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(54) **SYSTEM FOR DISCONNECTABLE FASTENING OF PRODUCTS ON SURFACES CONTAINING VELCRO COMPONENTS ESPECIALLY IN THE CONSTRUCTION INDUSTRY**

(57) A system for disconnectable fastening of products on bearing surfaces comprising Velcro components, **characterised in that** it consists of the bearing elements (1, 2) fitted on the surface with fastening elements (3.1, 3.2), where the bearing elements (1) arranged on the

bearing surface (5) are shaped as flat strips and the bearing elements (2) of products (4) have the form of rectangular and/or square plates, which are in the middle and on the sides provided with fastening projections (6, 6.1).

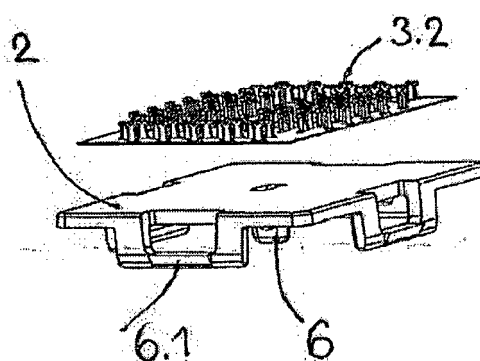


Fig. 3

Description

Field of the Invention

[0001] The invention relates to a disconnectable system for fastening products on surfaces by means of elements fitted with Velcro components particularly in the field of construction.

Description of Prior Art

[0002] Patented in 1955, Velcro is generally a textile material consisting of two parts designed for their temporary or adjustable connection. One part is made of fabric with protruding fibres with loops, while the other is covered with a number of small nylon hooks that catch on the said fabric. The method of the Velcro production is apparent for example from the international patent WO 2012031339 (A1), nevertheless, its nature is not related to the present solution. Patent BE 1015181 (A3) discloses a composite panel of rigid material, which is at least on one side provided with loops or hooks, arranged for the connection on the Velcro principle. The connection of two parts of the wall using Velcro elements is described, for example, in the European patent EP0990746 (A1). Nevertheless, the solution is not specific enough for practical use.

Nature of the Invention

[0003] The system for disconnectable fastening of products on surfaces contains Velcro components as the fastening elements. The nature of the invention lies in that the system consists of bearing elements provided on the surface with fastening elements. The bearing elements arranged on the bearing surface are shaped as flat strips and the bearing elements of products have the form of rectangular and/or square plates, which are in the middle and on the sides provided with fastening projections.

[0004] In a preferred embodiment the bearing elements cover the entire supporting surface or a part thereof.

[0005] According to another preferred embodiment, the fastening elements on the flat plates are formed either by Velcro loops or hooks.

[0006] According to another preferred embodiment, the fastening elements on the bearing element consist of Velcro hooks.

[0007] The bearing elements are preferably made of plastic.

[0008] It is also preferable, if the bearing elements are made of metal or wood.

[0009] According to other preferred embodiments, the bearing elements are attached to the bearing surface mechanically or glued or welded to it. They can be embedded in the material during manufacturing.

[0010] According to yet another preferred embodi-

ment, the bearing elements are embedded in concrete or another product material.

[0011] However, it is also preferable, if the bearing elements are welded or fastened mechanically to the products.

[0012] The described system provides for dry attachment of a product to the bearing surface. This "dry process" thus enables installation also at below zero temperatures, thereby extending the application season especially in the construction industry. The installation is simple and can be done by average skilled persons.

[0013] Preferable is also installation on insulation systems, in places with difficult expansion, in places with high humidity, or after floods, e.g. remedy ventilation, etc.

Overview of Figures Included in the Drawing

[0014] The invention is further illustrated by a drawing, where Fig. 1 shows a sectional view of the fastening of a cubic product on a wall bearing surface by means of the elements of the system in question. Fig. 2 shows an axonometric view of the bearing element of products provided with the fastening elements in the form of Velcro hooks. Fig. 3 shows an axonometric view of the bearing element of products with separate fastening elements.

Examples of the Invention

[0015] The system comprises the bearing elements 1 and 2 fitted on the surface with the fastening elements 3.1 and 3.2, where the bearing elements 1 arranged on the bearing surface 5 are shaped as flat strips and the bearing elements 2 of products 4 have the form of rectangular and/or square plates, which are in the middle and on the sides provided with fastening projections 6, 6.1. Their shape is sufficiently apparent from Fig. 3. In a preferred embodiment 1 they may cover the entire supporting surface 5 or a part thereof. The fastening elements 3.1 on the flat strips consist of Velcro loops or hooks, while the fastening elements 3.2 of products 4 are only formed by Velcro hooks, as shown in Fig. 2. The bearing elements 2 are embedded in concrete or other construction material of the products 4 already in the production, or welded or mechanically fastened to the products 4.

[0016] Fig. 1 shows the bearing element 1 in the form of a flat strip attached to the bearing surface 5, which is a wall in this case. In this case, the bearing element 1 is glued to the bearing surface 5. However, it may also be attached mechanically, or welded if the material is suitable. The bearing element 1 is provided with fastening elements 3.1, which may have the shape of Velcro loops or hooks. The hooks of the fastening element 3.2 of the product 4 are pressed in the loops or hooks of the fastening element 3.1, the product being here, for example, a tile, thereby joining the fastening elements 3.1 and 3.2, respectively attaching the tile to the bearing surface 5 (the wall), as the fastening elements 3.2 of the product

4 are fitted to the bearing element 2 of the product 4 whose fastening projections 6, 6.1 extend into the product 4, where it was inserted at the time of the curing of the product 4. The above attachment provides disconnectable but strong connection, particularly in the vertical direction. This connection is repeatable while maintaining the strength characteristics and values of the connection. The bearing elements 1 and 2 as well as fastening elements 3.1 and 3.2 may be made of various materials, such as plastic, metal, wood, concrete, ceramics, etc., and can have various dimensions.

or welded to the bearing surface (5).

11. A system according to claims 1 and 3, **characterized in that** the bearing elements (2) are embedded in concrete or another construction material of the product (4).

12. A system according to claims 1 and 3, **characterized in that** the bearing elements (2) are welded or attached mechanically to the products (4).

Claims

1. A system for disconnectable fastening of products on bearing surfaces comprising Velcro components, **characterised in that** it consists of the bearing elements (1, 2) fitted on the surface with fastening elements (3.1, 3.2), where the bearing elements (1) arranged on the bearing surface (5) are shaped as flat strips and the bearing elements (2) of products (4) have the form of rectangular and/or square plates, which are in the middle and on the sides provided with fastening projections (6, 6.1).

2. A system according to claim 1, **characterized in that** the bearing elements (1) cover the bearing surface (5).

3. A system according to claim 1, **characterized in that** the fastening elements (3.1) on the bearing element (1) in the form of a flat strip are made of Velcro loops or hooks.

4. A system according to claim 1, **characterized in that** the fastening elements (3.2) on the bearing element (2) of the product (4) are made of Velcro hooks.

5. A system according to a claim 1 to 3, **characterized in that** the bearing elements (1,2) are made of plastic.

7. A system according to a claim 1 to 3, **characterized in that** the bearing elements (1, 2) are made of metal.

8. A system according to a claim 1 to 3, **characterized in that** the bearing elements (1,2) are made of wood.

9. A system according to claims 1 and 2, **characterized in that** the bearing elements (1) are attached mechanically to the bearing surface (5).

10. A system according to claims 1 and 2, **characterized in that** the bearing elements (1) are glued

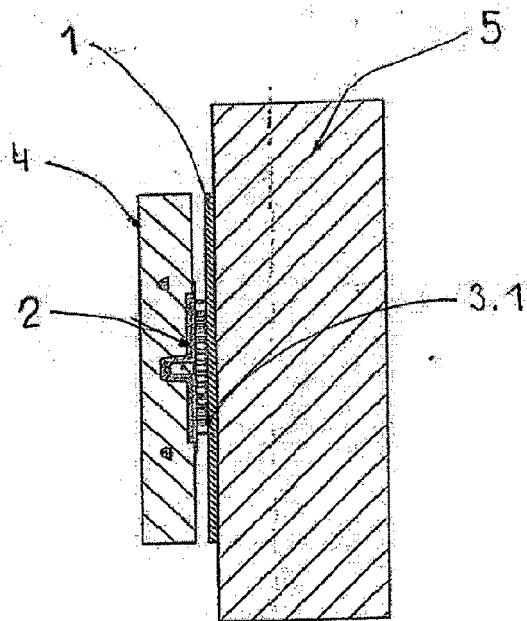


Fig. 1

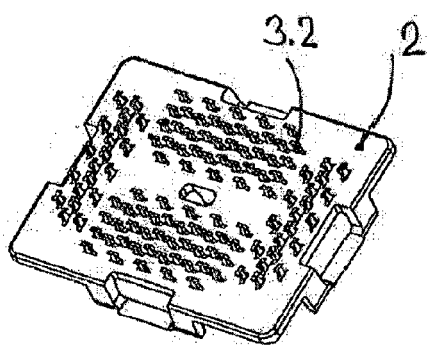


Fig. 2

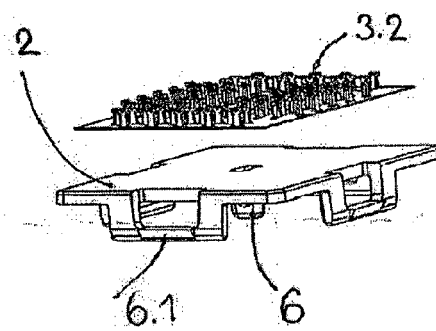


Fig. 3



EUROPEAN SEARCH REPORT

Application Number
EP 15 46 6005

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	FR 2 816 342 A1 (CUIRS ET TRADITIONS [FR]) 10 May 2002 (2002-05-10) * page 2, line 1 - line 2; figure 1 * * page 2, line 27 - line 29 * * page 2, line 33 - line 35 * * page 3, line 1 - line 6; claim 7 * * page 4, line 13 - line 16; figure 3 * * page 4, line 30 - line 33 * -----	1-5,7-12	INV. E04F13/08 ADD. E04B1/41
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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 29 July 2015	Examiner Estorgues, Marlène
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 15 46 6005

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- WO 2012031339 A1 [0002]
- BE 1015181 A3 [0002]
- EP 0990746 A1 [0002]