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(56) Documents Cited:
CN 201268369 Y DE 004232592 A1
JP 2006069466 A JP 2004142718 A
JP 2002308174 A US 20040239070 A1

(58) Field of Search:
INT CL B62K
Other: EPODOC, WPI

(54) Title of the Invention: **Contractible bicycle**
Abstract Title: **Contractible bicycle**

(57) A contractible bicycle includes curved front frame section 1 which slides back telescopically into curved rear frame section 2, and curved seat post 3 which slides down telescopically into curved front section 1, inside curved rear section 2. Handlebar stem 4 may be curved and may fold down backwards in-line with the frame. Saddle 6 may capable of tilting forwards.

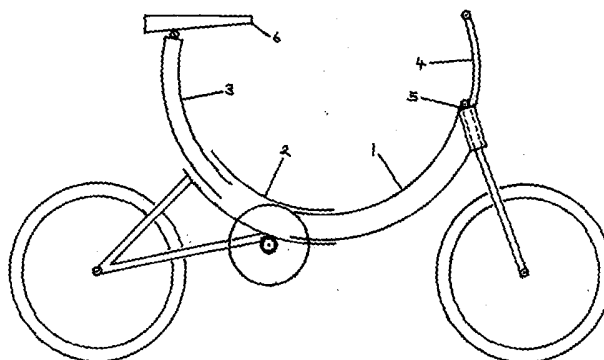


FIGURE 1

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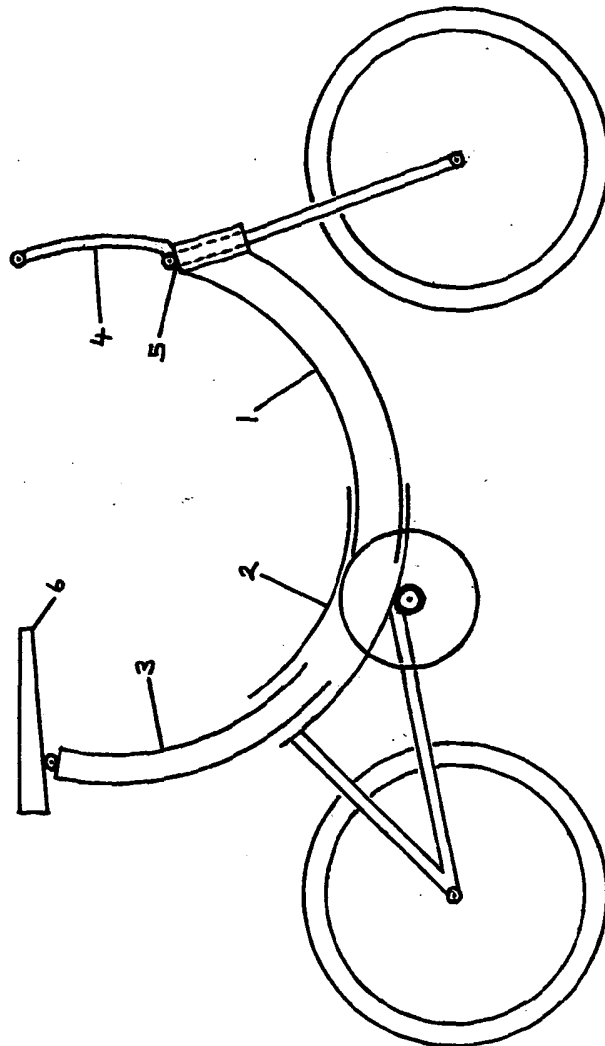


FIGURE 1

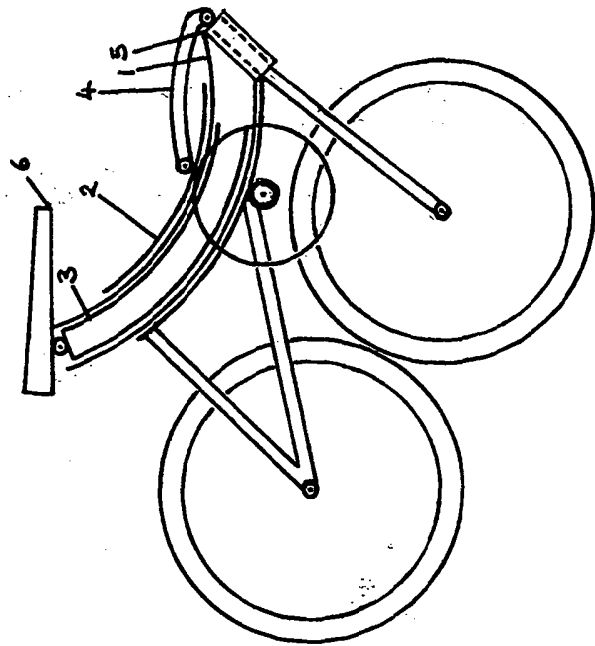


FIGURE 2

Contractible bicycle

This invention relates to a contractible bicycle.

There are a number of bicycles in production that can be made more portable and compact for travel and storage. Various methods are employed, the most prevalent being folding, or folding combined with some other means. This can lengthen and complicate the collapsing process, weaken and/or add weight to the bicycle frame, and increase the width of the resulting package.

To offer an alternative solution that has the potential to be simpler, stronger, lighter and slimmer, the present invention proposes a contractible bicycle that telescopes down to a more portable and compact size by employing a retractable 'U'-shaped (part-circle) curved frame and seat post. The curved front section of the frame slides back telescopically into the curved rear section of the frame, while the curved seat post slides down telescopically into both these sections, one inside the other.

The utilisation of a curved telescopic sliding mechanism to contract the bicycle makes the process quicker and simpler, makes the frame stronger and lighter, and makes the resulting package slimmer and more manageable.

Preferably, the frame tubes and seat post will be unfastened and fastened in position using sleeved screw collars or some other type of quick-release device.

Preferably, the handlebar stem will fold down backwards in-line with the frame, or slide down into the frame or forks so that the contracted bicycle is as slim as possible.

Preferably, the saddle will tilt forwards to minimise the size of the contracted package.

An example of the invention will now be described by referring to the accompanying drawings:

Figure 1 shows a bicycle in an expanded rideable form; and

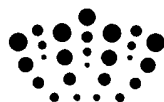
Figure 2 shows the same bicycle in contracted portable form.

In figure 1, a curved front section of frame 1 is inserted into, and fastened to, a curved rear section of frame 2, for example with the aid of a sleeved screw collar, a quick-release lever or by some other method. A curved seat post 3 is inserted into, and fastened to, the curved rear section of frame 2, for instance with the aid of a sleeved screw collar, a shim and quick-release lever or by some other means. A handlebar stem 4 is fastened to the top of a fork column 5, for example using some sort of pivot and/or clamp. A saddle 6 is attached to the top of the seat post 3, for instance using a quick-release mechanism.

In figure 2, the curved front section of frame 1 has been unfastened, and retracted and telescoped back into the curved rear section of frame 2. It has then been fastened in position. The curved seat post 3 has been unfastened, and retracted and telescoped down into the curved front section of frame 1, which is already inserted into the curved rear section of frame 2. It has then been fastened in position. The handlebar stem 4 has been released and folded back in-line with the frame. Alternatively, it may slide down into the frame or forks. The saddle 6 has been released and tilted forwards.

Claims

1. A contractible bicycle, comprising a retractable 'U'-shaped (part-circle) curved frame and seat post, in which the curved front section of the frame slides back telescopically into the curved rear section of the frame, and the curved seat post slides down telescopically into both these sections.
2. A contractible bicycle according to claim 1, in which the frame tubes and seat post are unfastened and fastened in position using sleeved screw collars.
3. A contractible bicycle according to claim 1, in which the handlebar stem folds down backwards in-line with the frame.
4. A contractible bicycle according to claim 1, in which the saddle tilts forwards.



Application No: GB0921442.0

Examiner: Mr Philip Osman

Claims searched: 1-4

Date of search: 19 March 2010

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
A	-	CN201268369 Y (YOUYI) See figures
A	-	JP2006069466 A (RI) See figures
A	-	US2004/239070 A1 (CHAO) See figures
A	-	JP2004142718 A (TODA) See figures
A	-	JP2002308174 A (SHIRAI) See figures
A	-	DE4232592 A1 (SCHNEIDER / REICHENBACH) See figures

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

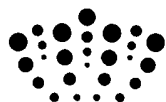
Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

B62K

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI



International Classification:

Subclass	Subgroup	Valid From
B62K	0015/00	01/01/2006