



(19)

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 749 851 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
15.01.1997 Bulletin 1997/03

(51) Int. Cl.⁶: **B44D 3/18**, D06C 3/08

(43) Date of publication A2:
27.12.1996 Bulletin 1996/52

(21) Application number: **96109869.6**

(22) Date of filing: **19.06.1996**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**

(30) Priority: **20.06.1995 JP 153069/95**
04.12.1995 JP 315507/95
26.03.1996 JP 69922/96
27.03.1996 JP 72596/96

(71) Applicant: **EBARIS CO., LTD.**
Sakai-city, Osaka (JP)

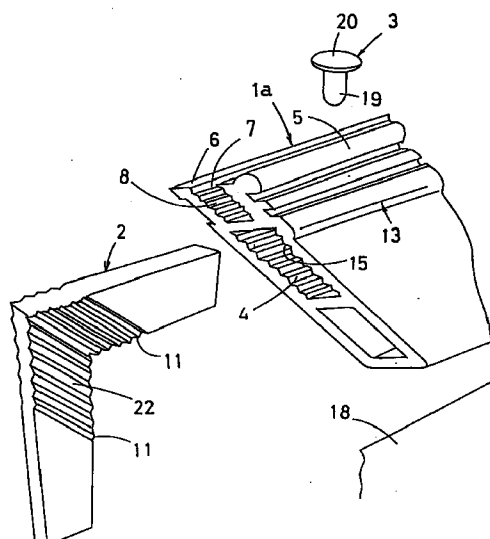
(72) Inventor: **Yamawaki, Shigehiro**
Moriguchi-city, Osaka (JP)

(74) Representative: **Tiedtke, Harro, Dipl.-Ing.**
Patentanwaltsbüro
Tiedtke-Bühling-Kinne & Partner
Bavariaring 4
80336 München (DE)

(54) Coupling structure and cloth stretching frame using said coupling structure

(57) Members to be coupled (1a-1d) have hollow coupling parts (4) at opposite side surfaces, a coupling member (2) has, at opposite ends, press-fitting parts (11) which are press-fitted in the hollow coupling parts, and angle shape concavities and convexities (22) having crests which are corrupted upon press-fitting are formed on at least either one of an inner peripheral surface of the hollow coupling part and an outer peripheral surface of the press-fitting part. When the opposite end parts of the coupling members are press-fitted in the hollow coupling parts of the members to be coupled, the crests of concave parts of the angle shape concavities and convexities are corrupted by the opposed surface so as to be made into close contact with and firmly coupled to the associated surface. Thereby it is possible to securely couple a pair of members to be coupled by means of a simple press-fitting operation.

FIG. 1



EP 0 749 851 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 10 9869

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP-A-0 655 521 (EBARIS CO. LTD.) * column 1, line 45 - column 17, line 58 * ---	1-9,21	B44D3/18 D06C3/08
X	EP-A-0 382 127 (COLART INTERNATIONAL S. A.) * column 7, line 5 - column 9, line 19 * ---	1,5-9	
X	US-A-3 625 274 (J. B. JOHNSON) * column 1, line 1 - column 2, line 34 * ---	7,8	
A		1,5,6,9	
X	WO-A-84 02559 (JAPAN ART KIKAKU CO. LTD.) * the whole document * ---	13-16, 18-20	
X	US-A-4 151 762 (F. M. BASLOW) * column 4, line 40 - column 8, line 29 * -----	21,22	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B44D D06C B44C
Place of search	Date of completion of the search	Examiner	
THE HAGUE	21 November 1996	Doolan, G	
CATEGORY OF CITED DOCUMENTS		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	
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			

EPO FORM 1503 03.92 (P04C01)



European Patent
Office

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

See sheet -B-

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent Office

EP 96109869 - B -

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions, namely:

1. Claims 1-12 : Coupling structure.
2. Claims 13-20 : Coupling structure of different type to that of claims 1-12 (see enclosed reasoned statement).
3. Claims 21-27 : Cloth stretching frame.