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(54) **SPINNING TOP GAME DEVICE**

(57) A spinning top game device (1) is provided, which comprises a shaped sheet (2) comprising an outer edge (2a) defining a centre of gravity (2b), a first central cutting line (3) defining a tip member (3a) and two first ends (3b), which define the outermost points of the central cutting line (3), the first ends (3b) lying along the same central straight line (4a), substantially passing through the centre of gravity (2b) of the shaped sheet (2), two folding lines (4) consisting of two segments lying along the central straight line (4a), the folding lines (4) extending between the first ends (3b) and two second ends (4b), a second central cutting line (5) defining, on the opposite side of the first central cutting line (3) with respect to the central straight line (4a), an uninterrupted path with ends coinciding with the second ends (4b), the first and second central cutting lines (3, 5) being adapted to be folded along the folding lines (4) so as to be perpendicular with respect to the remaining part of the shaped sheet (2) and defining a tip and a handle, respectively, for the spinning top gaming device.

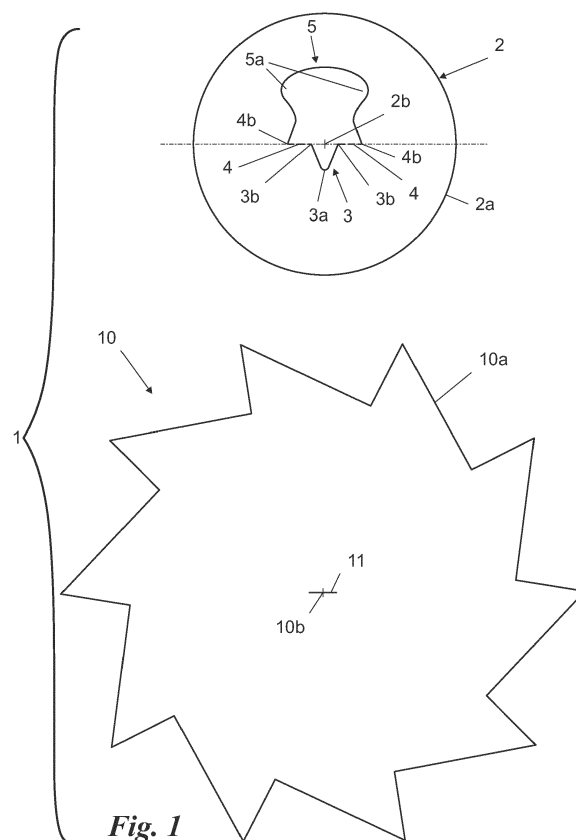


Fig. 1

Description

[0001] The present invention relates to a spinning top game device of the type specified in the preamble of the first claim.

[0002] Various gaming devices known as spinning tops are currently known.

[0003] A spinning top is a toy designed to rotate for a long time on a support surface.

[0004] The rotation typically occurs on a tip, which creates reduced friction on a support surface. Furthermore, the structure of the spinning top maximizes the rotational inertia of the same so as to maintain said spinning top balanced precisely on its tip during rotation due to the rotational inertia itself. The duration of the rotation is also extended due to the reduced friction of the tip.

[0005] The spinning top is a classic toy that has substantially been used from time immemorial and is also used as an advertising gadget.

[0006] The described prior art has a few major drawbacks.

[0007] In particular, the cost of a spinning top is rather high, in particular if provided as an advertising gadget.

[0008] The structure of the spinning top is indeed complex and involves three-dimensional extensions of the moulds, as well as the presence of metal tips.

[0009] Furthermore, the spinning top games currently on the market are mostly characterized by anonymous and not very customizable shapes that make the devices attractive to users, like children, only from a functional point of view.

[0010] However, previous experiences, such as for example the products commercially known as Pog® confirm the importance, for products placed on the market, of the possibility of customization and characterization from an aesthetic point of view.

[0011] Other similar products are described in patent applications EP-A-1400268, WO-A0236227 and EP-A-1374960.

[0012] In this context, the technical task underlying the present invention is to devise a spinning top gaming device, which is capable of substantially obviating at least some of the above-mentioned drawbacks.

[0013] Within the scope of said technical task, a major object of the invention is to obtain a spinning top gaming device that is simple and inexpensive.

[0014] The technical task and the specified objects are achieved by means of a spinning top gaming device as claimed in the appended claim 1.

[0015] Preferred embodiments are set forth in the dependent claims.

[0016] The features and advantages of the invention will be apparent from the detailed description of preferred embodiments of the invention, with reference to the accompanying drawings, in which:

Fig. 1 shows the spinning top game device according to the invention in top view and disassembled;

Fig. 2 shows the spinning top game device according to the invention in axonometric projection;

Fig. 3 shows the spinning top game device according to the invention in side view;

Fig. 4 shows a second example of the spinning top game device according to the invention in top view; and

Fig. 5 shows the spinning top game device illustrated in Fig. 4 in side view.

[0017] In the present document, the measures, values, shapes and geometric references (such as perpendicularity and parallelism), when associated with terms like "about" or other similar terms such as "almost" or "substantially", are to be understood as unless measurement errors or inaccuracies due to production and/or manufacturing defects and, especially, unless a slight difference from the value, measure, shape, or geometric reference with which it is associated. For example, these terms, if associated with a value, preferably indicate a difference not exceeding 10% of the value itself.

[0018] Furthermore, when used, terms such as "first", "second", "higher", "lower", "main" and "secondary" do not necessarily identify an order, a priority relationship or a relative position, but can simply be used to distinguish more clearly the different components from each other.

[0019] With reference to the Figures, the spinning top game device according to the invention is indicated as a whole by the numeral **1**.

[0020] It is made from a shaped, suitably punched, or otherwise carved sheet **2**. The said shaped sheet **2** is preferably made of a polymeric or papery material, such as paper or cardboard. The said polymeric material is preferably PVC or alternatively polypropylene, polyethylene, polystyrene or the like. It has a thickness preferably comprised between 0.1 mm and 1 cm, more preferably between 0.3 mm and 0.7 mm, still more preferably between 0.4 mm and 0.6 mm. In addition, the term "shaped sheet" does not necessarily mean a single layer, but also a sheet composed of multiple separable layers but in use substantially acting as a single sheet.

[0021] The shaped sheet **2** defines an outer edge **2a** having a centre of gravity **2b**.

[0022] The said outer edge **2a** is preferably approximately circular, with an outer profile which, for example, can be approximately a regular polygon or a star-shaped polygon, and much more.

[0023] The outer edge **2a** defines a plane figure with an average diameter of between 1 cm and 1 dm, preferably between 2 cm and 5 cm.

[0024] The shaped sheet **2** comprises a first central cutting line **3** defining a tip member **3a** and two first ends **3b**, which define the outermost points of said central cutting line **3**. The first ends **3b** lie along the same central straight line **4a**, substantially passing through the centre of gravity **2b** of said shaped sheet **2**. By "substantially passing through" it is meant that the distance between

the central straight line 4a and the centre of gravity is less than 20%, and more preferably 10%, of the average diameter of the outer edge 2a.

[0025] The first ends 3b are preferably symmetrical with respect to the centre of gravity 2b, more preferably each with a distance of between 0.5 mm and 3 mm from the centre of gravity, and the central cutting line 3 is preferably symmetrical with respect to the axis of the segment defined by the first ends 3b on the central straight line 4a. It preferably comprises a rounded tip and is preferably substantially triangular.

[0026] The shaped sheet 2 also comprises two folding lines 4 formed by two segments lying along the central straight line 4a, the folding lines 4 extending between the first ends 3b and two second ends 4b. The second ends 4b are also preferably symmetrical with respect to the centre of gravity 2b and have a distance from the same preferably of between 4 mm and 2 cm.

[0027] The shaped sheet 2 further comprises a second central cutting line 5 defining, on the opposite side of the first central cutting line 3 with respect to the central straight line 4a, an uninterrupted path with ends coinciding with the second ends 4b.

[0028] The second central cutting line 5 can have any shape, for example the shape of an animal or of other game elements for children. Preferably, the central cutting line 5 defines an enlarged portion 5a, adapted to allow a better grip of the device 1, as explained in detail below.

[0029] The first and second central cutting lines 3, 5 are thus adapted to be folded along the folding lines 4 so as to be perpendicular with respect to the remaining part of the shaped sheet 2, defining a tip and a handle, respectively, for the spinning top game device 1.

[0030] The shaped sheet 2 may also be a simple sheet or a composite sheet. In the latter case, it preferably comprises a first sheet 12 and a second, superimposed sheet 10. In the case in which the shaped sheet 2 is composed of a single sheet, it is preferably made of the above described materials, i.e. it is preferably made of a polymeric or papery material, such as paper or cardboard. The said polymeric material is preferably PVC or alternatively polypropylene, polyethylene, polystyrene or the like. It has a thickness preferably comprised between 0.1 mm and 1 cm, more preferably between 0.3 mm and 0.7 mm, still more preferably between 0.4 mm and 0.6 mm.

[0031] In the case in which the shaped sheet 2 is composed of the first sheet 12 and the second sheet 10, the first sheet 12 is composed of the above materials and has the shapes previously mentioned in connection with the shaped sheet 2.

[0032] Instead, the second sheet 10 is preferably made of a papery material such as paper or cardboard, or of a polymeric material. More preferably, the second sheet 10 is made of plasticised cardboard, more preferably, the cardboard, plasticised or not, has a basis weight ranging between 80 g and 500 g and more preferably between 300 g and 400 g.

[0033] It also comprises a second outer edge 10a defining a second centre of gravity 10b. The second outer edge 10a defines a plane figure with an average diameter of between 3 cm and 2 dm, preferably between 4 cm and 1 dm.

[0034] The second sheet 10 comprises a straight cutting segment 11, substantially passing through the second centre of gravity 10b and adapted to allow the insertion and fitting of the second sheet 10 in one of said tip and said handle of the first sheet 12.

[0035] The term "substantially passing through" has the same meaning as previously defined.

[0036] Lastly, in an alternative embodiment, a first or second sheet 12, 10 comprises a plurality of helical cutting lines 20, each associated with a folding straight line 21.

[0037] The helical cutting lines 20 and the folding straight lines 21 together define closed perimeters that are adapted to be folded so as to protrude from the sheet 2 or 10, preferably towards said handle, and to define a propeller adapted to rotate said device when stressed by a blowing action.

[0038] Preferably, the helical cutting lines 20 and the folding straight lines 21 define rectangular portions. Moreover, the folding straight lines 21 are preferably arranged at the same inclination angle, comprised between 5° and 30°, with respect to the circumferential direction, and are symmetrical with respect to the centre of gravity 2a or 10a.

[0039] The operation of the spinning top game device 1, previously described in structural terms, is as follows.

[0040] The user preferably initially finds the shaped sheet 2 and preferably also the second sheet 10 disassembled and flat.

[0041] The user then folds the first and second central cutting lines 3 and 5 along the folding lines 4 so as to make the portions enclosed thereby perpendicular with respect to the remaining part of the shaped sheet 2, defining the tip and a handle, respectively, for the spinning top game device 1.

[0042] The user may also simply insert the second sheet 10, next to the cutting segment 11, along the tip or the handle, until it reaches the remaining part of the first sheet 12.

[0043] The user then grasps the outer edges of the enlarged portion 5a of the handle 5 with two fingertips and imparts a spinning motion to the the spinning top game device 1, which rotates inertially for a long time resting on its tip.

[0044] The spinning top game device 1 according to the invention achieves important advantages.

[0045] In fact, the spinning top game device 1 is simple, inexpensive and can be conveniently packed and transported.

[0046] The flat surfaces of the sheets also allow simple funny graphic effects and also allow the creation of customisable or otherwise various devices 1 that respond to market demands.

[0047] The invention is susceptible of variations falling within the scope of the inventive concept as defined by the claims.

[0048] In this context, all details are replaceable by equivalent elements and any type of materials, shapes and dimensions may be present.

Claims

1. A spinning top game device (1) comprising a shaped sheet (2) comprising:

- an outer edge (2a) defining a centre of gravity (2b),
- a first central cutting line (3) defining a tip member (3a) and two first ends (3b), which define the outermost points of said central cutting line (3),

- said first ends (3b) lying along the same central straight line (4a), substantially passing through said centre of gravity (2b) of said shaped sheet (2),

- two folding lines (4) formed by two segments lying along said central straight line (4a), said folding lines (4) extending between said first ends (3b) and two second ends (4b),

- a second central cutting line (5) defining, on the opposite side of said first central cutting line (3) with respect to said central straight line (4a), an uninterrupted path with ends coinciding with the second ends (4b),

- said first and second central cutting lines (3, 5) being adapted to be folded along said folding lines (4) so as to be perpendicular with respect to the remaining part of said shaped sheet (2) and defining a tip and a handle, respectively, for said spinning top gaming device,

- **characterised in that** said shaped sheet (2) comprises a plurality of helical cutting lines (20), each associated with a folding straight line (21), said helical cutting lines (20) and folding straight lines (21) together defining closed perimeters and being adapted to be folded so as to protrude from said shaped sheet (2) and define a propeller adapted to rotate said device when stressed by a blowing action.

2. The spinning top game device (1) according to claim 1, wherein said first ends (3b) are symmetrical with respect to said centre of gravity (2b), and said central cutting line (3) is symmetrical with respect to the axis of the segment defined by said first ends (3b) on said central straight line (4a).

3. The spinning top game device (1) according to at least one of the preceding claims, wherein said tip

member (3a) comprises a rounded tip.

4. The spinning top game device (1) according to at least one of the preceding claims, wherein said tip member (3a) is substantially triangular.

5. The spinning top game device (1) according to at least one of the preceding claims, wherein said shaped sheet (2) is made of a polymeric material.

6. The spinning top game device (1) according to at least one of the preceding claims, wherein said shaped sheet (2) has a thickness of between 0.1 mm and 1 mm.

7. The spinning top game device (1) according to at least one of the preceding claims, wherein said outer edge (2a) defines a plane figure with an average diameter of between 1 cm and 1 dm.

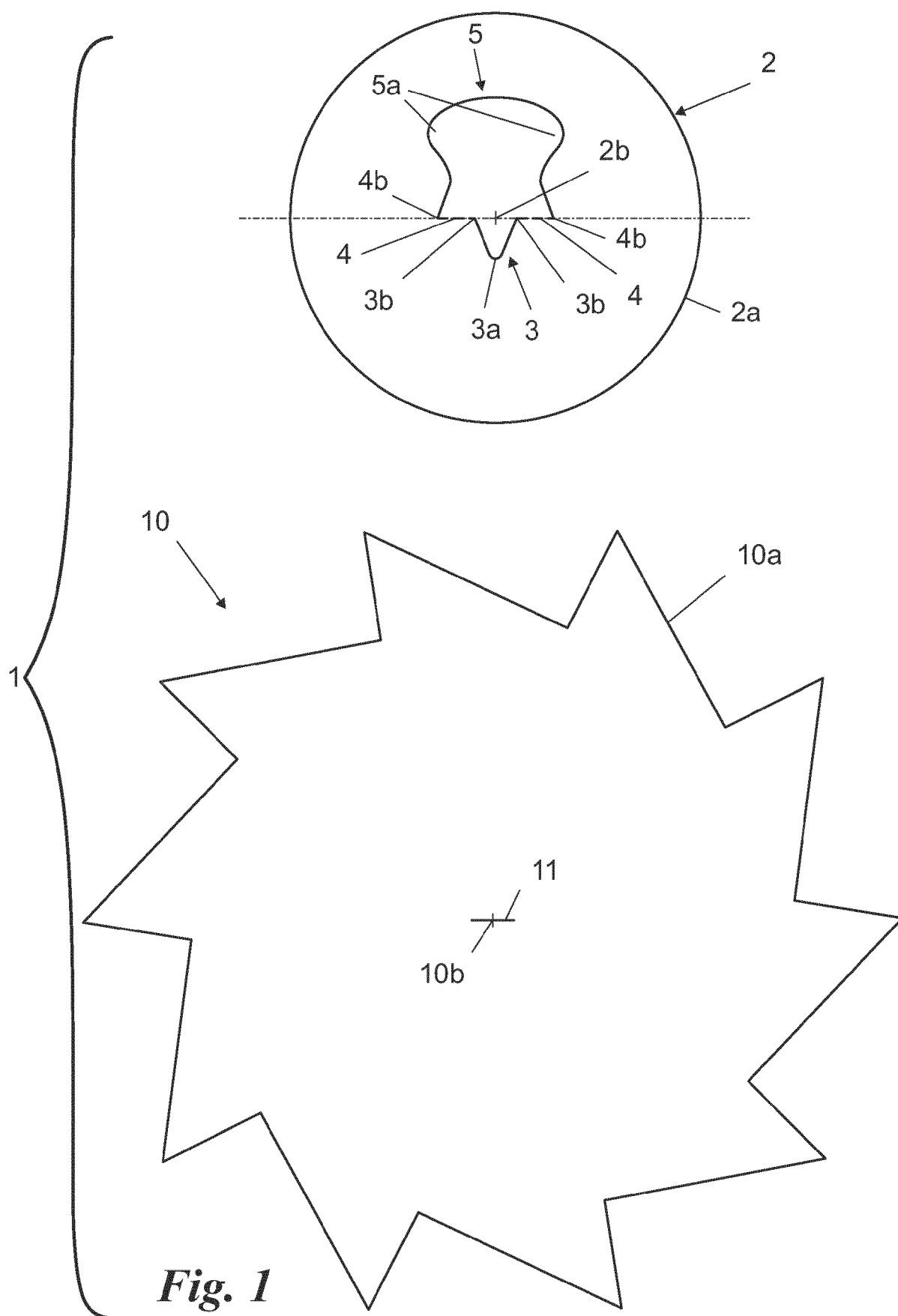
8. The spinning top game device (1) according to at least one of the preceding claims, wherein said shaped sheet (2) is composed of and comprises a first sheet (12) and a second sheet (10), said first sheet (12) comprising:

- said outer edge (2a),
- said first central cutting line (3),
- said folding lines (4),
- said second central cutting line (5),

and said second sheet (10) comprising:

- a second outer edge (10a) defining a second centre of gravity (10b),
- a straight cutting segment (11), substantially passing through said second centre of gravity (10b) and adapted to allow the insertion and fitting of said second sheet (10) in one of said tip and said handle,
- said helical cutting lines (20).

9. The spinning top game device (1) according to the preceding claim, wherein said second sheet (10) is made of a papery material.



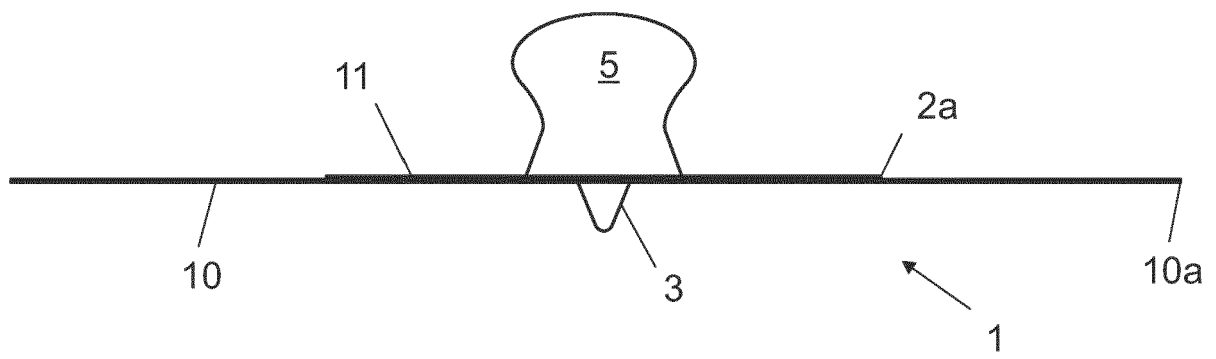


Fig. 3

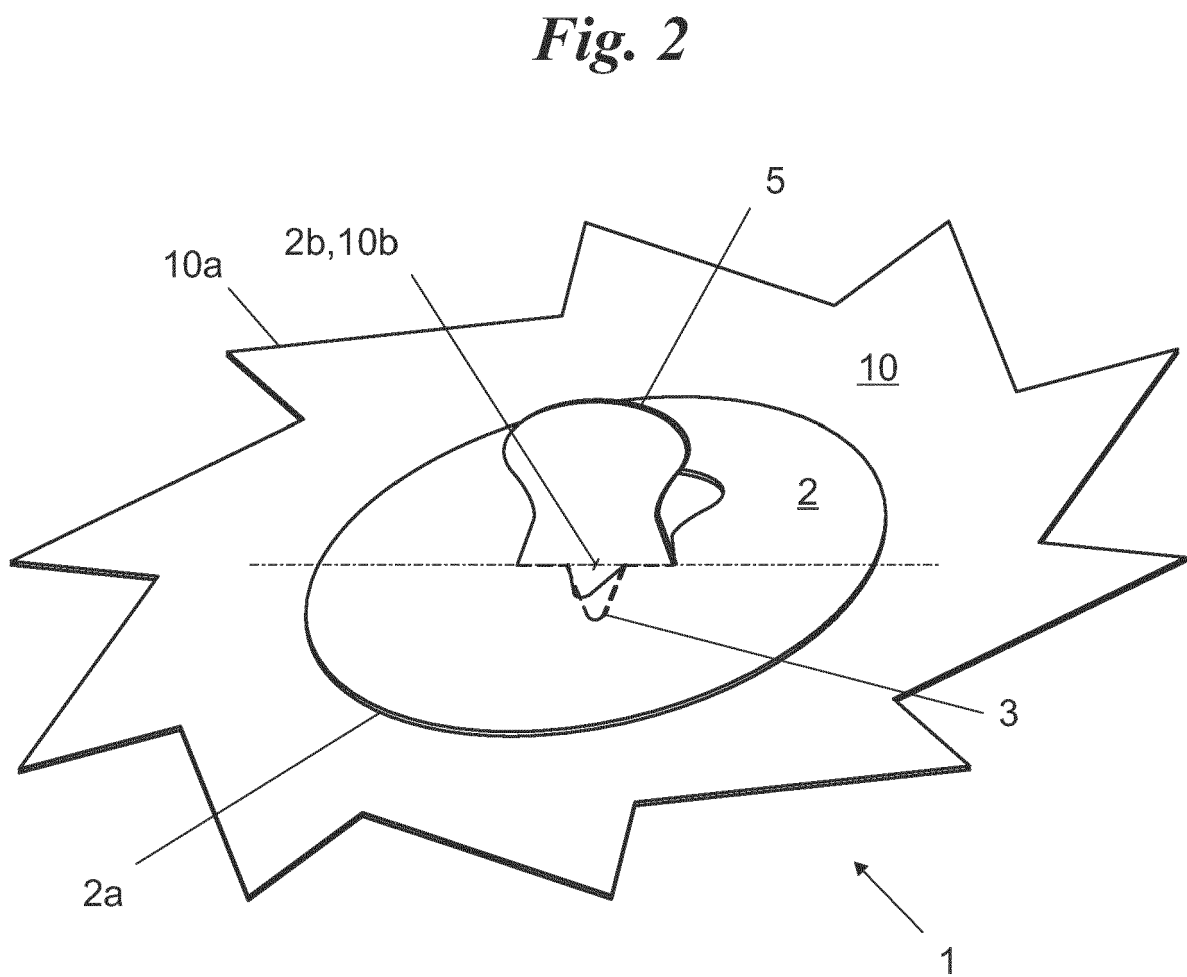


Fig. 2

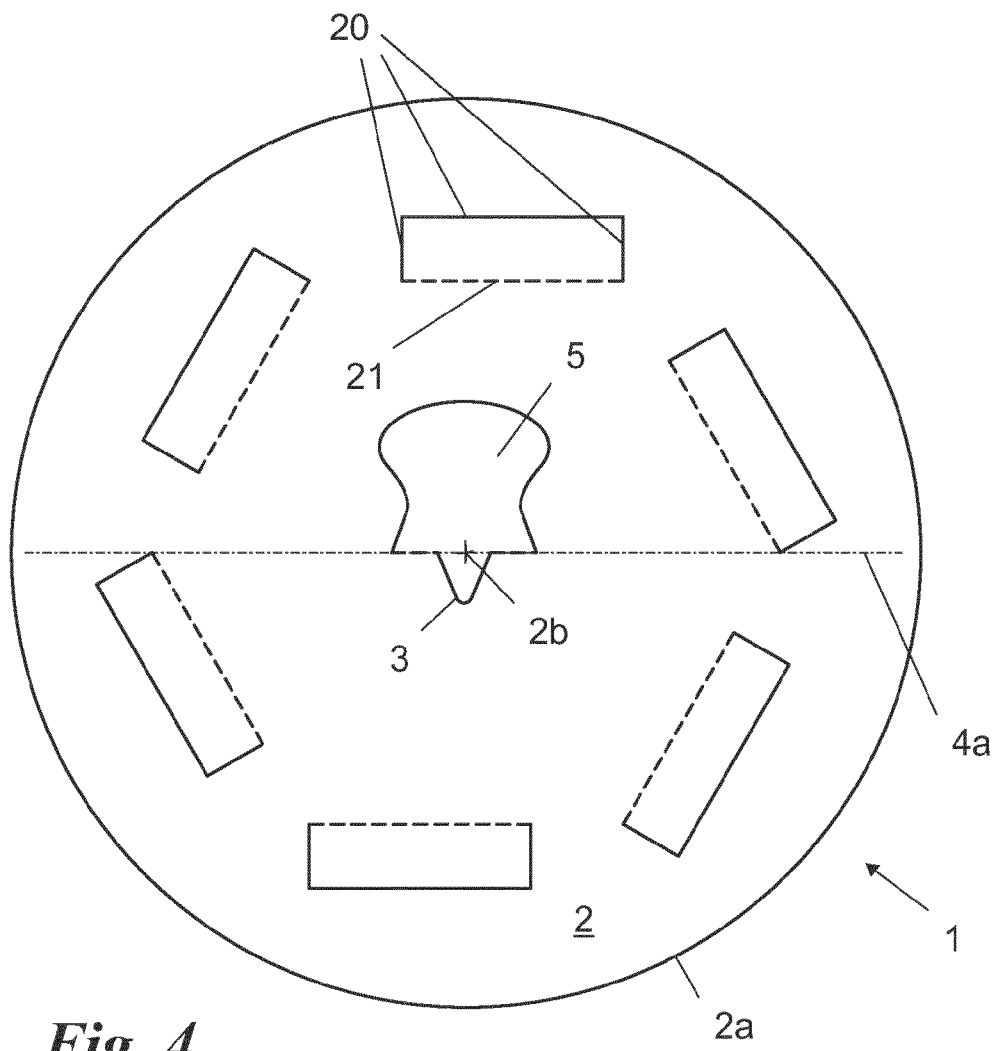


Fig. 4

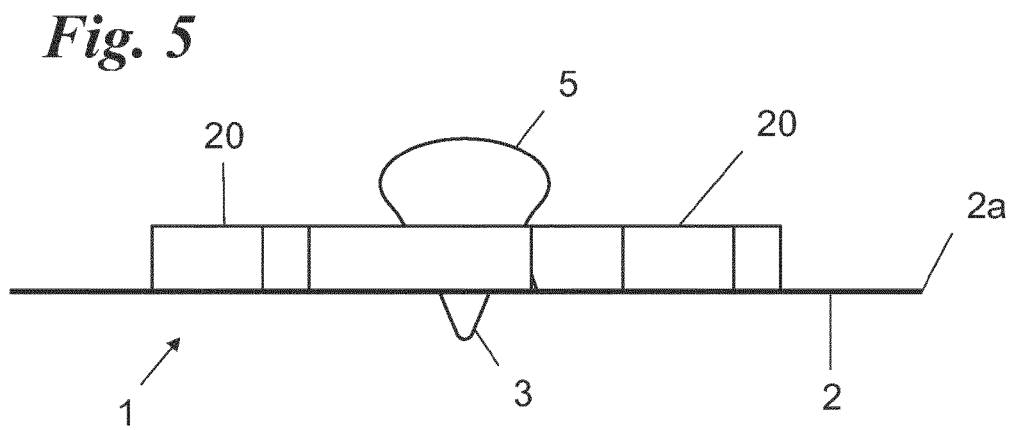


Fig. 5



EUROPEAN SEARCH REPORT

 Application Number
 EP 17 20 8535

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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,D	EP 1 400 268 A1 (LIU KUO-CHING [TW]) 24 March 2004 (2004-03-24)	1-7	INV. A63H33/16 A63H1/08
Y	* claims 1-5; figures 1-5 *	8,9	
X,D	WO 02/36227 A1 (SERIGRAPH INC [US]) 10 May 2002 (2002-05-10)	1-7	
Y	* claims 1-19; figure 4 *	8,9	
X,D	EP 1 374 960 A1 (LIU KUO-CHING [TW]) 2 January 2004 (2004-01-02)	1-7	
Y	* claims 1-6; figures 1-3 *	8,9	
A	FR 453 627 A (ROBERT WEBER [AT]) 12 June 1913 (1913-06-12)	1-7	
Y	US 6 604 979 B1 (LIU KUO-CHING [TW]) 12 August 2003 (2003-08-12)	8,9	
			TECHNICAL FIELDS SEARCHED (IPC)
			A63H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 May 2018	Examiner Shmonin, Vladimir
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 17 20 8535

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The members are as contained in the European Patent Office EDP file on
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22-05-2018

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1400268 A1	24-03-2004	NONE	
WO 0236227 A1	10-05-2002	AU 9490001 A WO 0236227 A1	15-05-2002 10-05-2002
EP 1374960 A1	02-01-2004	EP 1374960 A1 US 6648718 B1	02-01-2004 18-11-2003
FR 453627 A	12-06-1913	NONE	
US 6604979 B1	12-08-2003	NONE	

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EPO FORM P0459

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

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1400268 A [0011]
- WO 0236227 A [0011]
- EP 1374960 A [0011]