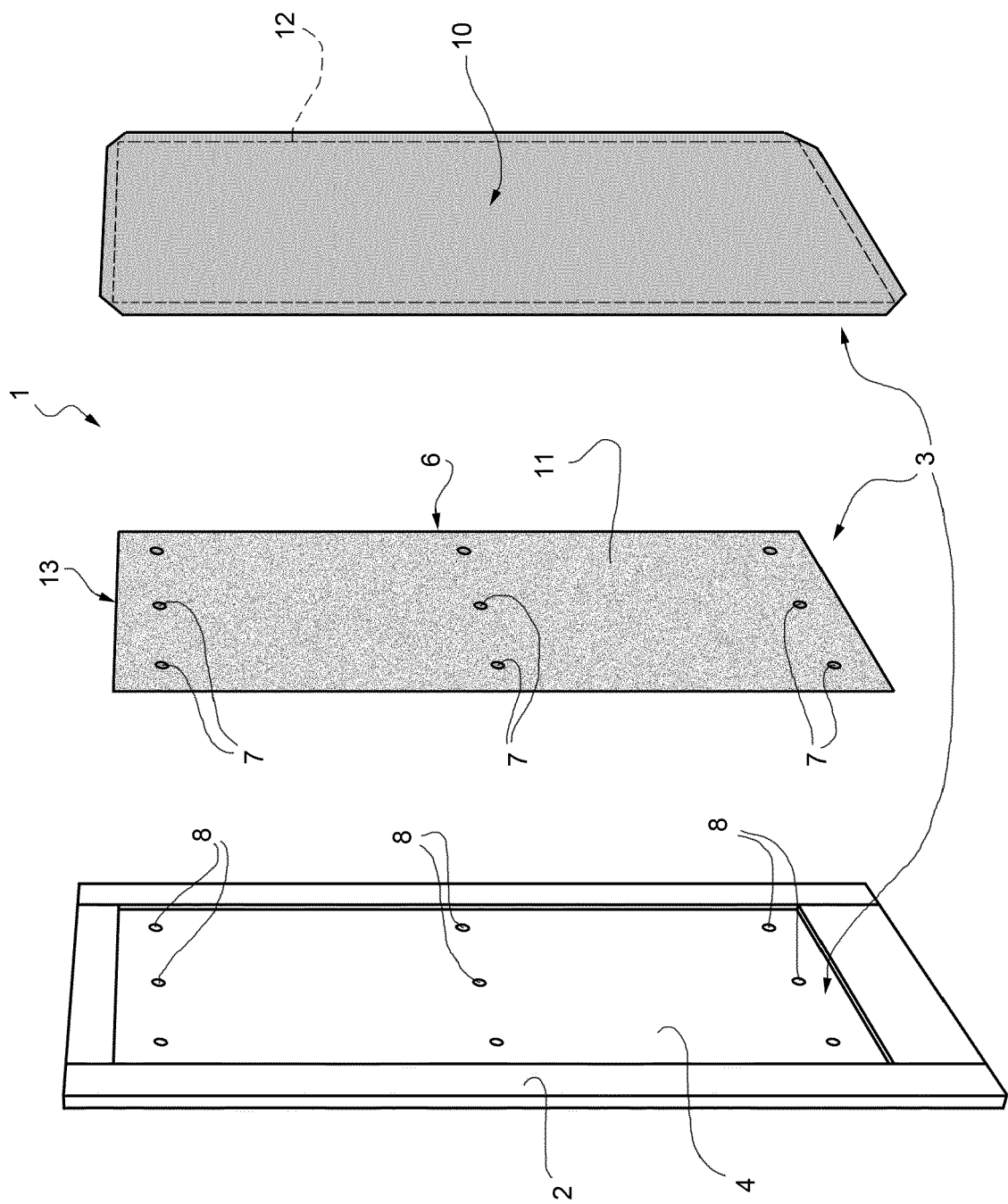


FIG. 1

FIG. 2

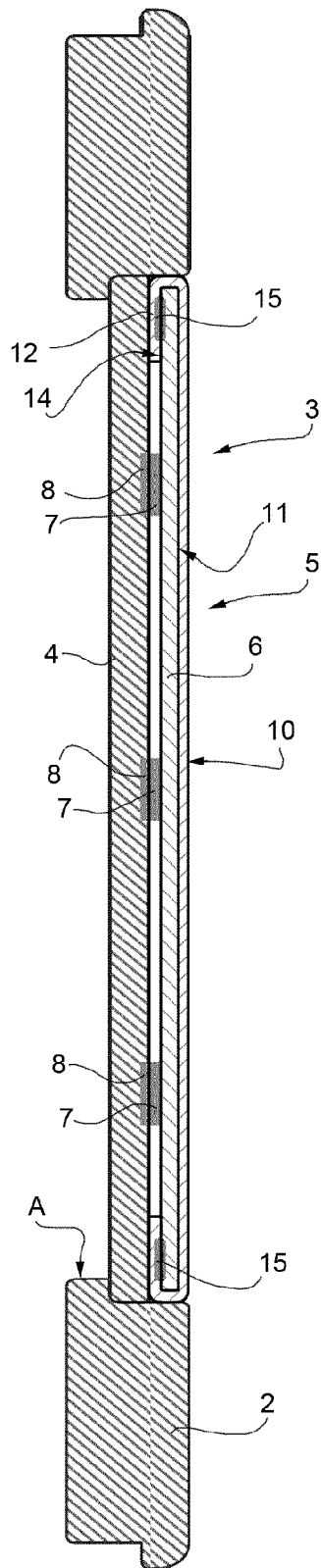


FIG. 3

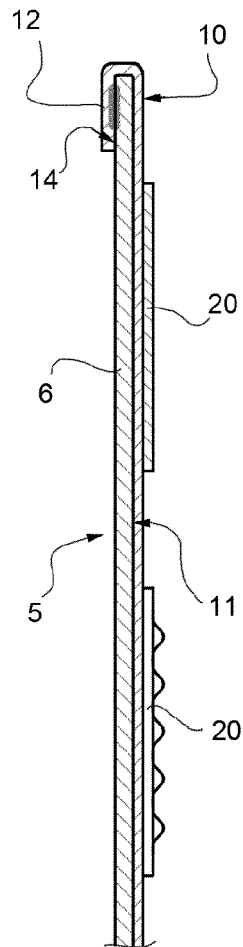


FIG. 4

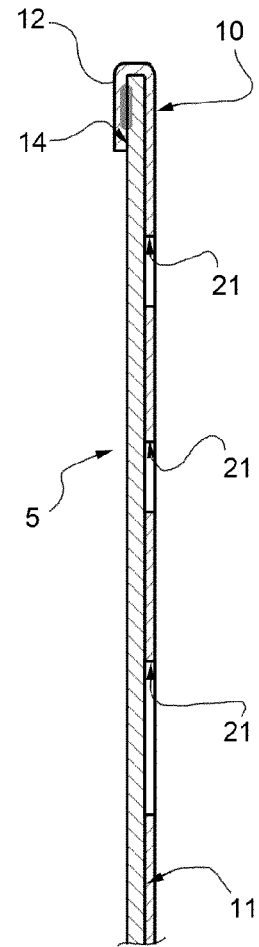
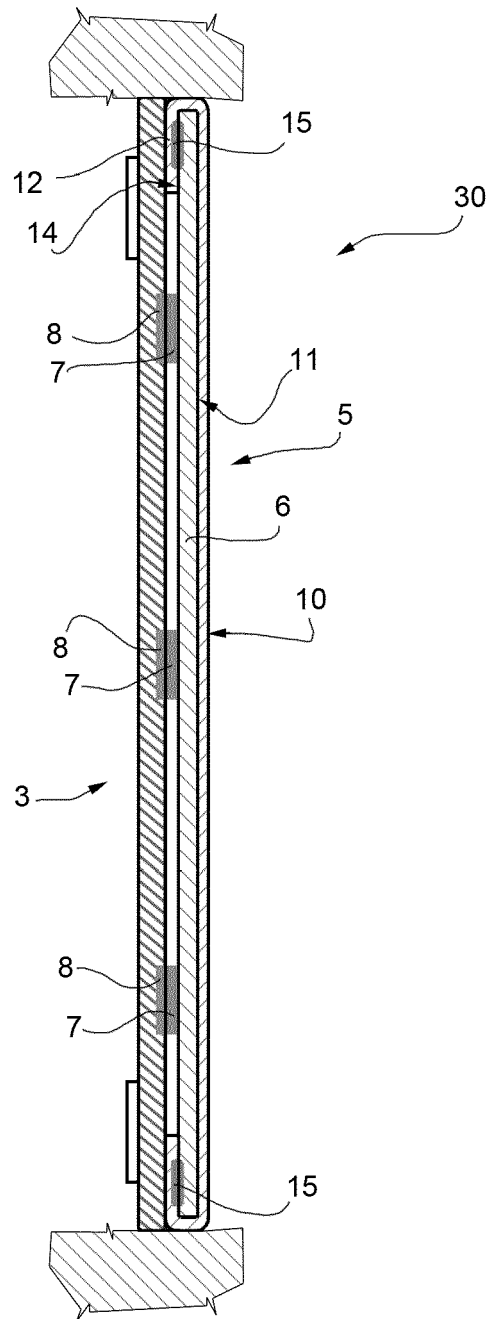


FIG. 5





EUROPEAN SEARCH REPORT

Application Number
EP 14 16 3641

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			

Place of search

Munich

Date of completion of the search

19 August 2014

Examiner

Knerr, Gerhard

CATEGORY OF CITED DOCUMENTS

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19-08-2014

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