Title: ROBOTIC TOOL CHANGER

Abstract: A robotic tool changer having a master unit and a tool unit adapted to be coupled together. Movable mounted in the master unit of the robotic tool changer is a piston that is movable between locked and unlocked positions. The piston includes a contact area having an unlocking surface, a failsafe surface and a locking surface. Also provided is a series of rolling members contained within a retention area that are actuated by the piston to lock the master unit to the tool unit. For example, the piston engages the rolling members and urges them into a locked relationship with a bearing race that forms a part of the tool unit. To prevent the inadvertent or accidental movement of the piston from the locked position to the unlocked position, the piston is provided with a retarding surface generally disposed between the locking surface and the unlocking surface on the piston for retarding the movement of the piston as the piston moves from the locked position to the unlocked position.
as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Ui))

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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC: G06F 19/00(2006.01)
USPC: 700/2451439/197,3481403/325/01/28,30,31,37,41297/279.1 1294/82.24,86.4,82.2S
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.: 700/245,439/197,348,403/325;901/28,30,31,37,41;297/279.1 1294/82.24,86.4,82.28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
West

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>A</td>
<td>US 4,815,780 (OBRIST) 28 March 1989 (28.03.1989), see entire document</td>
<td>1-44</td>
</tr>
<tr>
<td>A</td>
<td>US 4,906,123 (WESKAMP et al.) 28 March 1989 (28.03.1989), see entire document</td>
<td>1-44</td>
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<td>A</td>
<td>US 5,002,500 (ZUCCARO et al.) 28 March 1989 (28.03.1989), see entire document</td>
<td>1-44</td>
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<tr>
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<td>US 20070228670 A1 (NORTON et al.), see entire document</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
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Date of the actual completion of the international search
02 January 2008 (02.01.2008)

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