



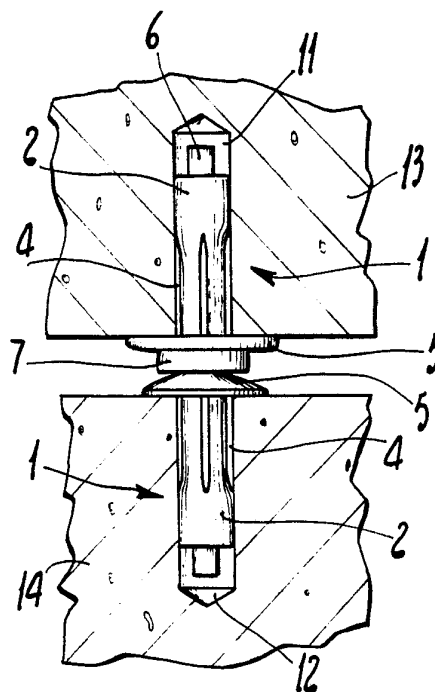
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : E04F 13/08	A1	(11) International Publication Number: WO 92/13154 (43) International Publication Date: 6 August 1992 (06.08.92)
(21) International Application Number: PCT/EP92/00074 (22) International Filing Date: 15 January 1992 (15.01.92) (30) Priority data: PD91 U 000004 18 January 1991 (18.01.91) IT (71) Applicant (for all designated States except US): FISCHER ITALIA S.A.S. DI PAOLO MORASSUTTI & C. [IT/IT]; Corso Stati Uniti, 25 - Z.I., I-35100 Padova (IT). (72) Inventor; and (75) Inventor/Applicant (for US only) : MORASSUTTI, Paolo [IT/IT]; Via San Martino e Solferino, 103, I-35100 Padova (IT). (74) Agents: MODIANO, Guido et al.; Modiano, Josif, Pisanty & Staub, Via Meravigli, 16, I-20123 Milan (IT).		(81) Designated States: AT (European patent), BE (European patent), BR, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), HU, IT (European patent), JP, LU (European patent), MC (European patent), NL (European patent), SE (European patent), US. Published <i>With international search report.</i>

(54) Title: ACCESSORY SPACING ELEMENT FOR DOWEL ANCHORING DEVICES FOR WALL COVERING SLABS

(57) Abstract

The accessory spacing element (1) for dowel anchoring devices for wall covering slabs includes a tubular body (2) made of plastic material which is interposed between the dowel (6) and the respective accommodation seat (11, 12) of the slab (13, 14). The body (2) has an elastically deformable frustum-shaped annular flange (5) at one end thereof.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	FI	Finland	MI	Mali
AU	Australia	FR	France	MN	Mongolia
BB	Barbados	GA	Gabon	MR	Mauritania
BE	Belgium	GB	United Kingdom	MW	Malawi
BF	Burkina Faso	GN	Guinea	NL	Netherlands
BG	Bulgaria	GR	Greece	NO	Norway
BJ	Benin	HU	Hungary	PL	Poland
BR	Brazil	IE	Ireland	RO	Romania
CA	Canada	IT	Italy	RU	Russian Federation
CF	Central African Republic	JP	Japan	SD	Sudan
CG	Congo	KP	Democratic People's Republic of Korea	SE	Sweden
CH	Switzerland	KR	Republic of Korea	SN	Senegal
CI	Côte d'Ivoire	LI	Liechtenstein	SU	Soviet Union
CM	Cameroon	LK	Sri Lanka	TD	Chad
CS	Czechoslovakia	LU	Luxembourg	TG	Togo
DE	Germany	MC	Monaco	US	United States of America
DK	Denmark	MG	Madagascar		
ES	Spain				

ACCESSORY SPACING ELEMENT FOR DOWEL ANCHORING DEVICES FOR
WALL COVERING SLABS

Technical Field

The present invention relates to an accessory spacing element for dowel anchoring devices for wall covering slabs.

Background Art

It is currently common to cover walls with slabs, generally made of marble, which are associated with said
5 walls by means of various types of anchorings which are fixed by means of screw anchors.

One type of these anchoring devices comprises a bracket which is fixed to the wall by means of a screw anchor and which supports an internally threaded tubular element inside
10 which a complementarily threaded pivot is screwed; said pivot protrudes with a flattened end which is arranged conveniently parallel to the floor.

Said flattened end is crossed by a hole in which a dowel is inserted.

15 During the installation of the slabs, said flattened end is arranged between the edges of two consecutive slabs, and the dowel is inserted with both of its ends in adapted holes of said slabs, engaging them.

The arrangement of the assembly must be performed so
20 that the device, by means of the flattened end of the threaded pivot, bears the vertical load transmitted by the slab arranged above it and acts as a horizontal retainer for the lower slab.

Due to this reason, the upper slab rests on the
25 flattened end, whereas a certain play is left between said flattened end and the lower plate.

This causes difficulties in correctly mutually aligning the various slabs and in providing constant-width gaps.

Disclosure of the Invention

The aim of the present invention is to make the installation of wall covering slabs easier, more rapid and
5 precise.

A consequent primary object is to provide an accessory spacing element which can be applied without difficulty to known dowel devices for anchoring wall covering slabs.

Another important object is to provide an accessory
10 spacing element which allows perfect alignment of the slabs and the provision of constant-width gaps without requiring measurement and adjustment operations.

Still another object is to provide an accessory spacing element which can be manufactured easily and has a low cost.

15 This aim, these objects and others which will become apparent hereinafter are achieved by an accessory spacing element for dowel anchoring devices for wall covering slabs, characterized in that it comprises a tubular body made of plastic material to be interposed between the dowel and the
20 respective accommodation seat of the slab, said body having, at one end, an elastically deformable frustum-shaped annular flange.

Brief description of the drawings

Further characteristics and advantages of the present invention will become apparent from the detailed description
25 of an embodiment thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a perspective view of a dowel anchoring device with accessory spacing elements according to the

invention;

figure 2 is a perspective view of the accessory spacing element according to the invention;

figure 3 is a bottom view of the element of figure 2;

5 figure 4 is a longitudinally sectional perspective view of the element of figure 2;

figure 5 is a view of the fitting of the anchoring device of figure 1.

Ways of carrying out the invention

With reference to the above figures, the accessory
10 spacing element according to the invention is generally designated by the reference numeral 1 and comprises a tubular cylindrical body 2 made of plastic material which is internally and externally provided with longitudinal wings, respectively 3 and 4, which extend respectively from the
15 median region to one end and from the median region to the opposite end.

Conveniently, said wings 3 and 4 have a substantially triangular cross-section.

Said body 2 is provided, at the end at which said
20 external wings 4 end, with a frustum-shaped annular flange 5 which extends toward the opposite end and has characteristics of elastic deformability.

According to the invention, respective ends of a dowel
6 of a known device for anchoring wall covering slabs are
25 insertable into the tubular cylindrical bodies 2 of a pair of said elements 1.

Said dowel 6 is first inserted in a hole which passes through the flattened end 7, arranged parallel to the floor, of a threaded pivot 8 which is screwed on a bracket,

generally designated by the reference numeral 9, which is fixed to the wall by means of a screw anchor 10.

The ends of the dowel 6, with the respective elements 1, are then inserted in adapted holes 11 and 12 respectively of an upper slab 13 and of a lower slab 14, usually made of marble or the like.

The two flanges 5 of the elements 1 thus arrange themselves between the flattened end 7 of the pivot 8 and the respective slabs 13 or 14.

10 The flange 5 of the element 1 which is arranged downward is suitable for constituting a spacer for positioning the flattened end 7 of the pivot 8, and thus the entire anchoring device, on the lower slab.

The flange 5 of the element 1 which is arranged upward, 15 which is flattened due to the weight of the upper slab 13, constitutes a further spacing element for providing gaps between the slabs.

The wings 3 and 4 have the function of improving the grip between the dowel 6, the element 1 and the hole 11 or 20 12.

The correct installation of the covering slabs is thus facilitated by the presence of the accessory spacing elements according to the invention.

In fact, as previously mentioned, the element 1 25 arranged on the lower slab 14 with its flange 5 constitutes an element for the support and abutment, at a preset distance from said slab, of the flattened end 7 of the threaded pivot 8 and consequently of the screw anchor 10 which supports the bracket 9 and the entire anchoring 30 device.

The element 1 arranged on the upper slab is instead used to complete the spacing between the slabs, providing gaps having a constant and preset width.

In practice it has thus been observed that the
5 accessory spacing element according to the invention has achieved the intended aim and objects.

In practice, the materials employed, so long as compatible with the contingent use, as well as the dimensions, may be any according to the requirements.

10 Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the scope
15 of each element identified by way of example by such reference signs.

CLAIMS

1 1. Accessory spacing element for dowel anchoring
2 devices for wall covering slabs, characterized in that it
3 comprises a tubular body (2) made of plastic material to be
4 interposed between the dowel (6) and the respective
5 accommodation seat (11,12,) of the slab (13,14), said body
6 (1) having an elastically deformable frustum-shaped annular
7 flange (5) at one end thereof.

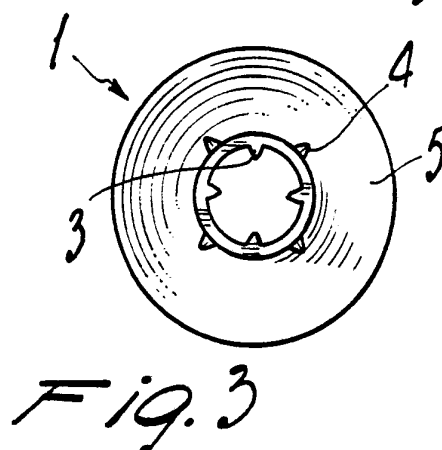
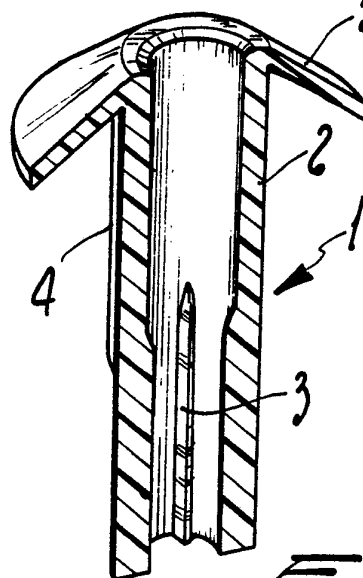
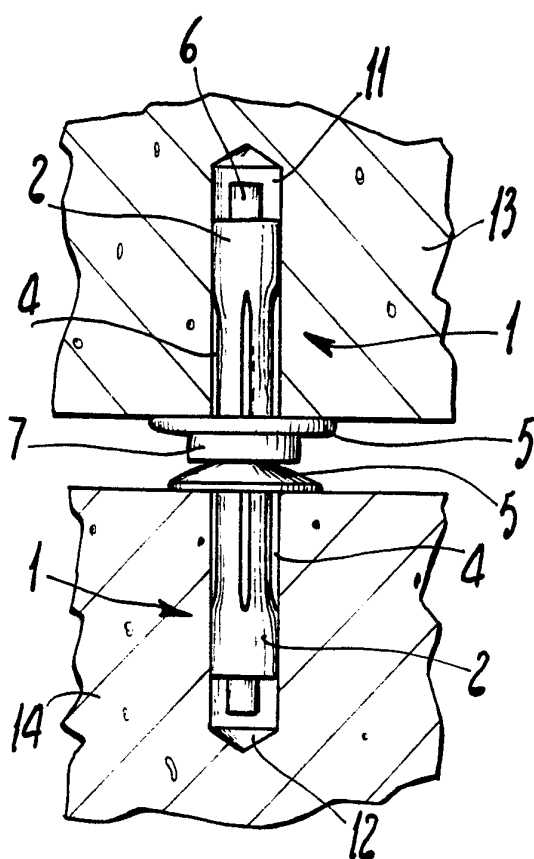
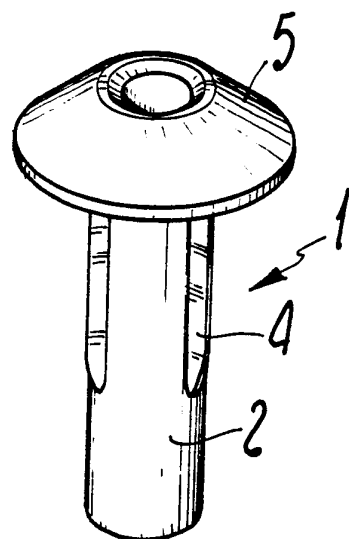
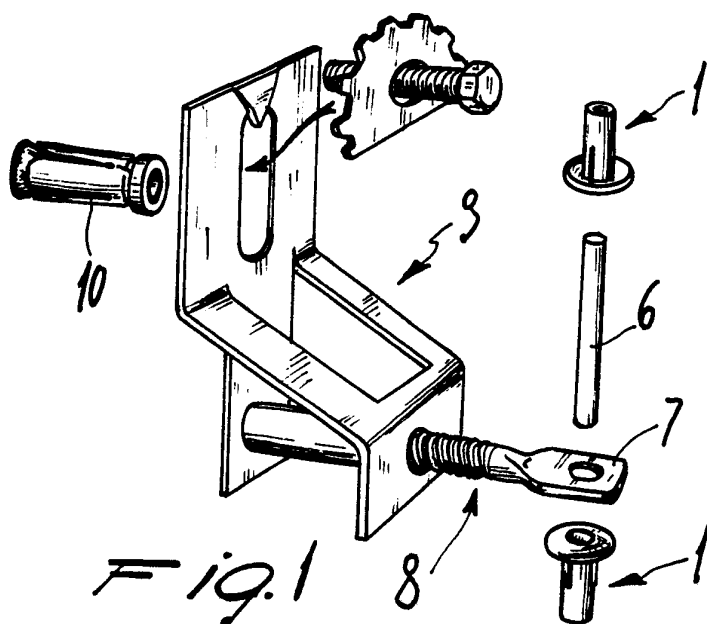
1 2. Element according to claim 1, characterized in that
2 said tubular body (2) is cylindrical.

1 3. Element according to claim 1, characterized in that
2 said tubular body (2) is internally and externally provided
3 with longitudinal wings (3,4) which have a substantially
4 triangular cross-section.

1 4. Element according to claim 3, characterized in that
2 the internal wings (3) extend from the median region to one
3 end and the external wings (4) extend from the median region
4 to the opposite end.

1 5. Element according to claim 1, characterized in that
2 said frustum-shaped annular flange (5) extends within the
3 lengthwise dimensions of said tubular body (2).

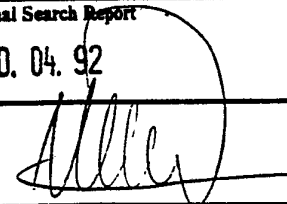
1/1



INTERNATIONAL SEARCH REPORT

PCT/EP 92/00074

International Application No

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. 5 E04F13/08		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	E04F	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹		
Category [*]	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
A	DE,A,3 634 679 (LUTZ) 14 April 1988 see column 7, line 11 - line 26; figure 4 ---	1,2
A	CH,A,674 865 (VIBRAMACC) 31 July 1990 see column 1, line 40 - line 57; figure 1 ---	1,2
A	FR,A,2 453 950 (BONNEL) 7 November 1980 see page 4, line 19 - line 29; figure 2 ---	1,2
[*] Special categories of cited documents :¹⁰ "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 "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		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
06 APRIL 1992	10. 04. 92	
International Searching Authority	Signature of Authorized Officer	
EUROPEAN PATENT OFFICE	VAN DER WAL W. 	

ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO. EP 9200074
SA 55030

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
 The members are as contained in the European Patent Office EDP file on
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 06/04/92

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A-3634679	14-04-88	None	
CH-A-674865	31-07-90	None	
FR-A-2453950	07-11-80	None	