



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 420 092 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
19.05.2004 Bulletin 2004/21

(51) Int Cl.7: **D02G 3/02, D02G 3/34**

(21) Application number: **02025734.1**

(22) Date of filing: **15.11.2002**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
IE IT LI LU MC NL PT SE SK TR**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Shieh, Jon-Yie**
Changhua, Taiwan, R.O.C. (TW)

(74) Representative: **Viering, Jentschura & Partner**
Steinsdorfstrasse 6
80538 München (DE)

(71) Applicant: **TUNG FONG TEXTILE Co., Ltd.**
Taiwan, R.O.C. (TW)

(54) **Artificial rattan**

(57) A multifunction imitating-paper rattan body mainly comprise an imitating-paper rattan body (20) containing a strengthened core (21) inside. Said imitating-paper rattan body (20) is a structure formed integral-

ly, which resists wet, heat, and drawing. And, in the process of forming, the spiral body (22) is formed integrally on the external diameter of the imitating-paper rattan body (20), so that the imitating-paper rattan body (20) becomes the structure with high structural strength.

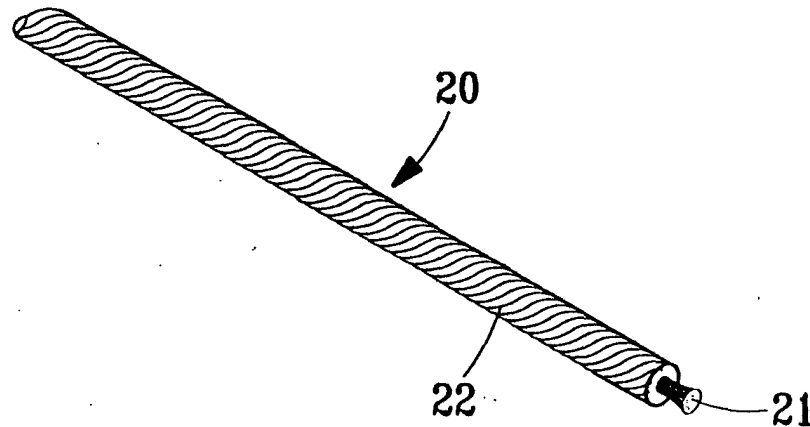


FIG.2

EP 1 420 092 A1

Description

BACKGROUND OF THE INVENTION

1. Field of the invention

[0001] The present invention relates to a multifunction imitating-paper rattan body, especially relating to a multifunction imitating-paper rattan body.

2. Description of the prior art

[0002] Because of industrialization of a society and an industrial and commercial life becoming a main stream of a society gradually, factories and office buildings stand in great numbers, which make all kinds of plants disappear gradually. It is more and more difficult to see a large number of green plants and it is even necessary to go to botanical gardens to see them. On the contrary, reducing of plants bring a phenomenon that a thing is valued if it is rare. When more and more customers buy utensils, they like to buy what is made up of plants. For example, a chair, whose cushion is made of rattan, is liked by the consumers because of having a special sense of material. Reducing of plants also make prices of utensils formed by plants increase.

[0003] Besides, utensils made up of rattan also take more time on manufacturing and forming. The reason is that it costs a lot of cost correspondingly on the process of picking, cleaning, sunning, processing and weaving by hand during making up utensils with rattan for fear of the utensil being used over a long period of time to have a moldy phenomenon due to wet and resulting the structural strength of the utensil weakened for a long time. Thus, prices of utensils made up of plants still can't be reduced. Furthermore, the material of paper rattan needs to use more special paper material. Moreover, by means of chemical processing, the tensile force of the paper rattan is strengthened and the paper rattan has the function of avoiding mildew and resisting wet. Therefore, the industrial and commercial circles develop a kind of imitating-rattan body made of papers afterwards (shown as Fig. 1), which is formed into an imitating-rattan body by a kind of the strengthened paper material 10 in the way of spiral twining. And said strengthened paper material 10 wraps a strength core 11 inside to attain the benefit of strengthening said imitating-rattan body made of papers to endure the tensile force.

[0004] Therefore, although the prior imitating-rattan body made of papers can get to the structure similar to the real rattan without using the real rattan, everyone knows that sources of paper materials are still plants and procedures of picking, cleaning, sunning, processing etc. still can not be omitted on the process of making the imitating-rattan body made of paper. Further, due to the problem of cost, paper material can't control the uniform structural strength of the whole piece of paper body. Thus, even if the imitating-rattan body made of

paper can be formed in twining by machines, the situation of cracking and broking of the paper material on the process of twining and forming, which results from the tensile force and the twisting force, still belongs to what can't control and it costs a lot of cost correspondingly because the structural strength of the whole piece of paper material is not uniform relatively. Therefore, how to design an imitating-rattan body which can cater to the needs of consumers and reduce the production costs is the direction that the relevant commercial and industrial circles need to develop.

[0005] The inventor of the present application longed for improving and innovating in view of every drawback derived from making up all kinds of utensils with the real rattan body, the imitating-rattan paper body and so on. He made extraordinarily painstaking efforts to devote himself to the study of science many years, and achieved this multifunction imitating-paper rattan body finally.

SUMMARY OF THE INVENTION

[0006] The object of the present invention is to provide a multifunction imitating-paper rattan body, which mainly comprise an imitating-paper rattan body containing a strengthened core inside. Said imitating-paper rattan body is a structure to be formed integrally, which resists wet, heat, and drawing. And, in the process of forming, the spiral body is formed integrally on the external diameter of the imitating-paper rattan body, so that the imitating-paper rattan body becomes the structure with high structural strength.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Please refer to the detailed description and the drawings with regard to one preferred embodiment of the invention. Then, the technical content and the object of the present invention should be understood further. The drawings about said embodiment are below.

Figure 1 is a structural schematic diagram of the prior imitating-rattan body.

Figure 2 is a structural schematic diagram of the imitating-paper rattan body of the present invention.

Figure 3 is a schematic diagram of the embodiment of the present invention.

Figure 4 is an enlarged view of A portion in Figure 3.

[0008] The main symbol in Figures

- 10 strengthened paper material
- 11 strength rod core
- 20 imitating-paper rattan body
- 21 strengthened axle core
- 22 spiral body

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0009] Please refer to Fig.2, the present invention provide a multifunction imitating paper rattan body, which mainly comprises imitating-paper rattan body 20 containing a strengthened axle core 21 inside. By means of thread drawing with machines, said imitating paper rattan body 20 is a structure to be formed integrally in the non-plant material, such as plastic etc., which especially have the property of resisting wet, heat, and drawing. And, in the process of forming, the spiral body 22 is formed on the external diameter of the imitating-paper rattan body 20. By means of the design of the spiral body 22, the drawing-resistant strength of the imitating-paper rattan body 20 can be increased effectively.

[0010] Therefore, because the multifunction imitating-paper rattan body 20 of the present invention uses non-plant materials, the non-plant materials which don't need to be picked, cleaned and don't be worried about mildewing can allow the present invention to be reduced the procedures of sunning and avoiding mildew. The most important thing is that the structural strength of the present invention is regular because the present invention doesn't use the prior paper material during the process of forming. No doubt, the structural strength gained by thread drawing and forming has no shortcoming that the prior paper material is easy to be broken, and the design of the spiral body forming on the external diameter makes the present invention to have visual sense of material especially. Therefore, the chair formed in the present invention has the material of real rattan, besides, the structural strength of it is beyond doubt. Furthermore, before the present invention is formed in thread drawing, colours can be added into the thread raw material for the imitating-paper rattan body 20 formed in the present invention to attain the discoloring effect which the real rattan can't attain.

[0011] Compared to the above prior method, the multifunction imitating paper rattan body provided by the present invention have the following advantages even more.

1. The present invention is not made of plant materials. There is not any nature shortcoming resulted from plant materials, so the cost of processing can be reduced largely.

2. Because the present invention is formed integrally by machines, the yield is stable and the variety is large. It conforms to modern industrial applications and modern trends.

[0012] Many changes and modifications in the above described embodiment of the invention can, of course, be carried out without departing from the scope thereof. Accordingly, to promote the progress in science and the useful arts, the invention is disclosed and is intended to be limited only by the scope of the appended claims.

Claims

1. A multifunction imitating-paper rattan body, mainly comprising an imitating-paper rattan body containing a strengthened core inside; said imitating-paper rattan body being a structure to be formed integrally, which resists wet, heat, and drawing; and, in the process of forming, the spiral body being formed integrally on the external diameter of the imitating-paper rattan body to enable the imitating-paper rattan body to be the structure with high structural strength.
2. A multifunction imitating-paper rattan body according to claim 1, wherein the imitating-paper rattan body is the structure to be coloured easily.

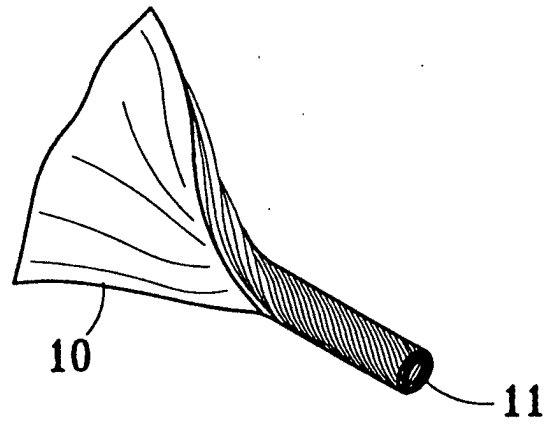


FIG.1

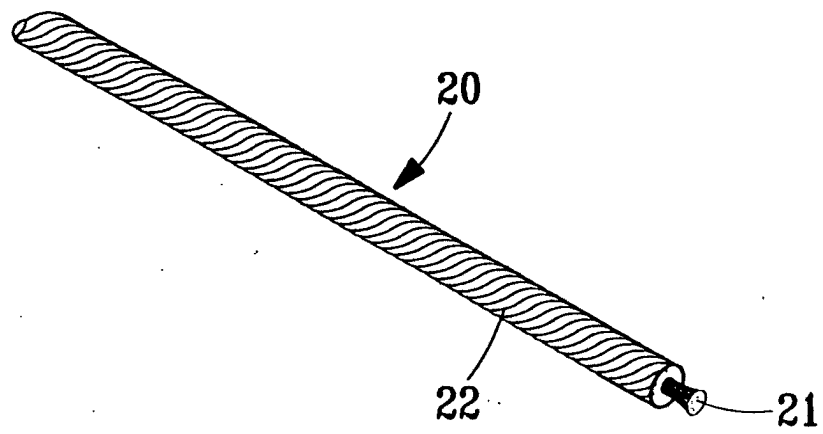


FIG.2

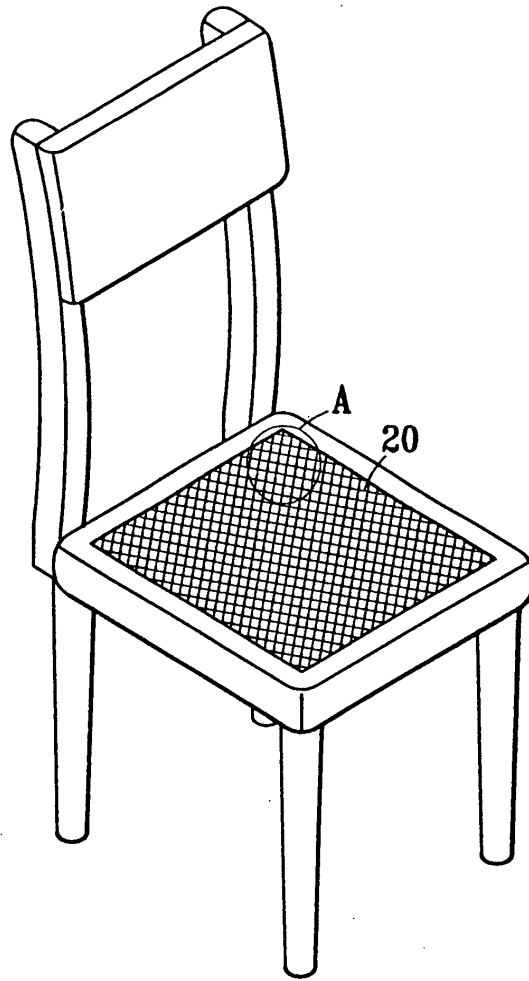


FIG. 3

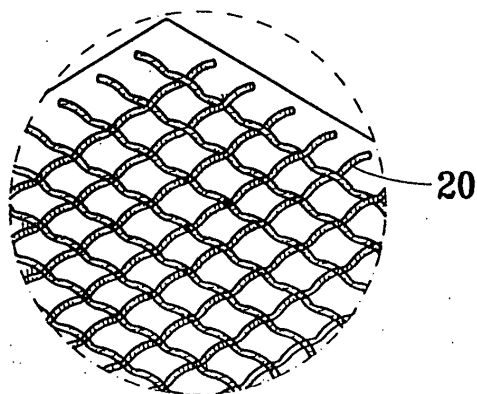


FIG. 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 02 5734

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.7)
X	FR 831 604 A (DRELA FLECHTMATERIALGES M B H) 9 September 1938 (1938-09-09) * the whole document *	1,2	D02G3/02 D02G3/34
Y	--- PATENT ABSTRACTS OF JAPAN vol. 008, no. 093 (C-220), 27 April 1984 (1984-04-27) & JP 59 008734 A (KUREHA KAGAKU KOGYO KK;OTHERS: 01), 18 January 1984 (1984-01-18) * abstract *	1,2	
Y	--- PATENT ABSTRACTS OF JAPAN vol. 006, no. 231 (C-135), 17 November 1982 (1982-11-17) -& JP 57 133212 A (KUREHA KAGAKU KOGYO KK;OTHERS: 01), 17 August 1982 (1982-08-17) * abstract *	1,2	
Y	--- US 1 994 057 A (WALLACH ROGER N) 12 March 1935 (1935-03-12) * page 1, right-hand column, line 51 - page 3, right-hand column, line 28; figures 2,3 *	1,2	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A47C D02G
Y	--- US 2 313 058 A (FRANCIS JR CARLETON S) 9 March 1943 (1943-03-09) * page 1, right-hand column, line 51 - page 2, left-hand column, line 14 * * page 3, left-hand column, line 62 - right-hand column, line 41; figures 5,6 *	1,2	
Y	--- US 4 231 834 A (TREJO GONZALEZ HUMBERTO) 4 November 1980 (1980-11-04) * column 2, line 13 - column 4, line 32; figures 1-7 *	1,2	

		-/--	
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 14 April 2003	Examiner Klintebäck, D
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)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 02 5734

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.7)
A	US 2 354 435 A (STEDMAN THEODORE W) 25 July 1944 (1944-07-25) * page 1, left-hand column, line 1 - line 19 * * page 2, right-hand column, line 5 - page 3, left-hand column, line 22; figures 1,2 * -----	1,2	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 14 April 2003	Examiner Klintebäck, D
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 02 02 5734

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-04-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 831604 A	09-09-1938	GB 501104 A	21-02-1939
		NL 48437 C	
		US 2142308 A	03-01-1939
JP 59008734 A	18-01-1984	JP 1460175 C	28-09-1988
		JP 63004860 B	01-02-1988
JP 57133212 A	17-08-1982	NONE	
US 1994057 A	12-03-1935	NONE	
US 2313058 A	09-03-1943	NONE	
US 4231834 A	04-11-1980	MX 148691 A	02-06-1983
		MX 158445 A	02-02-1989
		AR 221216 A1	15-01-1981
		AT 335978 A	15-06-1986
		AT 375869 B	25-09-1984
		AT 379681 A	15-02-1984
		AU 525634 B2	18-11-1982
		AU 3639078 A	29-11-1979
		BE 867635 A1	18-09-1978
		BR 7802592 A	05-12-1978
		CA 1112415 A1	17-11-1981
		CH 632182 A5	30-09-1982
		DE 2818057 A1	14-12-1978
		DK 221978 A	01-12-1978
		FR 2398595 A1	23-02-1979
		GB 1595847 A	19-08-1981
		IT 1095871 B	17-08-1985
		JP 53149277 A	26-12-1978
		KE 3228 A	03-09-1982
		SE 429521 B	12-09-1983
		SE 7804658 A	01-12-1978
		ZA 7802619 A	25-04-1979
US 2354435 A	25-07-1944	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82