



(72) CLARKE, RODNEY, AU

(72) MORRIS, ALAN, AU

(72) SMITH, GARY, AU

(72) HODGINS, WAYNE, AU

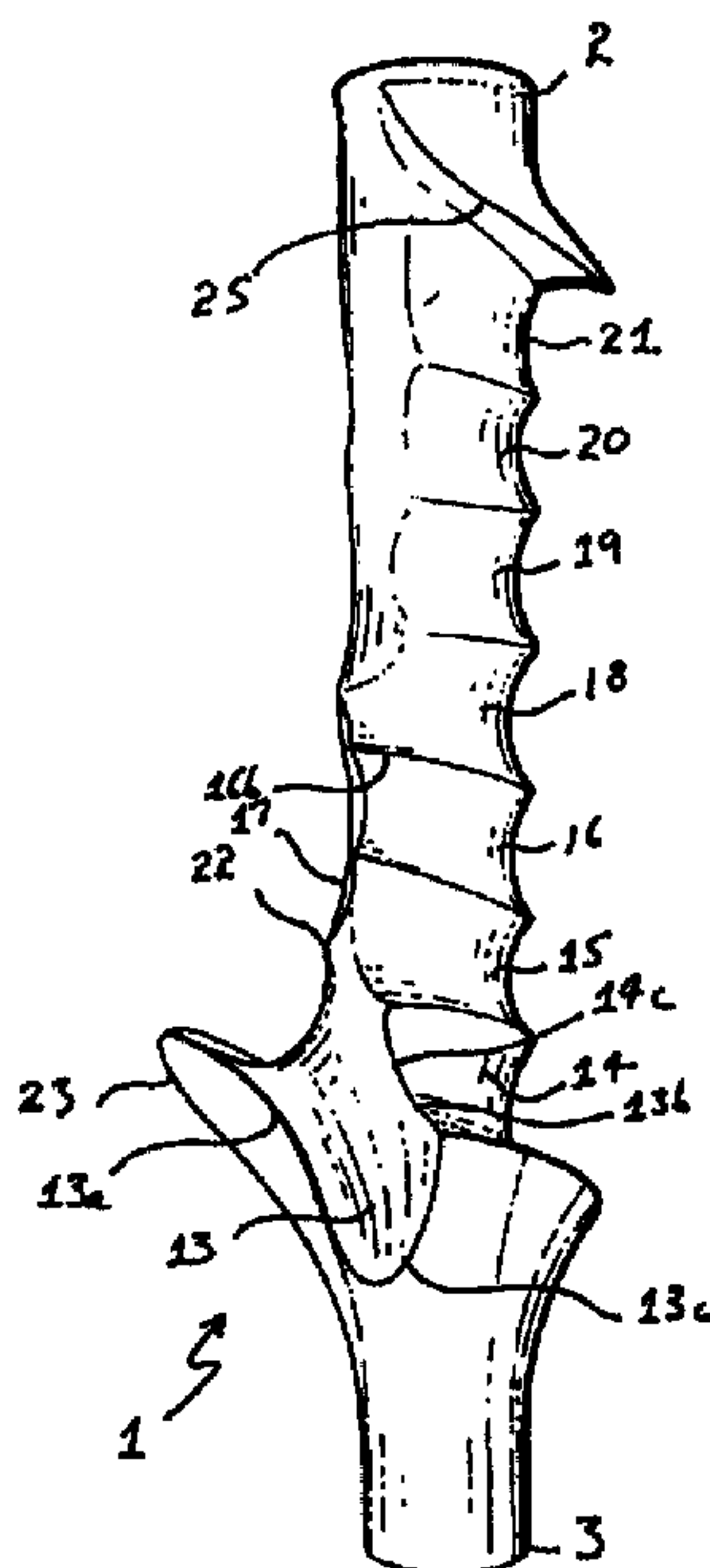
(71) PROTEGE SPORT PTY LTD., AU

(51) Int.Cl.⁶ A63B 53/14, B25G 1/10, A63B 49/08

(30) 1998/03/18 (PP 2393) AU

(54) **POIGNEE POUR ARTICLE DE SPORT PORTABLE**

(54) **A GRIP FOR A HANDHELD SPORTING ARTICLE**



(57) L'invention concerne une poignée (1) amovible à ajuster sur une poignée existante d'un article de sport portable, du type sensiblement entouré par la ou les main(s) d'un utilisateur. La poignée (1) comprend des creux (13 à 21) bien définis, indiquant la position exacte des mains sur la poignée amovible (1). Chaque creux (13 à 21) correspond à chaque doigt des mains nécessaire pour abouter la poignée amovible (1) et est dimensionné de manière à recevoir le doigt correspondant. La poignée (1) amovible est formée d'un matériau élastique et présente une cavité interne (4) destinée à recevoir la poignée existante. La cavité (4) est pourvue d'un joint

(57) A removable grip (1) to fit over an existing grip of a handheld sporting article of the kind substantially encircled by the hand or hands of a user. The grip (1) includes well defined indentations (13 to 21) to dictate the exact position of the hand or hands on the removable grip (1). One of the indentations (13 to 21) corresponds to each digit of the hand or hands required to abut the removable grip (1) and each indentation (13 to 21) is dimensioned to accommodate the corresponding digit. The removable grip (1) is formed of resilient material and has an internal cavity (4) to receive the existing grip. The cavity (4) is provided with a longitudinally refixable



(21) (A1) **2,323,435**
(86) 1999/03/18
(87) 1999/09/23

s'étendant longitudinalement, formé de deux bords (9, 10) opposés libres, et d'un mécanisme d'interconnexion (11) destiné à mettre les bords libres (9, 10) en contact et à les rapprocher l'un de l'autre, de manière à étirer classiquement la poignée (1) amovible autour de la poignée existante.

extending refastenable joints formed by two opposed free edges (9, 10) and an interconnecting mechanism (11) operable to engage the free edges (9, 10) and draw them toward each other to resiliently stretch the removable grip (1) around the existing grip.

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

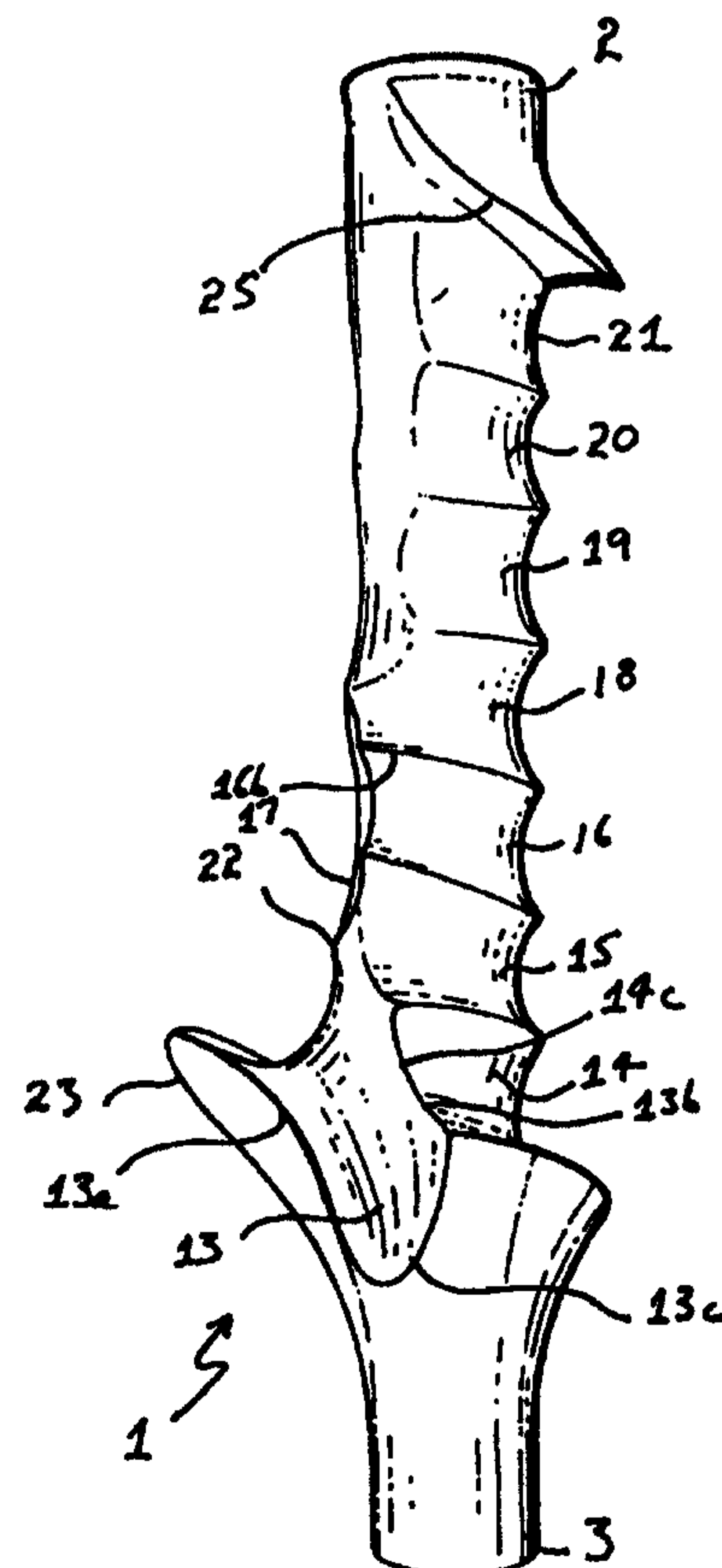
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : A63B 53/14, 49/08, B25G 1/10	A1	(11) International Publication Number: WO 99/47214 (43) International Publication Date: 23 September 1999 (23.09.99)
<p>(21) International Application Number: PCT/AU99/00174</p> <p>(22) International Filing Date: 18 March 1999 (18.03.99)</p> <p>(30) Priority Data: PP 2393 18 March 1998 (18.03.98) AU</p> <p>(71) Applicant (for all designated States except US): GREY ORWELL HOLDINGS (L) INC. [MY/MY]; Level 10, Wisma Oceanic, Jalan I.K.K., Awang Besar, 87007 F.T. Labuan (MY).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): CLARKE, Rodney [AU/AU]; 5 Avondale Street, Hampton, VIC 3188 (AU). MORRIS, Alan [AU/AU]; 37 Fenton Street, Ascot Vale, VIC 3032 (AU). SMITH, Gary [AU/AU]; 5/50 Ryan Street, Seaford, VIC 3198 (AU). HODGINS, Wayne [AU/AU]; 7 Sandvyk Court, Scoresby, VIC 3179 (AU).</p> <p>(74) Agents: ALLEN, Leon, Keith et al.; Davies Collison Cave, 1 Little Collins Street, Melbourne, VIC 3000 (AU).</p>	<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report.</p>	

(54) Title: A GRIP FOR A HANDHELD SPORTING ARTICLE

(57) Abstract

A removable grip (1) to fit over an existing grip of a handheld sporting article of the kind substantially encircled by the hand or hands of a user. The grip (1) includes well defined indentations (13 to 21) to dictate the exact position of the hand or hands on the removable grip (1). One of the indentations (13 to 21) corresponds to each digit of the hand or hands required to abut the removable grip (1) and each indentation (13 to 21) is dimensioned to accommodate the corresponding digit. The removable grip (1) is formed of resilient material and has an internal cavity (4) to receive the existing grip. The cavity (4) is provided with a longitudinally extending refastenable joints formed by two opposed free edges (9, 10) and an interconnecting mechanism (11) operable to engage the free edges (9, 10) and draw them toward each other to resiliently stretch the removable grip (1) around the existing grip.



- 1 -

A GRIP FOR A HAND HELD SPORTING ARTICLE

Field of the Invention

This invention relates to sporting articles and in particular hand held sporting articles of the
5 kind gripped by a user's hand or hands substantially encircling the handle of the article.
Often such sporting articles are designed for hitting objects and in particular balls. Included
within this class of sporting articles are golf clubs, tennis racquets, squash racquets, cricket
bats, baseball bats and hockey sticks. The invention also has application to other hand held
sporting articles not used for ball sports such as kayak paddles. The invention, the subject
10 of this application has been developed primarily for use in relation to a golf club and will
hereinafter be described with reference to this application. It is, however, equally applicable
to adaptation for other sporting articles and this specification should be interpreted
accordingly.

15 Background Art

It is well accepted that a major aspect of learning the game of golf is the development of a
proper and consistent hand position used to grasp the grip provided on the upper end of the
golf club. Not only is it important to have an appropriate technique, but it is also essential
to maintain that grip throughout the swing of the club. Whilst the rules of golf generally
20 preclude the use of any artificial aids for the positioning of hands, there is at least one known
device that is used as a training aid in relation to the development of an appropriate grip.
This training aid takes the form of a dedicated golf club which is fitted with a specifically
configured grip. The grip has some moulded protrusions which fit into the "V" formed
between the thumb and first finger of the hand when grasping a golf club. These formations
25 are intended to correctly orient the hands with respect to the head of the club and to some
extent also to position the hands with respect to one another. The training aid also has
formations with depressions to more or less position the thumb and first finger of the lower
hand. The known training aid also features some ribbing, particularly along the underside
of the grip which more or less assists in positioning the fingers of both hands.

- 2 -

United States Patent 5,299,802 describes a removable grip having some hollows and protuberances to position the hands. The grip is fixed over an existing conventional grip of a golf club and secured by means of an encircling fastener at one end of the removable grip.

5 The fastening systems described clamp the grip outside the zone occupied by the hands which inevitably results in unsatisfactory performance. This is because a non-rigid grip fastened outside the zone occupied by the hands will move relative to the existing grip during use, due to flexing of the material. Any such material affects the feel of the grip and detracts from its usefulness as a training aid. A grip formed from a material sufficiently rigid to not flex over
10 its length during use also detracts from the feel of the grip because it is artificially stiff compared to the existing grip. Additionally, the prior art grips are not capable of satisfactorily accommodating variations in the size of existing grips.

Disclosure of the Invention

15 It is an object of this invention to provide a grip for a hand held sporting article which can be used in the development of a proper hand position. It is another object of the invention to provide a training grip for a sporting article which can be removably fitted temporarily to desired sporting articles. It is a further object of this invention to provide a grip for a golf club.

20

Accordingly, in one aspect this invention provides a removable grip to fit over an existing grip of a hand held sporting article of the kind substantially encircled by the hand or hands of a user, said removable grip including a plurality of well defined indentations to dictate the exact position of the hand or hands on the removable grip, one of said indentations
25 corresponding to each digit of the hand or hands required to abut the grip, each indentation being dimensioned to accommodate the corresponding digit and being defined by longitudinal portions extending along either side of the indentation to respectively abut opposite sides of the corresponding digit.

30 Preferably, at least one of the indentations includes an end portion extending laterally of the corresponding digit to abut and position the end thereof.

- 3 -

Preferably, a ridge extends along the grip in the region between the palm and the ends of the fingers of a closed hand. The ridge can be shaped to at least partially dictate the position of the corresponding portion of the palm. In the case of a grip for a golf club a indentation is preferably formed in the ridge to accommodate and dictate the position of the thumb of the
5 upper hand underneath the adjacent portion of the palm of the lower hand.

Also in the case of a grip for a golf club a first flange is preferably formed below and adjacent the position of the lower hand to encircle the grip and provide a lower longitudinal portion of the indentation corresponding to the thumb and first finger of the lower hand. It
10 is further preferred, in the case of a grip for a golf club, that a second flange partly encircling the grip is formed above and adjacent the position of the upper hand to position the heel of the upper hand. Another part of the second flange preferably provides an upper longitudinal portion of the indentation corresponding to the fourth finger of the upper hand. The first and second flanges are preferably of a larger dimension than most of the indentations forming the
15 grip.

It will be apparent that the indentations of the grip of this invention can be formed to reproduce the exact hand position or positions employed by a respected professional in the sport. This enables players to precisely replicate the grip styles demonstrated by an
20 acknowledged expert.

In a second aspect this invention provides a removable grip to fit over an existing grip of a hand held sporting article of the kind substantially encircled by the hand or hands of a user, said removable grip including a plurality of well defined indentations to dictate the exact
25 position of the hand or hands on the removable grip, one of said indentations corresponding to each digit of the hand or hands required to abut the removable grip, each indentation being dimensioned to accommodate the corresponding digit, said removable grip being formed of resilient material and having an internal cavity to receive the existing grip, said cavity being provided with a longitudinally extending refastenable joint formed by two opposed free edges
30 and an interconnecting mechanism selectively operable to engage said free edges and draw

WO 99/47214

PCT/AU99/00174

- 4 -

the free edges toward each other to resiliently stretch the removable grip around the existing grip.

It is strongly preferred that the grip of this invention fits over an existing grip without
5 substantially increasing the effective diameter of the grip in the critical areas. The joint can be positioned so as not to interfere with the gripping of the sporting article. In the case of a golf grip it is strongly preferred that the joint is formed so as to be positioned on the underside of the grip in normal use. That is, the joint is approximately diametrically opposite the position of the "V" formed between the thumb and first finger of the hands.

10

In the preferred form the interconnecting mechanism is a channel shaped member which captively engages flanges associated with respective edges of the joint. Preferably, the channel shaped member extends along the full length of the joint. In the preferred embodiment the flanges of the joint extend in opposed directions to form a T-shape.

15

The resilient stretching of the removable grip around the existing grip results in a positive securing of the removable grip substantially along its full length. In particular the grip is secured in the zone encircled by the hand(s) so as to have substantially the same feel as the existing grip. The resilient stretching also allows the grip of the invention to accommodate
20 existing grips of varying size by corresponding increase or decrease of the amount of stretch.

One of the primary advantages of the invention is that it can be temporarily attached to a player's own sporting article to physically guide the hands into the correct position without the need for any conscious effort. In the case of golf, for example, this allows a player to
25 experience the "feel" associated with having the hands in the correct position throughout the swing, including at the point of impact with the ball. Because the grip of the present invention is designed so that it can only be held in one position the hands cannot move throughout the swing. This avoids the grip being misinterpreted or altered by the player which is one of the disadvantages of existing training aids. This is possible because each
30 portion of the hand has its own designated location in and on the permanently formed

- 5 -

indentations of the grip.

The grip of this invention can be produced in any appropriate desired gripping style. For example in relation to golf the grip can be produced to accurately reproduce the positions of
5 the hands when using either of the two most popular variations of grip technique, namely the overlapping and interlocking methods. The grip of this invention can also be scaled up and down to accommodate physical differences in hand sizes. It can also be formed in left and right hand configurations as required.

10 In the preferred form of the invention the grip is formed of a material that is very thin in selected areas so that the grip is only about 1mm thicker in diameter at the critical points of contact than the existing grip over which it is fitted. This enables the proper placement of the hands to be accurately simulated.

15 The jointing system of the preferred embodiment enables quick and simple attachment of the grip to existing articles. In the case of golf in particular, this allows the grip of the invention to be easily transferred from club to club. More importantly it can be used in relation to any of the regular clubs owned by a player, rather than a dedicated practice club which is typically different in weight or style and hence feel to the clubs used when actually playing.

20

Brief Description of the Drawings

One embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings. In the drawings:

25 Figure 1 is an elevation of a grip for a golf club according to an embodiment of this invention;

Figure 2 is a rear elevation of the grip as shown in Figure 1;

Figure 3 is a right hand end elevation of the grip as shown in Figure 1;

Figure 4 is an end elevation from the left hand side of Figure 1;

Figure 5 is a longitudinal sectional view of the grip shown in Figures 1 to 4;

30 Figure 6 is a typical part cross section of the grip shown in Figures 1 to 4; and

- 6 -

Figure 7 is a cross section similar to Figure 6 showing an alternative interconnecting mechanism.

As shown in the drawings the golf club grip 1 is an elongate moulding of resilient material such as thermoplastic rubber. The grip 1 has an upper end 2 and a lower end 3. A central hollow or cavity 4 (see Figure 5) extends from lower end 3 along the length of the grip 1 to the upper end 2.

As best seen in Figure 4, the grip includes a longitudinal joint 5 which extends from bottom end 3 to end 2. The joint 5 provides for the grip 1 to be readily positioned over the grip of an existing golf club (not shown). Referring to Figure 6 in particular the joint 5 is formed by two polycarbonate guide rails 6 and 7 which are moulded into the material of the grip 1 at either side of joint 5. The guide rails 6, 7 are formed with two oppositely extending flanges 8, 9 spaced outwardly so as to form a T-shape when positioned adjacently as shown in Figure 5. The inner side of the flanges 6, 7 are formed with small projections 10 to engage the existing grip. A channel shaped connecting rod 11 captively engages the flanges 8, 9 to hold the guide rails 6, 7 in close abutment. The connecting rod 11 includes longitudinal stiffening provided by triangular rib 12. The connecting rod 11 is engaged with the flanges by sliding from the lower end 3 of the grip. This enables the resilient grip material to be formed with a circumference less than that of the existing grip over which it is to be fitted, so that it can be stretched into close abutting contact by the fitting of the connecting rod 11. This is achieved by manually stretching the grip 1 at its lower end to bring guide rails 6, 7 into abutment and allow the connecting rod 11 to be engaged. As the connecting rod 11 is further engaged along the length of joint 5 it urges the guide rails 6, 7 into abutment by stretching the grip material. In this way a simple and reliable attachment mechanism is formed which has a suitably low profile as not to interfere with the use of the grip. The joint 5 is positioned on the lower side of the grip 1 where a thicker amount of material is provided so that the joint 5 is substantially unnoticed by the user. The connecting rod 11 can be shaped to conform to the shape of the grip 1 in the fitted position.

- 7 -

Referring in particular to Figures 1 to 4, the grip 1 is formed to have a number of indentations to dictate the position of the hands (not shown on the grip). One of the indentations corresponds to each digit of the hand (not shown) required to abut the grip. The illustrated embodiment is for a right handed so called interlocking grip in which the fourth or smallest finger of the lower hand and the first finger of the upper hand does not abut the grip but overlaps the other hand. Thus, indentations are provided to position all of the fingers except this fourth or small finger of the lower hand and the first finger of the upper hand. The indentations in the drawing are labelled as follows. The position of the thumb of the lower hand is indicated by the reference numeral 13 and the first to third fingers by the reference numerals 14 to 16 respectively. In this case there is no indentation corresponding to the fourth finger of the lower hand. The indentation corresponding to the thumb of the upper hand is indicated by the reference numeral 17 and the indentations corresponding to the second to fourth fingers of the upper hand are numbered 18 to 20 respectively. There is no indentation corresponding to the first finger of the upper hand. Each of the indentations is dimensioned to neatly accommodate the corresponding digit and includes longitudinal portions extending along either side of the digit and an end portion. For example, in relation to indentation 13 which positions the thumb of the lower hand includes longitudinally extending side portions 13a and 13b which abut either side of the thumb. A laterally extending end portion 13c is provided to abut and position the end of the thumb. As will be seen in the drawings each of the indentations has such longitudinal and end portions which abut and uniquely position the various digits. Various of these have been labelled by the corresponding subscripts a, b and c as used in relation to the indentation 13.

A ridge 22 extends more or less longitudinally along the grip 1 and corresponds to the region between the palm and the ends of the fingers of a closed hand fitted to the grip. The ridge 22 is shaped to dictate the position of the corresponding portion of the palm and indentation 16 which accommodates the thumb of the upper hand is formed on one side of the ridge 22. This positions the thumb of the upper hand underneath the palm of the lower hand.

A first flange 23 is formed below and adjacent the position of the lower hand. The flange 23

- 8 -

encircles the grip 1 and on its upper side forms the lower longitudinal portion 13b of the indentation 13 corresponding to the thumb and the lower longitudinal portion 14b of the indentation 13 corresponding to the first finger. This flange 23 is of a greater dimension to provide a clear position for the lower hand both physically and visually.

5

A second flange 24 is formed adjacent the upper end 2 of the grip 1. The second flange 24 encircles the grip and provides the upper longitudinal portion 21a of the indentation 21 corresponding to the fourth finger of the upper hand. The second flange 24 includes a surface 25 to position the heel of the upper hand. By being of an increased dimension, the second
10 flange defines an upper end of the gripping portion to provide a physical and visual indication of the position of the upper hand.

In use, the grip 1 of this invention can be readily fitted in the manner described above to the shaft of any selected golf club. Because the grip 1 is formed from a thin resilient material
15 it does not significantly increase the diameter of the grip at least in the critical areas. That is, the amount of material between the gripping portions of the fingers and the existing grip of the golf club is minimal. This enables an accurate simulation of the proper placement of the hands. It will be apparent that because the position of each of the digits abutting the grip is uniquely determined the hands cannot be moved during the swing of a club. This enables
20 a player to practise a gripping technique so as to obtain the proper "feel" throughout the entire swing. The grip of this invention can readily transferred from club to club enabling the grip to be practised with each of the player's clubs. This enables virtual "muscle memory" to be developed which allows the technically correct hand positions to be transferred and applied by the player when using their regular clubs without the grip of this invention fitted.

25

WO 99/47214

PCT/AU99/00174

- 9 -

Figure 7 illustrates an alternative configuration for joint 5. In this arrangement longitudinally extending recesses 26 of circular cross section are formed in rods 6, 7 and the connecting member 11 is of dumbbell shape.

5 The foregoing describes only one embodiment of this invention and modifications can be made without departing from the scope of the invention.

- 10 -

CLAIMS:

1. A removable grip to fit over an existing grip of a hand held sporting article of the kind substantially encircled by the hand or hands of a user, said removable grip including a plurality of well defined indentations to dictate the exact position of the hand or hands on the removable grip, one of said indentations corresponding to each digit of the hand or hands required to abut the grip, each indentation being dimensioned to accommodate the corresponding digit and being defined by longitudinal portions extending along either side of the indentation to respectively abut opposite sides of the corresponding digit.
2. A removable grip as claimed in claim 1 wherein at least one of said indentations includes an end portion extending laterally of the corresponding digit to abut and position the end thereof.
3. A removable grip as claimed in claim 1 or claim 2 wherein a ridge extends along the grip and is positioned to corresponding to a region between the palm and the ends of the finger of a first closed hand.
4. A removable grip as claimed in claim 3 wherein an indentation is formed in or adjacent to said ridge to dictate the position of the thumb of a second closed hand.
5. A removable grip as claimed in any one of claims 1 to 4 wherein a first flange encircling the grip is formed toward a first end of the grip to position a closed hand about the grip by abutting the thumb, first finger and region therebetween.
6. A removable grip as claimed in claim 5 wherein said first flange includes at least a portion of the indentations corresponding to the thumb and first finger.
7. A removable grip as claimed in claim 5 or claim 6 wherein a second flange at least

- 11 -

partly encircling the grip is formed toward a second end of the grip to position a closed hand about the grip by abutting the heel of the hand.

8. A removable grip as claimed in claim 7 wherein said second flange includes a portion of the indentation corresponding to the fourth finger of a closed hand.
9. A removable grip to fit over an existing grip of a hand held sporting article of the kind substantially encircled by the hand or hands of a user, said removable grip including a plurality of well defined indentations to dictate the exact position of the hand or hands on the removable grip, one of said indentations corresponding to each digit of the hand or hands required to abut the removable grip, each indentation being dimensioned to accommodate the corresponding digit, said removable grip being formed of resilient material and having an internal cavity to receive the existing grip, said cavity being provided with a longitudinally extending refastenable joint formed by two opposed free edges and an interconnecting mechanism selectively operable to engage said free edges and draw the free edges toward each other to resiliently stretch the removable grip around the existing grip.
10. A removable grip as claimed in claim 9 wherein the joint is formed by complementary engaging formations respectively associated with the free edges and an interconnecting member.
11. A removable grip as claimed in claim 10 wherein the engaging formations associated with the free edges are opposed flanges and the interconnecting member is channel shaped.
12. A removable grip as claimed in claim 10 wherein the engaging formations associated with the free edges are recesses of circular cross-section and the interconnecting member is dumbbell shaped.

WO 99/47214

PCT/AU99/00174

- 12 -

13. A removable grip as claimed in any one of claims 10 to 12 wherein the interconnecting member includes longitudinally extending stiffening.
14. A removable grip as claimed in any one of claims 10 to 13 wherein the interconnecting member is shaped to conform to the surface shape of the grip.

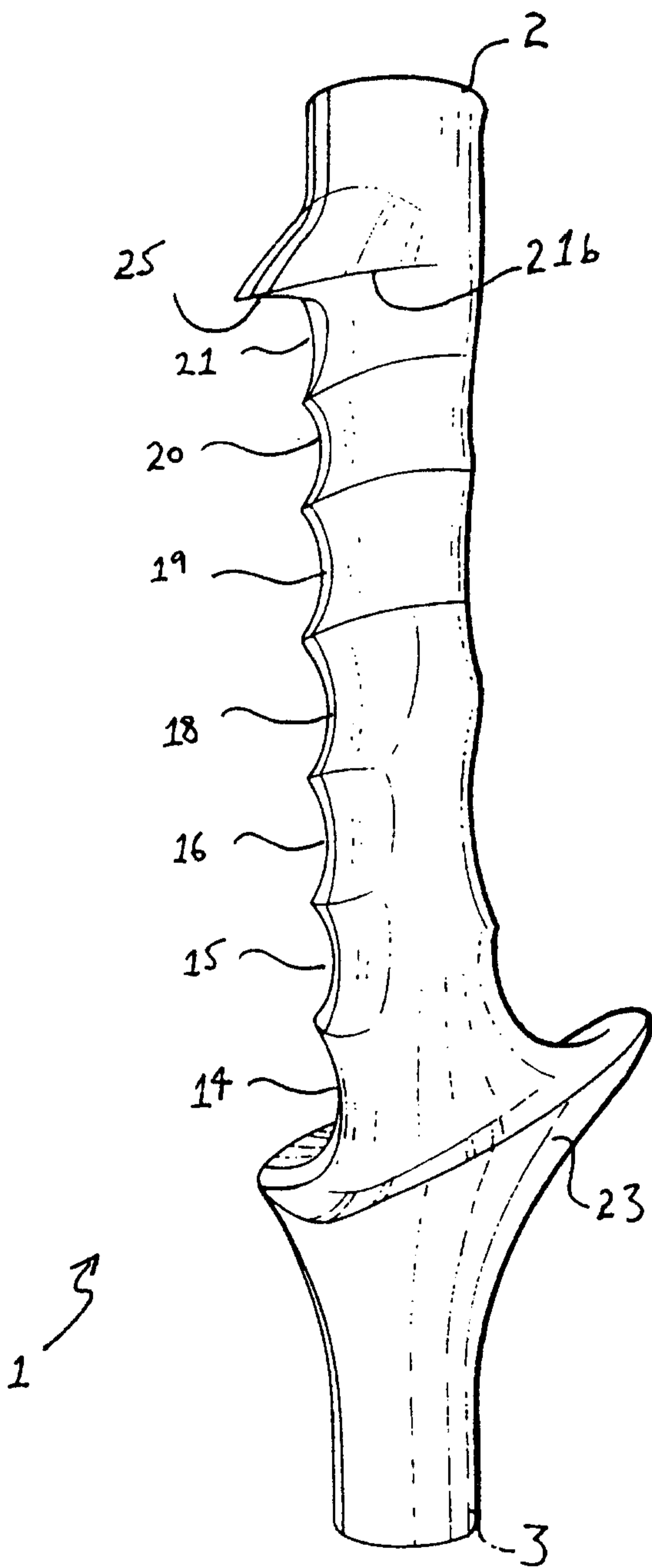


Fig 1

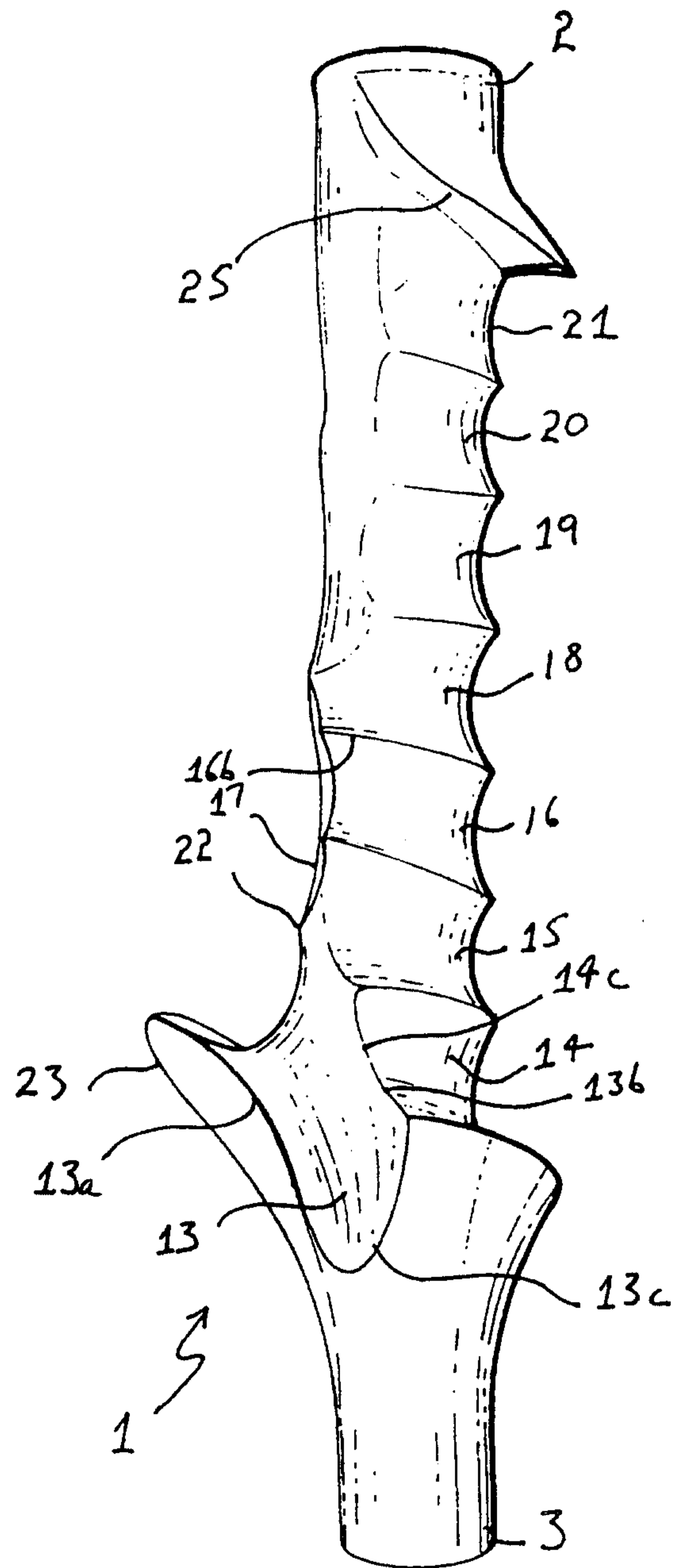


Fig 2

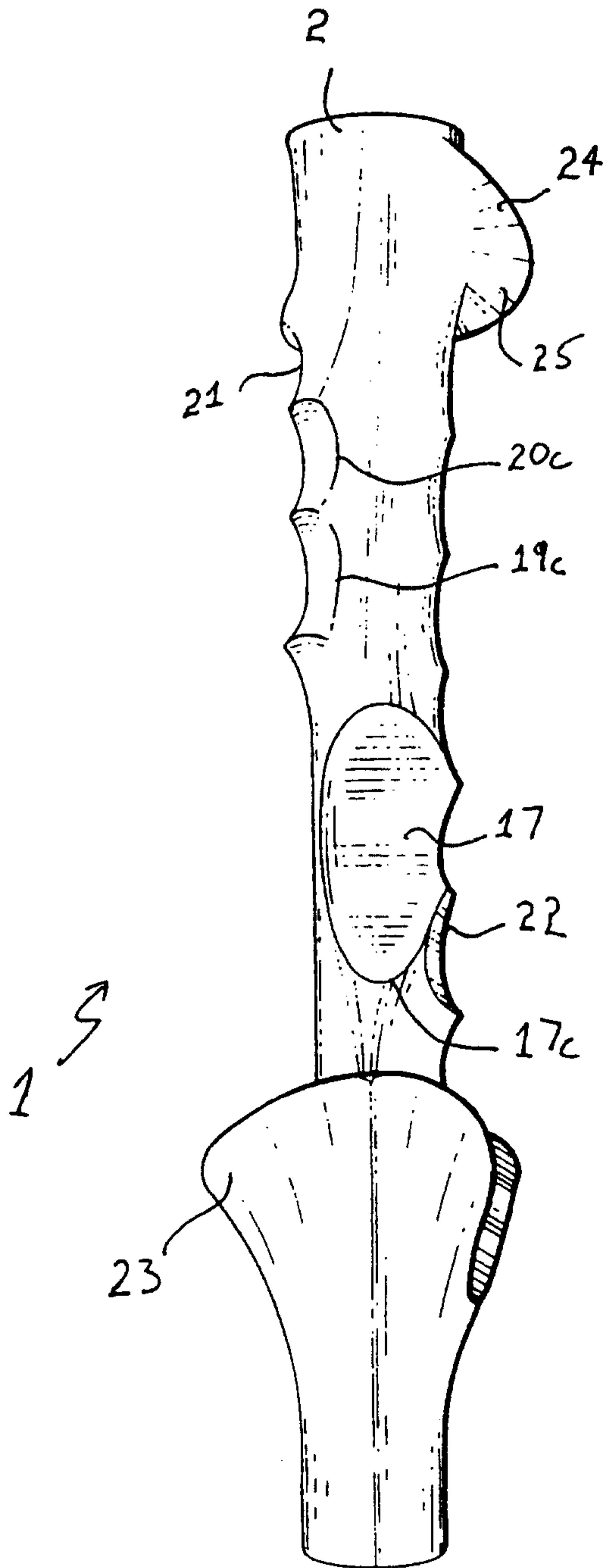


Fig 3

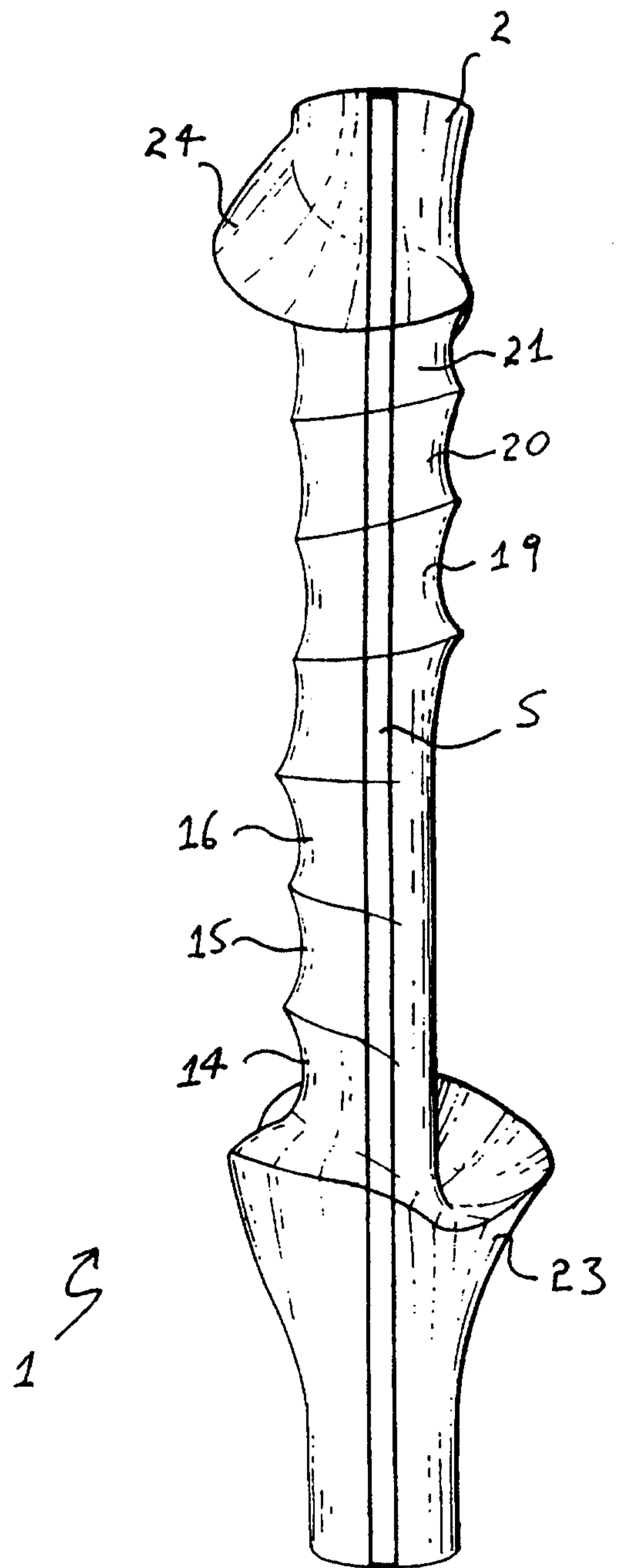


Fig 4

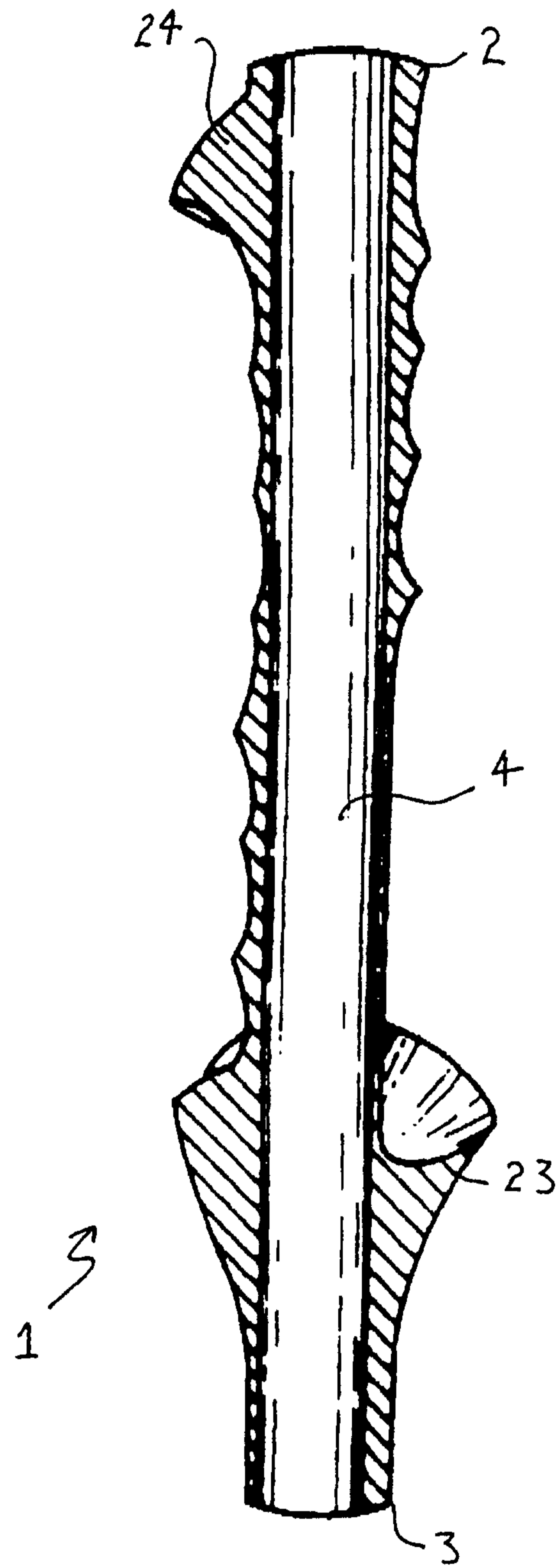


Fig 5

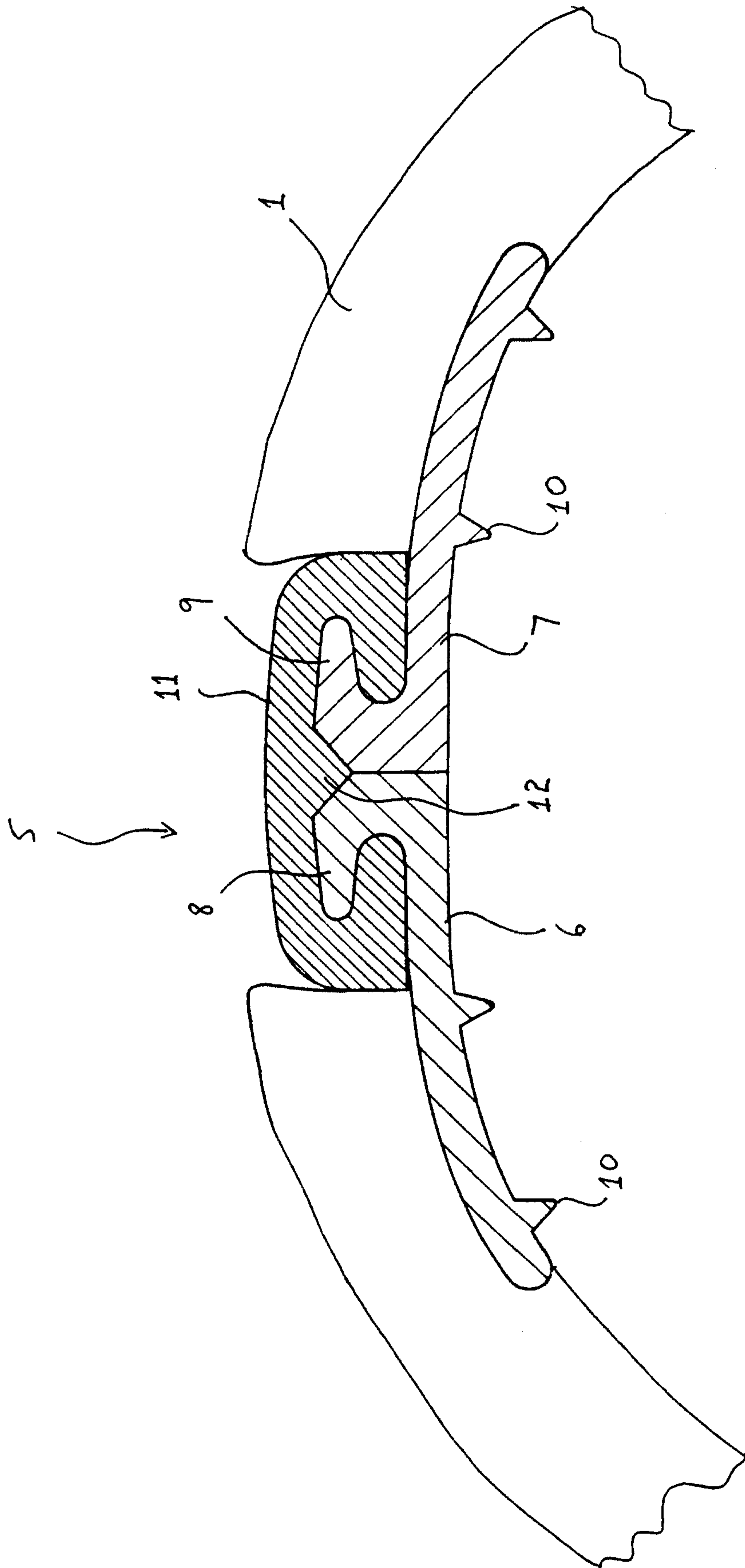


Fig. 6

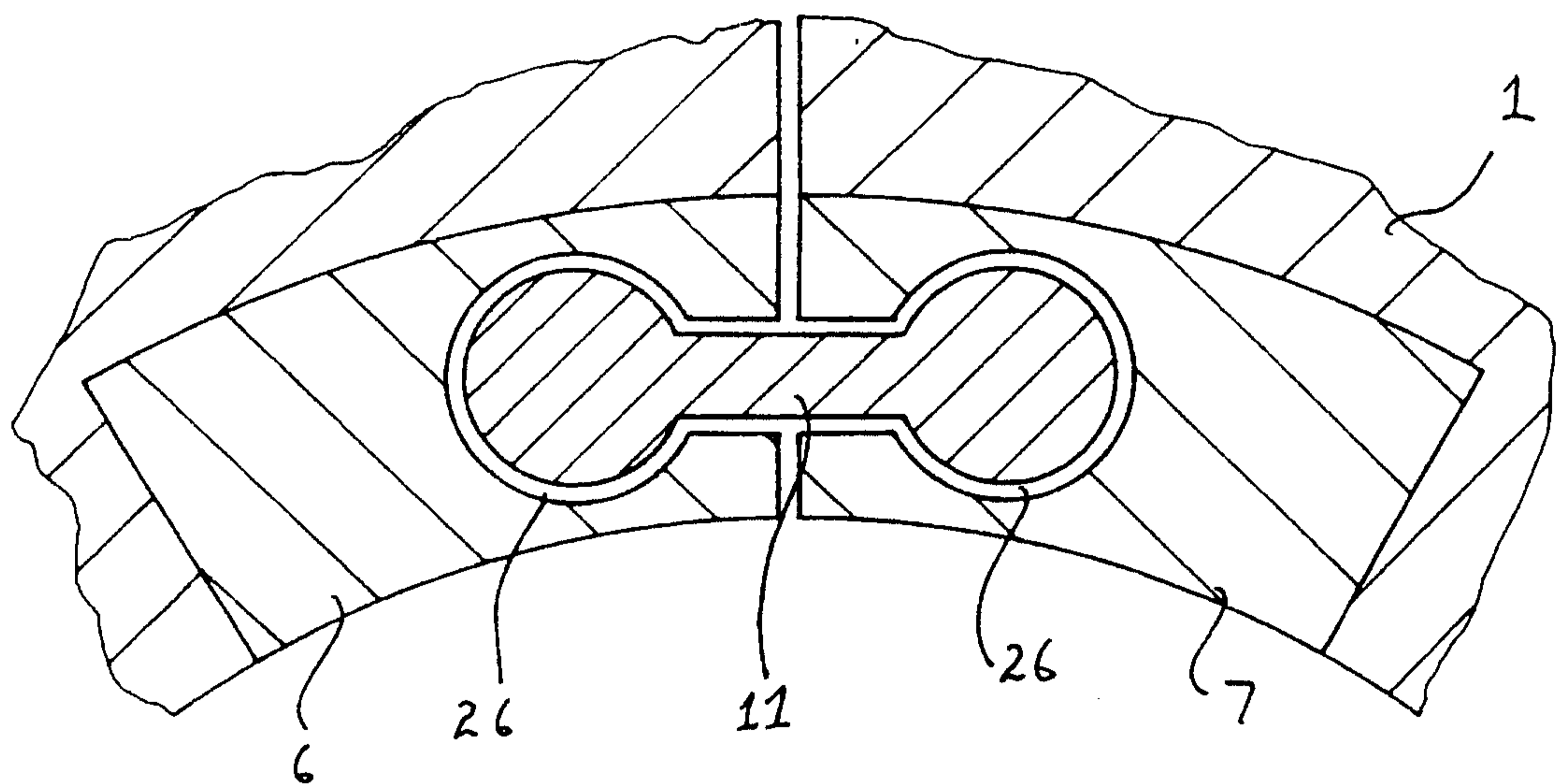


Fig 7.

