Title: INTEGRATED SYSTEM FOR CONTROLLING PLURAL SURGICAL TOOLS

Abstract: A surgical tool system including plural powered surgical handpieces. The handpieces are removably connected to a single control console. The control console has a power supply. A controller internal to the control console simultaneously supplies power to the plural handpieces. In the event the handpieces collectively draw more power than the power supply can provide, the control console temporarily stops the application of power to one of the handpieces.

Published:
— with international search report

(88) Date of publication of the international search report: 14 September 2006

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

**International application No**

PCT/US2005/034800

### A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B17/16 A61B17/32

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)

A61B

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

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>A</td>
<td>WO 03/013372 A (STRYKER CORPORATION) 20 February 2003 (2003-02-20) paragraph [0140]; figure 24</td>
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<td>A</td>
<td>US 6 037 724 A (BUSS ET AL) 14 March 2000 (2000-03-14) claim 21; figure 1</td>
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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.

"S" document member of the same patent family

Data of the actual completion of the international search

14 February 2006

Date of mailing of the international search report

23 June 2006

Name and mailing address of the ISA/European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

Authorized officer

Filali, S

Form PCT/ISA/210 (second sheet) (April 2005)
INTERNATIONAL SEARCH REPORT

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.:
   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:
   see FURTHER INFORMATION sheet PCT/ISA/210

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).

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:

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.:
   see annex

Remark on Protest

□ The additional search fees were accompanied by the applicant's protest.

□ No protest accompanied the payment of additional search fees.
Continuation of Box II.2

Claims Nos.: 41-46

Claims shall not rely on references to the description or drawings, Article 6, Rule 6.2(a) PCT.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8
   A control console for energizing powered surgical handpieces comprising a controller and a power regulator configured to simultaneously energizing a plurality of handpieces.

2. claims: 9-17
   A system for energizing powered surgical handpieces comprising a plurality of footswitches.

3. claims: 18-38
   A powered surgical tool system comprising a surgical handpiece, a cutting accessory a brushless and a plurality of windings and a method of applying energization signals to the powered surgical tool.

4. claims: 39-40
   A system for energizing powered surgical handpieces comprising a power consuming unit, a console, a control assembly and an interface.

5. claim: 47
   A method or regulating the application of signal to a surgical handpiece to which a cutting accessory is attached.

6. claim: 48
   A method or regulating the application of signal to a surgical handpiece below a threshold speed, and at or above a threshold speed to determine motor rotor position.

7. claims: 49-52
   A method of oscillating the motor of a surgical handpiece.

8. claim: 53
   A method of actuating a powered surgical handpiece.

9. claims: 54,55
A method of determining if a surgical handpiece or a surgical cutting accessory remains attached to a control console.

10. claim: 56

A method of actuating a motor of surgical handpiece, the handpiece having a cutting accessory actuated by the motor.
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