



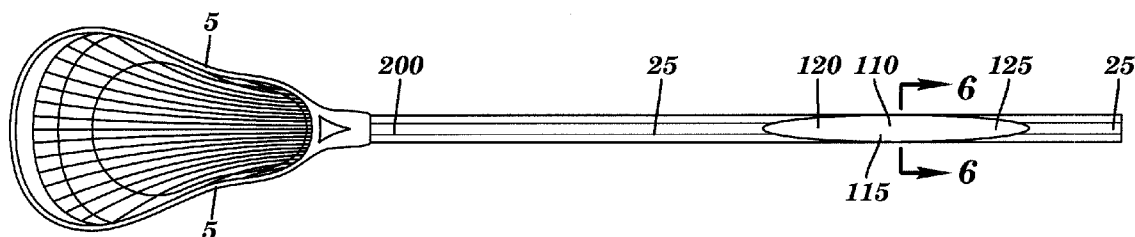
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(19) **United States**(12) **Patent Application Publication**
MAIN(10) **Pub. No.: US 2008/0026882 A1**(43) **Pub. Date: Jan. 31, 2008**(54) **LACROSSE STICK SHAFT****Publication Classification**(76) Inventor: **Brian W. MAIN**, Petoskey, MI
(US)(51) **Int. Cl.**
A63B 59/02 (2006.01)(52) **U.S. Cl.** **473/513**(57) **ABSTRACT**

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A sports shaft includes an elongated body, a first gripping notch, and a second gripping notch. The first gripping notch is located on a first side of the body. The second gripping notch is located on a second side of the body opposite the first side. The first notch and the second notch are located at positions along the longitudinal dimension of the body to receive hands of a user during operation.

(21) Appl. No.: **11/461,102**(22) Filed: **Jul. 31, 2006**

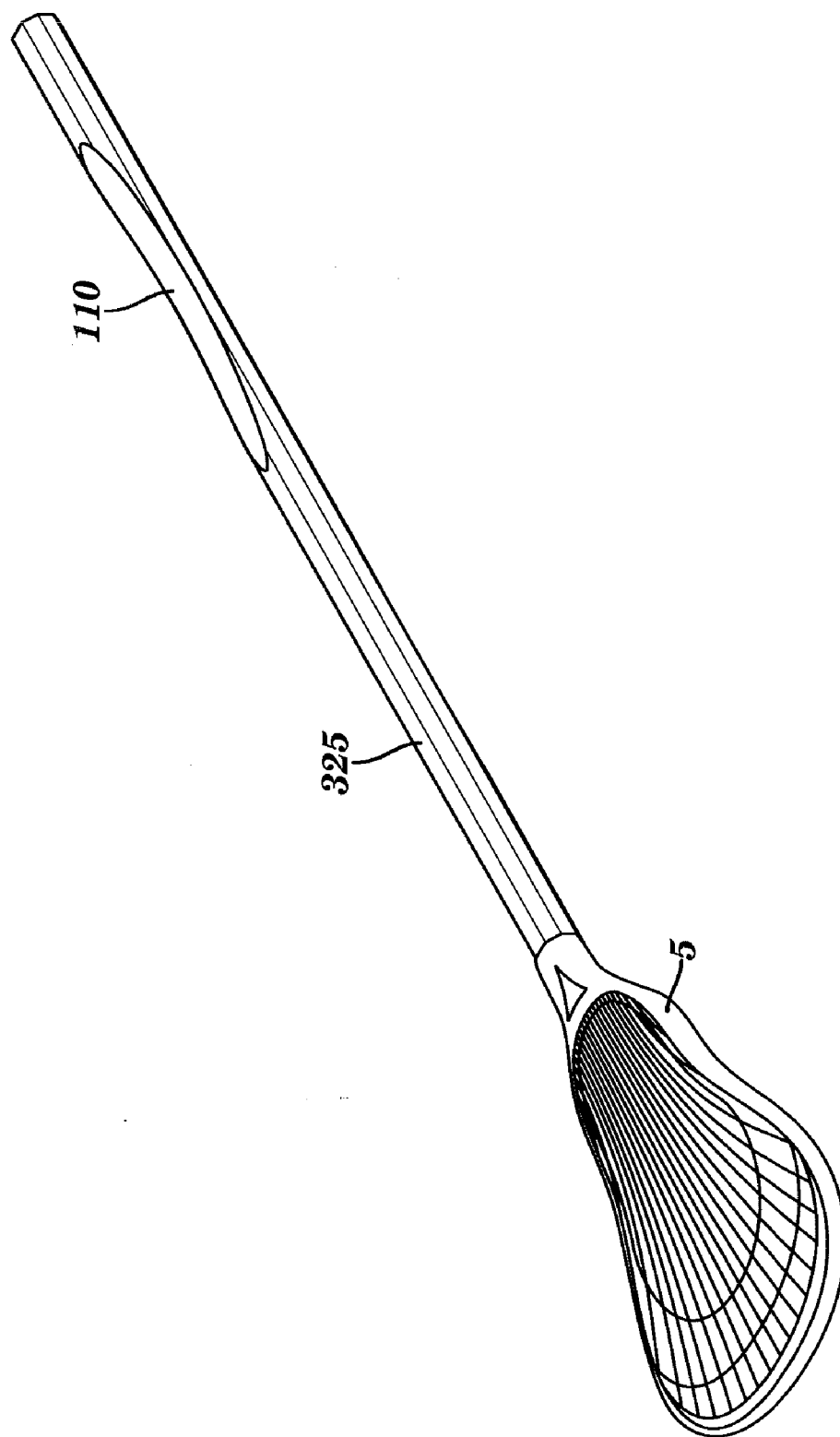


FIG. 1

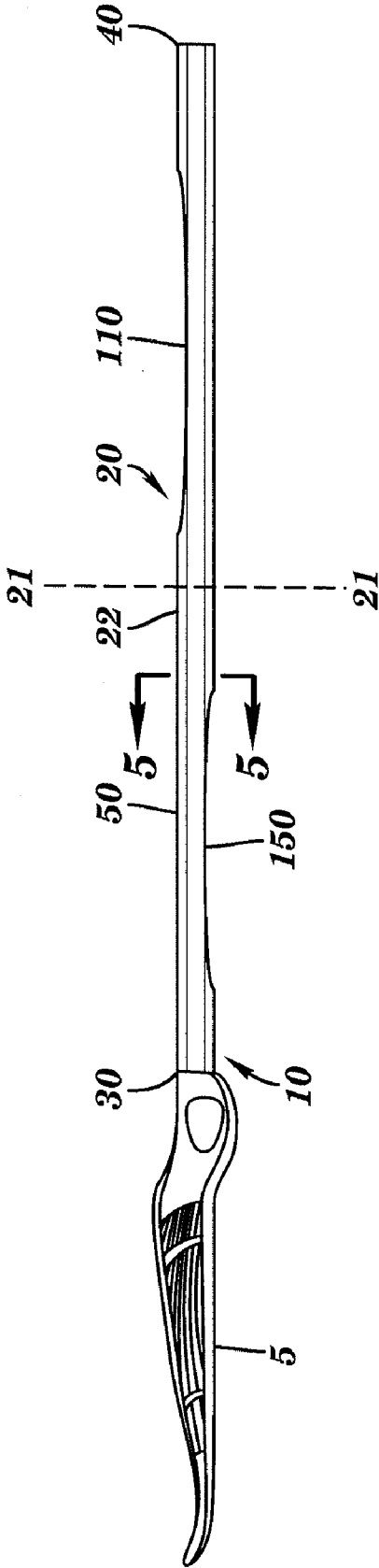


FIG. 2

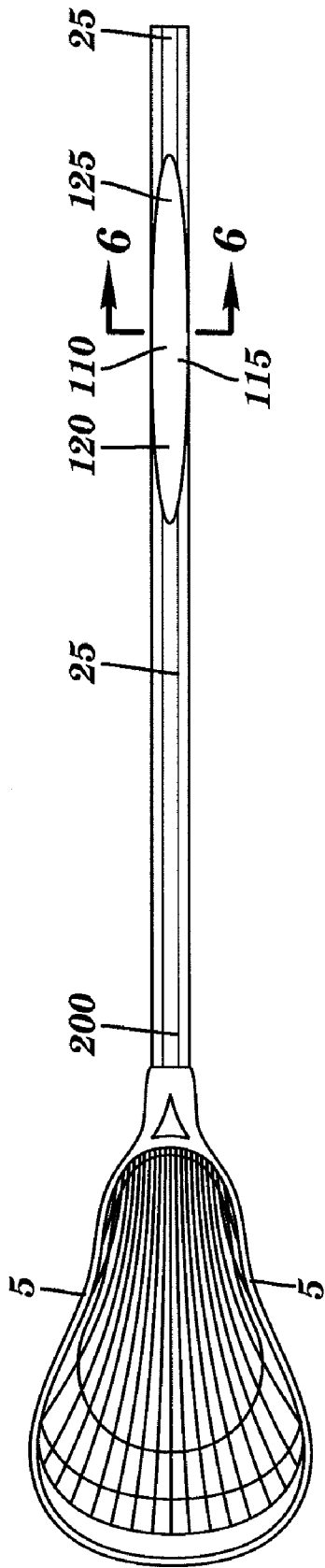


FIG. 3

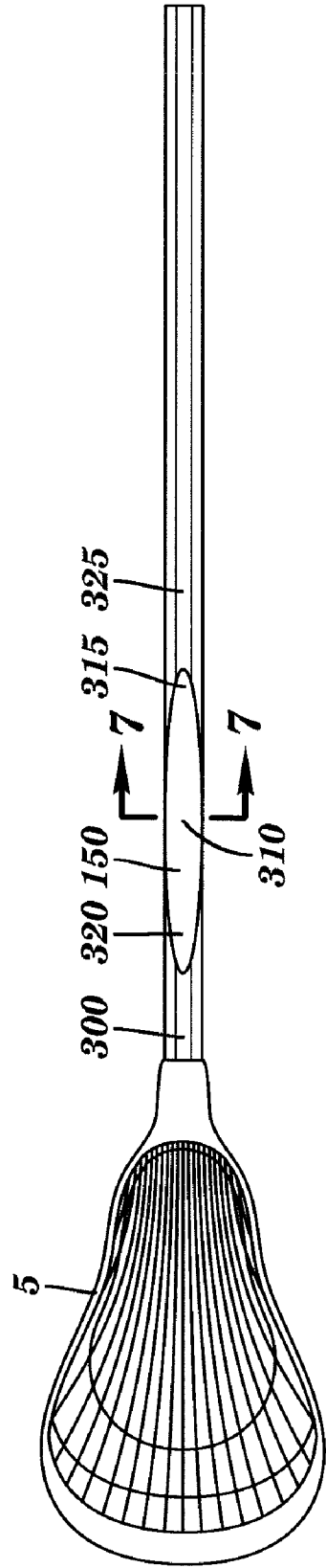


FIG. 4

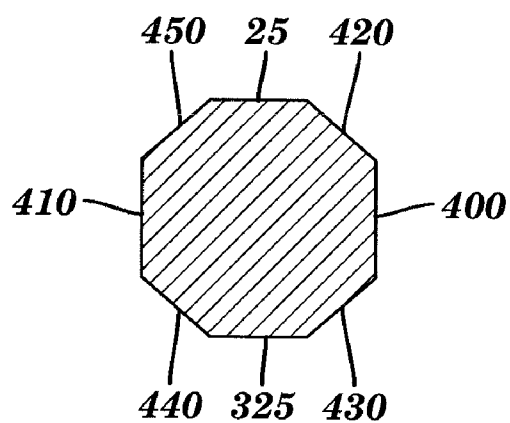


FIG. 5

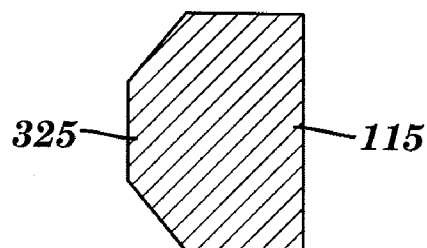


FIG. 6

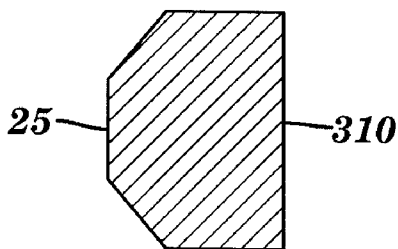


FIG. 7

LACROSSE STICK SHAFT

FIELD OF THE INVENTION

[0001] The present invention relates to sports equipment and, more particular, to handles and shafts of sports equipment.

BACKGROUND OF THE INVENTION

[0002] Lacrosse shafts are connected to lacrosse heads and are gripped by a user to allow the user to carry a ball and/or manipulate the shaft to cause the ball to be ejected from a lacrosse head to a desired location away therefrom, e.g., to pass the ball to another player or shoot at a goal. Various alterations to the standard lacrosse shaft have been attempted to increase the efficiency of throwing and/or catching the lacrosse ball using the lacrosse head. However, standard lacrosse shafts continue to have a continuous shape from end to end, sometimes changing in circumference, but not shape. For example, a traditional lacrosse shaft may have a continuous octagonal shape. Other shafts have been known to have a cross-sectional shape formed an "I", or to have a cross-sectional shape of a square having projections on opposite sides of the square.

[0003] Thus, a need exists for improved lacrosse shafts to aid a user in throwing and/or catching a lacrosse ball using a head attached to such shafts.

SUMMARY OF THE INVENTION

[0004] The present invention provides, in a first aspect, a sports shaft which includes an elongated body, a first gripping notch, and a second gripping notch. The first gripping notch is located on a first side of the body. The second gripping notch is located on a second side of the body opposite the first side. The first notch and the second notch are located at positions along a longitudinal dimension of the body to receive hands of a user during operation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a perspective view of a sports shaft in accordance with the present invention;

[0006] FIG. 2 is a side elevational view of the sports shaft of FIG. 1;

[0007] FIG. 3 is a bottom elevational view of the sports shaft of FIG. 1;

[0008] FIG. 4 is a top elevational view of the sports shaft of FIG. 1;

[0009] FIG. 5 is a cross sectional view of a portion of the sports shaft of FIG. 1 taken along lines 5-5;

[0010] FIG. 6 is a cross sectional view of a portion of the sports shaft of FIG. 3 taken along lines 6-6; and

[0011] FIG. 7 is a cross sectional view of a portion of the sports shaft of FIG. 4 taken along lines 7-7.

DETAILED DESCRIPTION OF THE INVENTION

[0012] In accordance with the principles of the present invention, a sports shaft is provided.

[0013] In an exemplary embodiment, a sports shaft 10 (e.g., a lacrosse stick shaft) includes a body portion 20 having a first end 30 and a second end 40. Body 20 has a cross sectional area having an octagonal shape in the vicinity of first end 30, second end 40 and a central portion 50, as

depicted in FIGS. 2 and 5. Ends 30 and 40 may have any shape (e.g., an octagonal shape) which is configured (e.g. shaped & dimensioned) to allow shaft 10 to engage with, and attach to, a sports head 5 (e.g., a lacrosse stick head).

[0014] As depicted in FIGS. 1-4, body 20 may include a first gripping notch 110 and a second gripping notch 150 on opposite sides of body 20. For example, notch 110 may include a notch central portion 115 and inclined portions 120 and 125. Body 20 may also include an outer surface 25 of a topside 200, which may be connected to notch central portion 115 by inclined surfaces 120 and 125. Also, a bottom side 300 may include an outer surface 325 which may be connected to a notch central portion 310 of notch 150 by inclined portions 320 and 315, as illustrated in FIG. 4. Body 20 may also include opposite side portions 400 and 410 along with connecting portions 420, 430, 440 and 450 as depicted in the octagonal cross section depicted in FIG. 5.

[0015] Also, gripping notch 110 and second gripping notch 150 are configured (e.g., shaped and dimensioned) such that a user may grasp body 20 to allow manipulation thereof by the user. For example, notch 110 and notch 150 may have shapes (FIGS. 6-7) different than body 20 in the vicinity of first end 30, second end 40 and central portion 50. Notch 110 and notch 150 may be six-sided with outer surface 325 and outer surface 25 being relatively flat in the vicinity of notch central portion 310 and notch central portion 115, which may be substantially parallel to outer surfaces 25 and 325, respectively. Such six-sided figures (FIGS. 6-7) may be formed by the removal of a portion of body 20 which includes outer surface 25 and connecting portions 420 and 450 to result in notch central portion 115. Also, the removal of outer surface 325 and connecting portions 430 and 440 may form notch central portion 310 as is shown in FIG. 7. Such removal may be performed by sanding, cutting, or otherwise changing the shape of a sport shaft formed in an octagonal shape. Alternatively, such a sport shaft (e.g., sport shaft 10) may be molded, cast, forged or otherwise originally formed in the shape depicted in FIGS. 1-7.

[0016] The inclined surfaces (e.g., inclined portions 120, 125, 315, 320) may be transition zones between the outer surfaces (e.g., outer surfaces 25 of top side 200 and outer surface 325 of bottom side 300) depicted in FIG. 5 versus the notch central zones (e.g., notch central zones 115 and 310) depicted in FIGS. 6 and 7. For example, the transition zones (cross sections not shown) may be eight-sided, but may have different cross sectional areas than that depicted in FIG. 5, with the connecting portions differing in height relative to that depicted in FIG. 5.

[0017] Notches 110 and 150 may be gripped by a user (e.g., a lacrosse player) to allow shaft 10 to be held during operation, such as when throwing or catching a ball during a lacrosse game. The notches alter the shape (e.g., reduce the width) of shaft 10 such that the user may more easily grip first notch 110 and second notch 150 than the remainder of body 20 of shaft 10. For example, altering the shape of the shaft such that it has a reduced thickness in the area of the notches allows a user to easily orient his or her grip on the shaft and more comfortably utilize a lacrosse stick with better orientation. Further, by allowing a user to more tightly grip a lacrosse stick, more leverage may be applied such that the user may cause a ball to be thrown more quickly and accurately. Further, the reduced shaft thickness may also allow a user having smaller hands to utilize a standard sized

lacrosse stick. The shape of the notches may also be more comfortable to a user's hand than a standard lacrosse shaft, for example.

[0018] Also, gripping notches **110** and **150** may be located off set from a centerline **21** (i.e., a point equally distant to ends **30** and **40**) along body **20** such that gripping notch **150** is further from centerline **21** than gripping notch **110** is relative to centerline **21**. For example, gripping notch **150** may be located closer to head **5** than gripping notch **110** is relative to end **40**. Shafts may also be formed of different lengths and the notches may be located at various points depending on the length of a particular shaft. For example, a defensive lacrosse player often uses a longer shaft than an offensive player. An offensive player may use the shaft depicted in the figures while a defensive player may use a shaft which is longer and which has the notches (e.g., notches **110** and **150**) located further from a lacrosse head (e.g., head **5**) than that depicted for shaft **10**. For example, a mid-point **22** between notches **110** and **150** is located at a point closer to head **5** than centerline **21** as depicted in the figures. In contrast, a shaft (not shown) for a defensive player may have a center point closer to an end (e.g., end **40**) opposite a head (e.g., head **5**) than a centerline (e.g., centerline **21**) thereof. Also, although the sports shaft depicted in the figures has notch **110** located on a same side of sport shaft **10** as a front of the lacrosse head depicted, the lacrosse head could be rotated such that notch **110** is located on an opposite side relative to the front of the lacrosse head while notch **310** could be located adjacent the front side of the lacrosse head.

[0019] It will also be understood by one skilled in the art that notches **110** and **150** could be formed of any shape which is easily grasped or gripped by a user and is narrower than remaining portions of body **20**. It will also be understood by one skilled in the art that the above described transition zones could be formed at any angle which is comfortable to the hand of a user and which tapers between the outer surfaces and center of the notched zones described above. It will also be understood by one skilled in the art that sport shaft **10** could be connected to any number of sports equipment heads (e.g., a hockey blade) which may be utilized in a manner similar to a lacrosse stick and in which a reduced diameter at hand holding portions thereof is desirable. Also, it will be understood that shaft **10** could be formed of any shape between the notches described above which is convenient to manufacture, promotes easy gripping. Further, it will be understood by one skilled in the art that body **20** could include notch **110** or notch **150**, instead of both notches, while still promoting easy gripping by a user and promoting the use of a sports head such as a lacrosse stick head with body **20**.

[0020] Although preferred embodiments have been depicted and described in detail herein, it will be apparent to those skilled in the relevant art that various modifications, additions, substitutions and the like can be made without departing from the spirit of the invention and these are therefore considered to be within the scope of the invention as defined in the following claims.

What is claimed is:

1. A sports shaft comprising:
an elongated body;
a first gripping notch on a first side of said body;

a second gripping notch on a second side of said body opposite said first side; and

wherein said first notch and said second notch are located at positions along a longitudinal dimension of said body to receive hands of a user during operation.

2. The shaft of claim **1** further comprising a lacrosse head connected to said body.

3. The shaft of claim **1** wherein at least one of said first notch and said second notch comprise a longitudinal dimension configured to receive a hand of a user.

4. The shaft of claim **1** wherein said body comprises a notch width in a transverse direction at a location on said body of at least one of said first notch and said second notch, said notch width being different than a width in a transverse direction of a remainder of said body.

5. The shaft of claim **1** wherein said notch width comprises a width smaller than said width of said remainder of said body.

6. The shaft of claim **1** wherein said body comprises a notch shape at a location on said body of at least one of said first notch and said second notch, said notch shape at said location being different than a shape of a remainder of said body.

7. The shaft of claim **6** wherein said notch shape comprises a cross-sectional shape different than said shape of said remainder of said body.

8. The shaft of claim **7** wherein said notch shape comprises a six sided polygon and said shape of said remainder of said body comprises an octagon.

9. The shaft of claim **1** wherein said at least one of said first notch and said second notch comprises a central portion substantially parallel to an outer surface of a remainder of said body.

10. The shaft of claim **9** wherein said at least one of said first notch and said second notch comprises at least one inclined portion connecting said central portion to said outer surface.

11. The shaft of claim **1** wherein said first notch and said second notch are spaced on said body such that a mid-point between said first notch and said second notch is located off set on said body relative to a centerline of said body.

12. The shaft of claim **11** wherein said body includes an end configured to connect to the sports head, and wherein said mid point is located between said end and said center line.

13. The shaft of claim **11** wherein said body further comprises an end configured to connect with a sports head and a second end opposite said end, and wherein said mid point is located between said center line and said second end.

14. A lacrosse stick system comprising the sport shaft of claim **1** connected to a lacrosse stick head.

15. A lacrosse stick system comprising:
a lacrosse shaft having a gripping notch;
a lacrosse head having a receiving pocket comprising an open side for receiving a ball and a closed side; and

wherein said receiving notch is located on a same side of said shaft relative to a said closed side of said lacrosse head.

16. The system of claim **15** wherein said notch comprises a recess in said shaft.

17. The system of claim **15** wherein said notch comprises a cross-sectional shape different than a shape of a remainder of said shaft.

18. The system of claim **17** wherein said cross-sectional shape comprises a six-sided polygon and a shape of said remainder of said shaft comprises an octagon.

19. The system of claim **15** wherein said notch comprises a central portion substantially parallel to an outer surface of a remainder of said shaft.

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