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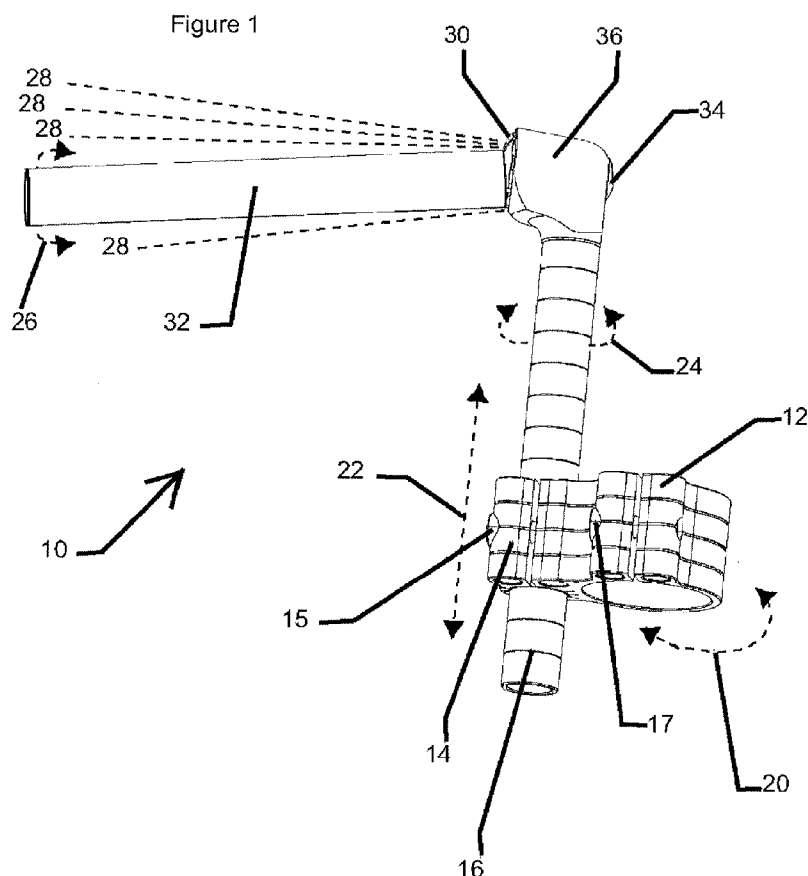
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(54) Title: HANDLEBAR



(57) Abstract: An adjustable handlebar for motorcycles and other vehicles where the angle of the handlebar relative to the rider can be quickly and easily adjusted and stay in position during the normal forces of use. The handlebar has an offset angled collet with flat sides which engage flat sides on the inside diameter of a tapered head on the top of the vertical portion of the handlebar. The collet can be removed, repositioned and reinserted to different positions in the tapered head to change the horizontal angles of the horizontal portion of the handlebar for the desired riding position and to hold the handlebar in position such that it will not move under normal forces encountered when riding.

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HANDLEBAR

Background of the Invention

I. Field of the Invention

This invention relates to handlebars and more particularly to adjusting the
5 angle of motorcycle handlebars from horizontal and predetermined angles above or
below horizontal.

II. Description of the Related Art

Bicycles, motorcycles and other vehicles with handlebars used for steering
have handlebars which are adjustable for height and angle from the center line of the
10 vehicle. Handlebars are also angularly adjustable from being horizontal. In some
angularly adjustable handlebars, the angle from the horizontal may be hard to select
and difficult to maintain. It is desirable to have a horizontally adjustable handlebar
wherein the angle is quickly, easily and securely set.

SUMMARY OF THE INVENTION

15 The handlebar is easily adjusted to any desired position and fixed in that
position so that it will not slip out of position by putting a large force on the
handlebar.

The height of the handlebar is changed by use of a split ring clamp on the
vertical portion of the handlebar. Similarly, the angle from the center line of the
20 vehicle is controlled by the same split ring clamp. The angle of the horizontal portion
of the handlebar is controlled by a collet inserted inside the vertical column's head.
The inside of this head is tapered and has a plurality of flat surfaces aligned on the
inside diameter of a head. The head holds a collet having flat surfaces matching the
flat surfaces of the inside diameter of the head. The collet has an aperture angled
25 offset from the collet horizontal axis such that angular alignment at different positions

in the head angularly selects the handlebar horizontal portion relative to a horizontal axis of the vehicle. The flat surfaces of the collet and the inside diameter of the head lock the handlebar angularly in place.

OBJECTS OF THE INVENTION

5 It is an object of the invention to provide a fixed angle of a handlebar relative to the horizontal.

 It is an object of the invention to quickly and easily adjust the angular position of the handlebars from the horizontal.

 It is an object of the invention to quickly and easily adjust the height of the
10 handlebars.

 It is an object of the invention to quickly and easily adjust the angular position of the handlebars from the center line of the vehicle.

 It is an object of the invention to prevent the position of the handlebars to be displaced during use after initial setting.

15 Other objects, advantages and novel features of the present invention will become apparent from the following description of the preferred embodiments when considered in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

 Fig. 1 is a perspective view of the assembled handlebar.

20 Fig. 2 is a perspective view of the tapered head of the vertical portion of the handlebar.

 Fig. 3 is a perspective view of the collet with an angular offset aperture for engaging a handlebar and flat outer diameter sides for engaging the inside of the vertical portion's head.

Fig. 4 is a perspective view of the head of the vertical portion of the handlebar with the collet inserted.

Fig. 5 is a perspective view of the bolt plate.

Fig. 6 is a perspective view of the assembled bolt plate on the horizontal
5 portion of the handlebar.

Fig. 7 is an expanded view of the vertical and horizontal portions of the handlebar with the bolt, collet and bolt plate.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

A handlebar 10 is shown in Fig. 1 having various angular settings 28 which
10 vary from a straight horizontal position. A straight horizontal position may also be selected. The generally L-shaped handlebar 10 has a vertical portion 16 which is adjustable up and down as shown by arrows 22 relative to handle bar split ring clamp 14. The vertical portion 16 of the handlebar 10 is also adjustable by rotation along arrows 24 by loosening and then tightening adjustment bolt 15 on handle bar split ring
15 clamp 14. The position of the vertical portion 16 of the handlebar 10 may be adjusted angularly by rotation as shown by arrows 20 about a fork tube of a vehicle such as a motorcycle, bicycle or other vehicle by tightening or loosening adjustment bolt 17 on fork split ring clamp 12. Thus the position of the vertical portion 16 of the handle bar 10 is adjustable to a desired position relative to the rider on the vehicle. Between the
20 adjustments of the collet 30 in the tapered head 36 and the angular adjustments of the vertical portion 16 of the handlebar 10 in the handle bar split ring clamp 14 the handle bar horizontal portion 32 can be placed at the desired angle relative to the horizontal and at the desired angle relative to the vehicle center line.

As shown in Fig. 2 the tapered head 36 at the end of the vertical portion 16 of
25 handle bar 10 has inside diameter flats 56 for securing collet 30 at preset positions. As

shown in Fig. 3 collet 30 has flats 50 on its outer diameter which compliment the flats 56 on the inside diameter of tapered head 36. Collet 30 has a plurality of slots 54 between the flats 50 allowing the collet 30 to be squeezed onto and thereby grip the shoulder portion 40 of handlebar horizontal portion 32 when installed in tapered head 5 36. Bolt 38 passing thorough bolt plate 34, tapered head 36, collet 30 and shoulder portion 40 threads into handlebar horizontal portion 32 to lock the handlebar horizontal portion 32 into position in the tapered head 36. The angle of the handlebar horizontal portion 32 can be easily and quickly changed by turning the head 39 of bolt 38 to loosen the handlebar horizontal portion 32 to remove the collet 30 from the 10 tapered head 36 and reposition the collet 30 relative to the tapered head 36 to adjust the angle of the handlebar horizontal portion 32 relative to tapered head 36. The number of flat portions 50 in the collet 30 and flat portions 56 on the tapered head 36 can vary.

As seen best in Fig. 3 the aperture 58 through the collet 30 is angled offset to 15 allow the angle of the handlebar horizontal portion 32 to vary as the collet 30 is removed, repositioned and reinserted in the tapered head 36.

The inside diameter 52 of the collet 30 may be round or any other shape to match the shape of the outside diameter of the shoulder 40 of the handlebar horizontal portion 32.

20 The bolt plate 34 preferably has an aperture 42 for receiving the bolt head 39 on bolt 38 and an aperture 44 for allowing the shaft of bolt 38 to pass through the remaining portion of the bolt plate 34. The apertures 42 and 44 are off center to complement the angled offset nature of the collet 30 allowing the bolt 38 to engage the horizontal portion 32 of the handlebar 10 and be threaded therein while centered 25 therein.

The inside walls having flat portions 56 of head 36 are tapered to a smaller diameter as the walls go in from the mouth 37 of the tapered head 36 to tighten the collet 30 on the shoulder 40 of the handlebar horizontal portion 32 as the bolt 38 is tightened. Shoulder 46 on bolt plate 34 seats in a corresponding aperture in tapered head 36 to help align the parts during assembly and hold them in place when assembled.

When assembled the handlebar horizontal portion 32 will be held in place such that it will not rotate out of angular alignment and can be set at predetermined angles quickly and easily by simple adjustments.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. An adjustable handlebar comprising:

a vertical handlebar portion having a head with an aperture therethrough, the head having an inside tapered diameter with a plurality of flat faces along the aperture axis,

5 a collet having a plurality of flat faces corresponding to the flat faces in the head, the collet having slots between the flat faces, and an angular offset aperture therethrough,

a horizontal handlebar portion having a shoulder engaged by the aperture of the collet, the horizontal handlebar portion with an aperture centered therein,

10 a bolt plate having an angular offset aperture therethrough for insertion into one end of the head,

a bolt passing through the bolt plate and through the head of the vertical handlebar portion and engaging the horizontal handlebar aperture, for pulling the horizontal handlebar and collet toward the bolt plate thus compressing the handlebar and collet inside the head of the vertical handlebar portion thereby securing the horizontal handlebar portion in the head of the vertical handlebar portion at a desired angle.

2. An adjustable handlebar as in claim 1 wherein,

20 the vertical handlebar portion head's aperture axis is perpendicular to the axis of the vertical handle.

3. An adjustable handlebar as in claim 1 wherein,

a dual split ring clamp where one split ring adjustably engaging the vertical handlebar portion for height and rotational adjustment of the handlebar.

4. An adjustable handlebar as in claim 3 wherein,
a dual split ring clamp with the second split ring rotationally adjustable on a fork tube, connected to the first split ring to rotationally adjust the position of the vertical portion of the handlebar relative the centerline of the fork tube.
5. An adjustable handlebar as in claim 3 wherein,
the head aperture axis is perpendicular to the axis of the vertical handle.
6. An adjustable handlebar as in claim 4 wherein,
the head aperture axis is perpendicular to the axis of the vertical handle.

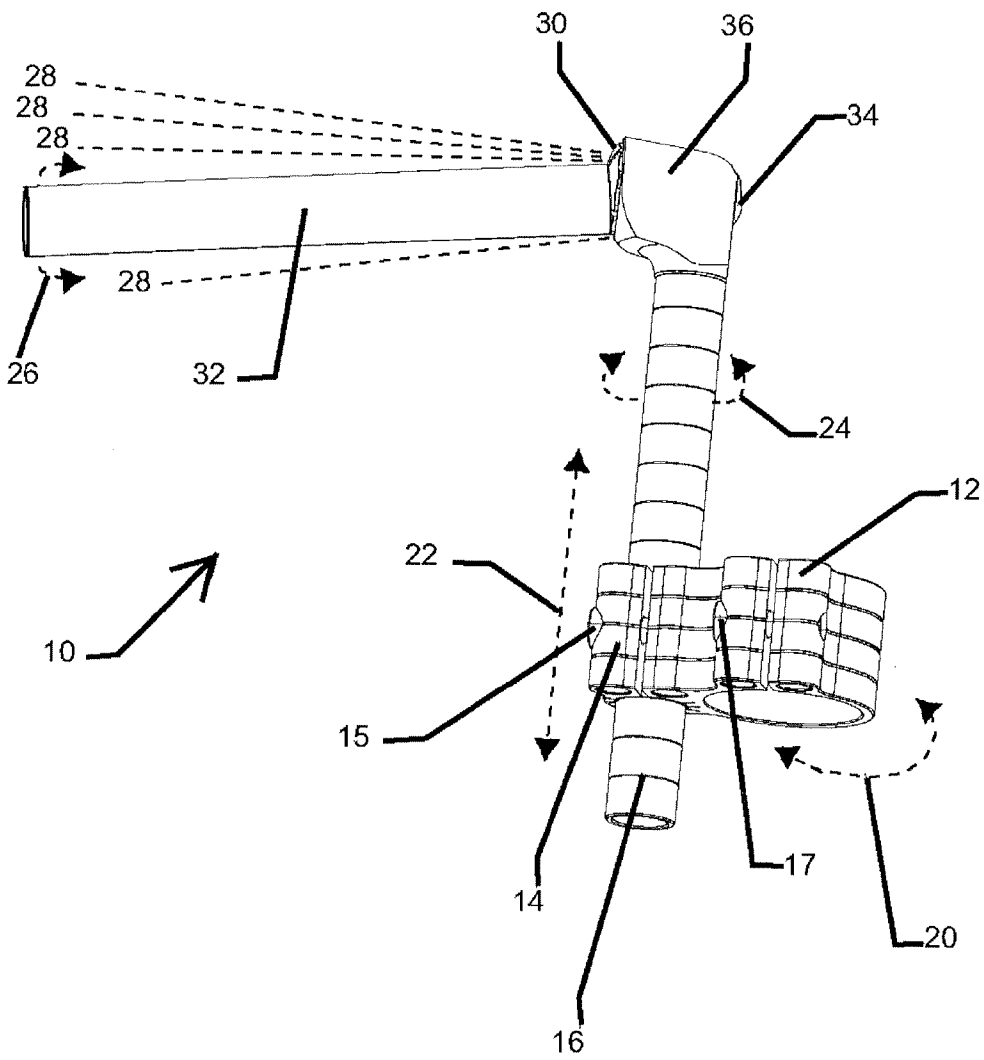


Figure 1

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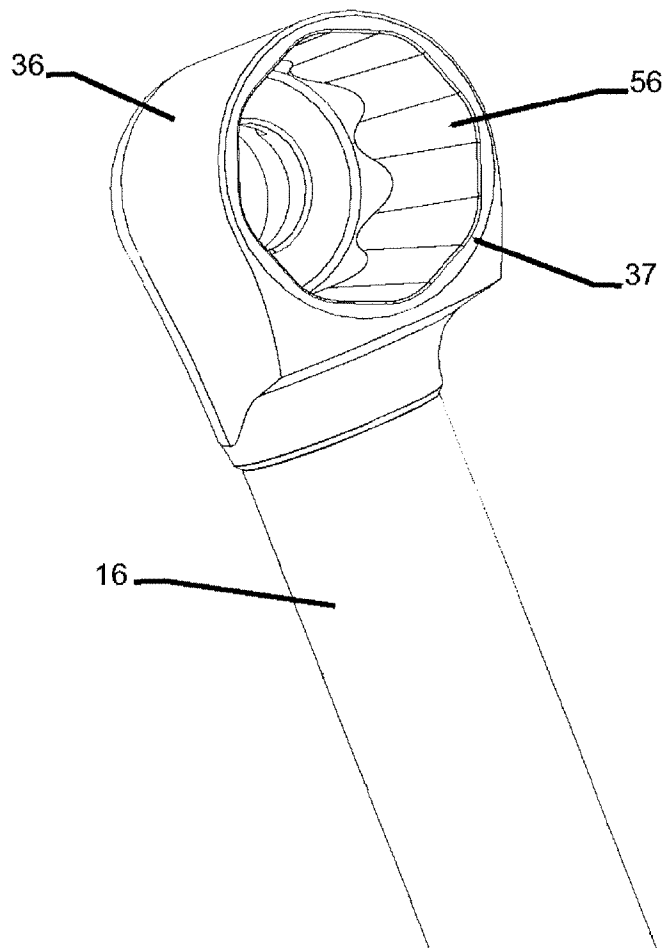


Figure 2

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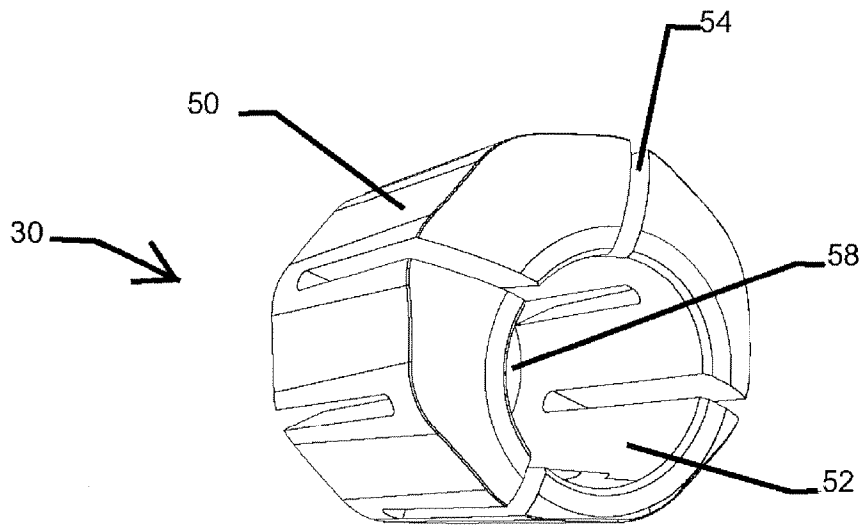


Figure 3

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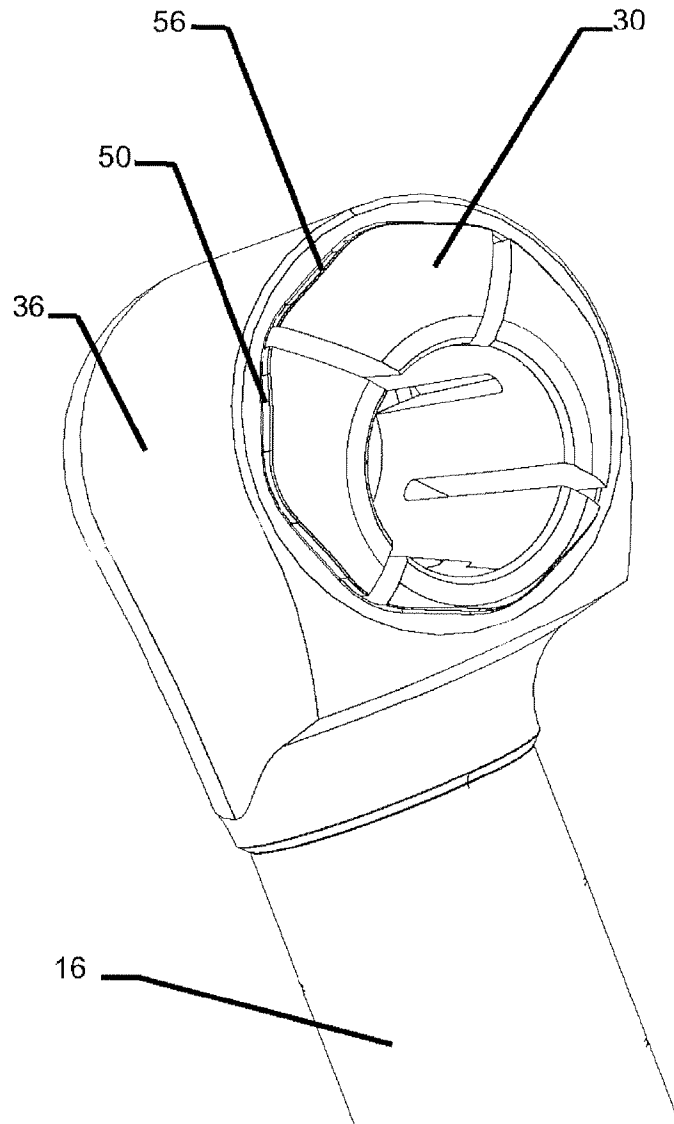


Figure 4

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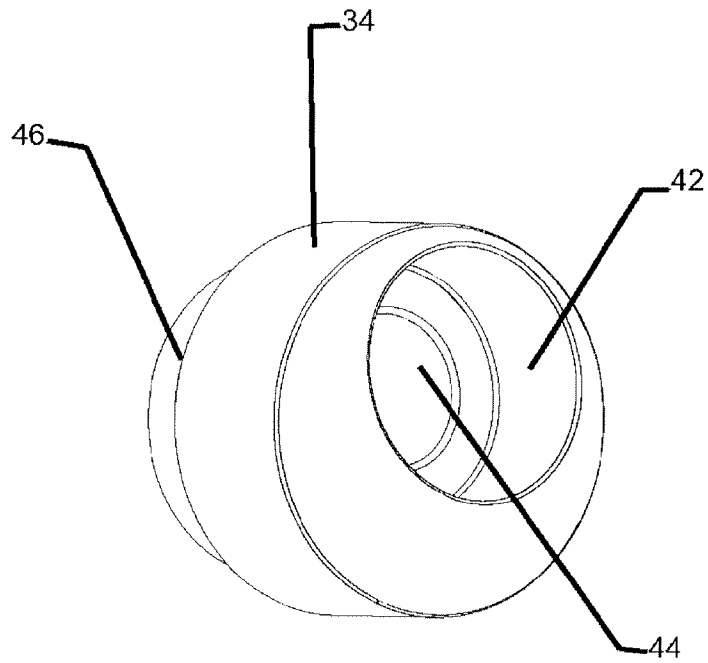


Figure 5

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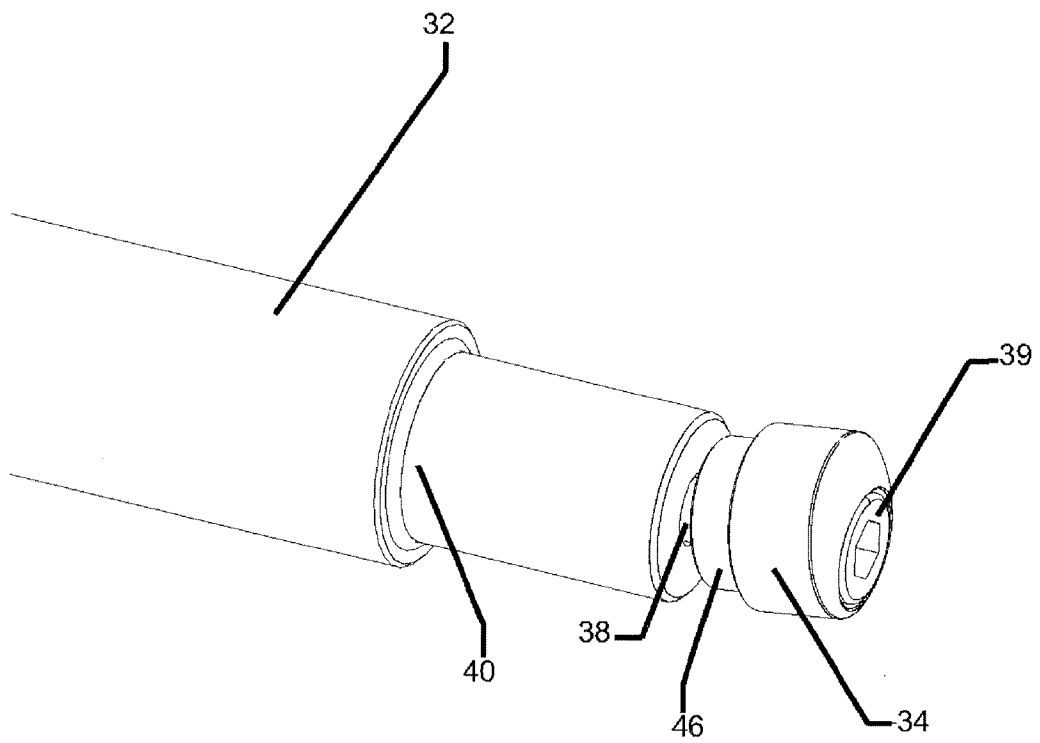


Figure 6

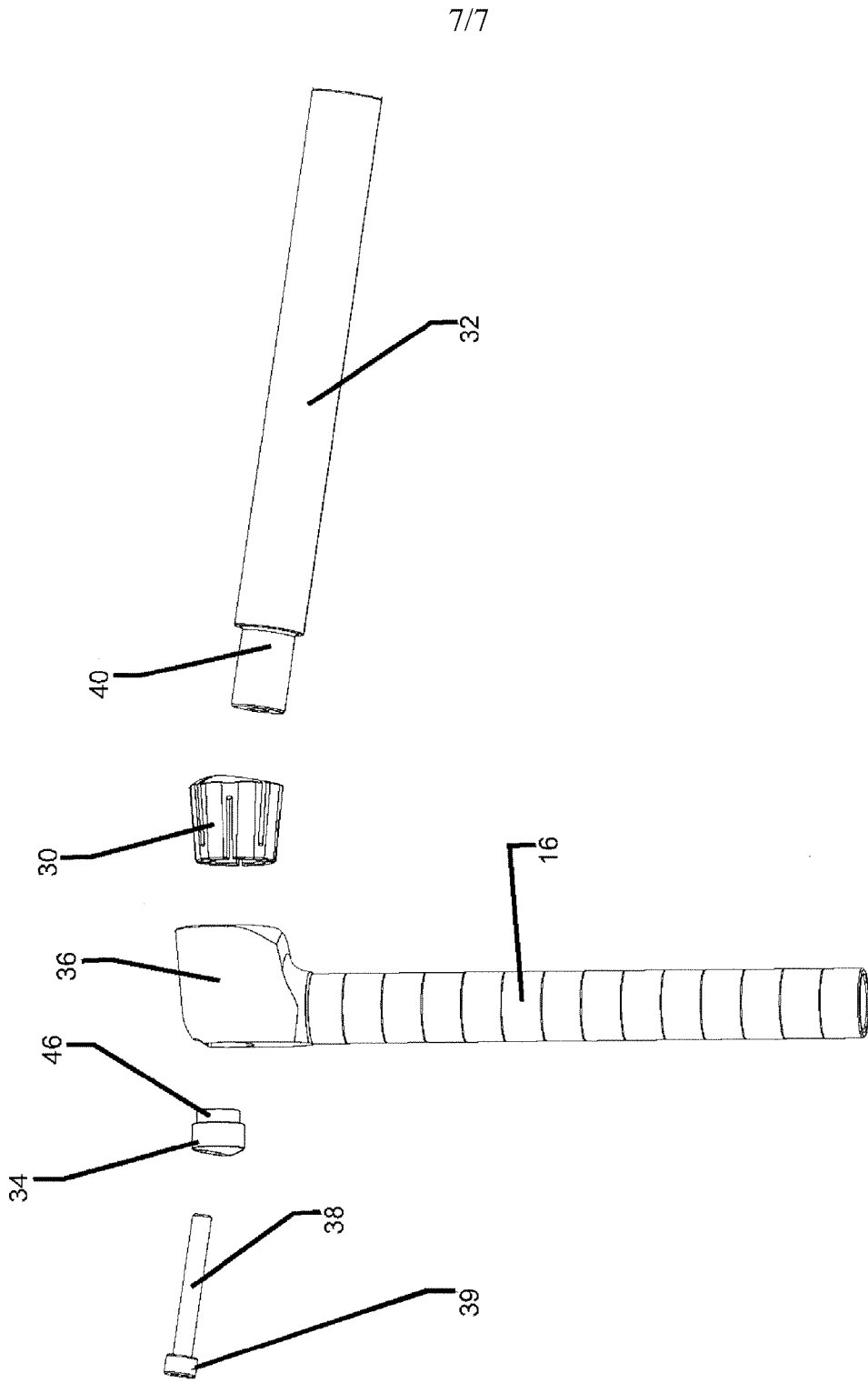


Figure 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/066493

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - B62K 21/16 (2008.04)
 USPC - 74/551.3
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 IPC(8) - B62K 21/12, 21/16 (2008.04)
 USPC - 74/551.1, 551.3, 551.8; 280/276, 775; 403/196, 385, 396

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PatBase, Google Patents

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0150321 A1 (LIAO) 14 July 2005 (14.07.2005) entire document	1-6
Y	US 5,904,436 A (MAUGHAN et al) 18 May 1999 (18.05.1999) entire document	1-6
Y	US 6,394,694 B1 (KLIEBER) 28 May 2002 (28.05.2002) entire document	3-6

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
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Date of the actual completion of the international search 04 September 2008	Date of mailing of the international search report 09 SEP 2008
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