



(11) **EP 2 353 412 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
10.08.2011 Bulletin 2011/32

(51) Int Cl.:
A41C 3/12 (2006.01)

(21) Application number: **10196770.1**

(22) Date of filing: **23.12.2010**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME

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(30) Priority: **01.02.2010 CN 201019164047**

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(54) **Extendable support frame for undergarment**

(57) An extendable support frame for an undergarment, relating generally to the garment field and more particularly to a functional component for the women's undergarments, is characterized in that it comprises a support rib and a sliding sleeve fitted over the support rib, at top end of which sliding sleeve a fixing hole is provided; the sliding sleeve is fitted over one end of the support rib, and a fixing hole is provided at the other end of the support rib. Compared with the prior art, the invention is of easier manufacture and flexible extension by reducing intermediate components, and the invention can bring about extension variation of its length while performing support function, which therefore solves the technical problem that the support frame of the slit of the undergarment such as the women's form-fitting undergarments generates the buckling caused by the length being not compressed. The wearing of the women's form-fitting undergarments such as girdling garments is abuted with the body and is aesthetic in appearance. The wearer feels more pleased, comfortable and tight-fitting in movement. Moreover, the service lives of the women's form-fitting undergarments which are provided with the port frames are prolonged.

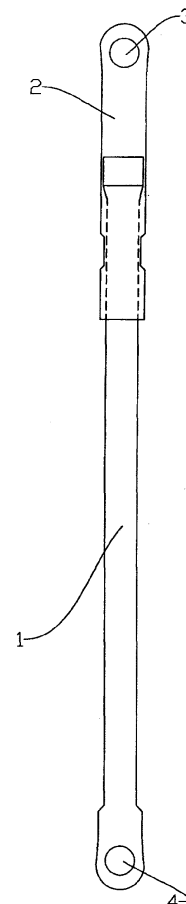


Fig. 1

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DescriptionTECHNICAL FIELD

[0001] This disclosure relates to an extendable support frame for an undergarment, which relates generally to the garment field and more particularly to a functional component for the women's undergarments.

BACKGROUND ART

[0002] Women's form-fitting undergarments, such as girdling garments, are sewed with a metal or plastic support frame in a vertical direction of the garment in order to provide tight-fitting wear and prevent creases. A metal frame is commonly called as a fish scale bone since its appearance is like fish scales, and a plastic frame is commonly called as a rubber bone. However, such frames, after being sewed into a garment, can only be bent without any length variation as the garment extends. Accordingly, when a wearer bends her limbs and body, the conventional frame sewed in the garment may buckle since its length cannot be compressed, thereby making the undergarment not tight-fitting and affecting wearing aesthetics. Moreover, after the undergarment is used for a period of time, the desired object of the initial design cannot be achieved due to deformation of the frame, and it is uncomfortable to be worn. The applicant of the Chinese Patent ZL200420082959.6 discloses "a self-adaptive length support frame for undergarment", which support frame in such a structure can solve the above technical problem, but its cost is relatively high since it is of numerous components, relatively high manufacturing complexity and difficulty.

SUMMARY

[0003] One object of the embodiments of the invention is to provide an extendable support frame for an undergarment, which is of a simpler structure, easier manufacture, flexible extension, comfortable wear and aesthetic appearance.

[0004] The object of the invention is achieved by means as follows:

An extendable support frame for an undergarment, characterized in that it comprises a support rib and a sliding sleeve fitted over the support rib, at top end of which sliding sleeve a fixing hole is provided.

[0005] The sliding sleeve is fitted over one end of the support rib, and a fixing hole is provided at the other end of the support rib.

[0006] Either end of the support rib is provided with a sliding sleeve having a fixing hole.

[0007] The sliding sleeve is in a straight or arc structure.

[0008] Compared with the prior art, the invention is of

easier manufacture and flexible extension by reducing intermediate components, and the invention can bring about extension variation of its length while performing support function, which therefore solves the technical problem that the support frame of the slit of the undergarment such as the women's form-fitting undergarments generates the buckling caused by the length being not compressed. The wearing of the women's form-fitting undergarments such as girdling garments is abutted with the body and is aesthetic in appearance. The wearer feels more pleased, comfortable and tight-fitting in movement. Moreover, the service lives of the women's form-fitting undergarments which are provided with the support frames are prolonged.

BRIEF DESCRIPTION OF THE DRAWINGS**[0009]**

Fig. 1 is a front schematic structural view an embodiment of the invention;

Fig.2 is a left side view an embodiment of the invention;

Fig.3 is a front schematic structural view of the second embodiment of the invention;

Fig. 4 is a left side view of the second embodiment of the invention.

DESCRIPTION OF SPECIFIC EMBODIMENTS

[0010] A detailed description of embodiments of the present invention is given below with reference to Figures 1, 2, 3 and 4:

The first embodiment is shown in Figs. 1 and 2.

[0011] In the present embodiment, the extendable support frame for an undergarment according to the invention comprises a support rib 1 and a sliding sleeve 2 fitted over the support rib, at top end of which sliding sleeve a fixing hole 3 is provided. As can be seen from Figure 2, the sliding sleeve described in the present embodiment is an arc-shaped sliding sleeve. The support rib 1 and the sliding sleeve 2 in the present embodiment are made of a metal or non-metal material, which therefore are provided with a certain strength and excellent elasticity. In the present embodiment, the sliding sleeve is fitted over one end of the support rib, and a fixing hole 4 is provided at the other end of the support rib. The fixing hole 3 at the top end of the sliding sleeve and the fixing hole 4 at the end of the support rib are provided for fixing the extendable support frame according to the invention to an undergarment.

[0012] The second embodiment is shown in Figs. 3 and 4.

[0013] In the present embodiment, both ends of the support rib 11 each are provided with a sliding sleeve 12 having a fixing hole, on which sliding sleeves at the both

ends the fixing holes 13, 14 are provided, respectively, for meeting fixing requirement. The support rib 11 and the sliding sleeve 12 in the present embodiment are made of a metal or non-metal material. The sliding sleeve 12 in the present embodiment is a straight sliding sleeve. 5

[0014] Other portions of this embodiment are completely the same as those of the first embodiment.

Claims 10

1. An extendable support frame for an undergarment, **characterized in that** it comprises a support rib and a sliding sleeve fitted over the support rib, at top end of which sliding sleeve a fixing hole is provided. 15
2. The extendable support frame for an undergarment according to Claim 1, **characterized in that** the sliding sleeve is fitted over one end of the support rib, and a fixing hole is provided at the other end of the support rib. 20
3. The extendable support frame for an undergarment according to Claim 1, **characterized in that** either end of the support rib is provided with a sliding sleeve having a fixing hole. 25
4. The extendable support frame for an undergarment according to Claim 1 or 2 or 3, **characterized in that** the sliding sleeve is in a straight or arc structure. 30

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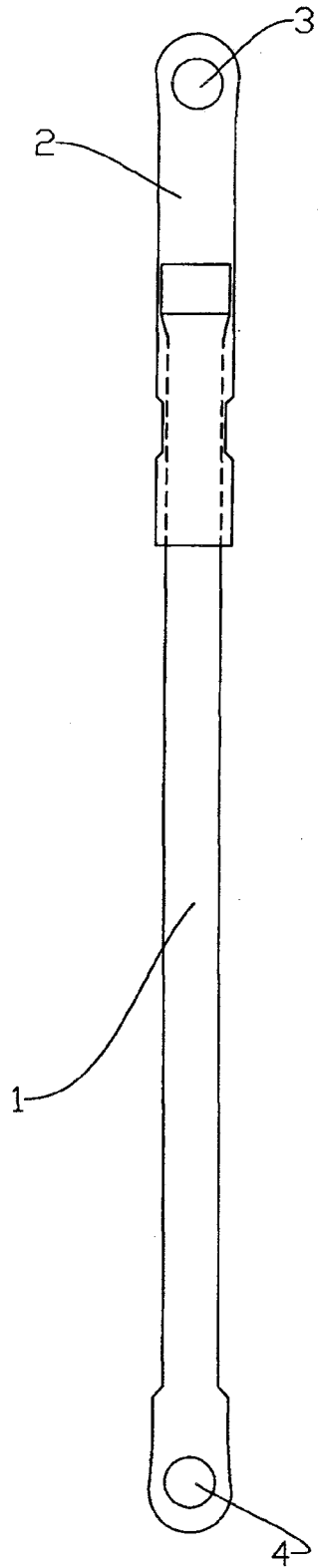


Fig. 1

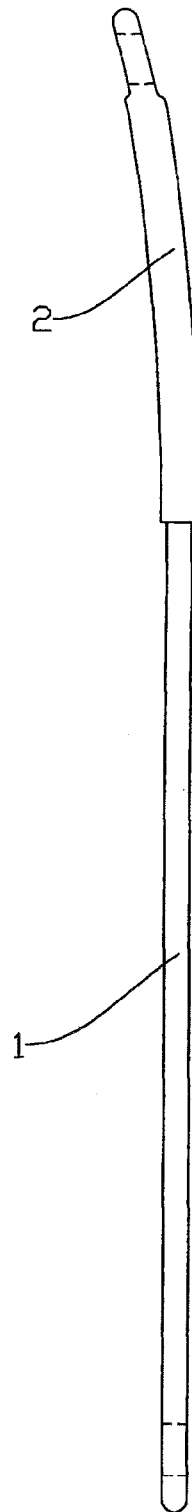


Fig. 2

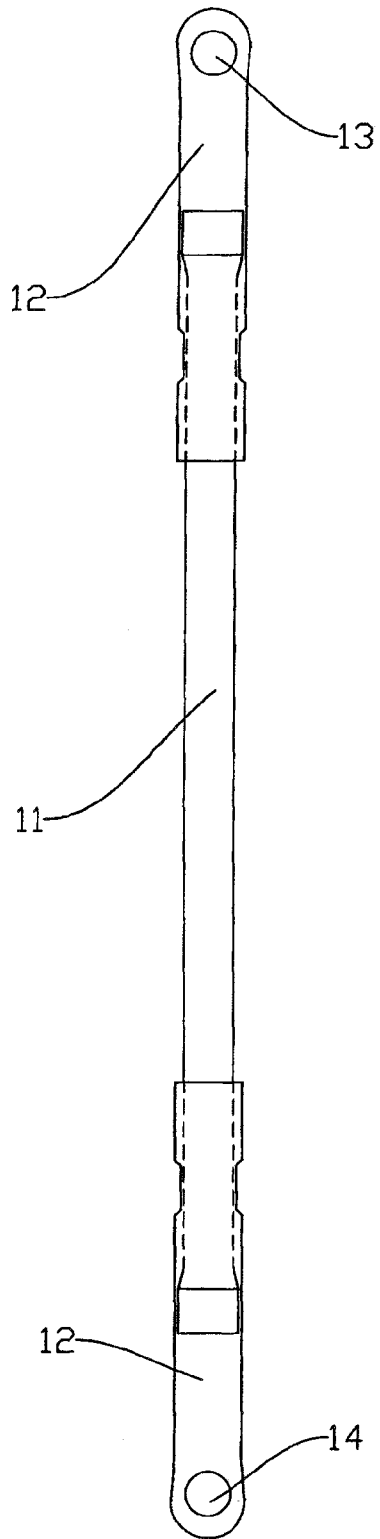


Fig. 3

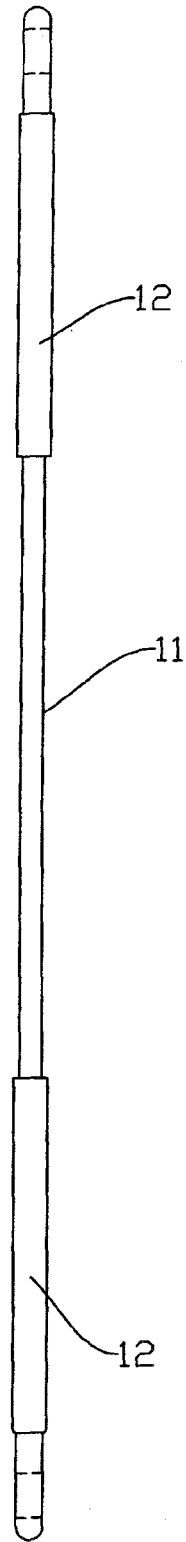


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 10 19 6770

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2 700 768 A (HERMAN KRESS) 1 February 1955 (1955-02-01) * the whole document * -----	1,4	INV. A41C3/12
X	US 6 468 130 B1 (THAKUR AJIT [US] ET AL) 22 October 2002 (2002-10-22) * the whole document * -----	1-4	
X	DE 26 31 136 A1 (FILDAN GERHARD) 19 January 1978 (1978-01-19) * the whole document * -----	1,3,4	
A	FR 2 860 691 A1 (VINH CHEK HOR [FR]; GADOUX DIDIER [FR]; MASSACRY STEPHANE [FR]) 15 April 2005 (2005-04-15) * the whole document * -----	1-4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A41C
Place of search		Date of completion of the search	Examiner
The Hague		31 May 2011	Debard, Michel
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone		T : theory or principle underlying the invention	
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EPO FORM 1503 03.82 (P/4C01)

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 10 19 6770

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
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31-05-2011

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2700768	A	01-02-1955	BE 528571 A FR 1099741 A	08-09-1955
US 6468130	B1	22-10-2002	AU 2002322303 A1 EP 1269872 A1 EP 1411786 A2 JP 4216710 B2 JP 2004531658 T WO 03001878 A2	03-03-2003 02-01-2003 28-04-2004 28-01-2009 14-10-2004 09-01-2003
DE 2631136	A1	19-01-1978	NONE	
FR 2860691	A1	15-04-2005	NONE	

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN ZL200420082959 [0002]