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(54) Plasterboard panel with inspection opening and related closure element

(57) In a plasterboard panel (1), an inspection opening (2) and a related closure element (3), comprising a first plasterboard plate (30) having dimensions substantially corresponding to those of the inspection opening (2) and thickness substantially equal to the thickness of the panel (1), are flared upwards and their respective lower faces (21, 31) have exactly the same shape and dimensions. The inspection opening (2) has segments (22) of inner peripheral edge (23) inclined by a predetermined minimum angle (α) relative to the perpendicular to the panel (1), for the abutment of corresponding, counter-shaped portions (32) of outer peripheral edge (33) of the closure element (3) inclined by the same angle (α), in order stably to support the element (3) in the position of insertion in the inspection opening (2) with its own lower face (31) substantially coplanar to a lower face (10) of the panel (1). Preferably, the segments (22) of the inner peripheral edge (23) are in mutual contact and together involve the whole inner peripheral edge (23), the portions (32) of the outer peripheral edge (33) being, correspondingly, also in mutual contact and together involving the whole outer peripheral edge (33) of the closure element (3).

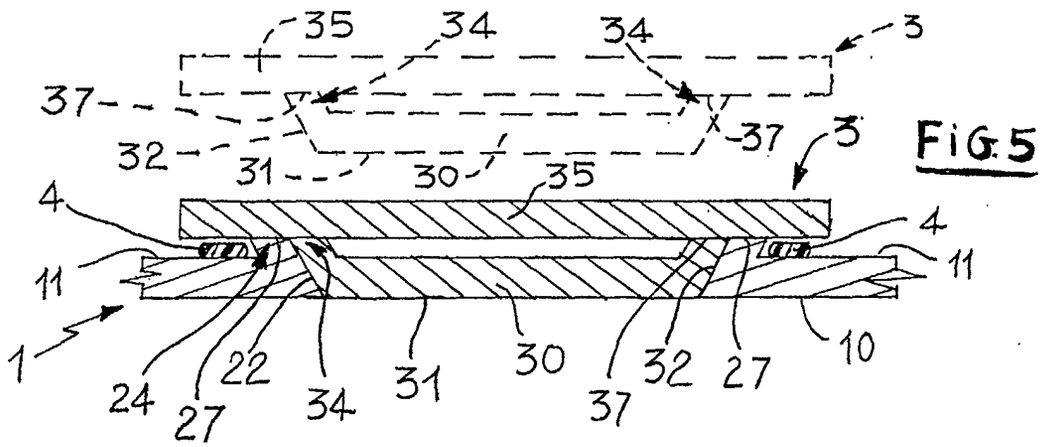

FIG 5

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Description

[0001] The present invention relates to a plasterboard panel with inspection opening and related closure element. Plasterboard panels are used to construct walls, roofs and false ceilings. In particular, false ceilings lower the height of spaces and, at the same time, hide the ceiling and any services or systems located in proximity thereto (such as electrical ducts, water and gas pipelines, ventilation and/or aeration systems, accessories of the water distribution systems and/or of the electrical systems and/or of the heating systems, etc.). The false ceilings and the overlying ceiling define an inter-space and together constitute a structure that is able temporarily to withstand a fire erupted in the space underlying the false ceiling and to maintain, for a given time interval, a temperature difference between the space overlying the ceiling and the space underlying the ceiling, such as to enable approaching the side overlying the ceiling without being burned. The overall structure can thus exhibit the fire resistance and heat insulation characteristic, conventionally indicated by the acronym REI and characterised by the duration of the time interval in which the aforesaid temperature difference is maintained.

[0002] To check the condition of the ceiling or easily to access the services and/or systems located above the false ceiling for maintenance, repair, inspections and the like, in the false ceiling (in particular in at least a panel thereof) openings of generally (but not exclusively) square or rectangular shape are obtained, using related closure elements to hide said openings. Obviously, the closure element must be easily opened (or removed) and closed again (or placed back in its position).

[0003] The presence of inspection openings, albeit provided with the related closure elements, in addition to varying the appearance of the false ceiling in a manner that at times is unacceptable, also breaks up its continuity. In the overall structure, constituted by ceiling and false ceilings, weak points are thus introduced, which may determine the degradation of the fire resistance and/or heat insulation characteristics of the structure.

[0004] It is of fundamental importance to assure that the closure element remains stably in position during a fire until the physical disintegration of the material whereof it is made, and to minimise the presence (or the production during the fire) of ports, between closure element and edge of the opening, which allow the direct entry of the flame inside the inter-space between false ceiling and ceiling. In the second place, it is necessary to minimise the presence of heat conduits, which allow a rapid conduction of heat in the false ceiling towards the ceiling.

[0005] Inspection openings are generally produced by directly cutting a panel and they have perpendicular edges to the plane of lay of the panel itself.

[0006] Sometimes, doors constituted by plates made of plasterboard (or another material) are used as closure elements, framed by profiles provided with hinges fastened directly to the panel or to corresponding counter-profiles located along the perimeter of the opening. Outer profiles and counter-profiles, in addition to assuring the fastening and movement of the door, define its external dimensions with precision, providing the finish.

[0007] This solution, while effective, has the drawback of being costly and having a high number of components (profiles, hinges, locks, etc.). The profiles, clearly visible, alter the appearance of the ceiling. Unless suitable adaptations are made to the shape of the profiles and of the frames, it is not always possible to avid the presence of ports between door and edge of the opening. Frames and metal profiles constitute heat conduits towards the ceiling, unless complicated and costly section bars provided with heat cut-off are used.

[0008] Closure elements are know, constituted by individual plasterboard plates with their thickness equal to the thickness of the panel, having vertical edges and shape and dimensions corresponding to the opening, supported in position inside the opening by using peripheral profiles made of metal (or another suitable material). For the inspection, the plate is lifted and set down on the false ceiling inside the space between ceiling and false ceiling.

[0009] In a first variation, the peripheral profile is associated to the panel in correspondence with the opening and the closure plate is simply set down on said profile. In a second variation, the peripheral profile is associated with the upper side of the plate and it supports it simply going to bear on the edge of the opening from the ceiling side.

[0010] Although the first variation is simpler than the door solution, nonetheless entails the use of an additional profile, visible from below and thus, in certain cases, aesthetically displeasing.

[0011] The second variation, although it does hide the support profile, nonetheless shows, viewed from below, the ports inevitably existing between the vertical edges of the opening and the vertical edges of the closure plate, with a consequent aesthetically displeasing effect. Since it must be possible easily to remove and return the closure plate in place, such ports are easily visible. Moreover, since the cuts that produce the plate and the opening are not always accurate, such ports may even be irregular.

[0012] The cut interrupts, in correspondence with the opening, the continuity of the cardboard sheets that cover the faces of the panel and of the plate. Consequently the plaster, constituting the core of the panel and of the plate, is directly exposed in correspondence with the ports between the edges of the opening and of the plate and may become damaged during the opening and closing operations. The cardboard sheets may be damaged or ripped.

[0013] Both in the first and in the second variation, the weight of the plate bears completely on the peripheral section bar and, therefore, on the fastening means be-

tween it and the plasterboard. In the presence of fire and of consequent structural weakening of the plaster by dehydration, a precocious structural collapse of the plaster may therefore take place in the areas in which the peripheral section bar is fastened, with the consequent release of the profile and fall of the plate. This event frees the inspection opening, precociously exposing the overlying ceiling to the direct action of the flames. The possibility that the peripheral profile may be directly exposed to the flame in the first variation, and the ports between the plate and the edges of the inspection opening in both variations (hidden by the peripheral profile in the first variation and visible in the second) can allow the establishment of a heat conduit towards the ceiling.

[0014] Sometimes, closure elements can also be used consisting of two plasterboard plates, also with vertical edges, coupled on each other by gluing. The lower plate has the shape and the dimensions of the opening, and its thickness is equal to that of the panel in which the opening is obtained. The upper plate has greater size, so that, when the lower plate is inserted in the opening to close it, the closure element remains bearing down on the side of the panel oriented towards the ceiling. This solution has, from the aesthetic point of view, the same disadvantages as the aforementioned second variation. From the viewpoint of fire resistance, in this solution, though free of heat conduits, there is the risk of a precocious fall of the lower plate as a consequence of the degradation of the adhesive used to glue it to the upper plate and the upper plate alone set down on the peripheral edge is not sufficient to assure a behaviour similar to that of a continuous false ceiling.

[0015] The aim of the present invention is to overcome the aforesaid drawbacks, making available a plasterboard panel with inspection opening and related closure element which, without additional means or support, allows a stable positioning and an easy removal of the closure element in the inspection opening, minimising the presence of ports between the closure element and the edge of the inspection opening and giving the face of the panel oriented downwards an appearance that is very close to that of a panel without interruptions.

[0016] A second aim of the present invention is to make available a plasterboard panel with inspection opening and related closure element which is not subject to the risk that, as a result of a fire in the space underlying the panel, the closure element falls before the whole panel collapses.

[0017] Another aim of the present invention is to make available a plasterboard panel with inspection opening and related closure element which is not easily prone to deterioration due to the movements of the closure elements during ceiling inspections.

[0018] A further aim of the present invention is to make available a plasterboard panel with inspection opening and related closure element which allows, until the collapse of the panel, a perfect seal against the flame of any fire which may be present in the space underlying the panel itself, giving the panel similar characteristics to those it would have if it were continuous.

[0019] These aims and others besides, which shall become more readily apparent in the description that follows, are achieved, in accordance with the present invention, by a plasterboard panel with inspection opening and related closure element as described in the accompanying drawings.

[0020] The invention is disclosed in greater detail hereafter with the aid of the drawings, which show an embodiment provided purely by way of non limiting example.

- Figure 1 shows a cross section of a panel according to the invention, with closure element lifted from the inspection opening.
- Figure 2 shows the panel of Figure 1 with the closure element inserted in the inspection opening.
- Figures 3, 4 and 5 show cross sections of as many embodiments of the panel of the invention. Figures 4 and 5 show, in dashed lines, the closure element extracted from the inspection opening.
- Figure 6 is a top view of an embodiment of the panel, corresponding to Figures 3 and 5, without closure element.
- Figures 7 and 8 are top views of the panels of Figures 3 and of Figure 5 respectively and indicate the section plane of Figures 1 through 5.
- Figure 9 shows a bottom view of the panel of the invention.
- Figures 10 a-e show cross section views of some details of the panel of the invention and a simple way to obtain them.
- Figures 11 and 12 show a detail of the coupling between closure element and edges of the inspection opening.

[0021] In the figures, the reference number 1 indicates a plasterboard panel with inspection opening 2 and related closure element 3, of the type in which the closure element 3 comprises a first plasterboard plate 30 whose dimensions substantially correspond to those of the inspection opening 2 and whose thickness is substantially equal to the thickness of the panel 1. Characteristically, the inspection opening 2 and the closure element 3 are flared upwards and have respective lower faces 21, 31 of exactly the same shape and dimensions. The inspection opening 2 has at least segments 22 of inner peripheral edge 23 inclined relative to the perpendicular to panel 1 by a predetermined minimum angle α different from zero for the abutment of corresponding, counter-shaped portions 32 of outer peripheral edge 33 of the closure element 3 inclined by the same angle α. The segments 22 and the portions 32 are, therefore, the parts of the inner and outer peripheral edges 23, 33 that are most extended towards each other. The closure element 3 is thus stably supported in the position of insertion in the inspection opening 3 by the segments 22 of

the inner peripheral edge 23 with its own lower face 31 substantially coplanar to a lower face 10 of the panel 1. The closure element 3 is stably supported in position with no need for additional means, the weight being unloaded on the segments 22 of the inner peripheral edge 23, thanks to the particular conformation of the inner peripheral edge 23 of the inspection opening 2, as well as of the outer peripheral edge 33 of the closure element 3 (shared flaring and counter-shaping of the segments 22, and of the portions 32). In case of fire, the closure element 3 therefore remains stably in position until the physical disintegration of all the plasterboard constituting the segments 22 of the inner peripheral edge 23. If the segments 22 are a preponderant fraction of the inner peripheral edge 23, this event substantially occurs when the panel 1 collapses. Thus, the risk that the closure element 3 may fall precociously, exposing the inspection opening 2 to the direct passage of flame, is minimised. Moreover, because the respective lower faces 21, 31 have the same shape and dimensions, when the closure element 3 is in position inside the inspection opening 2, said lower faces 21, 31 are coplanar to each other and to the lower face 10 of the panel 1. Thus, as Figures 1 through 5 and Figure 9 clearly show, there are no port on this shared plane and the face of the panel 1 oriented downwards has an appearance that approaches very closely that of a panel free of interruptions. In addition to a stable and safe closure of the inspection opening 2, and to the minimisation of the passage of flames in case of fire, a very valuable aesthetic result is also obtained. The absence of metallic profiles and of metallic support means eliminates the risk of the presence of heat conduits in case of fire. The larger the part of the inner and outer peripheral edges 23, 33 constituted by the segment 22 and by the portions 32, the less likely is the presence of ports between the closure element 3 and the edge of the inspection opening 2.

[0022] To access the space above a false ceiling whereof the panel 1 is a part, it is easy, given the flaring of the elements inserted one in the other, to lift the closure element 3 from the inspection opening 2 or to reinsert it therein in a safe manner.

[0023] Advantageously, as shown in particular in Figures 6 through 8, each segment 22 of the inner peripheral edge 23 is in contact with the successive segment 22 at least in one point of the lower face 21 of the inspection opening 2 and the segments 2 involve, together, the whole inner peripheral edge 23, the portions 32 of the outer peripheral edge 33 being, correspondingly, also in mutual contact and involving together the whole outer peripheral edge 33 of the closure element 3. In particular, in the example shown in the figures, the inspection opening 2 has rectangular shape and the segments 22 of the inner peripheral edge 23 are in mutual contact in correspondence with the corners of the rectangle in the plane of the lower face 21 of the inspection opening 2, elsewhere extending over the whole thickness of the panel 1. Similarly, the respective portions 32 are each in contact with the successive one in correspondence with the corners of the rectangle in the plane of the lower face 31 of the closure element 3, elsewhere extending over the whole thickness of the first plane 30. This determines a substantial continuity of the panel 1, once the closer element is placed in position, thereby favouring the fire resistance of the structure constituted by false ceiling and ceiling.

[0024] Obviously, the whole inner peripheral edge of the inspection opening 2 can be constituted by a single continuous and bent segment 22. Correspondingly, the whole outer peripheral edge 33 of the closure element 3 can be constituted by a single continuous, bent portion 32.

[0025] In an embodiment of the invention, illustrated, in particular, in Figure 4, the closure element 3 comprises a second plate 35, stably coupled to an upper face 36 of the first plate 30, peripherally extended beyond the latter for a predetermined distance above the panel 1 and defining an abutment for an upper face 11 of the panel 1 when the closure element 3 is in position inside the inspection opening 2.

[0026] As shown in Figures 3 and 5, as well as in Figures 6-8, 10d, 11, in a preferred embodiment, the segments 22 of the inner peripheral edge 23 and the portions 32 of the outer peripheral edge 33 have, upwards, respective extensions 24, 34 of predetermined length. This allows, among other things, to render safer and more stable the housing of the closure element 3 in the inspection opening 2. In this case, too, as shown in particular in Figures 5 and 8, it is convenient that the closure element 3 contains a second plate 35, this time stably coupled to an upper end 37 of the extensions 34 of the portions 32 of the outer peripheral edge 33, peripherally extended beyond the latter for a predetermined distance above the panel 1 and defining an abutment for an upper end 27 of the extensions 24 of the segments 22 of the inner peripheral edge 23 when the closure element 3 is in position inside the inspection opening 2.

[0027] Use of the second plate 35 allows to minimise the effect of any ports which may be present between the inner peripheral edge 23 of the inspection opening 2 and the outer peripheral edge 33 of the closure element 3, especially in correspondence with the ends of the segments 22 and of the corresponding ends of the portions 32. The presence of the second plate 35 defines, moreover, a labyrinthine and difficult path for the flames of any fire if they were to attempt to enter the inter-space between ceiling and false ceiling.

[0028] The second plate 35 can be coupled to the first plate 30 (in the embodiment illustrated in Figure 4) or to the upper end 37 of the extensions 37 of the portions 32 of the outer peripheral edge 33 (in the embodiment illustrated in Figure 5, and in Figures 6, 8) with any appropriate means. In case of metallic elements such as screws or others, they must not be through, to avoid determining the presence of heat conduits. The preferred solution is the use of an adhesive between the second

plate 35 and the upper face of the first plate 30 or between the second plate 35 and the upper end 37 of the extensions 34 of the portions 32 of the outer peripheral edge 33. The mechanical seal of the fastening means is not particularly important. They need only assure that the first and the second plate 30, 35 move integrally with each other during the opening and closing of the inspection opening 2. They are not tasked with always supporting the weight of the first plate 30 when the closure element 3 is in position (task carried out by the segments 22 of the inner peripheral edge 23) and, even in case of their collapse during a fire, there is no danger that the first plate 30 may fall from the panel 1, so that the inspection opening 2 remains always closed until the entire panel 1 collapses.

[0029] Advantageously, if the second plate 35 is present, the panel 1 comprises, on its upper face 11, a gasket 4 in heat-expanding fire retardant material that peripherally surrounds the entire inspection opening 2, in such a way that, in case of fire, the gasket 4 expands at least against the second plate 35, determining a peripheral seal that prevents the passage of flames.

[0030] The material of the gasket 4 is generally made of mineral fibres and expanding graphite. The material of the gasket 4 can exhibit, at least in its expanded state, a high insulating power to enhance the heat insulation characteristics during a fire. In particular, generally, under the action of heat, heat-expanding materials turn into a foam, greatly increasing their thickness and dimensions relative to the non-expanded state, whilst, at the same time, they tend to adapt to any shape that limits their expansion. The sponge-like structure thereby assumed has a high insulating power and stops flames, heat, smoke and gas in a hermetic manner.

[0031] In the embodiment illustrated in Figure 5, as well as in Figures 6, 8, the gasket 4 naturally finds housing thanks to the detachment between the second plate 35 and the upper face 11 of the panel 1 due to the presence of the extensions 24 of the segments 22 (and of the respective extensions 34 of the portions 32). To maintain coplanar the lower faces 10, 21 and 31 of the panel 1, of the inspection opening 1 and of the closure element 3 respectively, yet without compromising the functionality of the gasket 4 (which, expanding in case of fire, would in any case seal any gap of not excessive size which may be present above it), the length of the extensions 24 of the segments 22 (and of the respective extensions 34 of the portions 32) can be selected in such a way as to compensate exactly for the thickness of the gasket 4 in the non-expanded state, or in such a way as to be slightly greater, as shown in Figure 5 (the latter solution being preferable, since the gaskets 4 often exhibit surface irregularities which may cause an imperfect coplanarity of the lower faces of the different elements).

[0032] In the case of the embodiment shown in Figure 4, the presence of the gasket 4 (not shown) causes the lower faces of the various elements not to be coplanar. In this case, obviously, it is possible to restore coplanarity by producing an appropriate indentation 40 in correspondence with the perimeter of the second plate 35, as shown in dashed lines in Figure 4.

[0033] Opportunely, in plasterboard the cardboard sheets can be fire-retardant. The plaster can be modified by the presence of glass fibres, to enhance its mechanical cohesion. Moreover, the plaster can be modified by the presence of vermiculite, another material that is able to maintain thermal insulation in case of fire.

[0034] It is thus possible to obtain a panel 1 with similar characteristics to those it would have if it were continuous, which allows, until its collapse, an excellent resistance against the flame of any fire which may be present in the space underlying the panel 1 itself.

[0035] Opportunely, as highlighted in particular in Figures 10d, 10e, 11 and 12, the segments 22 of the inner peripheral edge 23 have a protective cardboard finish 28 that extends at least partially on the lower face 10 of the panel 1, whilst the portions 32 of the outer peripheral edge 33 have a protective cardboard finish 38 that extends at least partially on the lower face 31 of the closure element 3. Advantageously, in a preferred embodiment of the present invention, as shown in Figures 10d, 10e, 11 and 12, the protective finish 28 of the segments 22 of the inner peripheral edge 23 is a continuous extension of the protective cardboard finish 18 of the panel 1, whilst the protective finish 38 of the portions 32 of the outer peripheral edge 33 is a continuous extension of the protective cardboard finish 39 of the lower face 31 of the closure element 3 (in particular of its first plate 30).

[0036] The presence of the protective finishes 28, 38 allows to obtain an artefact with very low dimensional tolerances (and, hence, a substantially continuous panel 1 without ports visible from below when the closure element 3 is in position) without any risk of damaging and/or wearing the plasterboard on the edges due to friction during the removal and return in position of the closure element 3 in the inspection opening 2.

[0037] A simple way to obtain a cardboard coating of the edges that is a continuous extension of that of the corresponding plates is shown in Figures 10a-10e, for segments 22 and portions 32 both lacking and having the respective extensions 24, 34. The left part of Figure 10 shows the stages of work on the first plate 30, whilst the right part of Figure 10 shows the corresponding work on panel 1 in correspondence with the inspection opening 2.

[0038] On the first rough plate 30, provided with its protective finish 39, without harming the protective finish 39, a dihedral shaped peripheral milling is performed, with the corner in correspondence with the edges of the lower face 31 of the closure element 3 and opening angle â equal to the complementary of the minimum angle α of inclination of the segments 22 relative to the vertical to the panel 1. Similarly, on the panel 1, provided with its own protective finish 18 and in which an opening has been obtained, destined to become the inspection opening 2, without harming the protective finish 18, a periph-

eral milling of dihedral form is performed, with the corner in correspondence with the edges of the lower face 21 of the inspection opening 2 and opening angle α supplementary to the first opening angle α.

[0039] As shown in Figure c, the two parts into which both the first plate 30 and the panel 1 have thus been divided (in correspondence with the inspection opening 2) are bent on each other until closing the dihedral produced by the millings and glued. The protective finishes 39, 18 are also bent and remain whole and continuous, determining the formation of the protective finishes 38 and 28 of the segments 22 and of the portions 32, as well as of the related extensions 34 and 24, when present.

[0040] A subsequent work process can remove the excess material and produce, respectively, the first plate 30 complete with portions 32 (lacking, as in Figure 10e, or having, as in Figure 10d, the related extensions 34 as the case may be) provided with corresponding protective finish 38 extending with continuity the protective finish 39 of the first plate 30 itself, as well as the inspection opening 2 complete with segments 22 (lacking, as in Figure 10e, or having, as in Figure 10d, the related extensions 34 as the case may be) provided with corresponding protective finish 28 extending with continuity the protective finish 18 of the panel 1.

[0041] The invention achieves important advantages. In particular, with an extremely simple and easy to produce structure, one obtains an inspection opening with related closure element that is easy to access and use without particular difficulties or risks of harming the moving parts. There is no need for additional structures to support the closure element. From the visible side of the panel the structure has, when the inspection opening is closed, a substantially continuous appearance and, for fire resistance purposes, it tends substantially to behave as a continuous structure until the collapse of the entire panel. One thereby minimises the risk that, during a fire, free flames may pass beyond the closure element before the collapse of the entire panel.

[0042] The invention thus conceived can be subject to numerous modifications and variations, without thereby departing from the scope of the inventive concept that characterises it. Moreover, all components can be replaced with other technically equivalent elements. In practice all materials employed, as well as the dimensions, may be any, depending on requirements.

Claims

1. Plasterboard panel (1) with inspection opening (2) and related closure element (3) of the type in which the closure element comprises a first plasterboard plate (30) with dimensions substantially corresponding to those of the inspection opening (2) and thickness substantially equal to the thickness of the panel (1), **characterised in that** the inspection opening (2) and the closure element (3) are flared upwards and have respective lower faces (21, 31) of exactly the same shape and dimensions, the inspection opening (2) having at least segments (22) of inner peripheral edge (23) inclined, relative to the perpendicular to the panel (1), by a predetermined minimum angle (α) different from zero for the abutment of corresponding, counter-shaped portions (32) of the outer peripheral edge (33) of the closure element (3) inclined by the same angle (α), the closure element (3) being stably supported by the segments (22) of the inner peripheral edge (23) in the position of insertion in the inspection opening (2) with its own lower face (31) substantially coplanar to a lower face (10) of the panel (1).

2. Panel as claimed in claim 1, **characterised in that** each segment (22) of the inner peripheral edge (23) is in contact with the successive segment (22) at least in one point of the lower face (21) of the inspection opening (2) and the segments (22) involve, together, the entire inner peripheral edge (23), the portions (32) of the outer peripheral edge (33) being, correspondingly, also in mutual contact and together involving the entire outer peripheral edge (33) of the closure element (3).

3. Panel as claimed in claim 2, **characterised in that** the segments (22) of the inner peripheral edge (23) have a protective cardboard finish which extends at least partially on the lower face (10) of the panel (1), whilst the portions (32) of the outer peripheral edge (33) have a protective cardboard finish (38) that extends at least partially on the lower face (31) of the closure element (3).

4. Panel as claimed in claim 3, **characterised in that** the protective finish (28) of the segments (22) of the inner peripheral edge (23) is a continuous extension of the protective cardboard finish (18) of the panel (1), whilst the protective finish (38) of the portions (32) of the outer peripheral edge (33) is a continuous extension of the protective cardboard finish (39) of the lower face (31) of the closure element (3).

5. Panel as claimed in any of the previous claims, **characterised in that** the segments (22) of the inner peripheral edge and the portions (32) of the outer peripheral edge (33) have, upwards, respective extensions (24, 34) of predetermined length.

6. Panel as claimed in any of the claims from 1 to 4, **characterised in that** the closure element (3) comprises a second plate (35), stably coupled to an upper face (36) of the first plate (30), peripherally extended beyond the latter for a predetermined distance above the panel (1) and defining an abutment for an upper face (11) of the panel (1) itself when

the closure element (3) is in position inside the inspection opening (2).

7. Panel as claimed in claim 5, **characterised in that** the closure element (3) comprises a second plate (35), stably coupled to an upper end (37) of the extensions (34) of the portions (32) of the outer peripheral edge (33), extended peripherally beyond them for a predetermined distance above the panel (1) and defining an abutment for an upper end (27) of the extensions (24) of the segments (22) of the edge inner peripheral edge (23) when the closure element (3) is in position inside the inspection opening (2).

8. Panel as claimed in claim 6 o 7, **characterised in that** it comprises, on the upper face (11) of the panel (1), a gasket (4) made of heat-expanding fire retardant material that peripherally surrounds the entire inspection opening (2), in such a way that, in case of fire, the gasket (4) expands at least against the second plate (35), determining a peripheral seal that prevents the passage of flames.

9. Panel as claimed in claim 8, **characterised in that** the material of the gasket (4) has, at least in the expanded state, a high insulating power.

10. Panel as claimed in claim 8 o 9, **characterised in that** the material of the gasket (4) is based on mineral fibres and expanding graphite.

11. Panel as claimed in any of the previous claims, **characterised in that** in the plasterboard the cardboard sheets are fire retardant.

12. Panel as claimed in any of the previous claims, **characterised in that** in the plasterboard the plaster is modified by the presence of glass fibres.

13. Panel as claimed in any of the previous claims, **characterised in that** in the plasterboard the plaster is modified by the presence of vermiculite.

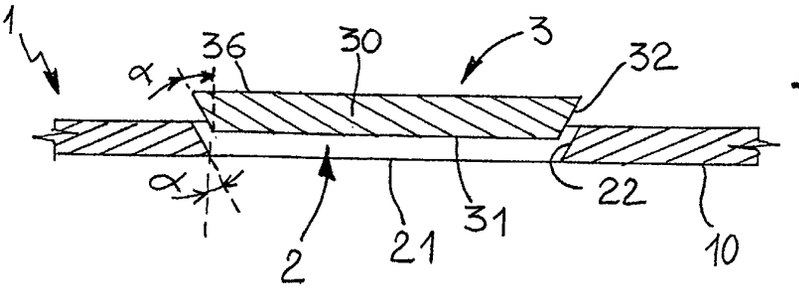


FIG. 1

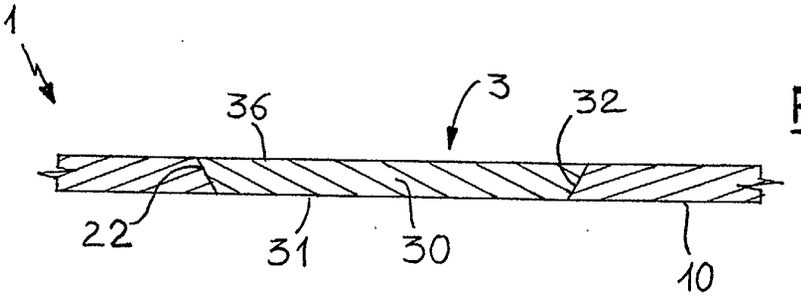


FIG. 2

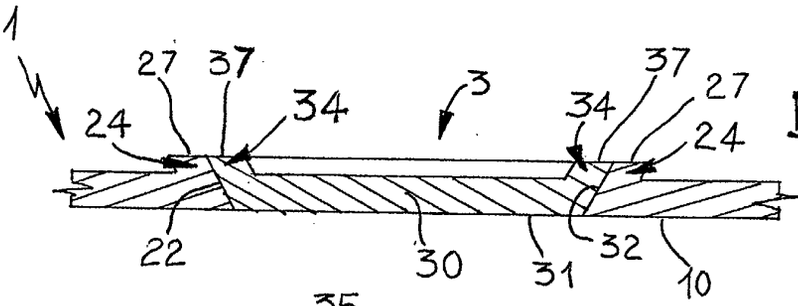


FIG. 3

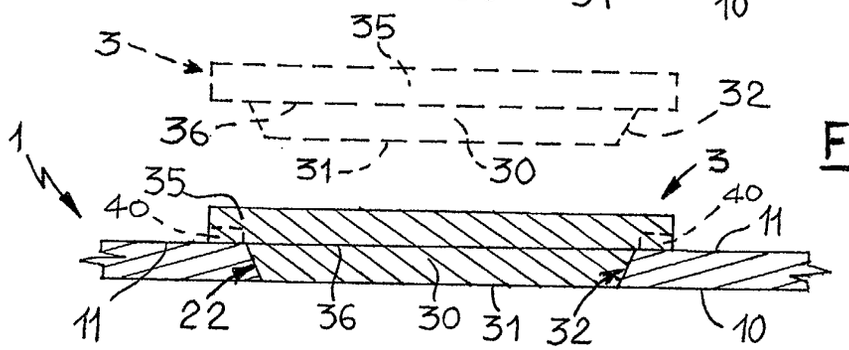


FIG. 4

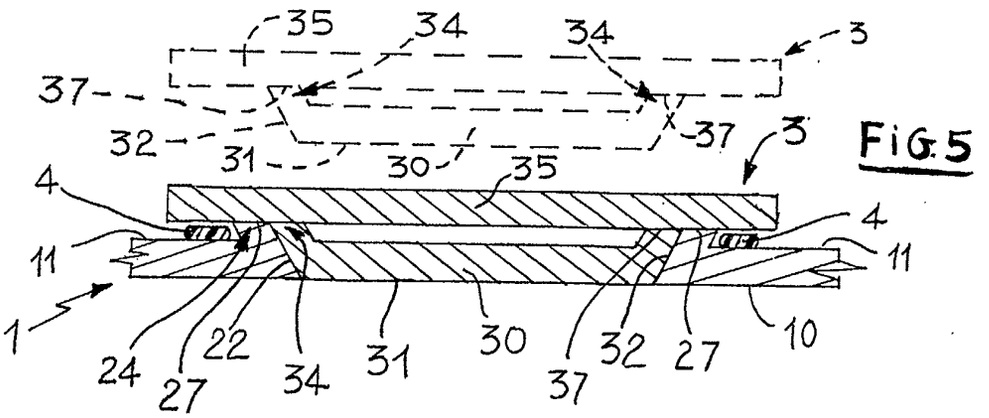
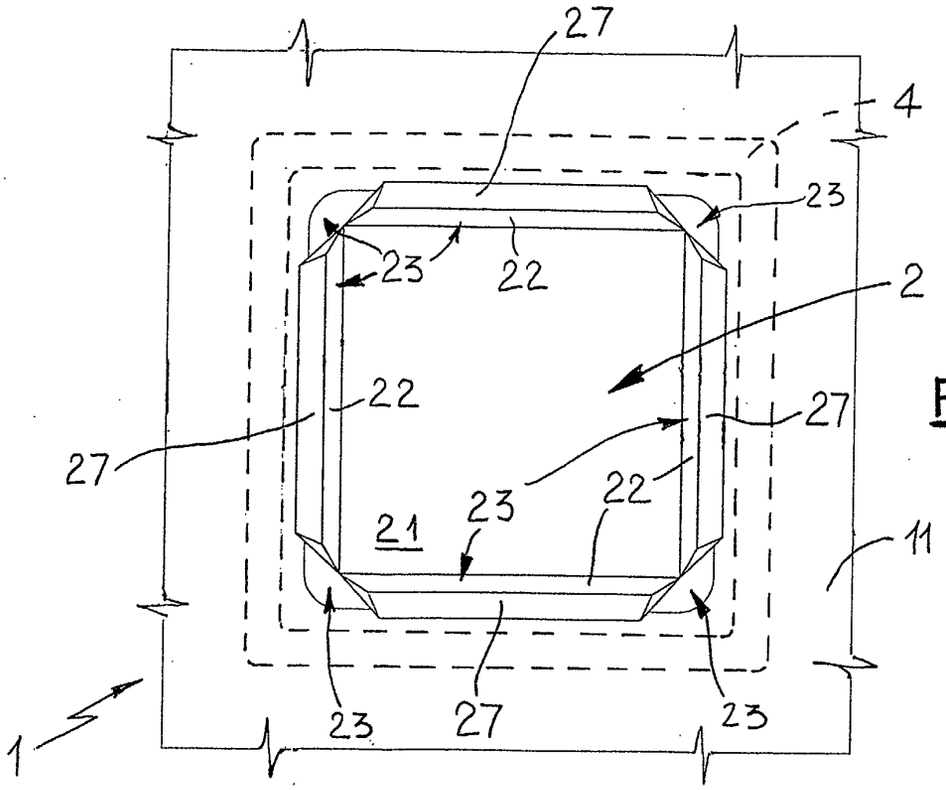


FIG. 5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1

FIG. 6

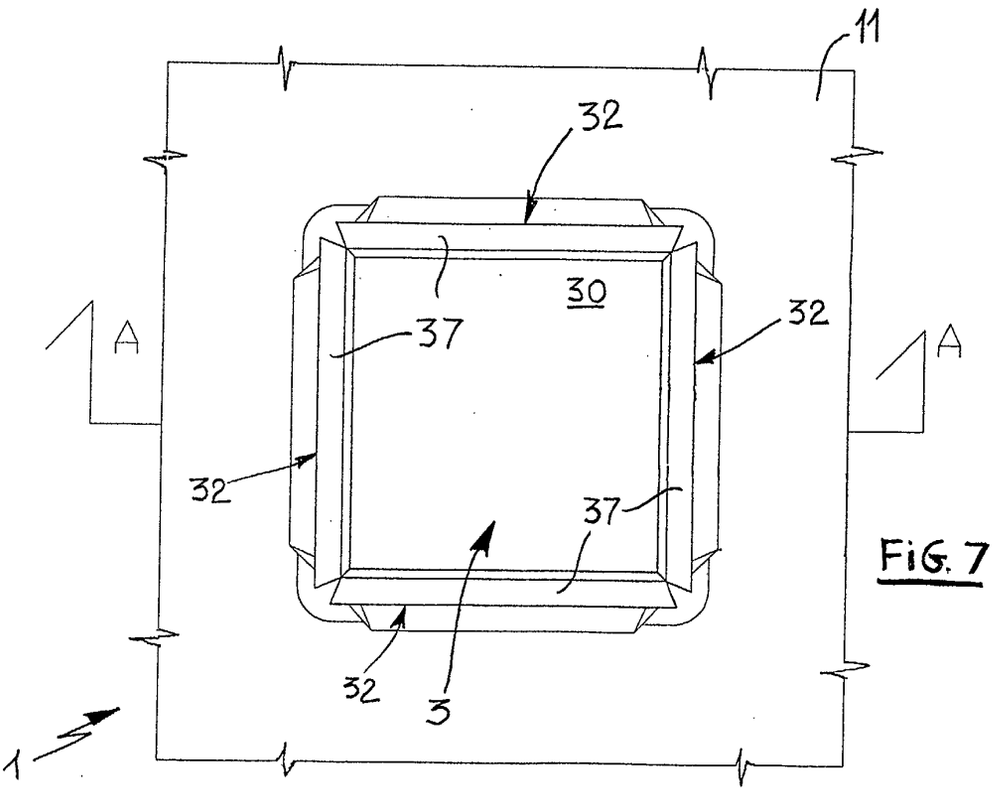
11
32
30
A
37
32
A
32
37
32
3
1

FIG. 7

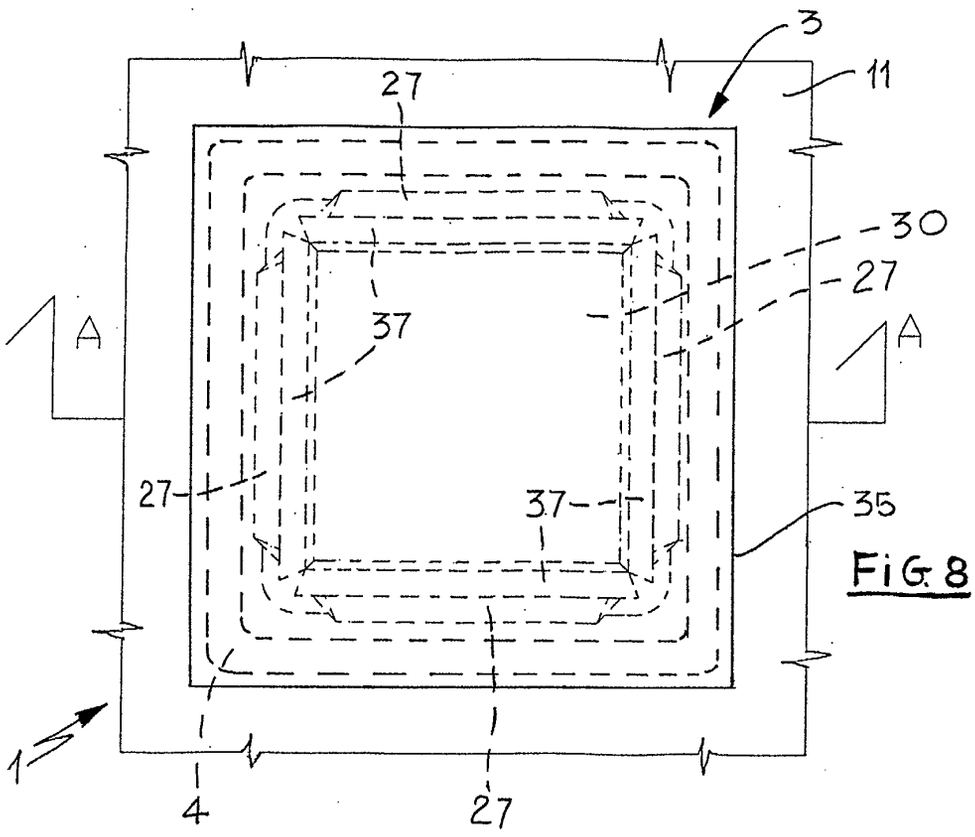

FIG. 8

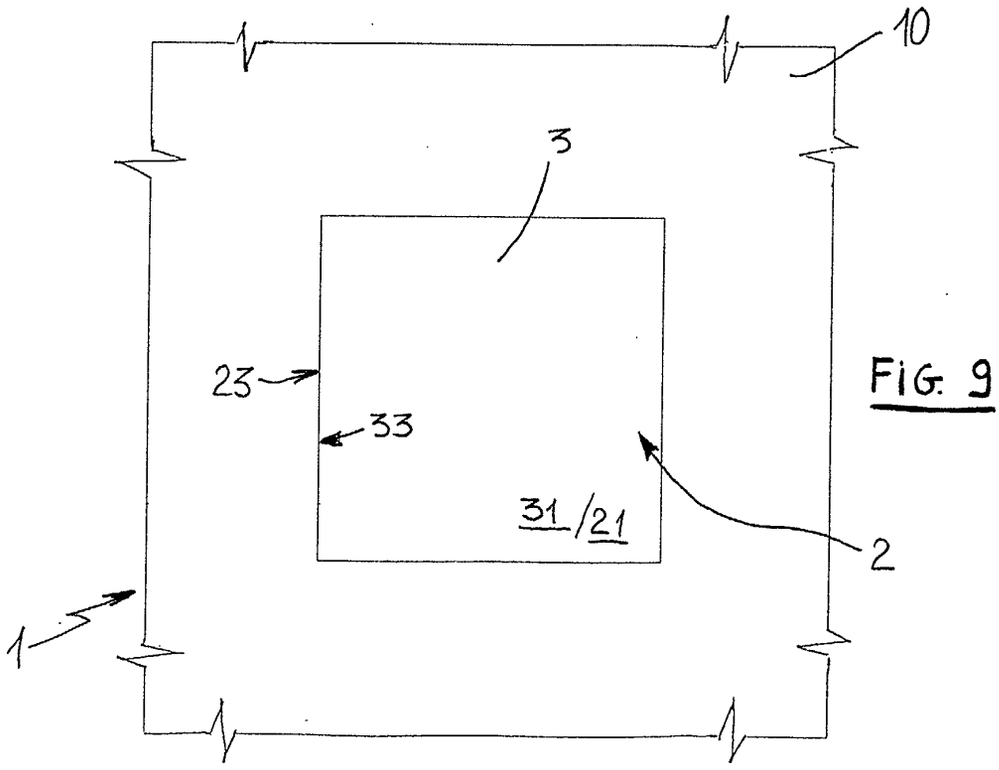

FIG. 9

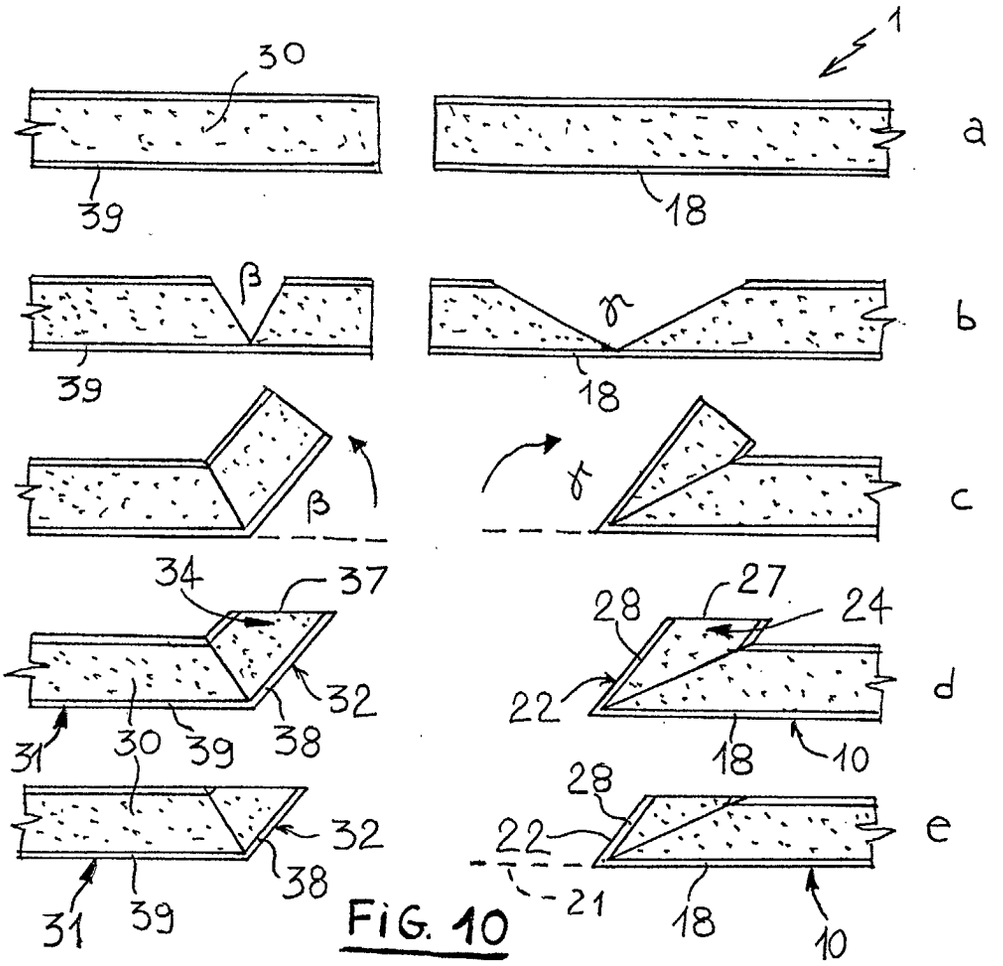

FIG. 10

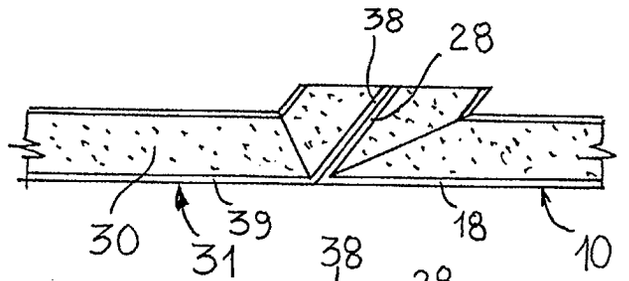

FIG. 11

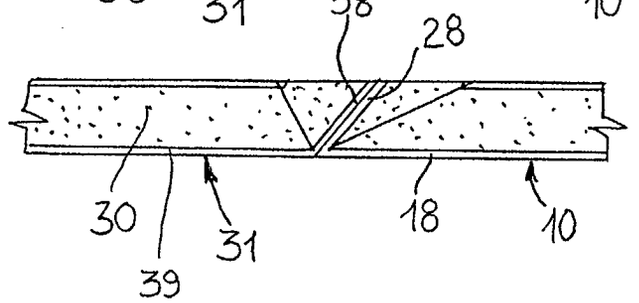

FIG. 12