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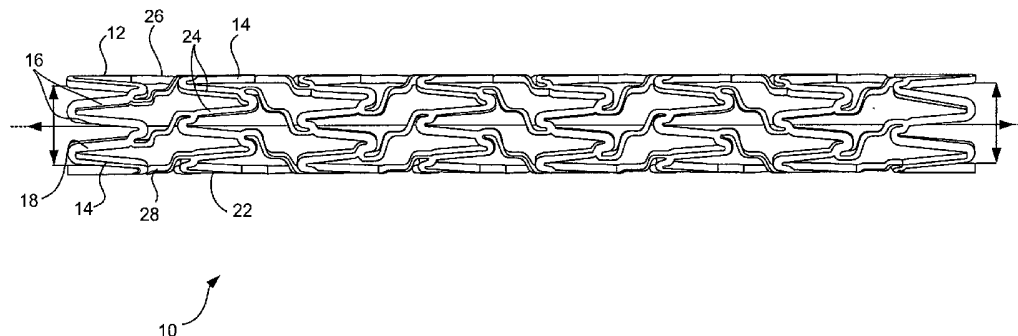
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INTRAVASCULAR STENT CONSISTING OF STAIRSTEP EXPANSION STRUT PAIRS AND DOUBLE STAIRSTEP DIAGONAL CONNECTING STRUTS



(57) Abstract: An intra-coronary stent (10) provides intraluminal-scaffolding support of a vascular wall after percutaneous angioplasty in which a balloon catheter is used to expand a stenotic vascular lesion. The flexible stent (10) substantially fully covers a vessel surface inside a vascular lumen. The improved stent easily delivers a delivery balloon to a selected vascular lumen site. The flexible stent has a smooth surface and sufficient radiopacity in the delivery and post delivery phase.

WO 02/024109 A3

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/US 01/27158

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61F2/06

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 7 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.
X	US 6 113 627 A (JANG) 5 September 2000 (2000-09-05) column 3, line 41 -column 10, line 57; figures 1-5 ---	1-6,8, 10-35
X	US 6 039 756 A (JANG) 21 March 2000 (2000-03-21) column 4, line 61 -column 7, line 61; figures 1A-11 ---	1,2,6, 8-30, 32-35
X	WO 00 30563 A (SCIMED) 2 June 2000 (2000-06-02) page 9, line 3 -page 17, line 21; figures 4A-7 -----	1-13, 16-19, 21, 26-28, 31,34,35

 Further documents are listed in the continuation of box C.

 Patent family members are listed in 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.

"&" document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/27158

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.:
because they relate to subject matter not required to be searched by this Authority, namely:

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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers 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.:

1-35

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-35

A stent in a non-expanded state, comprising: a) a first expansion column including individual expansion struts forming a plurality of expansion struts pairs, wherein two adjacent expansion strut pairs share a common strut; b) a second expansion column including individual expansion struts forming a plurality of expansion strut pairs, wherein two adjacent expansion strut pairs share a common strut; c) a first connecting strut column including a plurality of individual connecting struts, d) wherein each of an individual connecting strut is an extension arm of an individual expansion strut from the first expansion column and an extension arm of an individual expansion strut of the second expansion column.

2. Claims: 36-77

A stent in a non-expanded state comprising substantially features a), b) and c) of subject 1, and further specifying that: e) the individual expansion struts of the first and second expansion columns form a plurality of expansion struts pair loops that couple adjacent individual expansion struts, and f) each of an end of an individual connecting strut extends from contra-lateral sides of expansion strut pair loops of the first and second expansion columns.

3. Claim : 78

A stent in a non-expanded state comprising substantially features a), b) and c) of subject 1 and 2 and further specifying that: g) each of an end of an individual connecting strut extends from ipsi-lateral sides of expansion strut pair loops of the first and second expansion columns.

4. Claims: 79-117

A stent in a non-expanded state, comprising substantially features a), b) and c) of the previous subjects and further specifying that: h) the individual expansions struts of the first and second expansion columns have each a stair-step segment at one end.

5. Claims: 118-155

A stent in a non expanded state comprising substantially features a), b) and c) and further specifying that: i) the

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

expansion struts of the first and second expansion columns form a plurality of expansion strut pair loops that form first and second bifurcated expansion strut arms at expansion strut bifurcation points, and 1) one of the expansion strut arms of the first connecting strut column forms a portion of a connecting strut.

INTERNATIONAL SEARCH REPORT

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