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(54) Title: SYSTEM AND METHOD FOR FLOOR COVERING INSTALLATION

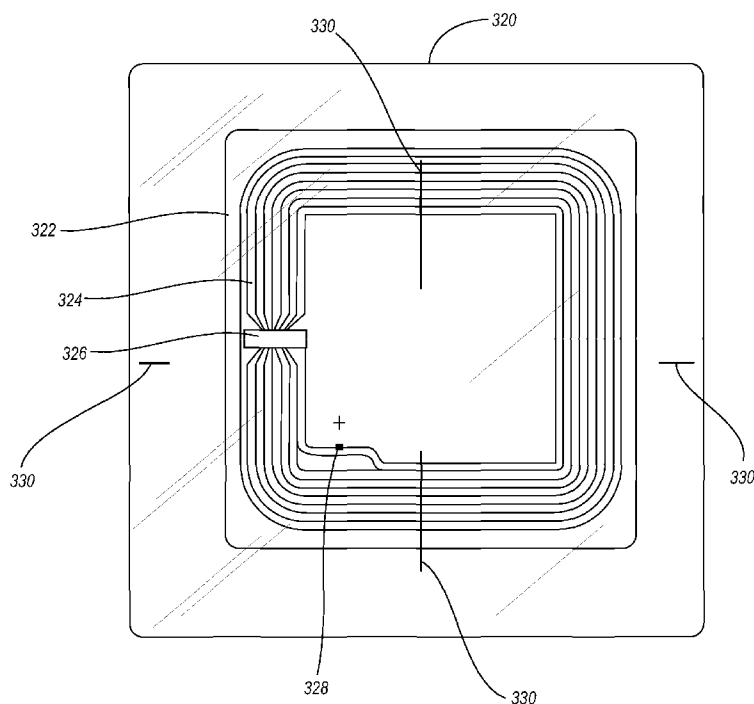


Fig. 21

(57) Abstract: Connectors for joining adjacent modular floor covering units. Embodiments of the connectors include a film and an adhesive layer coated on one side of the film. The connectors can have a conductive component that allows electrical continuity to be maintained between adjacent tiles. In yet another embodiment, the connectors can be equipped as radio frequency identification tags by including radio frequency transponders. To install tiles using the connectors, a first tile is placed on the floor and a connector is positioned so that the adhesive layer faces upward and does not contact the floor. The connector is typically positioned so that only a portion of the adhesive layer adheres to the underside of the tile, leaving the remainder of the connector extending from the underside of the tile. One or more tiles are then positioned adjacent the first tile so that a portion of the connector adheres to the adjacent tiles. In this way, the connectors span adjacent tile edges. The tiles are assembled on an underlying flooring surface without the need to attach them to the floor surface. Rather, the tiles are linked to each other with the

connectors, so that the tiles create a floor covering that "floats" on the underlying floor surface. Additionally, the tiles need not be installed directly on the floor surface. Rather, an underlayment, such as a film or cushion or cushion composite, may be positioned on the floor surface prior to the installation of tiles.



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).

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

INV. C09J7/02 A47G27/04 B65H37/00 E04F15/02

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)

C09J A47G E04F

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 100 01 551 A1 (MEDES HEUSER & SZABO GMBH [DE]) 19 July 2001 (2001-07-19) claims 1-3 figures 1,2	1-4
X	EP 0 237 657 A (NAKANO TSUGO) 23 September 1987 (1987-09-23) claim 1	1-4

☐ 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

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/058361

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-4

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4

A connector for connecting modular tiles, said connector comprising a film, an adhesive, and a conductive component located on the film. Further, a floorcovering installation comprising such a connector and a plurality of tiles.

2. claims: 5-19

A floorcovering installation comprising a plurality of tiles, connectors positioned to span adjacent edges of the tiles, and an intermediate substrate positioned on the flooring surface.

3. claims: 20-59

A connector for connecting modular tiles, said connector comprising a film, an adhesive, and a radio frequency transponder attached to the film. Further, a floorcovering installation comprising such a connector and a plurality of tiles. Further, a method of covering a floor using such connectors. Further, a method of using radio frequency transponders in floor covering. Further, a method of installing radio frequency transponders in buildings.

4. claims: 60-62, 66-68 (in part)

A connector for connecting modular tiles, said connector comprising a film, an adhesive, and a chemical sensor.

5. claims: 63-65, 66-68 (in part)

A connector for connecting modular tiles, said connector comprising a film, an adhesive, and a pressure sensor.

6. claims: 66-68 (in part)

A connector for connecting modular tiles, said connector comprising a film, an adhesive, and a temperature sensor.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/058361

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 10001551	A1	19-07-2001	NONE	
EP 0237657	A	23-09-1987	NONE	