EUROPEAN PATENT SPECIFICATION

JOINT ELEMENT AND ITS USE

VERBINDUNGSELEMENT UND DESSEN ANWENDUNG

ELEMENT DE JOINTIOIEMENT ET SON UTILISATION

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References cited:
WO-A-91/10787
US-A- 4 308 702
US-A- 4 694 628


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Description

[0001] The object of the invention is a building construction such as a wall or ceiling, comprising at least two building boards or sheets forming a joint seam, and an interlocking element for joining together said building boards or sheets. The object of the invention is further a building sheet or board which can be joined to another building sheet or board to form said building construction.

[0002] Pre-fabricated units of very light partition walls intended mainly for open-plan offices are known. More solid, especially sound-proof separating walls must, however, be built on site from conventional building boards and other building materials needed. The coating of the building boards, such as painting must, therefore, also be done on site. It has not been worthwhile to pre-fabricate ready-coated building boards or building units made of building boards for more solid constructions. One of the reasons for this is that there is no appropriate interlocking system for joining together boards or units, which could be used without damaging the coating of finished sheets or units. Especially with building boards that break easily around the edges, such as gypsum board, it has been impossible to pre-fabricate ready-coated building units, also for the reason that their edges do not withstand transportation or handling on the building site.

[0003] The third reason why building units for more solid structures have not been manufactured is that so far there has been no such interlocking system available by means of which one or more building units could easily be removed from a pre-fabricated unit construction without damaging them, and then replaced again.

[0004] WO-A-91/10787 discloses an interlocking device for joining together adjacent wall elements. The side edges of the adjacent walls are shaped so that they can be attached to each other by a separate T-shaped device, which has the same length as the wall elements.

[0005] US-A-5 022 207 describes another interlocking system wherein the side edges of the adjacent building elements are shaped so that they form the interlocking element. A lug on one of the shaped profiles secures the interlocked position.

[0006] US-A-4 522 007 describes a further system for interlocking building panels together, where the side edges of the adjacent building elements are shaped so that they form the interlocking element. Lips on the shaped profiles secure the interlocked position.

[0007] However, none of these documents discloses a construction comprising adjacent building elements joined to each other with an interlocking element having the detailed cross-sectional profile as described in the claims of the present patent application.

[0008] The aim of the present invention is to eliminate the said disadvantages and to present an interlocking element and interlocking system by means of which building boards, building sheets and building units can easily be joined together into larger constructions. Building boards and sheets, and building units equipped with the components of the interlocking system relating to the invention can be finished already at the factory. The components of the interlocking system relating to the invention protects the edges of gypsum boards which are particularly prone to breaking during transportation and handling because the said components which are preferably made of metal provide the boards with metal edges. From a wall or other construction made of these building units, an unit can, if necessary, easily be removed and replaced again without breaking or damaging the unit. The interlocking system relating to the invention opens up completely new possibilities to equip building units already at the factory to a great extent. This type of wall unit can, for example, be equipped at the factory with conductor rails for electric wiring. The interlocking system relating to the invention also makes it possible to build sound-insulating constructions from building units.

[0009] Boards or building units equipped with the interlocking arrangement relating to the invention are particularly well suited for use as wall structures but can also be used in other structures, such as ceilings.

[0010] The characteristics of the invention are presented in claims 1, 5 and 6. Further embodiments of the invention are described in claims 2 to 4 and 7.

[0011] The invention is described in greater detail in the following figures.

Figure 1 shows the interlocking element when used for joining together two adjacent boards

Figure 2 shows the interlocking element when used for joining together two adjacent building sheets

Figure 3 shows a detail of an interlocking element incorporating a hook

Figure 4 shows building units made of building boards and equipped with the interlocking system relating to the invention, when joined together adjacent to each other into a larger construction

Figure 5 shows the construction relating to figure 4 with one of the building unit joints opened

Figure 6 shows building units made of building sheets and equipped with the interlocking system relating to the invention, when joined together adjacent to each other into a larger construction

Figure 7 shows the construction relating to figure 6 with one of the building unit joints opened
Figure 8 shows the interlocking component assembly

Figure 9 shows a second embodiment of the interlocking component assembly

Figure 10 shows a third embodiment of the interlocking component assembly

Figure 11 shows a starting component of the interlocking system for mounting on a fixed construction

Figure 12 shows a building unit when mounted on a fixed construction by means of the starting component relating to figure 11

Figure 13 shows the mounting of building units in a corner

Figure 14 shows the vertical section of a wall unit fixed to the ceiling and floor

Figure 15 shows the vertical section of a wall unit fixed to the ceiling

Figure 16 shows the vertical section of a wall unit fixed to the ceiling

[0012] Figure 1 shows the interlocking element when used for joining together two adjacent boards L1 and L2. The interlocking element comprises two interlocking components: component A which is fastened to board L1, and component B which is fastened to board L2. The interlocking element is essentially of the same length as boards L1 and L2, in other words, where a wall construction is concerned, the interlocking element extends from the floor to the ceiling, as do the boards. The cross-sectional profile of component A consists of a first part (a), extending from the plane of the outer surface of the construction over a certain distance into the construction and forms an essentially right angle with the outer surface of the construction. Components A and B may be fastened in different ways to the boards L1 and L2, respectively. In this figure, component A has a part (e) which is connected through part (f) to part (a). Part (e) is parallel to the side surface of board L1 and fastened to the board, for example, by means of screws 10 over the whole length of the board, on the surface remaining inside the construction. Part (f), located between parts (a) and (e) of component A, is an oblique part joining parts (a) and (e). Component B comprises part (n) which is connected to part (m), through part (p). Part (n) is fastened with screws 11, over the whole length of the board, against the inner surface of the board. When components A and B are fastened to adjacent boards L1 and L2 respectively, components A and B can be joined together by means of the clamping device K, which passes through board L1. The point of the clamping device can be made to press against the part assembly (bc) of component A, in which case part (m) of component B fastened to board L2 - the said part being pushed between parts (a) and (d) of component A - is clamped in the joint seam (s), as the lower arc of part (d) is pressed towards parts (a) and (m). It is not necessary to arrange clamping devices K at regular intervals over the whole length of the board, but it suffices that there are clamping devices at both ends of the board. If a wall construction is concerned, it suffices that there are clamping devices, for example, near the floor and ceiling. The clamping device, which is preferably a screw, will then be covered by the skirting, or correspondingly by the cornice moulding or ceiling. The space 12 between the edge of board L1 and part (f) of component A, as well as the space 13 between the edge of board L2 and part (p) of component B are filled with jointing compound, preferably elastic cement which is smoothed to the level of the outer surface of the building board. The solution shown in this figure, according to which part (p) consists of two parts, (p') and (p''), is advantageous if the distance between the joint seam (s) and board L2 is relatively long, as is the case with the building unit interlocking system (figure 5), because this solution saves jointing compound. When it is a question merely of joining together two boards, the said distance could be much shorter and part (p) could here equally well be, for example, a single part connecting parts (m) and (n) obliquely.

[0013] An interlocking element can be mounted on the side edges of the building boards, as shown in figure 1, so that component A is fitted on the first side edge and component B on the second side edge of the board, in which case this single board type suffices to assemble the construction. Alternatively, two types of boards can be made, so that a component A is fitted on both side edges of the first board type, and a component B is fitted on both side edges of the second board type. The de-
sired construction can be assembled by using the first and second board types alternately.

[0014] Figure 2 shows the interlocking element when used to join together two adjacent building sheets, L1 and L2. In this solution the side edge of the sheet L1 forms a seamless connection with part (a) of component A, and correspondingly the side edge of sheet L2 forms a seamless connection with part (m) of component B. This solution comprises a building sheet which is pre-equipped with interlocking components and from which different constructions can be made. As was the case with boards, two types of sheets can also be made so that parts (a) - (d) of component A are formed on both side edges of the first sheet type, and part (m) of component B is formed on both side edges of the second sheet type. The desired construction can be assembled by using the first and second sheet types alternately. Reference number 14 shows a sleeve made in the sheet into which the screw acting as the clamping device can be fitted. Alternatively, for example a plate screw can be used.

[0015] To secure the joint between components A and B, a hook can be provided on one component and a groove corresponding to the form of the hook on the other component in the vicinity of the point of contact between the components. Figure 3 shows a detail of an interlocking element provided with a hook 30.

[0016] Figure 4 shows building units R1 and R1, made of building units L1 - L4 and equipped with the interlocking system relating to the invention, joined together adjacent to each other into a larger construction, for example a wall. Figure 5 shows the construction of figure 4 with one joint of the building unit R2 opened. The first building unit R1 comprises two parallel building boards, L1 and L3, at a certain distance from each other and the adjacent building unit R2 comprises two building boards L2 and L4. At the joint seam between building units R1 and R2, component A of the interlocking element described above has been fastened to building boards L1 and L4, and component B of the interlocking element described above has been fastened to building boards L2 and L3. Component A is fitted to L4 in the same way as to L1, and component B is fitted to L3 in the same way as to L2, as seen from both sides of the construction. In this figure, part (e) of component A mounted on board L1 is joined to part (n) of component B mounted on L3 by means of an intermediate part (t). Similarly, part (e) of component A mounted on board L4 is joined to part (n) of component B mounted on board L2. If the intermediate part (t) forms a right angle with parts (e) and (n), the interlocking system also provides the best support for the building unit. Figure 4 shows that building units R1, R2 and R3 are identical. In assembling the construction, they are turned alternately. In the solution described component A, component B and the intermediate part (t) connecting them together form an integrated interlocking component assembly.

[0017] Figure 5 shows that by opening the clamping devices K of the interlocking system which keeps building unit R2 in place, unit R2 can be removed from the middle of the construction. The other building units can be removed in a similar way by removing the units by turns in opposite directions. In figure 5, building unit R2 is removed to the right. Building units R1 and R3, on the other hand, are removed to the left.

[0018] In order for the building unit to be removed thus easily, the distance (v) - in the interlocking system - of the line passing through the joint seam (s) of L1 and L2 from the line passing through the joint seam (s') of L3 and L4 must be at least double with respect to the space required by the Z-profiled part (d) of component A in the transverse direction of the building unit. This ensures that the Z-profiled parts (d) of the different building units in the interlocking system are able to pass each other when one building unit is being removed. Since the distance between the edge of board L2 and the joint seam (s) (and correspondingly the distance between board L3 and the joint seam (s')) thus becomes rather long, it is preferable to make part (p), situated between the parts (m) and (n) of component B, of two adjacent parts (p') and (p''), so that the angle between parts (p') and (p''), opening inside the construction, is less than 180 degrees. This solution saves on the amount of jointing compound used between the edges of the boards and the parts (p), compared to a case where part (p) would join parts (m) and (n) as a straight piece.

[0019] Figure 6 shows construction units R1 and R2, made in the same manner from building sheets L1 - L4 and equipped with the interlocking system, joined together adjacent to each other into a larger construction. Reference number 14 refers to a sleeve provided for the clamping device. Figure 7 shows the construction of figure 6 with one joint of building unit R2 opened. Insulating material is normally placed between the metal sheets of the building units so that the sheets are fixed to the insulating material, for example, by gluing. By means of the unit solution shown in figures 6 and 7, a very soundproof construction can be achieved thanks to there being no metal parts relating to the interlocking system, joining outer surfaces, between the outer surface metal sheets of the construction.

[0020] A sound bridge formed by building units made of building boards can also be cut by cutting the intermediate part (t) and by joining the cut parts by means of a separate component. The interlocking component assembly shown in figure 8 can be modified, for example, as shown in figures 9 and 10. In figure 9, a piece has been cut off from the intermediate part (t) and replaced by a plastic profile 15. Figure 10 shows an interlocking component assembly in which the intermediate part (t) has been replaced by a two-part intermediate part (t'), the first part (t1) of which continues from part (e) but remains detached from part (n), and the second part (t2) of which continues from part (n) but remains detached from part (e). A certain distance is left between parts (t1) and (t2), and between them is fitted rubber.
the starting component 17 has been fixed. The parts (t) belonging to the interlocking systems are joined together by means of support elements 31 before the installation of the building units.

Electric wires can be installed in the building units relating to the invention if part (t) of the interlocking component assembly is provided with holes in the longitudinal direction of the interlocking system, through which holes the wires can be passed from one building unit to another. Conductor rails for electric wires can also be installed in these building units.

Figures 14-16 show a vertical section of a wall unit and display three alternatives for fastening the building unit to the floor, ceiling, or both. In all these solutions there are U-shaped profile rails 18 and 19 fastened to both the floor and ceiling in the longitudinal direction of the wall. In figure 14 the building unit is fastened to both the floor rail 18 and the ceiling rail 19 by means of profile components 20 and 21 respectively, so that the unit shown in the figure is released to the right when the screw joints are opened. The units must be mounted to open alternately to the right and to the left. In figure 14, the fastening points of the units in the floor and ceiling rails remain under the skirting and the cornice, respectively.

Figure 15 shows an embodiment in which the unit is fastened with screws only to the ceiling rail 19. The joint remains above the ceiling. On the bottom edge of the unit, a profile 22 corresponding to the floor rail 18 keeps the unit in place. The unit can be removed to the right by lifting it upwards after the screw joint in the ceiling has been opened. In this solution there is no need to use skirting.

Figure 16 shows a solution in which the unit is fastened only to the floor rail. On the top edge of the unit, a profile 23 corresponding to the ceiling rail 19 keeps the unit in place. The unit is removed to the right by removing the skirting, opening the screw joint and lowering the unit.

It is obvious to a person skilled in the art that the different embodiments of the invention may vary within the scope of the claims presented below.

Claims

1. A building construction such as a wall or ceiling, comprising at least two building boards or sheets L1 and L2 forming a joint seam (s), and an interlocking element for joining together said building boards or sheets, said interlocking element comprising a component A fastened to the side edge of the first building board or sheet L1, and a component B fastened to the side edge of the second building board or sheet L2, the components A and B being essentially of the same length as the building boards or sheets, and the cross-sectional profile of component A consisting of

- a first part (a) extending essentially perpendicularly from the outer surface of the building construction into said construction, the length of the cross section part (a) being greater than the thickness of said building board or sheet, and
- of a second part (b) which continues from the first part (a) and forms an essentially right angle with part (a) and is oriented towards the centre of said building board or sheet L1, and
- of a third part (c) which continues from the second part (b), bending approximately 180 degrees and running in the opposite direction with respect to part (b), towards the joint seam (s) between the building boards or sheets L1 and L2,

and component B comprising a part (m) extending essentially perpendicularly from the outer surface of the building construction into said construction, characterized in that

- component A in addition comprises a fourth part (d) which continues from the third part (c) in the shape of a Z-profile, and remains on the opposite side of the joint seam (s), the parts (a) - (d) together forming an integrated piece, and
- the cross section of part (m) of component B is no longer than the cross section of part (a), and that
- when components A and B are fastened to adjacent building boards or sheets L1 and L2 respectively, the components A and B are joined together by means of a clamping device K passing through the first building board or sheet L1, the point of which clamping device is pressed against the part assembly (bc) of component A, in which case part (m) of component B fastened to the other building board or sheet L2 when the said part (m) is pushed between parts (a) and (d) of component A - is clamped in the joint seam (s), as the lower arc of part (d) is pressed towards parts (a) and (m).

2. The building construction according to claim 1, characterized in that it comprises a hook on one of the components A or B in the vicinity of the point of contact between said components and a groove corresponding to the form of the hook on the other component A or B.

3. The building construction according to claim 1 or 2, characterized in that L1 and L2 are building boards
and that component A has a part (e) which is connected through part (f) to part (a), the said part (e) preferably being parallel to the surface of the building board and fastened to the surface of the board remaining inside said construction.

4. The building construction according to claim 3 characterized in that component B comprises a part (n) which is connected through part (p) to part (m), the said part (n) preferably being parallel to the surface of the building board and fastened to the surface of the board remaining inside said construction.

5. A building board or sheet L1, which can be joined to another building sheet to form a building construction according to claim 1 wherein the first side edge of the building sheet L1 forms a seamless connection with component B of the interlocking element described in claim 1, and the second side edge of the building sheet forms a seamless connection with component A of said interlocking element, or both side edges of the building sheet form a seamless connection with component A of said interlocking element, characterized in that

- part (m) of component B is seamlessly connected to the first side edge of the building sheet, and part (a) of component A is seamlessly connected to the second side edge of the building sheet, in which case the adjacent building sheets L1 can be joined together by means of the adjacent components A and B as described above, or
- part (a) of component A is seamlessly connected to both side edges of the building sheet L1, in which case the building sheet L1 can be joined to another building sheet L2, both side edges of which form a seamless connection with part (m) of component B.

6. A building board or sheet L1, which can be joined with another building board to form a building construction according to claim 1 wherein the first side edge of the building board L1 is fitted with component A of the interlocking element described in claim 1, and the second side edge of the building board is fitted with component B, or both side edges of the building board are fitted with component A of said interlocking element, characterized in that

- part (a) of component A is fitted with the first side edge of the building board, and that part (m) of component B is fitted with the second side edge of the building board, in which case the adjacent building boards L1 can be joined together by means of the adjacent components A and B as described above, or
- part (a) of component A is fitted with both side edges of the building board L1, in which case the building board L1 can be joined to another, adjacent building board L2, both side edges of which are fitted with component B of the interlocking element.

7. The building board according to claim 6 characterized in that the space (12) between the edge of the building board and part (f) of component A, as well as the space (13) between the edge of the building board and part (p) of component B are filled with jointing compound, preferably elastic cement which is smoothed to the level of the outer surface of the building board.

Patentansprüche

1. Baukonstruktion, wie eine Wand oder Decke, umfassend wenigstens zwei Bauplatten bzw. -bretter oder -bleche bzw. -dünnpflatten L1 und L2, die eine Verbindungsfuge (Verbindungsfugen) (s) bilden, und ein Verblockungselement für das Miteinanderverbinden der Bauplatten bzw. -bretter oder -bleche bzw. -dünnpflatten, wobei das Verblockungselement eine Komponente A umfaßt, die an dem Seitenrand der ersten Bauplatte bzw. -brett oder -blech bzw. -dünnpflatte des ersten Baublechs bzw. -bretts L1 befestigt ist, und eine Komponente B, die an dem Seitenrand der zweiten Bauplatte bzw. -dünnpflatte oder des zweiten Baublechs bzw. -bretts L2 befestigt ist, wobei die Komponenten A und B im wesentlichen von der gleichen Länge wie die Bauplatten bzw. -bretter oder -bleche bzw. -dünnpflatten sind, und das Querschnittsprofil der Komponente A aus folgendem besteht:

- einem ersten Teil (a), der sich im wesentlichen senkrecht von der äußeren Oberfläche der Baukonstruktion in die genannte Konstruktion erstreckt, wobei die Länge des Querschnittsteils (a) größer als die Dicke der Bauplatte bzw. -dünnpflatte oder des Baublechs bzw. -bretts ist, und
- aus einem zweiten Teil (b), welcher von dem ersten Teil (a) weitergeht und einen im wesentlichen rechten Winkel mit dem Teil (a) bildet sowie nach der Mitte der Bauplatte bzw. -dünnpflatte oder des Baublechs bzw. -bretts L1 zu orientiert ist, und
- aus einem dritten Teil (c), welcher von dem zweiten Teil (b) weitergeht, sich um angehärt 180° abwinkelt und in der entgegengesetzten Richtung mit Bezug auf den Teil (b) nach der Verbindungsfuge (den Verbindungsfugen) (s) zwischen den Bauplatten bzw. -Brettern oder -blechen bzw. -dünnpflatten L1 und L2 zu läuft.
3. Baukonstruktion gemäß Anspruch 1 oder 2, der sich im wesentlichen senkrecht von der äußeren Oberfläche der Baukonstruktion in die genannte Konstruktion erstreckt, dadurch gekennzeichnet, daß die Komponente A zusätzlich einen vierten Teil (d) umfaßt, welcher von dem dritten Teil (c) in der Form eines Z-Profils weitergeht und auf der entgegengesetzten bzw. gegenüberliegenden Seite der Verbindungsfuge(n) (a) bleibt, wobei die Teile (a) bis (d) zusammen ein integriertes Teil bilden, und - der Querschnitt des Teils (m) der Komponente B nicht länger als der Querschnitt des Teils (a) ist, und daß

- wenn die Komponenten A und B an benachbarten Bauplatten bzw. -brettern oder -blechen bzw. -dünplatten L1 bzw. L2 befestigt sind, die Komponenten A und B mittels einer Klemmeinrichtung K miteinander verbunden werden, welche durch die erste Bauplatte bzw. -dünplatte oder das erste Baubrett und -blech L1 hindurchgeht, wobei die Spitzte der Klemmeinrichtung gegen die Teilanordnung (bc) der Komponente A gedrückt wird, in welchem Fall der Teil (m) der Komponente B, der an der anderen Bauplatte bzw. -dünplatte oder dem anderen Baubrett bzw. -blech L2 befestigt ist, wobei der genannte Teil (m) zwischen die Teile (a) und (d) der Komponente A geschoben ist - in der Verbindungsfuge (den Verbindungsfugen) (s) festgeklemmt wird, da der untere Bogen des Teils (d) nach den Teilen (a) und (m) zu gedrückt wird.


- der Teil (m) der Komponente B naht- bzw. fugenlos mit dem ersten Seitenrand der Bauplatte bzw. -dünplatte bzw. des Baublechs verbunden ist und der Teil (a) der Komponente A naht- bzw. fugenlos mit dem zweiten Seitenrand der Bauplatte bzw. -dünplatte bzw. des Baublechs verbunden ist, in welchem Fall die benachbarten Bauplatten bzw. -dünplatten bzw. bleche L1 mittels der benachbarten Komponenten A und B, wie oben beschrieben, miteinander verbunden werden können, oder

- d'une première partie (a) s'étendant essentiellement perpendiculairement de la surface externe du système constructif dans ladite construction, et le profil en coupe transversale du composant A se composant:

- d'une troisième partie (c) qui prolonge la deuxième partie (b), se courbant approximativement à 180 degrés et courant dans la direction opposée par rapport à la partie (b), vers l'agrafure de joint (s) entre les panneaux ou voiles de construction L1 et L2;

et le composant B comprenant une partie (m) s'étendant essentiellement perpendiculairement à partir de la surface externe du système constructif dans ladite construction; caractérisé en ce que:

- le composant A comprend de plus une quatrième partie (d) qui prolonge la troisième partie (c) sous forme d'un profil en z, et reste sur le côté opposé de l'agrafure de joint (s), les parties (a) et (d) formant ensemble une partie intégrée; et

- la coupe transversale de la partie (m) du composant B n'est pas plus longue que la coupe transversale de la partie (a), et en ce que quand les composants A et B sont fixés à des panneaux ou voiles adjacents L1 et L2, respectivement, les composants A et B sont joints ensemble à l'aide d'un dispositif de serrage K traversant le premier panneau ou voile de construction L1, dont le point du dispositif de serrage est pressé contre l'assemblage de pièce (bc) du composant A, auquel cas la partie (m) du composant B fixée à l'autre panneau ou voile de construction L2 - quand ladite deuxième partie (m) est poussée entre les parties (a) et (d) du composant A - est serrée dans l'agrafure de joint (s), lorsque l'arc inférieur de la partie (d) est pressé vers les parties (a) et (m).

1. Système constructif tel qu'une paroi ou un plafond, comprenant au moins deux panneaux ou voiles de construction L1 et L2 formant une agrafure de joint (a), et un élément de couplage pour joindre ensemble lesdits panneaux ou voiles de construction, ledit élément de couplage comprenant un composant A fixé au bord latéral du premier panneau ou voile de construction L1, et un composant B fixé au bord latéral du deuxième panneau ou voile de construction L2, les composants A et B étant essentiellement de la même longueur que les panneaux ou voiles de construction, et le profil en coupe transversale du composant A se composant:

- d'une première partie (a) s'étendant essentiellement perpendiculairement de la surface externe du système constructif dans ladite construction, la longueur de la partie en coupe transversale (a) étant supérieure à l'épaisseur audit panneau ou voile de construction; et

- d'une deuxième partie (b) qui prolonge la première partie (a) et forme un angle essentiellement droit avec la partie (a) et est orientée vers le centre dudit panneau ou voile de construction L1; et

2. Système constructif selon la revendication 1, caractérisé en ce qu'il comprend un crochet sur un des composants A ou B à proximité du point de contact entre lesdis composants et une rainure correspondant à la forme du crochet sur l'autre composant A ou B.

3. Système constructif selon la revendication 1 ou 2, caractérisé en ce que L1 et L2 sont des panneaux de construction et que le composant A possède une partie (e) qui est reliée par l'intermédiaire de la partie (f) à la partie (a), ladite partie (e) étant de préférence parallèle à la surface du panneau de construction et fixée à la surface du panneau restant à l'intérieur de ladite construction.

4. Système constructif selon la revendication 3, caractérisé en ce que le composant B comprend une partie (n) qui est reliée par l'intermédiaire de la partie (p) à la partie (m), ladite partie (n) étant de préférence parallèle à la surface du panneau de construction et fixée à la surface du panneau restant à
l'intérieur de ladite construction.

5. Panneau ou voile de construction L1, qui peut être fixé à un autre voile de construction pour former un système constructif selon la revendication 1, dans lequel le premier bord latéral du voile de construction L1 forme une connexion sans soudure avec le composant B de l'élément de couplage décrit dans la revendication 1, et le deuxième bord latéral du voile de construction forme une connexion sans soudure avec le composant A dudit élément de couplage, où les deux bords latéraux du voile de construction forment une connexion sans soudure avec le composant A dudit élément de couplage, caractérisé en ce que:

- la partie (m) du composant B est connectée sans soudure au premier bord latéral du voile de construction, et la partie (a) du composant A est connectée sans soudure au deuxième bord latéral du voile de construction, auquel cas les voiles de construction adjacents L1 peuvent être joints ensemble à l'aide des composants A et B adjacents comme décrit ci-dessus; ou
- la partie (a) du composant A est connectée sans soudure aux deux bords latéraux du voile de construction L1, auquel cas le voile de construction L1 peut être joint à un autre voile de construction L2, dont les deux bords latéraux forment une connexion sans soudure avec la partie (m) du composant B.

6. Panneau ou voile de construction L1, qui peut être joint à une autre panneau de construction pour former un système constructif selon la revendication 1, dans lequel le premier bord latéral du panneau de construction L1 est raccordé avec le composant A de l'élément de couplage décrit dans la revendication 1, et le deuxième bord latéral du panneau de construction est raccordé avec le composant B, ou bien les deux bords latéraux du panneau de construction sont raccordés avec le composant A dudit élément de couplage, caractérisé en ce que:

- la partie (a) du composant A est raccordée avec le premier bord latéral du panneau de construction, et que la partie (m) du composant B est raccordée avec le deuxième bord latéral du panneau de construction, auquel cas les panneaux de construction adjacentes L1 peuvent être joints ensemble à l'aide des composants adjacents A et B comme décrit ci-dessus; ou
- la partie (a) du composant A est raccordée avec les deux bords latéraux du panneau de construction L1, auquel cas le panneau de construction L1 peut être joint à un autre panneau de construction adjacent L2, dont les deux bords latéraux sont raccordés avec le composant B.