Title: METHOD OF STRETCH FORMING AN ALUMINUM METAL SHEET AND HANDLING EQUIPMENT FOR DOING THE SAME!

Abstract: A method of stretch forming an aluminum metal sheet that includes the steps of placing an aluminum metal sheet in a hot forming tool, forming a shaped part at an elevated temperature, removing the hot shaped part from the forming tool, and thereafter transferring the hot shaped part to a cooling fixture. The transfer and removal steps are performed at a speed that is variable based on a correlation of the temperature and strength of the aluminum metal sheet and the speed at which the hot shaped part may be transferred without distortion of its shape due to inertia.

ALUMINUM SHEET PLACED IN FORMING TOOL

SHAPED PART FORMED IN FORMING TOOL

HOT SHAPED PART REMOVED FROM FORMING TOOL

TRANSFER HOT SHAPED PART TO A COOLING FIXTURE
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(7) : B21D 037/16
   US CL : 72/342.2, 342.5, 342.6, 342.74, 700, 405.01, 405.09, 405.11, 405.12, 405.13, 405.16, 419, 420, 422
   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. : 72/342.2, 342.5, 342.6, 342.74, 700, 405.01, 405.09, 405.11, 405.12, 405.13, 405.16, 419, 420, 422

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

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>
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<td>US 5,016,805 A (CADWELL) 21 May 1991 (21.05.1991), See the entire document.</td>
<td>1-3, 6, 7 and 19, 1-3, 6, 7 and 19, 4, 5, 4 and 5</td>
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</table>

[ ] Further documents are listed in the continuation of Box C.  [ ] See patent family annex.

Date of actual completion of the international search: 12 January 2004 (12.01.2004)
Date of mailing of the international search report: 02 APR 2004

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Form PCT/ISA/210 (second sheet) (July 1998)