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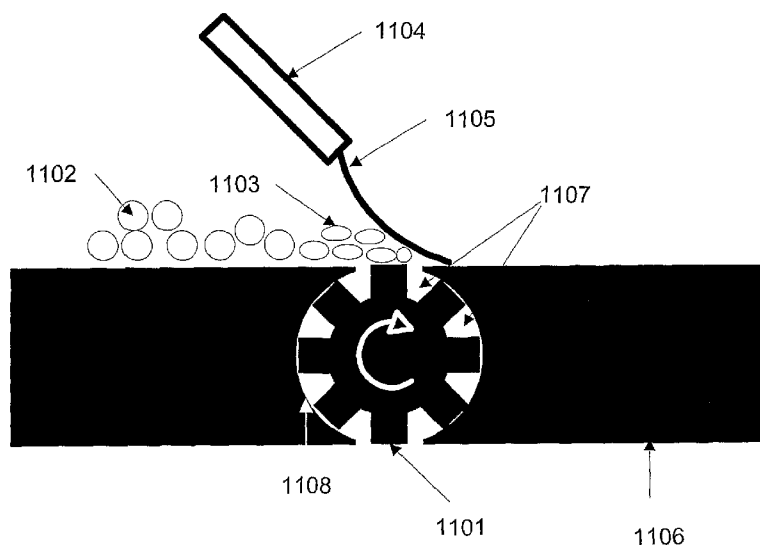
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[Continued on next page]

(54) Title: IMPROVED STENT MANUFACTURING METHODS



(57) Abstract: A novel method of manufacturing stents by use of molds (1101) made of a biocompatible, flexible material, preferably silicone. Some embodiments use silicone polymers; a two-dimensional, waffle mold; injection molds whereby the core of the injection mold is silicone polymer. In some embodiments, the stent polymer or particles of stent polymers are injected into the mold, around a cylinder of silicone, to form a three-dimensional stent. In some embodiments, particles of silicone polymer are mechanically forced into the negative spaces and then fused together to form the finished product. In other embodiments, metal stents or metal molds are used to manufacture a reverse mold. The reverse mold (901) is then used to create positive silicone molds. The silicone molds can subsequently be used by any means to make polymer stents, lending themselves to automation.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

INV. B29C33/38 B29C33/40 B29C33/42 B29C39/00 B29C39/24
B29C39/34 B29C41/36 B29C41/38 B29C45/26

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)

B29C A61F

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 574 851 B1 (MIRIZZI MICHAEL S [US]) 10 June 2003 (2003-06-10) abstract; figures 6-12 column 2, line 28 - column 3, line 58 column 6, line 63 - column 8, line 50 column 9, line 55 - column 11, line 48 claims 1-25	1-22
A	WO 02/14078 A (SURFACE LOGIX INC [US]; SCHUELLER OLIVIER [US]; KIM ENOCH [US]; WHITES) 21 February 2002 (2002-02-21) abstract; figures 1-9 page 13 page 31, line 13 - line 30	1-22
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *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)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *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
- *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
- *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.
- *G* document member of the same patent family

Date of the actual completion of the international search

3 December 2007

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 208 818 A (MEDTRONIC INC [US]) 29 May 2002 (2002-05-29) abstract; figures 5-14 page 6 - page 7 -----	1-22
A	US 6 203 732 B1 (CLUBB ELIZABETH A [US] ET AL) 20 March 2001 (2001-03-20) abstract; figures 1-18 column 3 - column 5; claims 1-12 -----	1-22
A	JP 2004 313320 A (NAT CARDIOVASCULAR CT; BRIDGESTONE CORP) 11 November 2004 (2004-11-11) abstract; figures 1-4 -----	1-22
A	EP 0 897 701 A (ADVANCED CARDIOVASCULAR SYSTEM [US]) 24 February 1999 (1999-02-24) abstract; figures 1-3 column 3 - column 6 claims 1-12 -----	1-22
P,A	WO 2006/065312 A (BOSTON SCIENT SCIMED INC [US]) 22 June 2006 (2006-06-22) abstract; figures 1-7 page 2 - page 8 -----	1-22

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2007/001642

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 23
because they relate to subject matter not required to be searched by this Authority, namely:
Claim 23, as filed by the applicant with the letter of 17.10.2007 is incomplete.
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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