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(54) **Identification seal equipped with flexible cord**

(57) The finding concerns an identification seal equipped with flexible cord, of the type consisting of a body, intended to receive distinctive marks or symbols of the producer or seller, or else other data for identifying the product to be distinguished, such as a trademark, an item number, a size number, a barcode, etc., and a flexible cord that has a pawl at its two ends that is irreversibly

and stably inserted in said body. Such a seal (200) is characterised in that it foresees three distinct components, made separately, which are assembled together to make the final object. In particular the first component (10), consisting of a shell, is made from plastic material, whereas the second component is a shaped block (20) and the third component, consisting of a pawl (4), is made from plastic material.

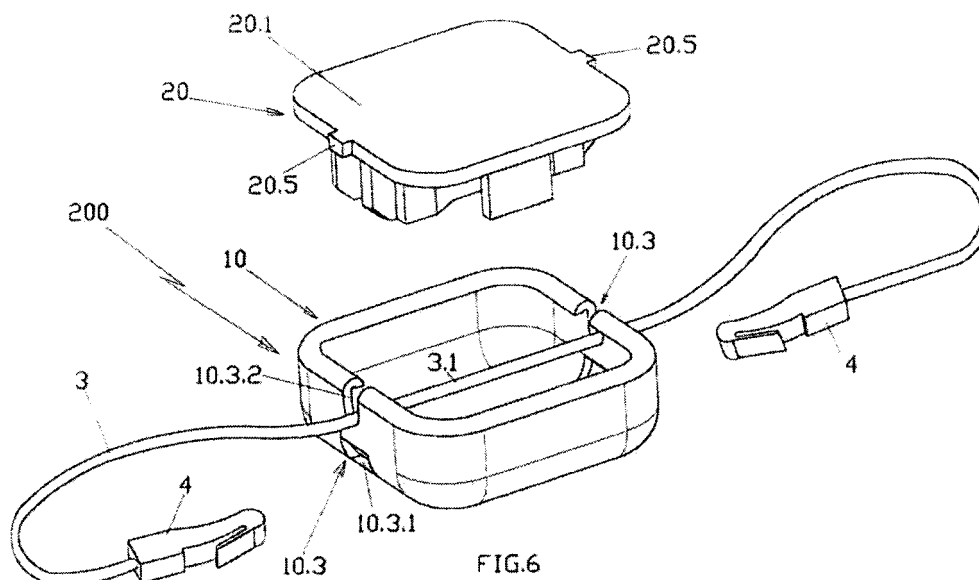


FIG. 6

Description

[0001] The present finding concerns the manufacture of a seal consisting of a metal structure, which constitutes the body of the object, equipped with a cover made from plastic, metallic or card and of at least one flexible cord equipped, at the ends, with pawls made from plastic, which irreversibly insert in said body.

[0002] The seals are used in many fields of business and they comprise a body intended to receive distinctive marks or symbols of the producer or seller, or else other data for identifying the product to be distinguished or protected, such as a reference number of the item, a size number, a barcode, etc.

[0003] Said seals are also equipped with one or two flexible cords stably fixed at one of their ends, or at both of the opposite ends, to said body and they are provided at the opposite end with a pawl that is irreversibly inserted in a corresponding cavity foreseen in such a body, after the cord has been passed through an opening (eyelet, chain link, hole, etc.) foreseen in the item to be distinguished.

[0004] In the case in which there are seals with two cords provided with pawls, a first cord is passed into the eyelet of a tag carrying the mark and other information concerning the product to be distinguished and the other cord is engaged in the product (eyelet, chain link, hole, etc.)

[0005] Such seals are still currently made either with a metal body equipped with one or two cords provided with metal pawls, or with a plastic body with cords provided with plastic pawls; both types are produced in a very wide variety of shapes, sizes and body-cord constraining systems.

[0006] Generally, if they are made from plastic, they are obtained through an operation of injecting plastic material in moulds with many impressions, of a shape corresponding to the complete shape of the body of the seal, or else to the shape of each of the two half-shells from which each of the bodies is formed.

[0007] It is clear that in both cases (metal body or plastic body) it is always necessary to have as many different moulds as there are different types of seal body to be made, and as there are different drawings or writing that must appear on each body and this means that the producer of seals must be equipped with extensive and expensive equipment.

[0008] Moreover, current seals require a series of operations, carried out automatically or manually, in order to assemble the cord to the body.

[0009] Furthermore, considering the complexity of making moulds and the long preparation times of presses, be they mechanical or injection presses, and, therefore, the consequent high production costs of each seal, it is only cost-effective to produce large quantities of seals, given that the users must have large and expensive stocks.

[0010] Another drawback consists of the fact that, usu-

ally, such seals, after being made, are collected together in bundles or loosely and this means that it is easy for the cords to become entangled or for the pawls to get stuck to one another, with a consequent loss of time for the necessary separation of seals by the users.

[0011] The purpose of the present finding is to make a seal that is simple to produce and cost-effective.

[0012] Another purpose of the finding is to make a seal that can be produced with simple and completely automatic equipment.

[0013] Another purpose is to make a seal that has a very pleasant appearance and that allows such an appearance to be modified in accordance with the user's requirements.

[0014] Such purposes are accomplished by making a seal that consists of three distinct components, made separately, which are assembled together to make the final object.

[0015] Specifically:

- the first component consists of a shell, open on top, which acts as the bottom and as the side wall of the seat;
- the second component, which is inserted inside the aforementioned shell, consists of a shaped block, which acts as the inner fastening frame of the pawl and where its upper surface becomes the upper wall of the seal, visible and able to be personalised, for example, with the client's trademark;
- the third component consists of a flexible thread equipped at the two ends with plastic pawls that, when active, through the opening formed on the shell, irremovably and irreversibly anchor inside the aforementioned frame.

[0016] Constructively, the first component or shell is made from metal, through the shearing and drawing operations with which the sheet metal is shaped to form a hollow body and is consists of a base and a perimeter edge, on which openings are formed to allow the pawls to pass towards the inside of the aforementioned body.

[0017] Again constructively, the second element or block, made entirely from plastic or metal, or else made from a plastic/card or metal/card mix, comprises a plate, which can be made from plastic, metal or card, from which suitably shaped appendices, made from plastic or metal, rise up at the bottom, which, resting against the bottom of the shell, define cavities that have the function of irremovably and irreversibly holding the two pawls, when they are inserted into the aforementioned block.

[0018] Moreover, the plate has an external profile that is shaped and sized to correspond to the internal profile of the perimeter edge of the shell, for which reason it acts as an upper Closure of the box-shaped body, consisting of the shell and the aforementioned plate.

[0019] Again constructively, the third element comprises the flexible cord equipped at the two ends with pawls equipped with one or more side elastic retaining tongues

and suitable for being irreversibly inserted in the cavities of the aforementioned block.

[0020] The constraintment between the outer shell and the shaped block is obtained, after the aforementioned block has been positioned inside the aforementioned shell, by bending the upper edge of the shell, preferably curling it with an inner eyelet, in the jargon "crimping", which goes over the plate of the aforementioned block.

[0021] The finding will be better defined with the description of some embodiments thereof, given as non-limiting examples, with the help of the attached tables of drawings, where:

- fig. 1 (table I) represents an exploded view of a first embodiment of the seal according to the finding;
- fig. 2 represents a view from above of the assembled seal according to fig. 1;
- fig. 3 represents an elevated view sectioned according to the line III-III of fig. 2 of the seal;
- fig. 4 represents a plan view sectioned according to the line IV-IV of fig. 3 of the seal;
- fig. 5 represents an inverted perspective view of the inner block, present in the seal according to fig. 2;
- fig. 6 (table II) represents an exploded view of a second embodiment of the seal according to the finding;
- fig. 7 represents a perspective view of the assembled seal, according to fig. 6;
- fig. 8 represents an elevated view sectioned according to the line VIII-VIII, of fig. 7 of the seal;
- fig. 9 represents a view from above of the seal according to fig. 7;
- fig. 10 represents a plan view of the seal, sectioned according to the line X-X of fig. 8.
- fig. 11 represents an inverted perspective view of the inner block present in the seal according to fig. 7.
- figs. 12, 3 (Tables III-IV) represent two external perspective views of a seal made according to the finding.

[0022] As can be seen in figures 1 and 6, the seal according to the finding, wholly indicated with reference numerals 100 and 200 (in two distinct embodiments thereof), consists of three distinct and separate components: a shell, respectively indicated with reference numerals 1 and 10, a block, indicated with reference numerals 2 and 20 and a flexible cord 3, equipped at the two ends with pawls 4, provided with one or more elastic retaining tongues.

[0023] As can be seen in figs. 2-5, in the seal 100 the shell 1, made from sheet metal, preferably aluminium, consists of a base 1.1 equipped with a perimeter wall 1.2 on which a pair of openings 1.3 are made on one side, aligned with one another horizontally.

[0024] The block 2, made from thermoplastic or metallic material, comprises a plate 2.1 from which rise up three or more orthogonal appendices, two shaped side appendices 2.2 and a middle appendix 2.3 which, in op-

eration, when the aforementioned block is inserted in the shell 1, rest on the aforementioned base 1.1, to form two cavities 2.4, which are arranged at the aforementioned openings 1.3 of said block, so as to be able to irreversibly insert the two pawls 4, on the same side of the seal.

[0025] As can be seen in fig. 3, the block 2 is held and blocked inside the shell 1 by the eyelets 1.4, made through "crimping" of the outer edge of the perimeter wall 1.2.

[0026] As can be seen in figs. 7-11, in a second embodiment, in the seal 200 there is the shell 10, made from sheet metal, preferably aluminium, consisting of a base 10.1, equipped with a perimeter wall 10.2, on which two pairs of openings 10.3 are made opposite one another, each of which consists of a hole 10.3.1, arranged at the aforementioned base, and a vertical notch 10.3.2, made on the upper edge of the aforementioned wall.

[0027] The block 20, made from thermoplastic or metallic material, consists of a plate 20.1, from which two appendices 20.2 rise up at the bottom, arranged so as to be coaxial with the two openings 10.3 of the shell and two or more further side appendices 20.3, for reinforcing the aforementioned plate.

[0028] Such two appendices 20.2 are arranged symmetrically to each other and are shaped so as to form two opposite cavities 20.4, which, when the block 20 is inserted in the shell 10, are arranged at the openings 10.3 of said block, so as to be able to irreversibly insert the two pawls 4, on the two opposite sides of the seal.

[0029] The plate 20.1 is also equipped with two side indentations 20.5, arranged in line with the underlying appendices that, when the block 20 is inserted in the shell 10, are inserted in the two corresponding side notches 10.3.2 of the shell and have the function of holding, by compression, the portion 3.1 of the flexible cord 3, previously inserted in the shell (see ref. "K", fig. 7).

[0030] As can be seen in fig. 8, the block 20 is held and blocked inside the shell 10 by the eyelets 10.4, made through the "crimping" of the outer edge of the perimeter wall 10.2.

[0031] The finding also foresees that, in both of the embodiments described above, the upper plate 2.1 and 20.1 can be made from a different material to the connected projections 2.2 and 20.2, preferably made from card.

[0032] In practice, the shells and the blocks, being formed separately, can be subjected to different decoration processes; in particular, the shell, made from metallic or plastic material, can be personalised with direct prints of different subjects or trademarks and with finishing treatments, such as varnishing, glazing, mirror-polishing, silk-screen printing, pad-printing, lithography, sublimation, laser or digital printing or the application of a pre-decorated plastic film, vice-versa the trademark or other writing identifying the type or the characteristics of the item to which the seal will be applied will be displayed on the visible outer wall of the plate, imprinted or in relief, as can all be seen, for example in figs. 12 and 13.

[0033] Moreover, the assembly of the seal, i.e. the in-

section of the block 2.20 in the shell 1.10, which can be a manual or automatic operation, is preferably carried out by the producer, but it can also be carried out by the user, who, in this way, using a single type of shell and various models of blocks (or vice-versa), can personalise the seals in accordance with the requirements of the market or of the product to be identified.

[0034] From what has been outlined above it can be seen that the seal according to the finding has numerous advantages compared to conventional seals, in particular:

- in terms of appearance it is substantially more pleasing due to the extensive variety of chromatic combinations that can be made;
- it can be made with completely automated production cycles (shearing/drawing of the sheet metal to form the metallic shell and moulding of the block, made from thermoplastic or metallic material), and thus with high production rates and low production costs.
- it allows both the production and the management of stocks to be simplified since it foresees, for example, the manufacture of a unified type of shell to be personalised with the application of the particular types of blocks;
- it allows the appearance of the seal to be varied, even by the user himself, with a suitable stock of components.

Claims

1. IDENTIFICATION SEAL EQUIPPED WITH FLEXIBLE CORD, of the type consisting of a body, intended to receive distinctive marks or symbols of the producer or seller, or else other data for identifying the product to be distinguished, such as a trademark, an item number, a size number, a barcode, etc., and a flexible cord that has a pawl at its two ends that is irreversibly and stably inserted in said body, said seal (100, 200) being **characterised in that** it foresees three distinct components, made separately, which are assembled together to make the final object and specifically:

- the first component consists of a shell (1,10), open on top, which acts as the bottom (1.1,10.1) and as the side wall (1.2,10.2) of the seal;
- the second component, which is inserted inside the shell (1,10) is a shaped block (2,20), which constitutes the inner attachment frame of the pawl (4) and where its upper surface become the upper wall of the seal;
- the third component consists of a flexible thread (3), provided at the two ends of the pawls (4) that, in active phase, through the opening

formed on the shell, removable anchor themselves inside the aforementioned frame, and also **characterised in that** the first component (1,10) is made from metallic material and the pawl (4) of the third component (3) is made from plastic material.

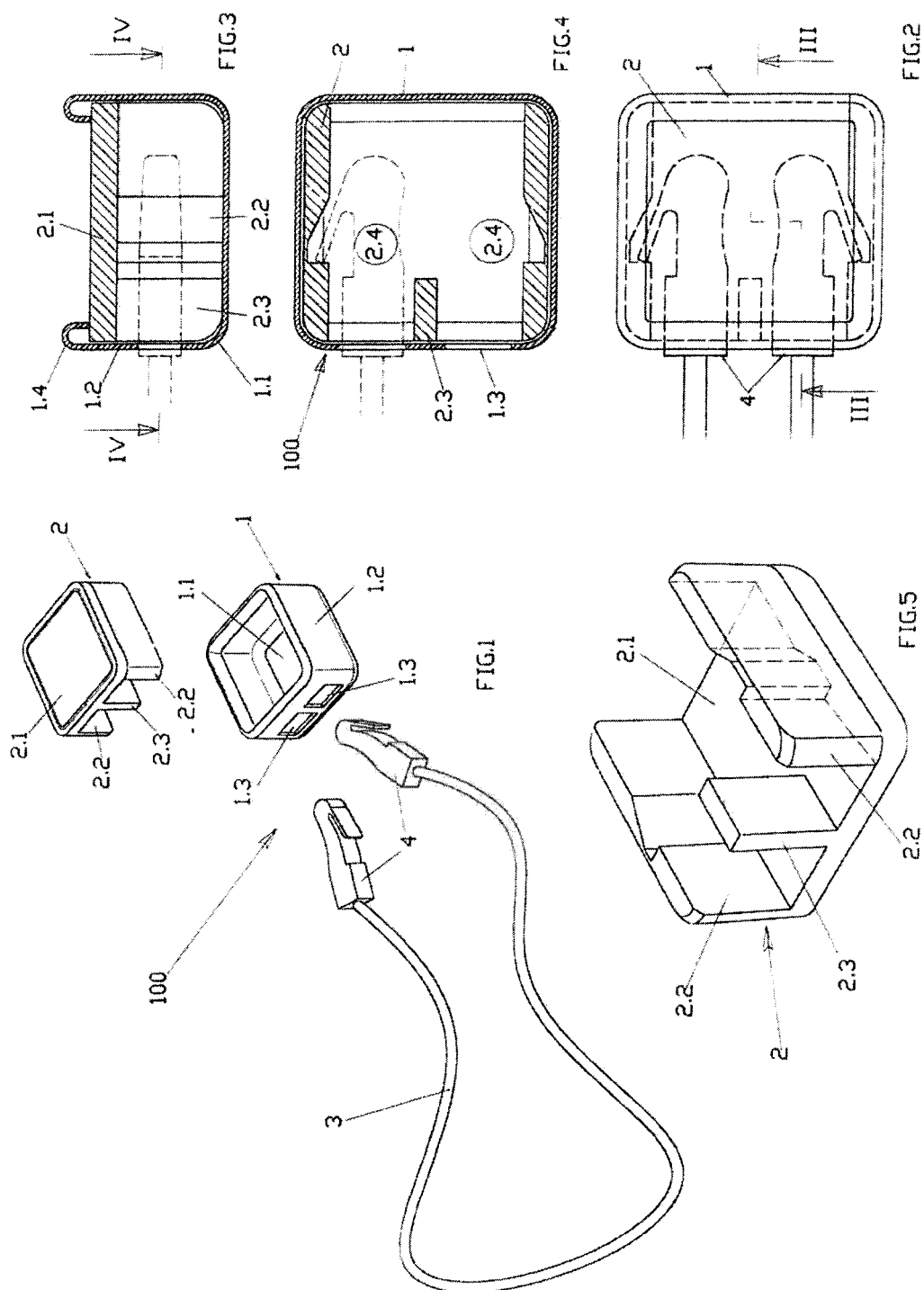
2. SEAL, according to claim 1, **characterised in that** the shell (1,10) is made from metal, through the shearing and drawing operations with which the sheet metal is shaped to form a hollow body, consisting of a base (1.1,10.1) and a aforementioned base to form two cavities (2.4), which are placed at the aforementioned openings (1.3) of said block, so as to be able to irreversibly insert the two pawls (4) on the same side of the seal.

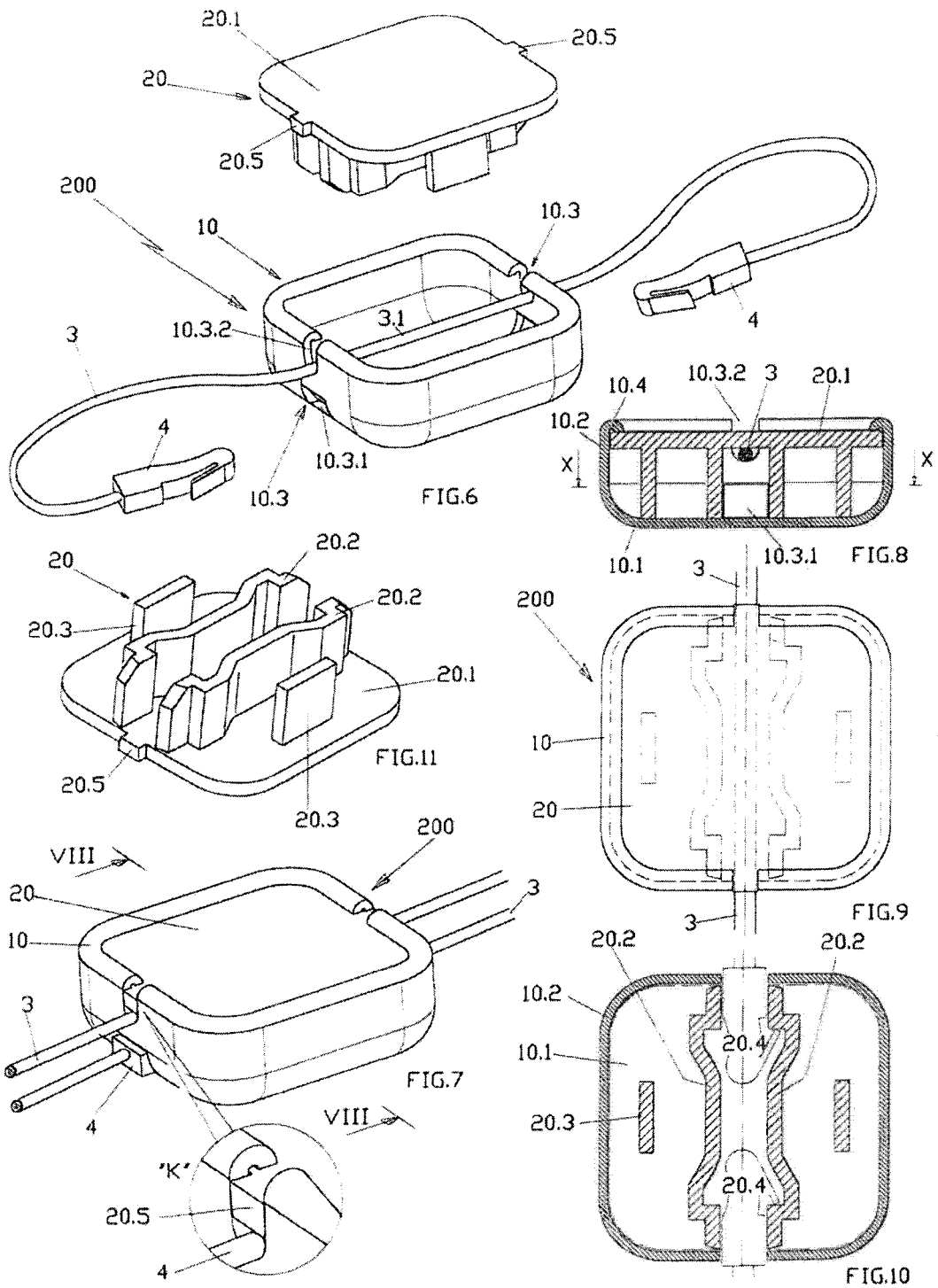
9. SEAL (200), according to claim 2, **characterised in that** the shell (10), made from aluminium or other alloys, consists of a base (10.1) equipped with a perimeter wall (10.2) on which two pairs of openings (10.3) are made opposite one another, each of which consists of a hole (10.3.1), arranged at the aforementioned base, and a vertical notch (10.3.2), made on the upper edge of the aforementioned perimeter wall.

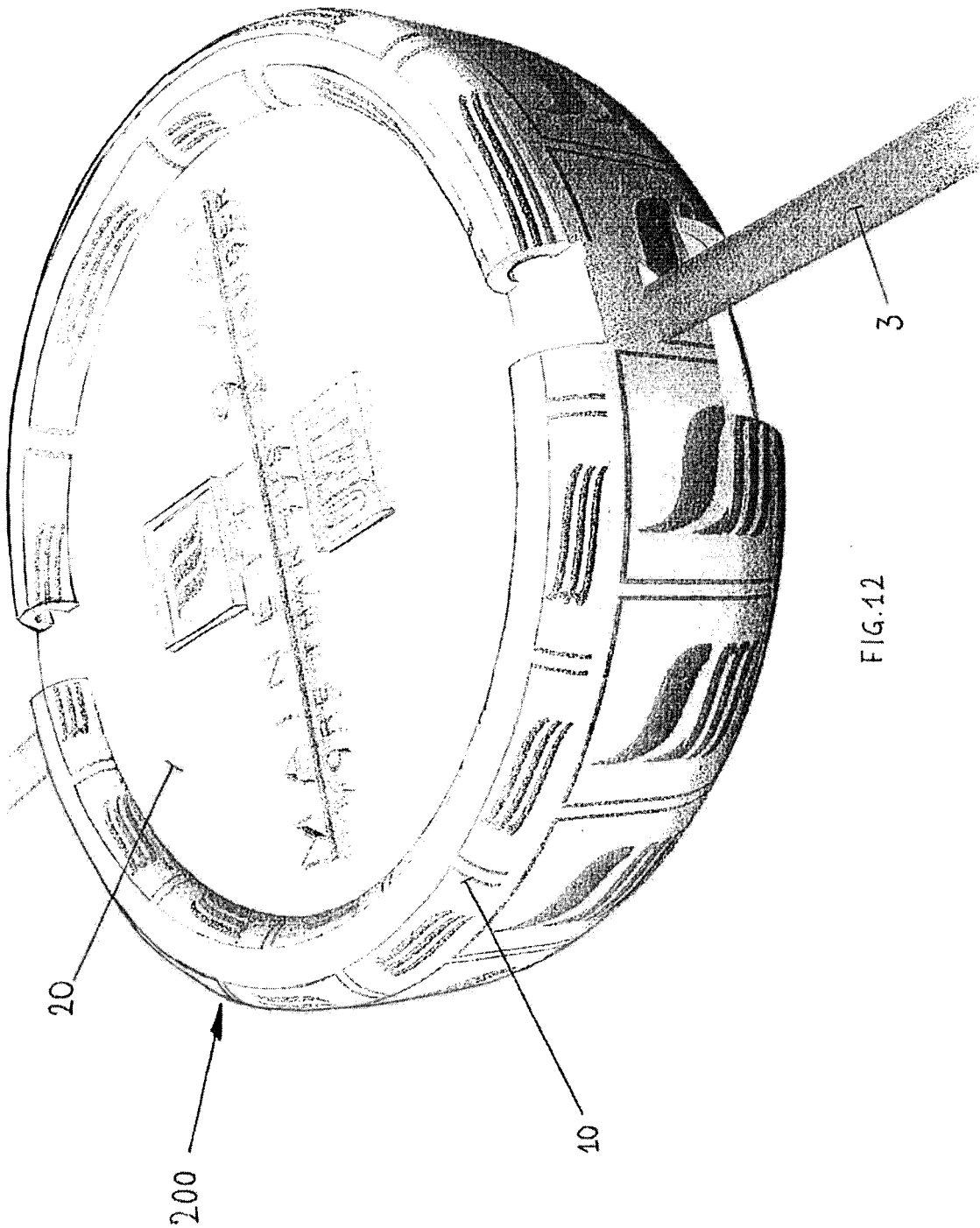
10. SEAL (200), according to claims 3 and 9, **characterised in that** the block (20), made from thermoplastic or metallic material, consists of a plate (20.1), from which two appendices (20.2) rise up at the bottom, arranged symmetrically with respect to one another and shaped so as to form two opposite cavities (20.4), which, when the block (20) is inserted in the shell (10), are arranged at the two openings (10.3) of said block, so as to be able to irreversibly insert the two pawls (4), on the two opposite sides of the seal.

11. SEAL (200), according to claim 10, **characterised in that** the plate (20.1) is equipped with two or more further side appendices (20.3), for reinforcing the aforementioned plate.

12. SEAL (200), according to claim 10, **characterised in that** the plate (20.1) is equipped with two side indentations (20.5), arranged in line with the underlying appendices (20.2) which, when the block (20) is inserted in the shell (10), are inserted in the two corresponding side notches (10.3.2) of the shell and hold, by compression, the portion (3.1) of the flexible cord (3), previously inserted in the shell itself.







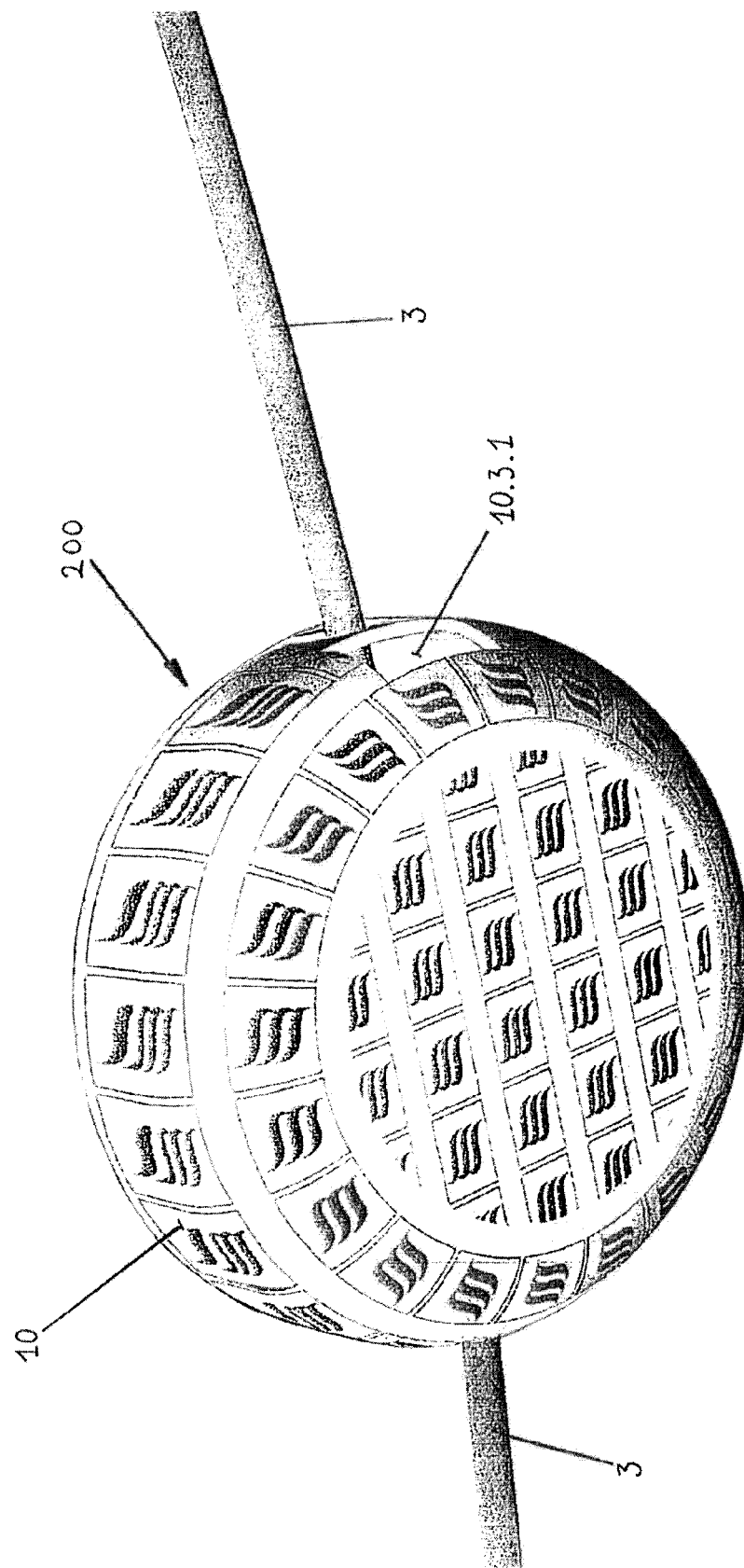


FIG. 13



EUROPEAN SEARCH REPORT

Application Number
EP 09 17 6215

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 91/06084 A1 (MAINETTI SPA [IT]) 2 May 1991 (1991-05-02) * page 2, line 3 - page 3, line 10 * * page 4, line 10 - page 5, line 16 * * page 9, line 16 - page 11, line 15 * * figures 1-7 *	1-15	INV. G09F3/03
A	CH 587 530 A5 (CHANDRA SA) 13 May 1977 (1977-05-13) * column 1, line 44 - column 2, line 32 * * claims 1-7 *	1-15	
A	US 2006/220848 A1 (TROPPER HILLEL [US]) 5 October 2006 (2006-10-05) * figures 1-11 * * paragraphs [0014], [0031], [0035] - [0036] *	1-15	
A	GB 2 051 942 A (STOBA AG) 21 January 1981 (1981-01-21) * figures 1-2 * * page 2, column 1, line 1 - column 2, line 94 *	1-15	TECHNICAL FIELDS SEARCHED (IPC) G09F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 13 April 2010	Examiner Pierron, Christophe
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	

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

EP 09 17 6215

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13-04-2010

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9106084	A1	02-05-1991	AU 6528490 A	16-05-1991
			CA 2069336 A1	21-04-1991
			DE 69006035 D1	24-02-1994
			EP 0497795 A1	12-08-1992
			ES 2048507 T3	16-03-1994
			PT 95635 A	14-08-1991
			US 5306055 A	26-04-1994

CH 587530	A5	13-05-1977	NONE	

US 2006220848	A1	05-10-2006	NONE	

GB 2051942	A	21-01-1981	BE 883817 A1	01-10-1980
			CA 1158846 A1	20-12-1983
			CH 643079 A5	15-05-1984
			DE 3021611 A1	29-01-1981
			FR 2460513 A1	23-01-1981
			IT 1131392 B	18-06-1986
			NL 8003656 A	31-12-1980
			US 4361351 A	30-11-1982
