Title: ULTRASONIC PROBE DEVICE WITH RAPID ATTACHMENT AND DETACHMENT MEANS HAVING A LINE CONTACT COLLET

Abstract: An ultrasonic medical device comprising an ultrasonic probe (25) and a collet assembly for probe attachment and detachment, and a method of removing occlusions in blood vessels using the ultrasonic medical device. The probe (25) detachability allows insertion, manipulation and withdrawal independently of a device body. The collet assembly (5) comprises a compression clamp (10) capable of releasably receiving the probe (25), and a compression housing (14) that initiates a minimal area "line-contact" between the collet assembly segments upon engagement. A line-contact lip (21) ensures consistent and repeatable contact between the compression clamp (10) and the compression housing (14) at a pre-determined location to provide a consistent closing force on the probe (25) for any selected tightening torque. The line-contact between the collet assembly segments provides efficient ultrasonic energy transfer from an ultrasonic energy source (30) to the probe (25) thereby increasing probe efficiency during tissue ablation.
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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.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : A61B 17/22
US CL : 601/4
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)
U.S. : 601/2, 4; 604/22; 606/128, 169

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 5,382,228 A (NITA et al) 17 January 1995 (17.01.1995), see entire document.</td>
<td>1-63</td>
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Further documents are listed in the continuation of Box C. See patent family annex.

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