



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
16.01.2008 Bulletin 2008/03

(51) Int Cl.:
A44C 5/10 (2006.01) A44C 25/00 (2006.01)

(21) Application number: **07013761.7**

(22) Date of filing: **13.07.2007**

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

(71) Applicant: **Di Fonzo, Massimiliano**
65100 Pescara (IT)

(72) Inventor: **Di Fonzo, Massimiliano**
65100 Pescara (IT)

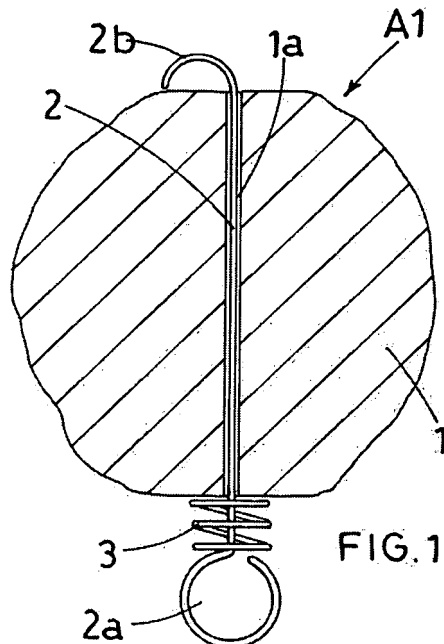
(74) Representative: **Baldi, Claudio**
Viale Cavallotti, 13
60035 Jesi (AN) (IT)

(30) Priority: **14.07.2006 IT MC20060025 U**

(54) **Charm with easy, fast-opening fastening means**

(57) The present invention relates to a charm composed of a perforated body (1) and a fastening means formed of an elastic return element (3) and a pin (2) inserted inside the elastic element (3) and the hole (1 a) of the said body (1), which ends with an eyelet (2a) and a hooked point (2b) engaged against the body (1) because of the action of the return spring (3).

serted inside the elastic element (3) and the hole (1 a) of the said body (1), which ends with an eyelet (2a) and a hooked point (2b) engaged against the body (1) because of the action of the return spring (3).



Description

[0001] The present patent application relates to a charm with fastening means characterised by easy fast opening, used to create jewels in general, such as necklaces, bracelets, ear-rings, formed of a plurality of charms of the same type fastened one after the other one.

[0002] Although the charm of the invention is designed to find large immediate use in the sector of jewellery or costume jewellery, the same can also be used for other types of articles, such as chain belts, eyeglass chains, etc.

[0003] Finally, a single sample of the said charm could also be used to create articles designed to support something, such as a key chain, or designed to be hung to something, such as charms used to decorate leather items and accessories for garments in general.

[0004] Having said that, the following description will focus on the charm sector, showing the advantages offered by the charm of the invention in this specific field of use.

[0005] According to the known technique, regardless of their shape and dimension, stones for necklaces generally have either a through hole specifically created by the operator in order to introduce the string of the necklace, or eyelets at the opposite ends of each single stone, designed to receive a connection ring used to attach the said stone.

[0006] Although innumerable types of necklaces are offered on the market in order to satisfy the different taste of the public and the different fashion trends over time, they are all provided with the aforementioned attachment means for stones.

[0007] If the stones are perforated and inserted, the necklace is characterised by a continuous row of precious stones one after the other one or spaced by means of suitable spacing elements; on the contrary, when connection rings are used, the distance of the stones is directly proportional to the size of the connection means used.

[0008] Regardless of the aesthetics of the necklace according to the specific attachment means, it must be noted that, once assembled, the necklace can only be opened with a suitable opening means, such as a snap-hook, a hook or any other type of suitable device - inserted between two stones of the necklace.

[0009] Evidently, once they have been inserted and attached with the connection rings, the stones cannot be separated unless the operator cuts the string or breaks one of the said connection rings.

[0010] The specific purpose of the present invention is to create a charm provided with attachment means characterised by easy fast opening, which allows to attach it to charms of the same type to create necklaces and bracelets at will, without the need of tools or assembling/disassembling equipment.

[0011] In particular, the user can open the necklace at any point to remove one or more of the said charms, in

order to reduce the length of the necklace, or replace them with similar charms with different material, shape or colour.

[0012] The charm according to the present invention comprises a perforated body and a fastening means composed of a metal pin, with an eyelet and a spring situated between the eyelet and the said body, which can indifferently consists in a pearl, a precious or non precious stones or any grain of any shape or material, such as wood, metal, plastic, glass, ceramics, rubber, etc.

[0013] More precisely, the spring is designed to be positioned between the said body and one of the ends of the pin, which is designed to be inserted inside the through hole of the body.

[0014] Once the pin has been inserted through the hole, with the interposition of the spring, the operator must bend the free end of the pin to obtain a hooked profile, which is permanently pressed against the body of the charm because of the return action exercised by the spring, which is slightly compressed before bending the end into a hook.

[0015] Obviously, the last operation prevents the pin from coming out of the body of the charm.

[0016] Moreover, the hooked end can be used as fastening means for any article provided with an eyelet, with special reference to a similar charm with fastening pin provided with an eyelet.

[0017] The use of multiple charms of the invention in a necklace allows the user to open the necklace without tools, in order to eliminate some charms and reduce the length of the necklace or replace them with other charms with different material, colour and shape.

[0018] In order to do this, the operator must push the eyelet of the pin to make it slide inside the perforated body of the charm, moving away the hooked end to release the charm attached to it.

[0019] Likewise, the said hooked end can be used to fasten another charm or any other object, as long as provided with an eyelet.

[0020] For major clarity, the description of the invention continues with reference to the enclosed drawings, which only have an illustrative, not limiting purposes, whereby:

- fig. 1 is a sectional view of the body of the charm of the invention with a plane passing through the hole;
- fig. 2 is a view of a different constructive embodiment of the charm of the invention, in which the body is provided with a housing capable of incorporating and concealing the return spring;
- fig. 3 is a view of the charm of the invention, in which the pin is obtained from the same piece with the return spring;
- fig. 4 is a view of an additional constructive embodiment of the charm of the invention, in which the pin is obtained from the same piece with the return spring;
- fig. 5 is a view of an additional embodiment of the charm of the invention, same as the first embodiment

of fig. 1, except for the fact that it is provided with box-shaped body;

- figs. 6 to 8 show additional constructive embodiments of the charm of the invention.

[0021] With reference to the aforementioned figures, the charm of the invention (A1) is composed of a perforated body (1) and a fastening means characterised by easy fast opening.

[0022] The said fastening means is formed of a pin (2) and a return spring (3) of helicoidal type.

[0023] The pin (2) ends with a eyelet (2a) and a hooked point (2b).

[0024] According to the first embodiment shown in figs. 1 to 3, the pin (2) is provided with a eyelet (2a) before being coupled with the body (1) with through hole (1 a) .

[0025] In this case, in order to assemble the charm of the invention, the pin (2) is inserted through the hole (1a), with the interposition of the return spring (3) between the body (1) and the eyelet (2).

[0026] When the tip of the pin (2) comes out of the hole (1 a), the same is bent as a hook, after slightly compressing the spring (3) in such a way that the spring (3) can extend and recall the hooked point (2b), while tightening it against the body (1).

[0027] The above description shows that the two charms (A1) can be easily fastened by any user, by pressing the eyelet (2a) of the pin (2) in such a way to move the hooked point (2b) away from the body (1) of the first charm by the distance that is necessary to fasten the hooked point (2b) into the eyelet (2a) of the second charm.

[0028] Obviously, when the pressure on the eyelet (2) ends, the spring (3) spontaneously tend to extend, thus bringing the hooked point (2b) back against the body (1) of the first charm, and preventing the second charm from being released from the hooked point (2b).

[0029] Fig. 2 is basically identical to fig. 1, except for the fact that it shows a charm (A2) with body (1) provided with through hole (1 a) and larger opening (1 b) in order to house and conceal the return spring (3).

[0030] In any case, in both constructive embodiments, the return spring (3) is an ordinary helicoidal spring, with the pin (2) axially inserted through its turns.

[0031] Fig. 3 shows an alternative constructive embodiment, in which the charm (A3) is provided with a pin (2) characterised by the fact that it incorporates the said spring (3), which is obtained from the same piece with the pin, helicoidally bending one of the ends, which is then connected with the eyelet (2a) obtained by folding an intermediate section of the pin (2) in ring configuration.

[0032] According to the last embodiment shown in fig. 4, the charm (A4) is provided with a pin (2) characterised by the fact that it incorporates the spring (3), which is obtained from the same piece with the pin, helicoidally bending one of the ends, which is then connected with the hooked point (2b), and not with the eyelet (2a) as in the embodiment (A3).

[0033] In this last case, the head (2a) must be shaped as an eyelet only after inserting the pin (2) through the hole (1 a) of the body (1) until the pre-shaped hooked point (2b) is stopped against the body (1).

5 **[0034]** Finally, it must be said that according to this last embodiment of the charm (A4), a back element (4) must be provided to hold the spring (3) in its housing (1 b) when the user pushes the eyelet (2a) to move the hooked point (2b) away from the body (1) of the charm.

10 **[0035]** As mentioned above, the body (1) can have any shape, including a boxed shape, as shown in fig. 5, as long as it is provided with through hole (1 a) to insert the pin (2).

[0036] An additional constructive embodiment (A6) of the charm of the invention is illustrated in fig. 6, being distinguished from the preceding embodiments for the fact that it is provided with multiple perforated bodies (1) (two, in this specific case), crossed by the same pin (20) that ends with two hooked ends (20b), respectively engaged against the first and the second body (1) because of a return spring (30) situated between the two perforated bodies (1) and preferably inserted externally on the pin (20).

20 Evidently, this sixth embodiment (A6) is provided with two opening points of the charm, which can use the opposite pair of hooked ends (20b) as fastening means.

25 In case it is necessary to conceal the spring (30) for aesthetical reasons, the said spring (30) can be situated and concealed inside a box-shaped insert (40), whose opening is coupled with possibility of sliding with a collar (50) inserted in the pin (20) and situated between the spring (30) and one of the bodies (1), as in the embodiment (A7) shown in fig. 7.

30 The use of a box-shaped spring-cover insert is possible with any embodiment of the charm of the invention, as shown in fig. 8, which refers to the eighth constructive embodiment (A8), which differs from the first embodiment (A1) for the presence of a box-shaped insert (400) that covers the spring (3) and is coupled with possibility of sliding with a collar (500).

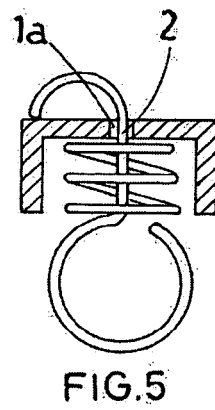
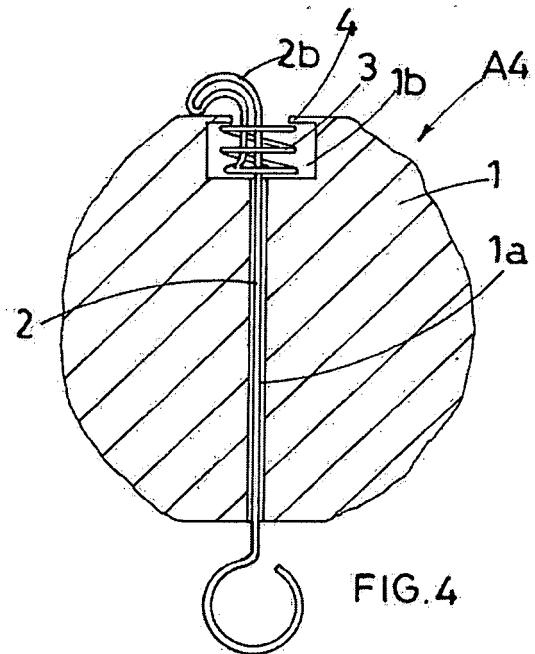
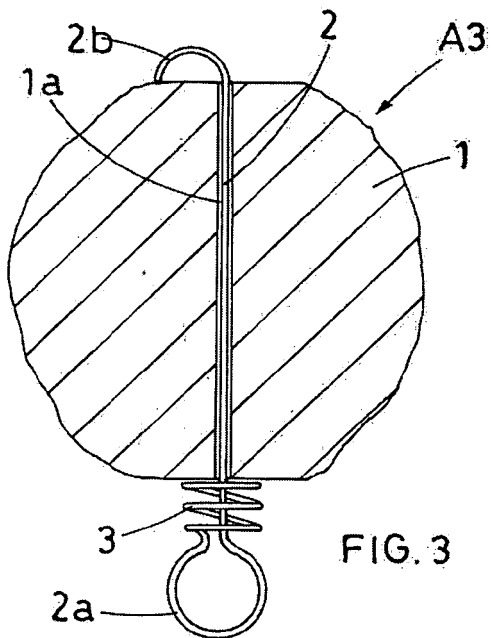
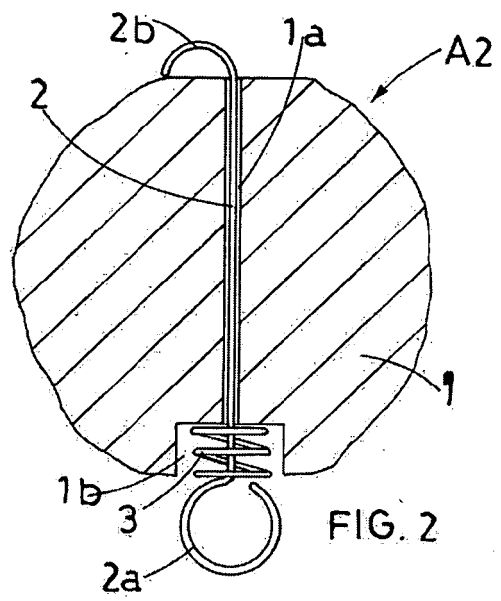
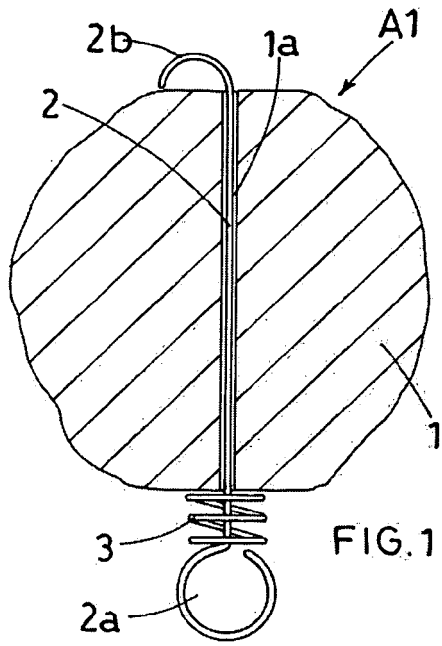
35 The collars (50 and 500) and the box-shaped inserts (40 and 400) may be obtained with suitable shapes and materials as to provide them with an aesthetical value and hide their merely functional-technical nature.

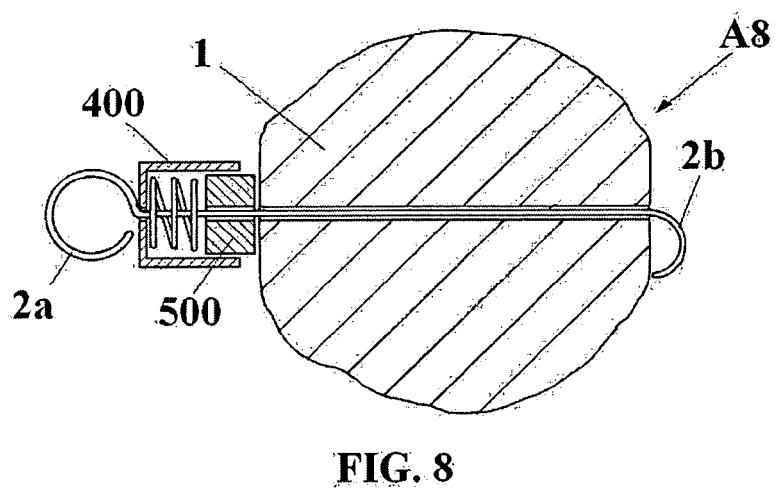
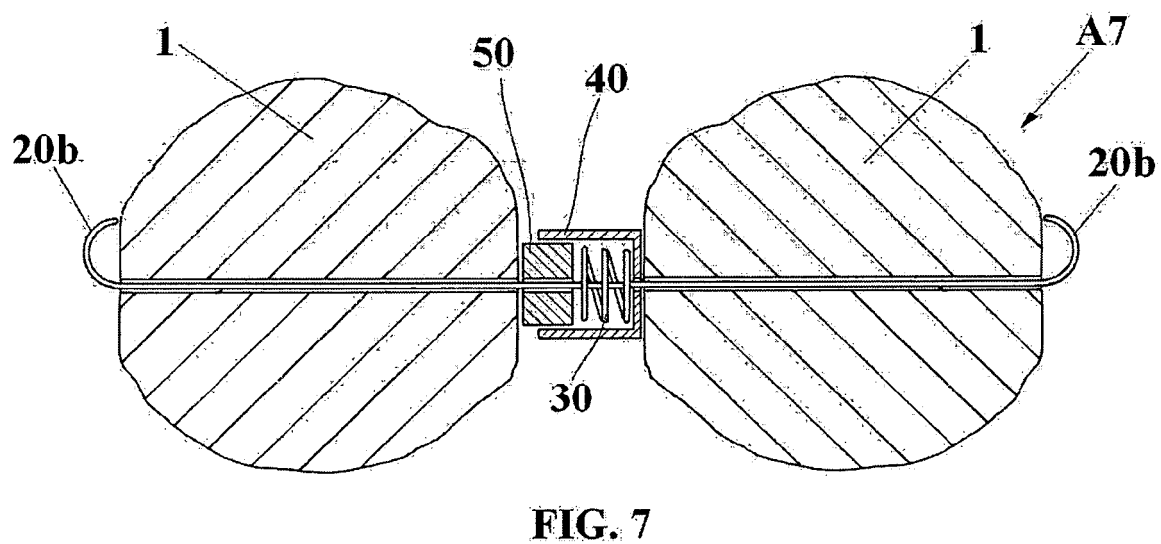
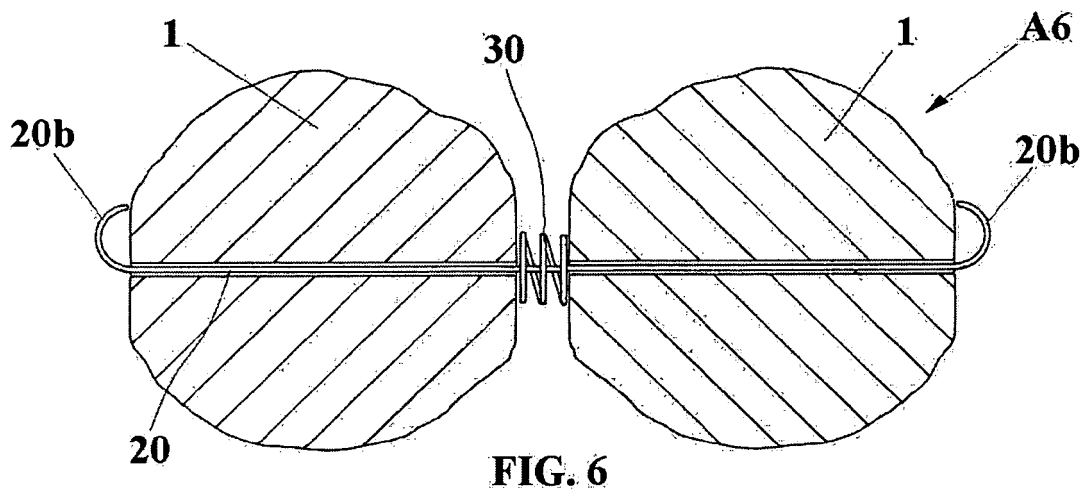
40 To that end, the said collars (50 and 500) can be obtained from the same piece with the body (1).

Claims

- 50
1. Charm with fastening means **characterised by** easy fast opening, **characterised by** the fact that it is composed of at least one perforated body (1) and a fastening means formed of an elastic return element (3, 30) and a pin (2, 20) inserted through the hole (1 a) of the body (1) ending at least with a hooked point (2b) engaged against the body (1) because of the action of the return element (3, 30).
- 55

2. Charm with fastening means **characterised by** easy fast opening, as claimed in the preceding claim, **characterised by** the fact that it is composed of a single body (1) and a fastening means formed of a return element (3) and a pin (2) inserted through the hole (1 a) of the body (1) ending at the two ends with an eyelet (2a) and a hooked point (2b) engaged against the body (1) because of the action of the return element (3). 5
3. Charm with fastening means **characterised by** easy fast opening, as claimed in claim 1, **characterised by** the fact that it is formed of multiple bodies (1), a fastening means formed of a return element (30) and a pin (20) inserted through the hole (1 a) of all the bodies (1) ending at the two ends with two hooked points (2b). 10 15
4. Charm with fastening means **characterised by** easy fast opening as claimed in claim 2, **characterised by** the fact that the return element (3) is positioned between the eyelet (2a) and the body (1). 20
5. Charm with fastening means **characterised by** easy fast opening as claimed in claim 3, **characterised by** the fact that the return element (30) is positioned between the two bodies (1). 25
6. Charm with fastening means **characterised by** easy fast opening as claimed in claim 4, **characterised by** the fact that the return element (3) is housed and concealed inside a housing obtained in the body (1), which is crossed by a through hole (1 a) having a larger opening (1b) in order to house and conceal the return element (3). 30 35
7. Charm with fastening means **characterised by** easy fast opening as claimed in claims 2 and 3, **characterised by** the fact that the return element (3 30) is a spring with helicoidal turns and by the fact that the pin (2, 20) incorporates the said spring (3, 30) that is obtained from the same piece with the pin by helicoidally bending one of the ends. 40
8. Charm with fastening means **characterised by** easy fast opening as claimed in claim 7, **characterised by** the fact that the pin (2) incorporates the spring (3), which is obtained from the same piece with the pin by helicoidally bending one of the ends, which is then connected with the eyelet (2a) obtained by bending the intermediate section of the pin (2) in ring configuration. 45 50
9. Charm with fastening means **characterised by** easy fast opening as claimed in claim 7, **characterised by** the fact that the pin (2) incorporates the spring (3), which is obtained from the same pieces of the pin by helicoidally bending one of the ends, which is then connected with the hooked point (2b). 55
10. Charm with fastening means **characterised by** easy fast opening as claimed in claims 1 to 6, **characterised by** the fact that the return element (3, 30) is a spring with helicoidal turns.
11. Charm with fastening means **characterised by** easy fast opening as claimed in one or more of the preceding claims, **characterised by** the fact that the said return element (3, 30) is situated and concealed inside a box-shaped insert (40, 400) whose opening is coupled with possibility of sliding with a collar (50, 500) or inserted into the pin (2, 20) and situated between the return element (3, 30) and one of the bodies (1).
12. Jewel as claimed in the preceding claim, **characterised by** the fact that the collars (50, 500) are made from the same piece of the body (1).
13. Charm with fastening means **characterised by** easy fast opening, as claimed in any of the preceding claims, **characterised by** the fact that the bodies (1) consist in a stone of precious or non-precious material.
14. Jewel **characterised by** the fact that it is formed of an interconnected series of charms as claimed in the preceding claims.
15. Chain belt **characterised by** the fact that it is formed of an interconnected series of charms as claimed in claims 1 to 11.







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	FR 2 692 764 A1 (PERLAS MANACOR SA [ES]) 31 December 1993 (1993-12-31) * page 2, line 37 - page 3, line 35; figures 1-6 *	1,10, 13-15	INV. A44C5/10 A44C25/00
X	US 3 386 240 A (ABRAHAM BLUMSTEIN) 4 June 1968 (1968-06-04) * column 1, line 7 - column 3, line 50; figures 1-5 *	1-3, 13-15	
X	US 2 763 981 A (ABRAHAM BLUMSTEIN) 25 September 1956 (1956-09-25) * column 1, line 15 - column 2, line 56 *	1,2, 13-15	
X	FR 1 457 697 A (RAYMOND BAUCOURT) 24 January 1966 (1966-01-24) * the whole document *	1,2, 13-15	
A	US 6 978 596 B1 (LEE ALFRED [US]) 27 December 2005 (2005-12-27) * column 1, line 54 - column 4, line 59; figures 1,5,6 *	1-15	TECHNICAL FIELDS SEARCHED (IPC)
A	US 2 465 328 A (MODREY HENRY J) 22 March 1949 (1949-03-22) * column 1, line 1 - column 3, line 71; figures 1-3 *	1-15	A44C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 September 2007	Examiner Richmond, Sarah
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			

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

EP 07 01 3761

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.

18-09-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2692764	A1	31-12-1993	US 5351506 A	04-10-1994
US 3386240	A	04-06-1968	NONE	
US 2763981	A	25-09-1956	NONE	
FR 1457697	A	24-01-1966	NONE	
US 6978596	B1	27-12-2005	NONE	
US 2465328	A	22-03-1949	NONE	