(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 January 2009 (15.01.2009)

PCT

(10) International Publication Number
WO 2009/007735 A1

(51) International Patent Classification:
E04F 21/20 (2006.01)

(21) International Application Number:
PCT/GB2008/002384

(22) International Filing Date: 11 July 2008 (11.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0713427.3 11 July 2007 (11.07.2007) GB

(71) Applicant and
(72) Inventor: **FLUDE, David** [GB/GB]; 80 Colinmander Gardens, Aughton, Lancashire L39 4TF (GB).

(74) Agents: **LYONS, Andrew, John** et al.; Marks & Clerk, Tower Building, Water Street, Liverpool L3 1BA, Merseyside (GB).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(54) **Title:** TOOL FOR USE IN MARKING TILE

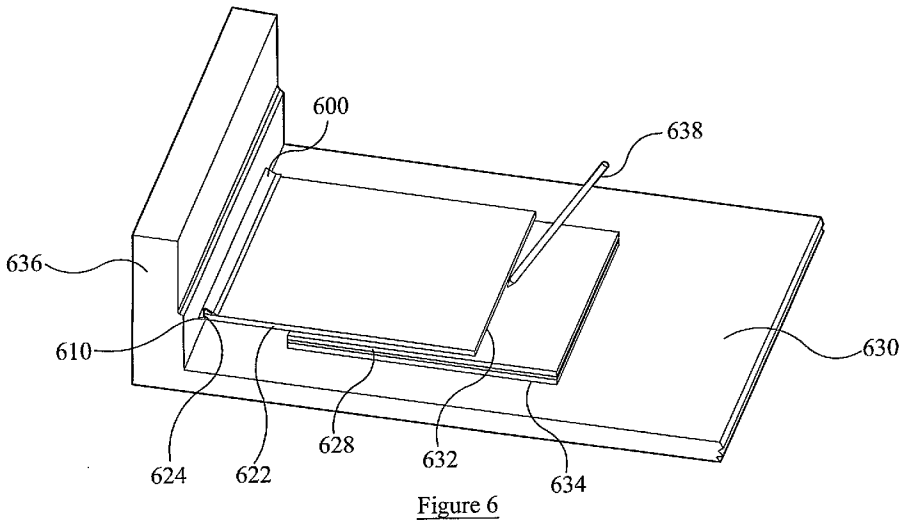

Figure 6

(57) **Abstract:** A tool suitable for holding a ruling tile (622) for using in making a cutting line on a cutting tile (628). The tool (600) comprises a tile receiving means and a support means (624) for the tile receiving means. The tile receiving means is adapted to space the ruling tile at a desired distance from a boundary (636) of an area (630) to be tiled. The ruling tile overlies the cutting tile. Optionally a laid tile (634) is provided beneath the cutting tile. A method of marking and cutting a tile using such a tool.

WO 2009/007735 A1

Tool for Use in Marking Tiles

Field of the Invention

The present invention relates to a tool for use in marking tiles for cutting, in particular for use when tiling around the edges of a floor.

Background of the Invention

When laying tiles it is typical to start by laying a region of complete tiles within the boundaries of the area to be tiled, leaving a border around the periphery of the region within which incomplete tiles are laid.

In the case of tiling a floor incomplete tiles are laid around the edges of the floor close to the wall. Tiles are typically laid with lines of grout (grout joints) both between adjacent tiles and between the wall and tiles adjacent to the wall. Consequently incomplete, peripheral tiles are commonly cut to a smaller size than the gap into which they are fitted, by an amount equal to the thickness of two lines of grout. Similarly, when laminate flooring sections are laid on a floor, the edge sections are typically cut to such a size that when fitted an "expansion gap" is left between the laid flooring and the walls.

Determining the necessary size to which the peripheral tiles require to be cut is commonly performed by means of a method referred to as the "back marking" method. In the traditional back marking method a cutting tile to be cut is overlaid on a laid tile that is adhered to the floor, the side of a ruling tile is abutted against the wall, and a line is ruled on the cutting tile, along the opposite side of the ruling tile. A second line is then ruled on the cutting that is parallel with the first line, and separated by an amount equal to the thickness of two lines of grout, such that the second line demarcates a portion of the cutting tile that will fit into the gap between the laid tile and the wall together with two lines of grout. A traditional back marking method is illustrated in Figures 1, 2 and 3.

CONFIRMATION COPY

In Figure 1 tiles are being laid across a floor 100 as far as a wall 102 or skirting board. The complete laid tile 104 has been laid into position on the floor 100, such that a gap G remains between that complete tile and the wall 102. A cutting tile 106A to be cut to fit within the gap G is laid on top of the complete laid tile 104, such that the edges of the cutting tile and the adhered tile are aligned. A ruling tile 108 is laid on top the cutting tile 106A, such that the first edge 110A abuts the wall 102. A first line 112 is then ruled on the exposed surface of the cutting tile 106A by drawing a pencil 114 along the second edge 110B of the ruling tile 108.

Tiles are typically laid on a bed of adhesive 116 with gaps between the adjacent tiles and walls, before the gaps are filled with grout 118. Consequently, the cutting tile 106A typically requires to be cut to a size that is slightly smaller than the gap G, such that the cut tile 106B can be laid into the gap G with room for a line of grout 118 between the cut tile 106B and each of the complete laid tile 104 and the wall 102, as is illustrated in Figure 2.

Figure 3 illustrates the cutting tile 106A, on which the first line 112 has been ruled. A second line 120 is then ruled on the cutting tile 106A. The second line 120 is the line along which the cutting tile 106A will be cut, and is offset T from the first line 112 by a separation equal to the thickness of the two lines of grout 118.

To achieve the most accurate positioning of the first line 112 on the cutting tile 106A, it is necessary that the first edge 110A of the marking tile 108 should be no closer to the floor than the second edge 110B, such that the second edge is in contact with the cutting tile 106A when the first line 112 is ruled.

The required gap between the tiles for grout needs to be measured in order to determine the offset between the first 112 and second lines 120. The positions of the ends 122A and 122B of second line 120 are then marked before the second line is ruled between them.

CONFIRMATION COPY

The traditional marking method, which typically requires the use of a tape measure or ruler, is time consuming, inconvenient and may be inaccurate and messy, which lead to wasted labour and materials.

US6523272 discloses an adjustable measuring device having a base, a slidably attached slide member and a pair of opposing locking elements for releasably securing the sides of the slide member against the base. The device permits a marking end of the device to be moved relative to the base to a position that corresponds to the size of a given tile plus the grout joint spacing on each side of a perimeter tile, which is actually twice the width of the grout line.

The device of US6523272 bulky, mechanically complex to manufacture due to the number of component parts, and may be difficult use due to the number of movable parts. Further, due to its size, the device has only limited compatibility with different sizes of tile.

US6481112 discloses a tile fitting tool comprising a base and a measuring aid. The base holds a plurality of tiles, having a bottom portion for resting on a laid tile and an upturned lip for engaging an edge of a loose tile to be laid. A down-turned lip of the measuring aid may be adjustable or provided with projections or a spacing device, or a spacing device can be inserted, to account for additional spacing requirements, such a grout.

The tool of US6481112 is bulky and mechanically complex to manufacture. Further it is only suited to use with a tiles of a single width.

Thus a need remains in the industry for an alternative design of tool to facilitate the back marking of tiles, which seeks to mitigate at least some of the disadvantages of the prior art designs.

CONFIRMATION COPY

Statement of the Invention

It is an object of the present invention to provide a tool for use in marking and cutting tiles that seeks to overcome at least some of the disadvantages described above.

A first aspect of the invention provides a tool suitable for holding a ruling tile for use in marking a line on a cutting tile. The tool comprises a tile receiving means and a support for the tile receiving means. The tile receiving means is adapted to space the ruling tile at a desired distance from a boundary of an area to be tiled. The ruling tile overlies the cutting tile. Optionally a laid tile is provided beneath the cutting tile.

A second aspect of the invention provides a method of marking a cutting tile. The method uses a tool suitable for holding a ruling tile for use in marking a cutting tile. The tool comprises a tile receiving means and a support for the receiving means. The ruling tile is inserted into the tile receiving means. The tile receiving means is abutted to a boundary of an area to be tiled such that the ruling tile is spaced from the boundary by a desired distance. The ruling tile arranged to overlie a cutting tile. Optionally a laid tile is provided beneath the cutting tile. A line is ruled on a surface of the cutting tile. The line is ruled adjacent to an edge of the ruling tile that is opposite to an edge received into the receiving means.

The receiving means may comprise a holding means and a base.

The holding means may be configured such that it is resiliently biased towards the base when the receiving means is in receipt of the ruling tile. The holding means may comprise a clamp, adapted to clamp a tile between the holding means and the base.

The holding means may be detachable from the receiving means. The holding means may be adjustable in size to receive different thicknesses of

CONFIRMATION COPY

ruling tile. The holding means may run the length of the receiving means. Alternatively, the holding means may comprise a single arm.

The base may be provided with an abutment against which a first edge of the ruling tile may be abutted. The abutment may be a desired distance from the side of the receiving section opposed to that adapted to receive a tile.

The receiving means may be provided with a spacer on the opposite side of the receiving means from that which is adapted to receive a tile. Tiles of different types require differently sized gaps between adjacent tiles or between the cut tile and the boundary of the area to be tiled, corresponding with different thicknesses of grouting or expansion gap. A spacer may be connected to the receiving means that is of a size corresponding with the required gap or gaps adjacent to the cut tile. A tool may be chosen from a selection with differently sized spacers corresponding with differently sized thicknesses of grouting or expansion gaps. Alternatively the spacer may be adjustable in size. In yet another alternative, the spacer may be detachably connected to the receiving section, such that a spacer may be connected to the receiving means corresponding with the required gap or gaps.

The receiving means may be provided with a spine that is connected between the base and the holding means. The abutment may be a surface of the spine. The spacer may project from the spine on a side of the receiving means opposed to a side adapted to receive a tile.

The support may be detachably connected to the receiving means. Different sizes of support may be fitted corresponding with different thicknesses of tiles. The receiving means may be provided with a channel or bracket for receiving the support. In the case that the leg is a bolt, the bolt may be locked into place by means of a locking nut.

The support may comprise one leg or a plurality of legs. The leg may be individually connected to the receiving means. Alternatively the plurality of legs may be connected to a common body, which may be connected to the

CONFIRMATION COPY

receiving section. The leg may comprise a steel leg. The leg may comprise a bolt. The plurality of legs may comprise two bolts.

The height of the support may be adjustable in size. The height may be adjusted to match different thicknesses of tile.

One of the receiving means, support or spacer may comprise an alignment edge. The alignment edge may be aligned with a boundary of the tiling surface.

The receiving means may comprise an extrusion. The receiving section may be formed from a thermoplastic polymer, for example polyvinyl chloride (PVC). The receiving means may be elongate. The receiving means may have a constant cross-section along a length.

The extrusion may comprise the holding means. The extrusion may comprise the support. The support may comprise a rib. The rib may be cut into a pattern of legs. The rib may be provided with feet. The extrusion may comprise the spacer.

During use, the support may be rested on the tiling surface. During use, the side of the receiving means opposite to that which is adapted to receive a tile may be held against or aligned with a boundary of the tiling surface.

Once marked with the ruled line, the cutting tile may be cut into parts along the ruled line. Once cut, a part of the cutting tile may be adhered to the tiling surface between the laid tile and a boundary of the tiling surface.

The tool and method may be used in tiling a tiling surface that is one of a floor, a wall or a ceiling. The tile may be one of ceramic tiles, expanded polystyrene tiles, cork tiles, wooden tiles, floorboards and laminate flooring sections.

CONFIRMATION COPY

Brief Description of the Drawings

For a better understanding of the present invention and to show more clearly how it may be carried into effect, reference will now be made, by way of example only, to the accompanying drawings, in which:

- Figure 1 is a schematic side view of a tiling arrangement in which a line is ruled on a cutting tile according to the traditional back marking method.
- Figure 2 is a schematic side view of a tiling arrangement after a cut tile has been laid.
- Figure 3 is a plan view of a cutting tile according to the traditional back marking method.
- Figure 4 is a schematic side view of a tool.
- Figure 5 is a schematic perspective view of a tool.
- Figure 6 is a schematic perspective view of a tool and tiles.
- Figures 7A and 7B are schematic views of a further tool.
- Figure 8 is a schematic side view of yet another tool.

Detailed Description of Embodiments

Figure 4 illustrates side view of a tool 400 for use in marking a line on a tile. The tool 400 comprises a receiving means 402 and support 404. The support 404 is detachably connected to the receiving means 402.

The receiving means 402 comprises a base 406, holding means 408, a spacer 410, a spine 412 and a channel 414. The receiving means 402 is an extrusion, in which the spacer and the holding means form part of the extrusion.

The support 404 comprises a bolt 416. The bolt 416 is connected to the receiving means 402 by the head 418 of the bolt being received within the channel 414.

CONFIRMATION COPY

The receiving means 402 is adapted to receive a tile between the base 406 and the holding means 408. The receiving means 402 is provided with an abutment 420 against which the tile is abutted.

Figure 5 illustrates a tool 500 for use in marking a line on a tile. The receiving means 502 of tile marking tool 500 is shown in receipt of a ruling tile 522. A first edge 524 of the ruling tile 522 is abutted to the abutment 520. The holding means 508 is resiliently deformed for the receiving means 502 to accept the inserted ruling tile 522. The holding means 508 is biased towards the base 506, such that the receiving means 502 clips onto the ruling tile 522. The holding means 508 can withstand repeated deformation without breaking or substantial reduction in bias.

The support 504 comprises a pair of bolts 516 that are received within the channel 514. The bolts 516 are provided with locking nuts 526.

Figure 6 illustrates the use of a tool 600 in marking a line on a cutting tile 628. The tool 600 is stood with the support 604 upon the tiling surface 630. The tiling surface 630 is the area to be tiled. The first edge 624 of a ruling tile 622 is received into the receiving means of the tool 600. A second edge 632 of the ruling tile 622 is overlaid on the cutting tile 628. The cutting tile 628 is overlaid on a laid tile 634, which is adhered to the tiling surface 630. Other tiles that have been laid surrounding the laid tile 634 have been omitted for clarity.

The spacer 610 of the tool 600 is held against the wall 636, which is the boundary of the tiling surface 630. A pencil 638 is used to rule a cutting line (not shown) on the cutting tile 628 along the second edge 632 of the ruling tile 622.

Figure 7A illustrates a side view of a tool 700, which is extruded. The extrusion comprises a receiving means 702 and a support 704.

CONFIRMATION COPY

The receiving means 702 comprises a base 706, a spacer 710, a spine 712 and a holding means 708.

A ruling tile 722 is shown received into the receiving means 702, such that a first edge 724 abuts the abutment 720. The second edge 732 of the ruling tile 722 rests upon the cutting tile 728, which is aligned with and overlies a laid tile 734. The laid tile 734 is adhered to the tiling surface 730 by means of adhesive 740.

The support 704 comprises a first ridge 716 and a second ridge 742. The second ridge 742 has an alignment edge 744. When tiling adjacent to a wall, the alignment second ridge can be abutted against the wall.

Figure 7A illustrates use of the tool 700 in a case where the boundary 746 of the tiling surface 730 does not terminate against a wall or other surface that is perpendicular to the tiling surface 730. In such a case the alignment edge 744 can be aligned with the boundary 746 so that a cutting line can be ruled along the cutting tile 728.

Figure 7B illustrates a rear view of the tool 700 of Figure 7A, such that the spine 712 and second ridge 742 are visible. The second ridge 742 is provided with cut-outs 748 to form feet 750. The feet 750 serve to support the main part of the tool 700 above any layer of adhesive 740 that may cover the tiling surface 730.

Figure 8 illustrates a tool 800, comprising a receiving means into which a ruling tile 822 is received, and a support 804. The receiving means comprises a base 806 and a holding means 808. The holding means 808 comprises a resiliently deformable sprung arm 852 that is connected to the base 806 by means of a fixture 854.

Use in laying laminate flooring falls within the scope of the present invention. The tool according may be used in marking a cutting line along a laminate flooring section, such that the cut section can be fitted adjacent to the region

CONFIRMATION COPY

of complete sections leaving an expansion gap between the cut section and the wall.

Many laminate flooring sections typically strip-shaped, and have long sides with narrower ends. When marking cutting lines along the length of a cutting section the ruling section may advantageously be held by two or more tools in cooperation. For example a pair of tools can be fitted, spaced apart, to one side of a ruling section.

Further, although described the invention has been described with respect to tiling floors, the tool is also suitable for use in tiling other surfaces, including by not limited to walls and ceilings.

CONFIRMATION COPY

Claims

1. A tool suitable for holding a ruling tile for using in marking a cutting line on a cutting tile, the tool comprising

tile receiving means adapted to space a ruling tile at a desired distance from a boundary of an area to be tiled, and

support for the tile receiving means,

whereby the ruling tile can overlie the cutting tile and optionally a laid tile beneath the cutting tile.

2. The tool according to claim 1 wherein the receiving means comprises a holding means and a base.

3. The tool according to claim 2 wherein the holding means configured such that it is resiliently biased towards the base when the receiving means is in receipt of the ruling tile.

4. The tool according to claim 2 wherein the holding means comprises a clamp that is adapted to clamp a tile between the holding means and the base.

5. The tool according to any preceding claim wherein the receiving means has a spacer on the opposite side of the receiving means from that which is adapted to receive a tile.

6. The tool according to any preceding claim wherein the receiving means comprises an extrusion.

7. The tool according to claim 6 wherein the extrusion comprises at least one of the holding means, the support and the spacer.

CONFIRMATION COPY

8. The tool according to any preceding claim wherein the base has an abutment for a first edge of the received ruling tile.

9. The tool according to one of claims 2 to 8 wherein at least one of the holding means, spacer and support is adjustable in size.

10. The tool according to one of claims 2 to 9 wherein at least one of the holding means, spacer and support is detachably connected to the receiving means.

11. The tool according to any preceding claim wherein the support comprises one leg or a plurality of legs.

12. The tool according to any preceding claim wherein the support comprises a bolt.

13. The tool according to any preceding claim wherein the receiving means has a channel or bracket for receiving the support.

14. A method of marking a cutting tile using a tool suitable for holding a ruling tile for use in marking a cutting tile wherein
the tool comprises
tile receiving means and
support for the tile receiving means, and
the method comprises
inserting an edge of a ruling tile into the tile receiving means,
abutting the tile receiving means to a boundary of an area to be tiled such that the ruling tile is spaced from the boundary by a desired distance,
arranging the ruling tile to overlie a cutting tile and optionally a laid tile beneath the cutting tile,

CONFIRMATION COPY

ruling a cutting line on a surface of the cutting tile, the cutting line being adjacent to an edge of the ruling tile that is opposite to the edge inserted into the receiving means, and

15. The method according to claim 14 further comprising cutting the cutting tile into parts along the cutting line.

CONFIRMATION COPY

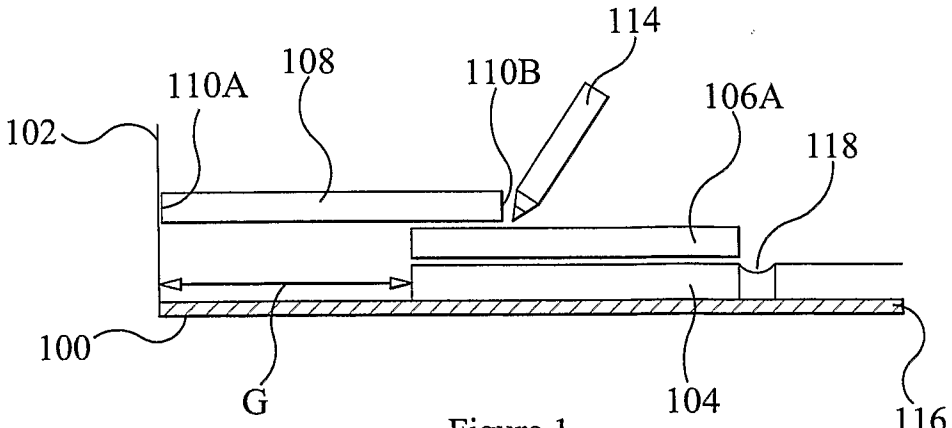

Figure 1

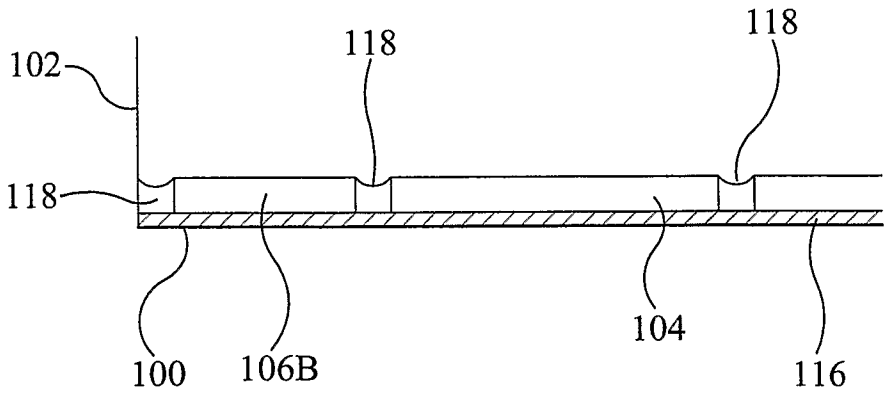

Figure 2

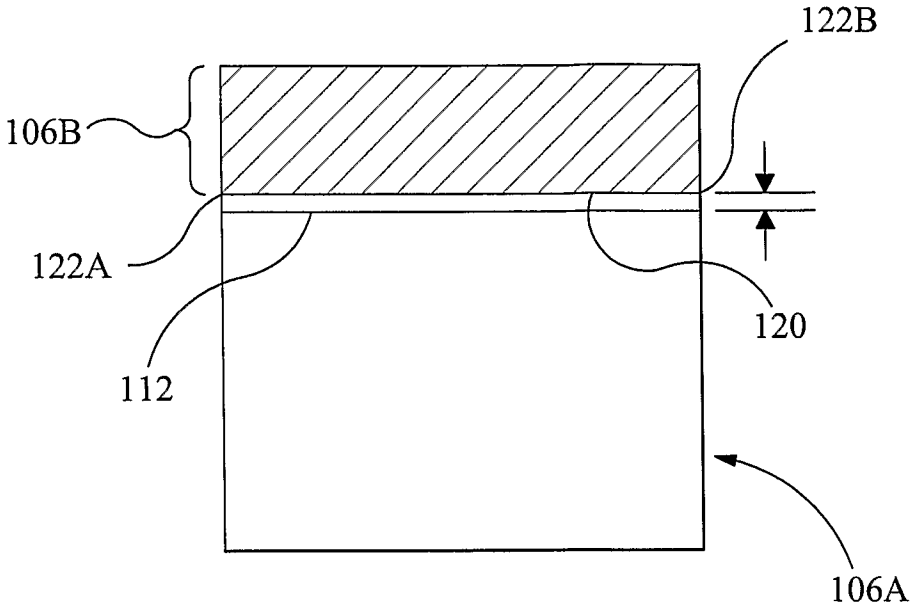

Figure 3

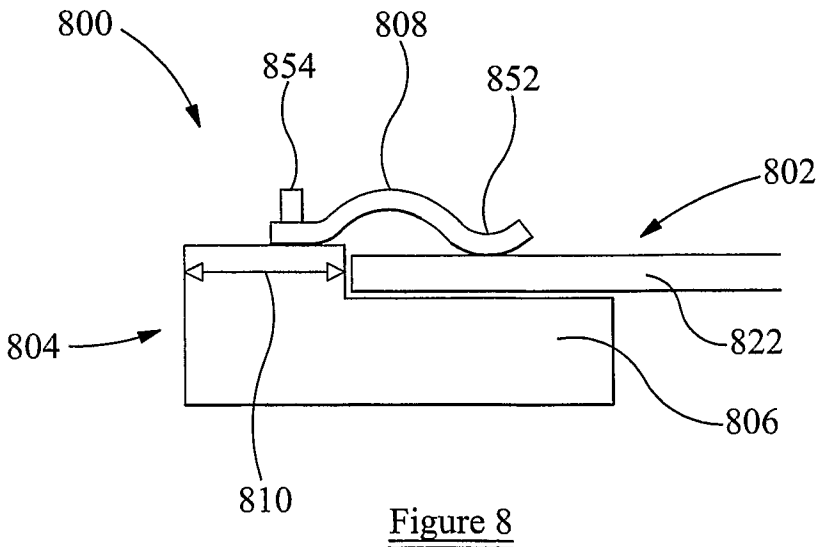

Figure 8

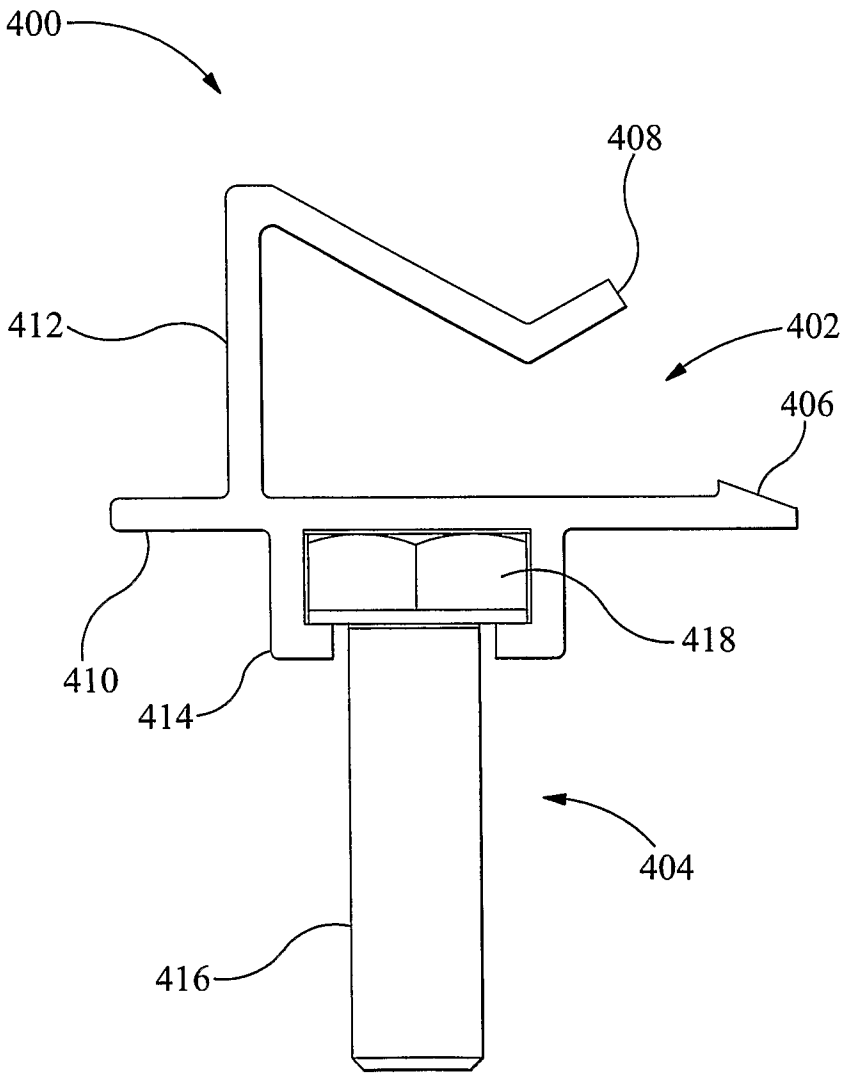

Figure 4

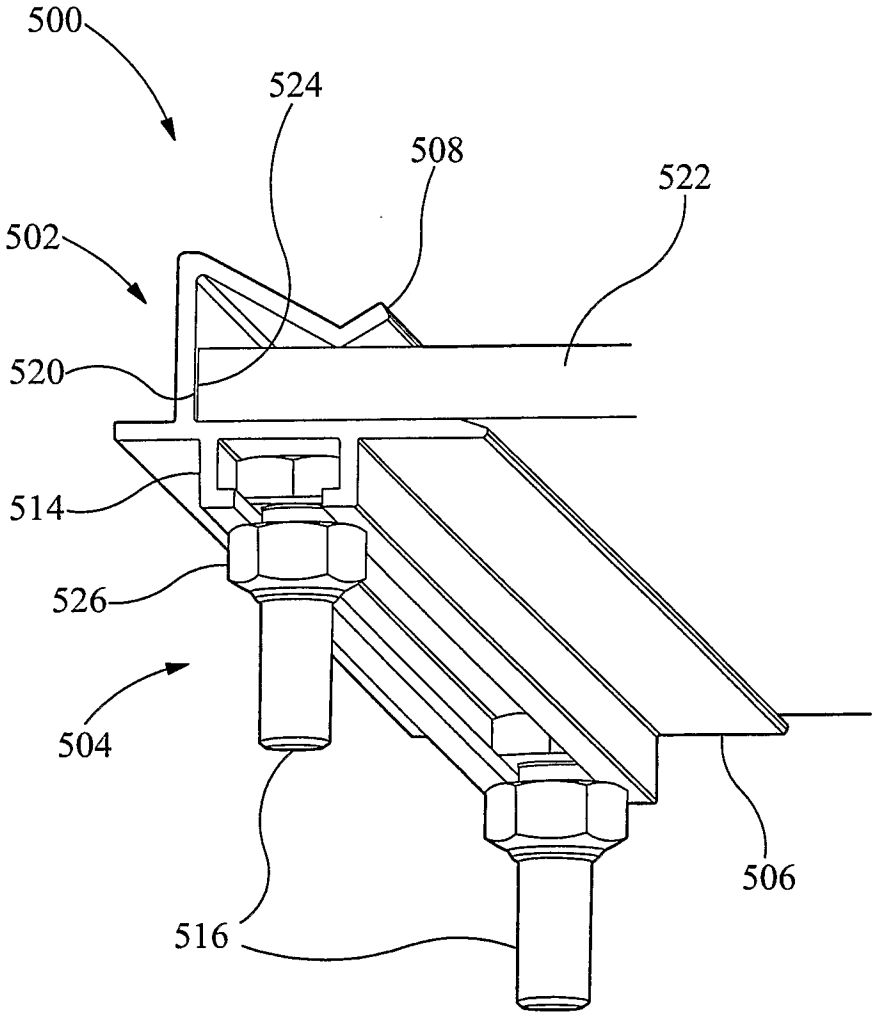

Figure 5

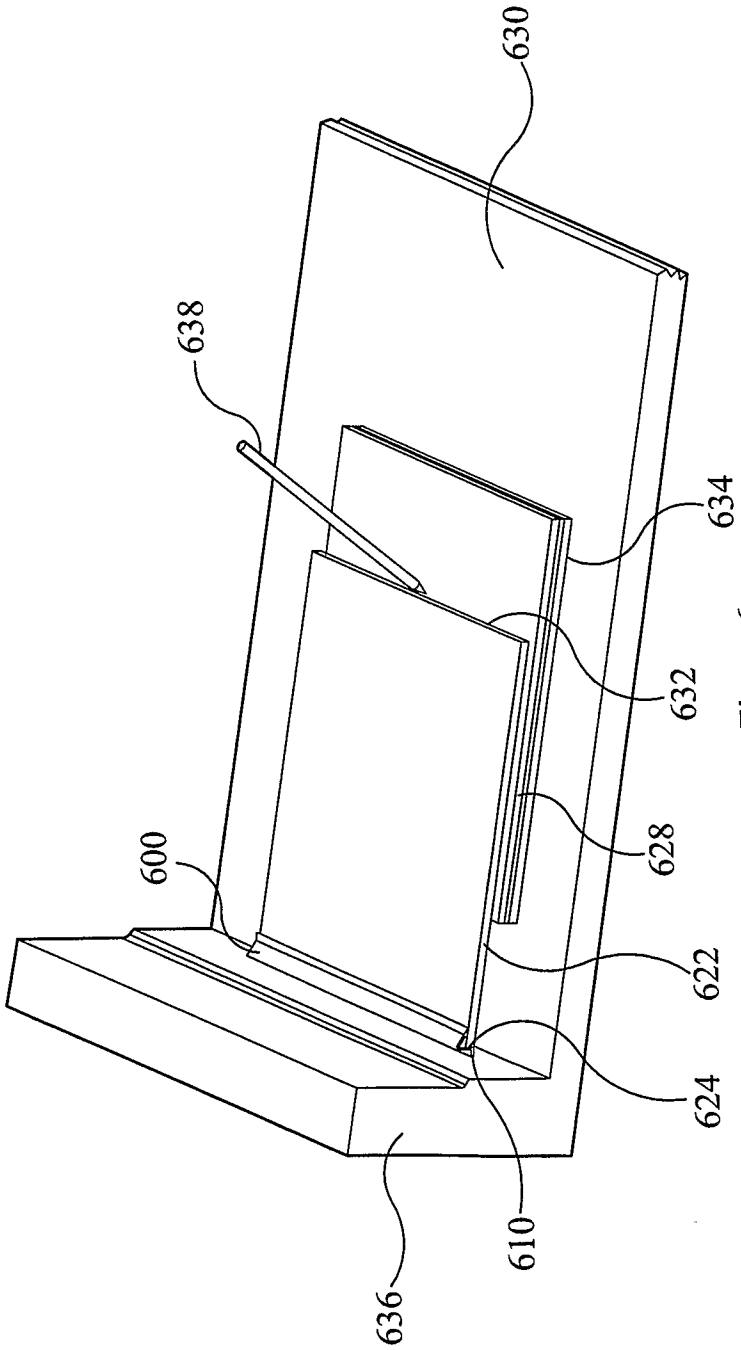

Figure 6

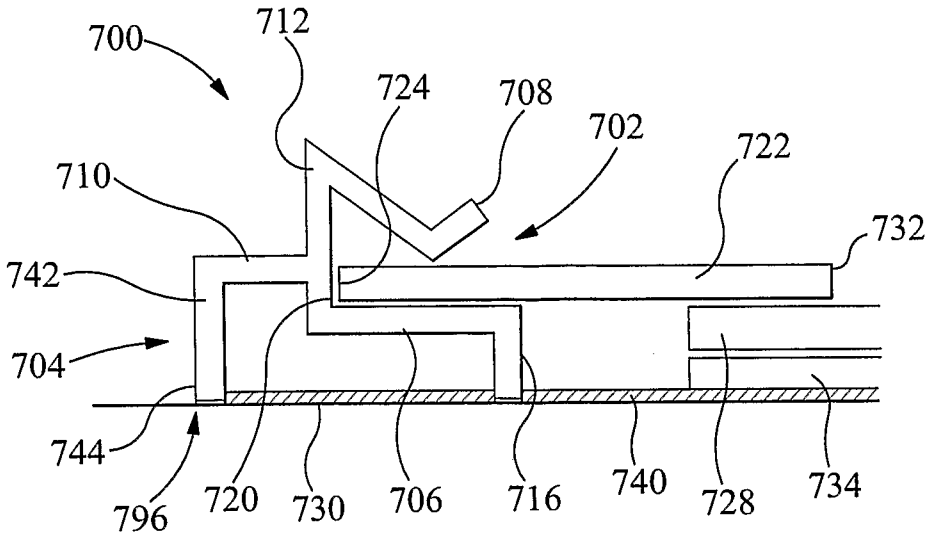

Figure 7A

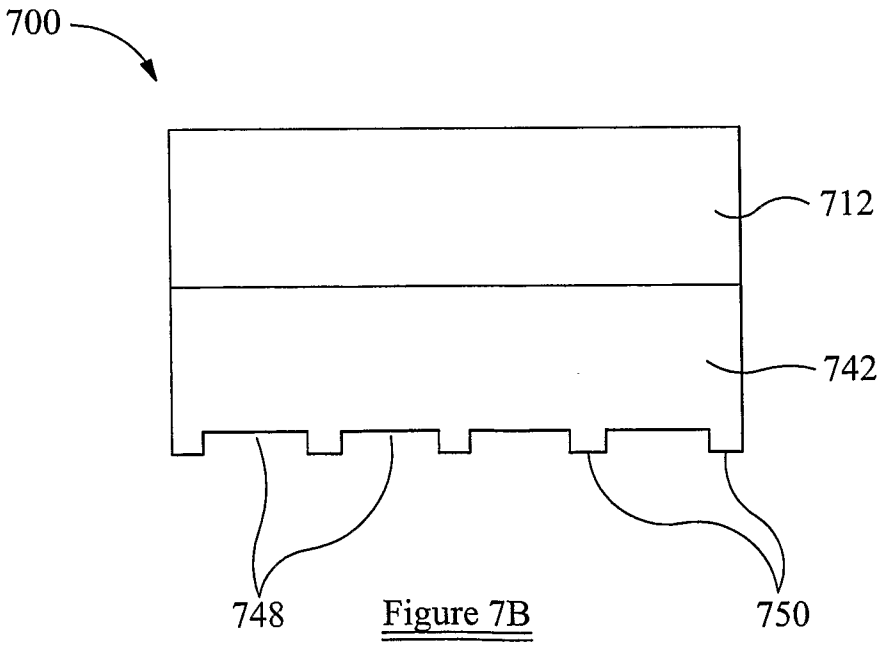

Figure 7B

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2008/002384

A. CLASSIFICATION OF SUBJECT MATTER
INV. E04F21/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E04F B28D

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 523 272 B1 (MORALES GEORGE B [US]) 25 February 2003 (2003-02-25) cited in the application the whole document	
A	US 6 481 112 B1 (WHITE DAVID [US]) 19 November 2002 (2002-11-19) cited in the application the whole document	
X	FR 1 331 156 A (HENRI CORPS) 28 June 1963 (1963-06-28) column 1, line 1 - column 2, line 4; figures 1,2	1-13
X	US 2 855 690 A (MARR GARNER K) 14 October 1958 (1958-10-14) column 2, line 46 - line 62; figures 5-8	1-13

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 November 2008	24/11/2008

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Bastian, Almut

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/GB2008/002384

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6523272 B1	25-02-2003	NONE	
US 6481112 B1	19-11-2002	NONE	
FR 1331156 A	28-06-1963	NONE	
US 2855690 A	14-10-1958	NONE	