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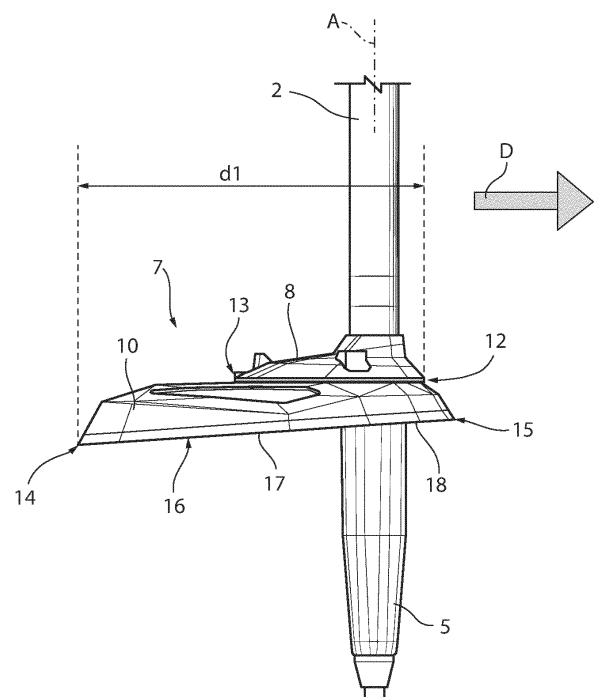
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(54) **ADAPTABLE SKI POLE**

(57) A ski pole (1) is described comprising: a rod (2) having a longitudinal axis (A); a handle grip (3) arranged at a first end (4) of the rod (2); a tip (5) arranged at a second end (6) of the rod axially opposite to the first end; and a basket (7) transverse to the longitudinal axis (A), arranged in a position axially proximal to the tip (5) and comprising a first element (8) fixed integrally to the rod (2) and a second element (10) movable relative to the first element (8) and configured to define, in use, a support surface relative to a snow-covered terrain; the first element (8) has a perimeter edge (11) including a first edge portion (12) and a second edge portion (13) opposite to one another with respect to the tip (5); the second element (10) has a supporting edge (14) and a leading edge (15) opposite to one another with respect to the tip (5); wherein the second element (10) is movable relative to the first element (8) between: a first position, in which the first edge portion (12) is at a first distance (d1) from the supporting edge (14); and a second position, in which the first edge portion (12) is at a second distance (d2) from the supporting edge (14) that is shorter than the first distance (d1).



**FIG. 3**

## Description

### CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** This Patent Application claims priority from Italian Patent Application No. 102021000004742 filed on March 1, 2021.

### TECHNICAL SECTOR

**[0002]** This invention relates to an adaptable ski pole, in particular a ski or ski mountaineering pole having a basket that can be adjusted depending on an uphill or downhill use condition.

### PRIOR ART

**[0003]** Poles are known, commonly known as "ski poles" or "ski mountaineering poles" or "hiking poles", that are used by professional athletes, amateur skiers or hikers.

**[0004]** The poles are a type of sports equipment that are used in pairs, which may have, depending on the environment and sports activity for which they are used:

- the function of stabilising the skier when descending a snowy slope;
- the function of propelling the skier, for example in cross-country skiing;
- the function of balancing the hiker or ski mountaineer or during a hike on foot across the snow.

**[0005]** A pole of the type described above essentially comprises a tubular rod having a longitudinal axis and constitutes the actual pole, a handle grip fixed to a first axial end of the rod, and a tip arranged at a second axial end of the rod opposite the first.

**[0006]** Typically, the tip is surrounded by a ring nut, which is fixed at a certain distance from the tip itself and is commonly known as a "basket"; it has the function of preventing the tip from sinking too deeply in the snow and, at the same time, of stabilising the user during the sports activity.

**[0007]** In the sector, specific poles are known for different types of winter sport.

**[0008]** In particular, different types of baskets are known: poles used in downhill skiing typically have a basket with small dimensions, so as to stabilise the skier, while avoiding, at the same time, the pole from sticking too deeply in the snow; the ski mountaineering poles, in contrast, comprise a larger basket, so as to support the weight of the skier, avoiding the pole's sinking into the fresh snow.

**[0009]** During ski mountaineering, the ski mountaineer first ascends the slope with the aid of skis and synthetic skins arranged on the lower surface of the skis, after which they descend the slope in fresh snow using skis.

**[0010]** For the uphill and downhill steps, it would be

useful to have different types of baskets, but today the only way to have different baskets is to replace them on each pole.

**[0011]** This replacement operation is, however, often complicated due to the gloves that the user wears, the intense cold, and the wear of the baskets themselves. In addition, there is the chance that the replacement baskets may be lost.

### 10 SUBJECT AND SUMMARY OF THE INVENTION

**[0012]** The purpose of this invention is to obtain a ski pole which is highly reliable and inexpensive, and makes it possible to avoid the drawbacks specified above and connected to known ski poles.

**[0013]** According to the invention, this purpose is achieved with a ski pole as claimed in claim 1.

### BRIEF DESCRIPTION OF THE DRAWINGS

**[0014]** To better understand this invention, a preferred, but non-limiting, embodiment is described below, by way of example, and with the aid of the attached figures in which:

- Figure 1 is a side view, with parts removed for clarity, of a ski pole produced according to this invention;
- Figure 2 is a perspective, exploded view, on an enlarged scale and with parts removed for clarity, of the lower end of the pole in Figure 1; and
- Figures 3 and 4 illustrate, in side view, and with parts removed for clarity, the pole in Figure 1 during two different operating conditions.

### 35 DETAILED DESCRIPTION

**[0015]** With reference to Figure 1, the reference number 1 indicates, as a whole, a ski pole.

**[0016]** The pole 1 is suitable for being used in a pair with another, identical pole 1 (not illustrated) during sports activities such as downhill skiing, ski mountaineering, cross-country skiing or hiking, in particular hiking on the snow, in order to assist the user during the activity itself.

**[0017]** In particular, the pole 1 is designed to support, balance, and/or stabilise the user during the sports activity.

**[0018]** As can be seen in Figure 1, the pole 1 essentially comprises:

- a tubular rod 2 having a longitudinal axis A, which is preferably straight;
- a handle grip 3 arranged at a first axial end 4 of the rod 2;
- a tip 5 arranged at a second axial end 6 of the rod 2 axially opposite to the first end 4; and
- a basket 7 transverse to the axis A, arranged in a position axially near the tip 5, i.e., arranged at the

second end 6.

**[0019]** In particular, the basket 7 extends along a plane transverse to the axis A. More specifically, the basket 7 extends along a plane orthogonal to the axis A, i.e., it is basically orthogonal to the axis A and, thus, to the rod 2.

**[0020]** According to one embodiment not illustrated, the rod 2 could comprise, as is known, shaped sections, which are not straight, but oblique or inclined, or be a telescopic pole composed of several parts, though preserving its essential extension along the axis A.

**[0021]** As can be seen, in particular, in Figure 2, the basket 7 comprises a first element 8 firmly fixed to the rod 2 (or, alternatively, to the tip 5), in particular fixed firmly to the rod 2, and a second element 10 that is movable relative to the first element 8 and configured to define, in use, a support surface in relation to the snow-covered terrain on which the user practises their sport.

**[0022]** In other words, the second element 10 defines that essential part of the basket 7 configured to balance, support, and/or stabilise the user during the sports activity.

**[0023]** According to the non-limiting example described and illustrated here, the first element 8 and the second element 10 are defined by respective shaped ring nuts that are transverse, in particular basically orthogonal, to the axis A.

**[0024]** The first element 8 has a perimeter edge 11, which includes a first edge portion 12 and a second edge portion 13 opposite to one another with respect to the tip 5.

**[0025]** Similarly, the second element 10 has a supporting edge 14 and a leading edge 15 opposite to one another with respect to the tip 5.

**[0026]** Specifically, as can be seen in Figures 3 and 4, the first edge portion 12 and the second edge portion 13 are spaced apart from one another along a direction that is transverse, in particular basically orthogonal, to the axis A.

**[0027]** More specifically, the transverse direction defines, in use, a direction of travel D of the user during the sports activity.

**[0028]** According to the example described, the first edge portion 12 faces, in use, towards the direction of travel D. Thus, in use, the first edge portion 12 defines a front portion of the first element 8 while the second edge portion 13, which is opposite the first edge portion 12 in relation to the tip 5 and is spaced apart from the first edge portion 12 along the direction D, defines a back portion of the first element 8.

**[0029]** Similarly, the supporting edge 14 and the leading edge 15 are spaced apart from one another along said direction that is transverse, in particular basically orthogonal, to the axis A.

**[0030]** In addition, the leading edge 15 faces, in use, towards the direction of travel D. Thus, in use, the leading edge 15 defines a front edge of the second element 10 while the supporting edge 14, which is opposite the lead-

ing edge 15 in relation to the tip 5 and is spaced apart from the leading edge 15 along the direction D, defines a rear edge of the second element 10.

**[0031]** According to the invention, the second element 10 is movable relative to the first element 8 between:

- a first position, in which the first edge portion 12 is at a first distance d1 from the supporting edge 14 (Figure 3); and
- a second position, in which the first edge portion 12 is at a second distance d2 from the supporting edge 14 that is shorter than the first distance d1 (Figure 4).

**[0032]** In particular, the second element 10 is rotatable around the axis A and along the above-mentioned transverse plane between the first position and the second position.

**[0033]** The second element 10 comprises a wall 16, a lower wall in the illustrated figures, which defines, in use, the above-mentioned support surface in relation to the snow-covered terrain.

**[0034]** In other words, the wall 16 is configured to cooperate in contact with the snow-covered terrain, to support the user and avoid the excessive sinking of the tip 5 into the terrain itself.

**[0035]** The wall 16 includes a first surface 17 between the supporting edge 14 and the tip 5 and a second surface 18 between the leading edge 15 and the tip 5.

**[0036]** The first surface 17 defines a supporting surface, the second surface 18 defines a leading surface.

**[0037]** According to the invention, the area of the first surface 17 is variable, by moving the second element 10 between the first position and the second position, in particular by rotating the second element 10 around the axis A between the first and the second position, between a first area when the second element 10 is in the first position (Figure 3), and a second area having smaller dimensions than the first area, when the second element 10 is in the second position (Figure 4).

**[0038]** In other words, when the second element 10 is in the first position, the distance d1 between the supporting edge 14 and the first edge portion 12 is greater and, as a result, the area of the wall 16, between the supporting edge 14 and the tip 5, is greater.

**[0039]** In contrast, when the second element 10 is in the second position, the distance d2 between the supporting edge 14 and the first edge portion 12 is smaller and, as a result, the area of the wall 16, between the supporting edge 14 and the tip 5, is smaller.

**[0040]** In light of the above, the first position advantageously defines an uphill configuration of the basket 7, in which the second element 10 provides a larger support surface during the uphill leg, so as to avoid excessive sinking of the tip 5 in the snow. The second position advantageously defines, in contrast, a downhill configuration of the basket 7, in which the second element 10 provides a support surface that is smaller during descent, so as to avoid the sticking of the basket 7 itself in the

snow, but, at the same time, provides the necessary stabilisation.

**[0041]** It should be noted, therefore, how the supporting edge 14 is defined by a first edge portion of the second element 10 (Figure 3), when the second element 10 is in the first position, or by a second edge portion of the second element 10 (Figure 4), when the second element 10 is in the second position.

**[0042]** Conveniently, the first element 8 comprises an axial through hole 20 that is suitable for being engaged by the rod 2 so as to determine the integral fixing of the first element 8 to the rod 2; the second element 10 also comprises an axial through hole 21 engaged by the rod 2 in order to determine the coupling of the second element 10 to the rod 2.

**[0043]** Conveniently, as shown in Figure 2, the hole 21 is eccentric in relation to the axis A.

**[0044]** In this way, by rotating the second element 10 around the axis A, it is possible to determine the first and second position of the second element 10 itself as specified above, i.e., defining different distances d1, d2 between the supporting edge 14 and the first edge portion 12.

**[0045]** Preferably, the basket 7 comprises, in addition, a third element 22 (Figure 2), defined by a respective ring nut, and which can be coupled, so it can be released, to the first element 8.

**[0046]** Specifically, the third element 22 comprises a perimeter portion 23 and a central projecting part 24 protruding axially from the perimeter portion 23 and configured to cooperate with a receiving portion of the first element 8 in order to determine said releasable coupling.

**[0047]** Conveniently, the second element 10 is axially placed between and axially pressed between the first element 8 and the third element 22, so as to be movable between the first and second position with interference with the first element and the third element.

**[0048]** In practice, in use, the user needs to apply a certain rotational force to the second element 10 to be able to move the second element 10 between the first and the second position.

**[0049]** Preferably, the projecting part 24 comprises a shaped side wall including multiple radial protrusions 25; the hole 21 of the second element 10 comprises a side wall 26 including multiple radial recesses 27.

**[0050]** In use, the side wall 26 is configured to cooperate in contact with the side wall of the projecting part 24, so that the radial protrusions 25 engage first radial recesses 27 when the second element 10 is in the first position, and second radial recesses 27 when the second element 10 is in the second position.

**[0051]** In this way, a firm positioning of the second element 10 is ensured selectively in the first or in the second position and, thus, in the uphill or downhill configuration, avoiding undesired movements of the second element 10 itself.

**[0052]** Advantageously, the second element 10 is made of a more flexible material than the first element 8.

**[0053]** In particular, the second element 10 is made of an elastomeric material, i.e., a plastic material that is elastically deformable.

**[0054]** In this way, the user can temporarily deform, just using their hands, the second element 10 so as to temporarily reduce the interference with the first element 8 and, where present, the third element 22 and determine, thus, a quick and easy movement of the second element 10 between the first position and the second position.

**[0055]** From an examination of the features of the pole 1 produced according to this invention, the advantages that it enables are clear.

**[0056]** In particular, the pole 1 can be easily switched between one uphill configuration (Figure 3) and a downhill configuration (Figure 4) by simply rotating (in particular by 180°) the second element 10 of the basket 7.

**[0057]** The pole can also be easily switched into one or more intermediate positions between the uphill and the downhill configurations, by rotating the second element 10 of the basket 7 by a number of degrees between 0° and 180° so as to adapt the dimensions of the tip to the steepness of the slope or to the quality of the snow.

**[0058]** This enables the user to bring with them just one pair of poles 1, for example during a combined sports excursion involving skiing and ski mountaineering or skiing and hiking.

**[0059]** In addition, this invention means the user does not have to bring with them several pairs of baskets specific to each activity, thus avoiding bulky replacements and reducing (to zero) the risk of losing these baskets.

**[0060]** Finally, this invention enables the user to save the space that would otherwise be used by an additional pair of poles and, as a result, to reduce the overall weight being transported.

**[0061]** It is clear that changes may be made to the pole 1 described and illustrated herein, and variations produced thereto, without, for this reason, departing from the scope of protection defined by the claims.

## Claims

### 1. A ski pole (1) comprising:

- a rod (2) having a longitudinal axis (A);
- a handle grip (3) arranged at a first axial end (4) of the rod (2);
- a tip (5) arranged at a second axial end (6) of the rod axially opposite to the first end; and
- a basket (7) transverse to the longitudinal axis (A), arranged in a position axially proximal to the tip (5) and comprising a first element (8) fixed integrally to the rod (2) and a second element (10) movable relative to the first element (8) and configured to define, in use, a support surface relative to a snow-covered terrain;

the first element (8) having a perimeter edge (11) including a first edge portion (12) and a second edge portion (13) opposite to one another with respect to the tip (5);

the second element (10) having a supporting edge (14) and a leading edge (15) opposite to one another with respect to the tip (5); wherein the second element (10) is movable relative to the first element (8) between:

- a first position, in which the first edge portion (12) is at a first distance (d1) from the supporting edge (14); and
- a second position, in which the first edge portion (12) is at a second distance (d2) from the supporting edge (14) shorter than the first distance (d1).

2. The ski pole as claimed in claim 1, wherein the second element (10) extends along a plane transversal to said longitudinal axis (A) and is rotatable around said longitudinal axis (A) and along said transversal plane between said first position and said second position.

3. The ski pole as claimed in claim 1 or 2, wherein the first edge portion (12) and the second edge portion (13) are spaced from one another along a direction transversal to the longitudinal axis (A); and wherein the supporting edge (14) and the leading edge (15) are spaced from one another along said transversal direction.

4. The ski pole as claimed in claim 3, wherein said transverse direction defines, in use, a direction of travel (D);

wherein the first edge portion (12) is facing, in use, said direction of travel (D); and wherein the leading edge (15) is facing, in use, said direction of travel (D).

5. The ski pole as claimed in any one of the preceding claims, wherein the second element (10) comprises a wall (16) defining, in use, said support surface relative to a snow-covered terrain;

said wall (16) including a first surface (17) comprised between the supporting edge (14) and the tip (5) and a second surface (18) comprised between the leading edge (15) and the tip (5); and wherein the area of the first surface (17) is variable, by moving the second element (10) between the first position and the second position, between a first area, when the second element (10) is in the first position, and a second area having smaller dimensions than the first area,

when the second element (10) is in the second position.

6. The ski pole as claimed in any one of the preceding claims, wherein the basket (7) further comprises a third element (22) couplable in a releasable manner to the first element (8), the second element (10) being axially interposed between the first element (8) and the third element (22) and being axially pressed between the first element (8) and the third element (22), so as to be movable between the first position and the second position with interference with the first element (8) and the third element (22).

7. The ski pole as claimed in claim 6, wherein the third element (22) is defined by a ring nut including a perimeter portion (23) and a central projecting part (24) protruding axially from the perimeter portion (23) and configured to cooperate with a receiving portion of the first element (8) in order to determine said releasable coupling;

wherein the second element (10) has an axial through-hole (21), engaged by the tip (5), and configured to be engaged by the projecting part (24);

the projecting part (24) comprising a shaped side wall including a plurality of radial protrusions (25);

the through-hole (21) comprising a side wall (26) including a plurality of radial recesses (27) and is configured to cooperate in contact with the side wall of the projecting part (24), so that the radial protrusions (25) engage first radial recesses (27) when the second element (10) is in the first position, and second radial recesses (27) when the second element (10) is in the second position.

8. The ski pole as claimed in any one of the preceding claims, wherein the second element (10) has an axial through-hole (21) engaged by the tip (5) and eccentric relative to said longitudinal axis (A).

9. The ski pole as claimed in any one of the preceding claims, wherein the second element (10) is made of a material that is more flexible than that of the first element (8).

10. The ski pole as claimed in claim 9, wherein the second element (10) is made of elastomeric material.

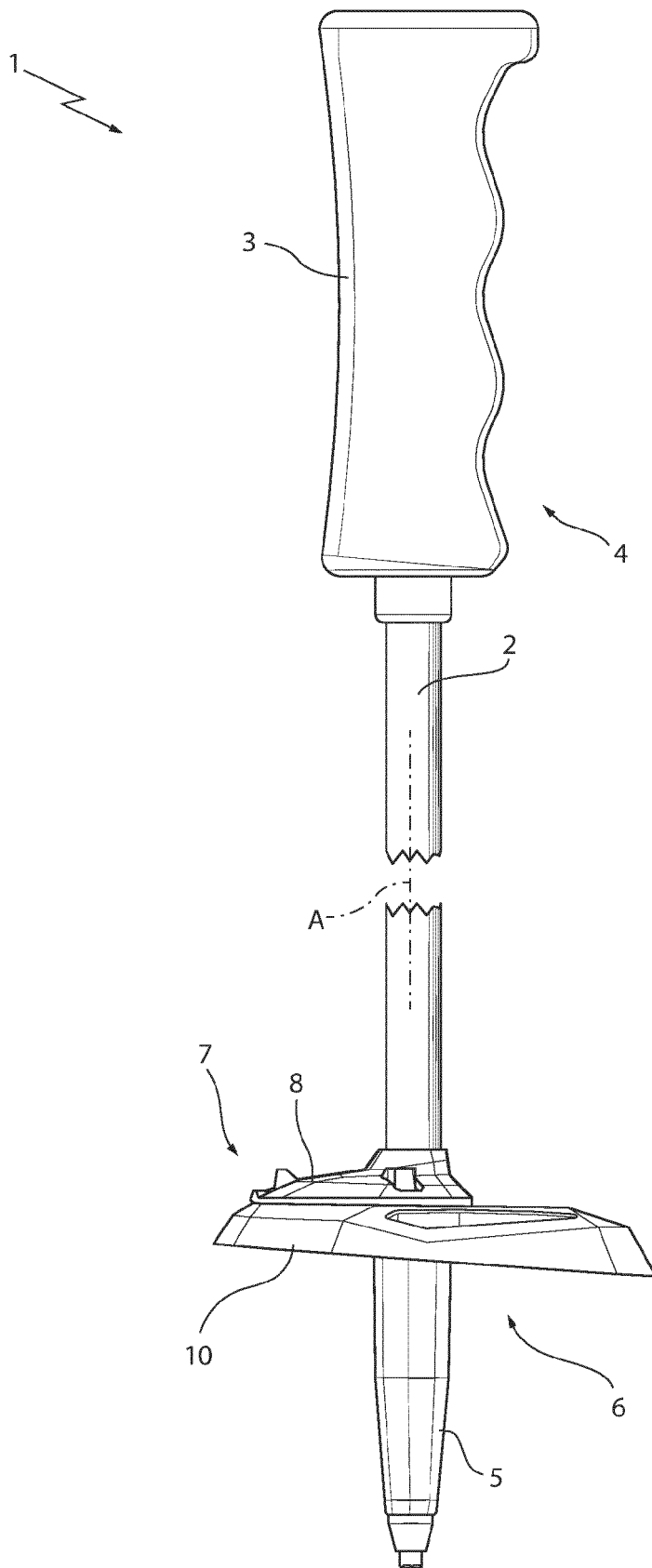


FIG. 1

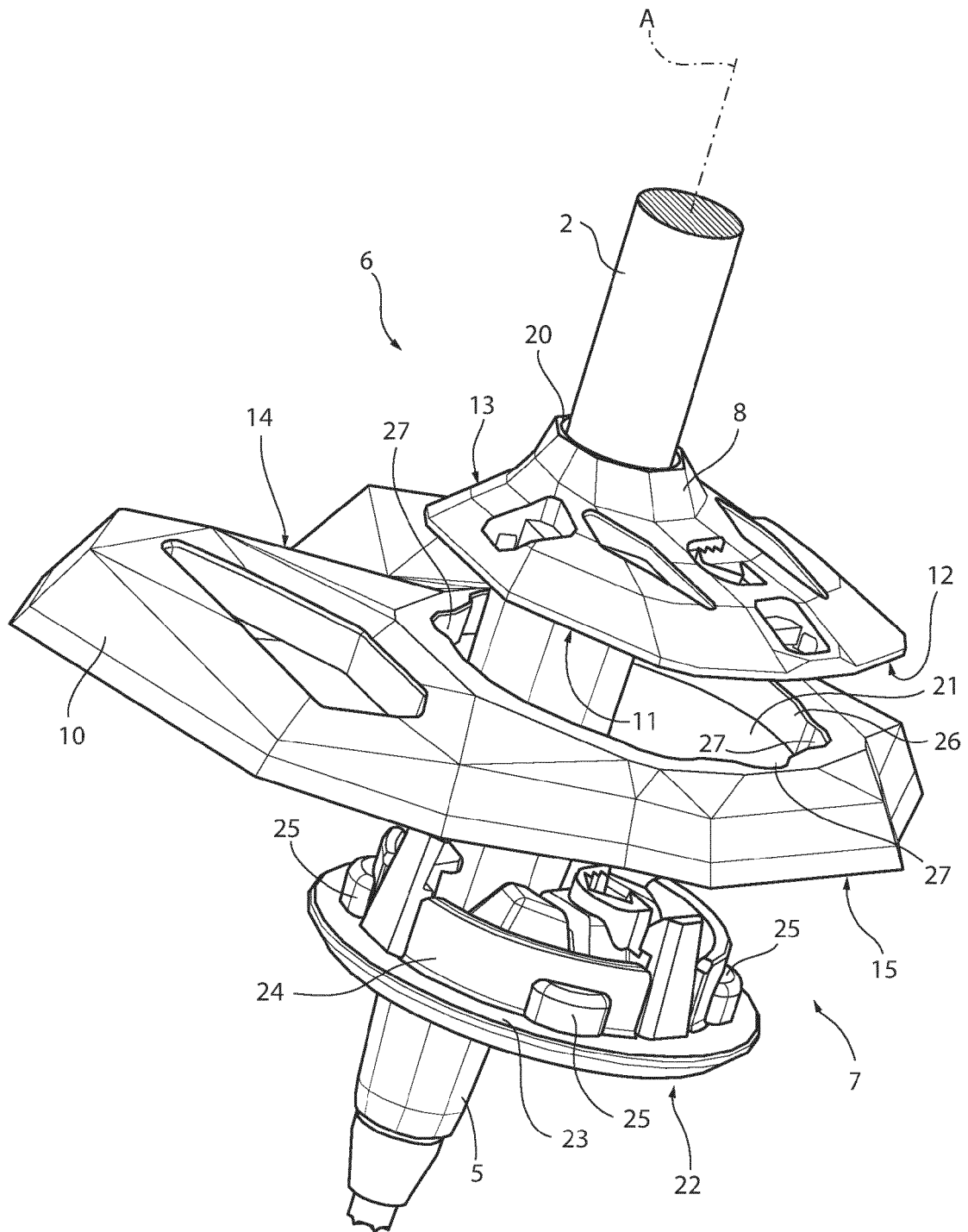


FIG. 2

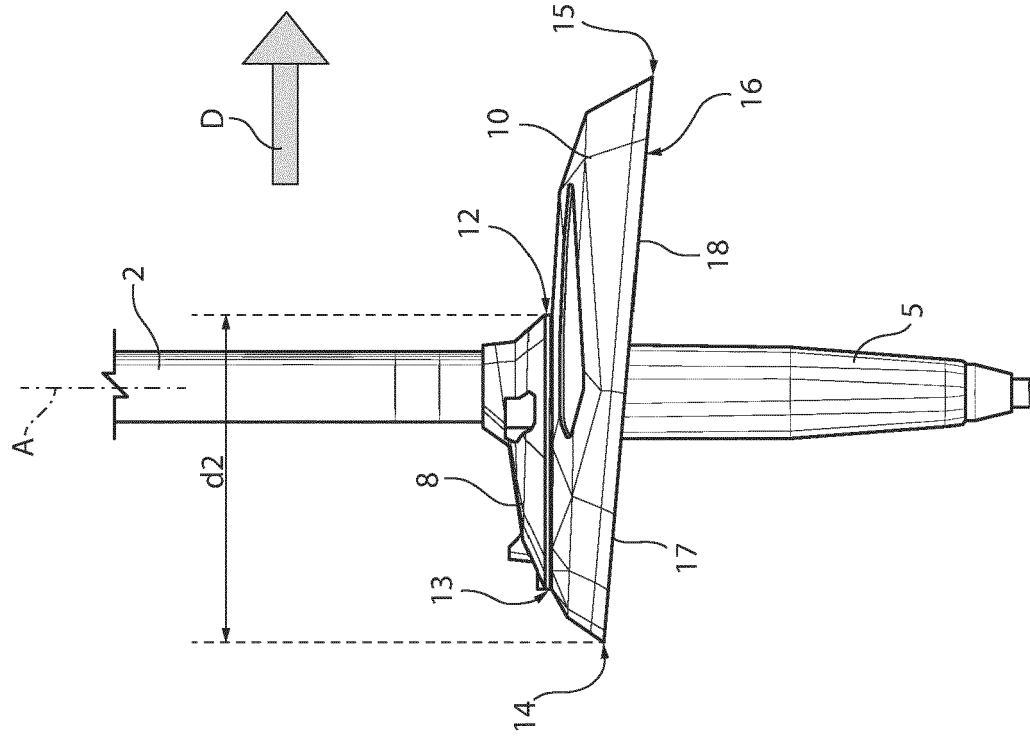


FIG. 4

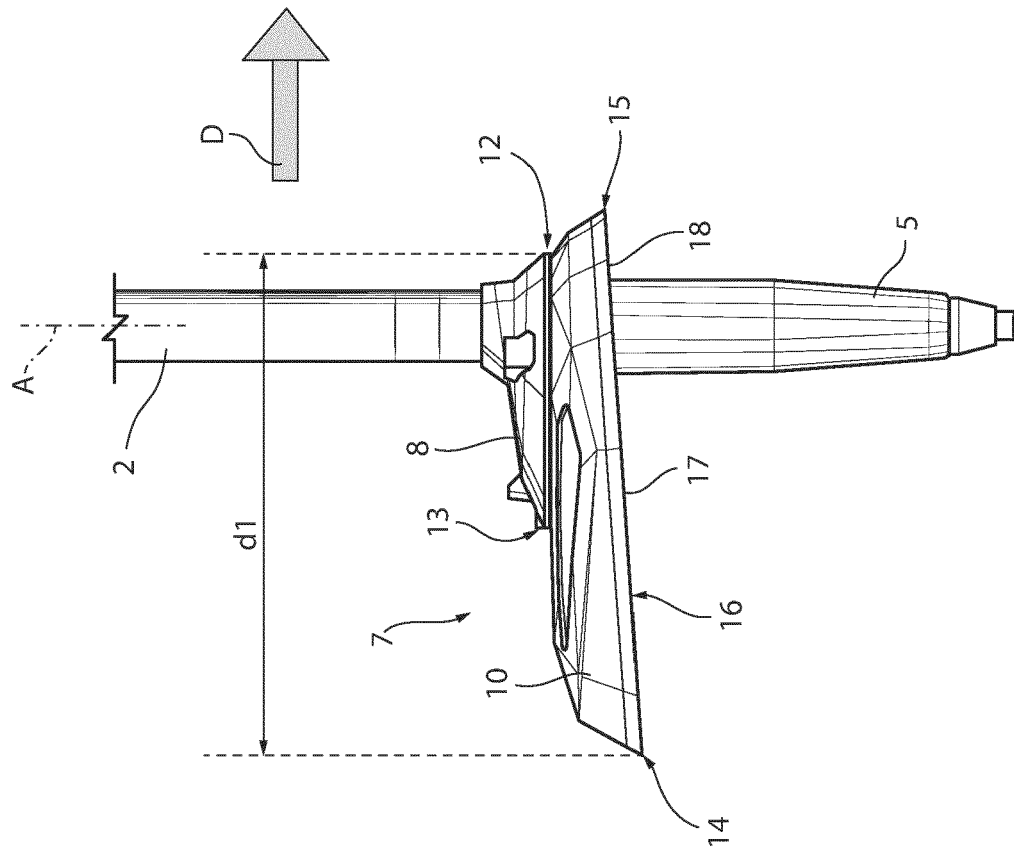


FIG. 3





## EUROPEAN SEARCH REPORT

Application Number

EP 22 15 9544

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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	WO 2016/173827 A1 (LEKISPORT AG [CH]) 3 November 2016 (2016-11-03)	1-4, 9, 10	INV.
A	* page 9, line 16 - page 12, line 22; figures 1-5 *	5-8	A63C11/24 A45B9/04
-----			
X	DE 29 05 147 A1 (LENHART KARL) 21 August 1980 (1980-08-21)	1-5, 8-10	
A	* page 6, line 20 - page 11, line 21; figures 1-11 *	6, 7	
-----			
X	US 4 669 752 A (JACKSON RANDY D [US] ET AL) 2 June 1987 (1987-06-02)	1-5, 8-10	
A	* column 2, line 49 - column 6, line 10; figures 1-6 *	6, 7	
-----			
X	US 2016/220890 A1 (LIEBNER ANDREW D [US]) 4 August 2016 (2016-08-04)	1-5, 8-10	
A	* paragraphs [0002], [0004], [0037], [0034]; figures 1, 3, 4, 5 *	6, 7	
-----			
			TECHNICAL FIELDS SEARCHED (IPC)
			A63C A45F A45B
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>25 July 2022</b>	Examiner <b>Murer, Michael</b>
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 22 15 9544

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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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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
<b>WO 2016173827 A1</b>	<b>03-11-2016</b>	<b>CA 2982805 A1</b>	<b>03-11-2016</b>
		<b>CN 107530579 A</b>	<b>02-01-2018</b>
		<b>EP 3288411 A1</b>	<b>07-03-2018</b>
		<b>JP 6893178 B2</b>	<b>23-06-2021</b>
		<b>JP 2018514294 A</b>	<b>07-06-2018</b>
		<b>KR 20170140259 A</b>	<b>20-12-2017</b>
		<b>RU 2017138999 A</b>	<b>27-05-2019</b>
		<b>US 2018295954 A1</b>	<b>18-10-2018</b>
		<b>WO 2016173827 A1</b>	<b>03-11-2016</b>
-----			
<b>DE 2905147 A1</b>	<b>21-08-1980</b>	<b>NONE</b>	
-----			
<b>US 4669752 A</b>	<b>02-06-1987</b>	<b>NONE</b>	
-----			
<b>US 2016220890 A1</b>	<b>04-08-2016</b>	<b>NONE</b>	
-----			

**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- IT 102021000004742 [0001]