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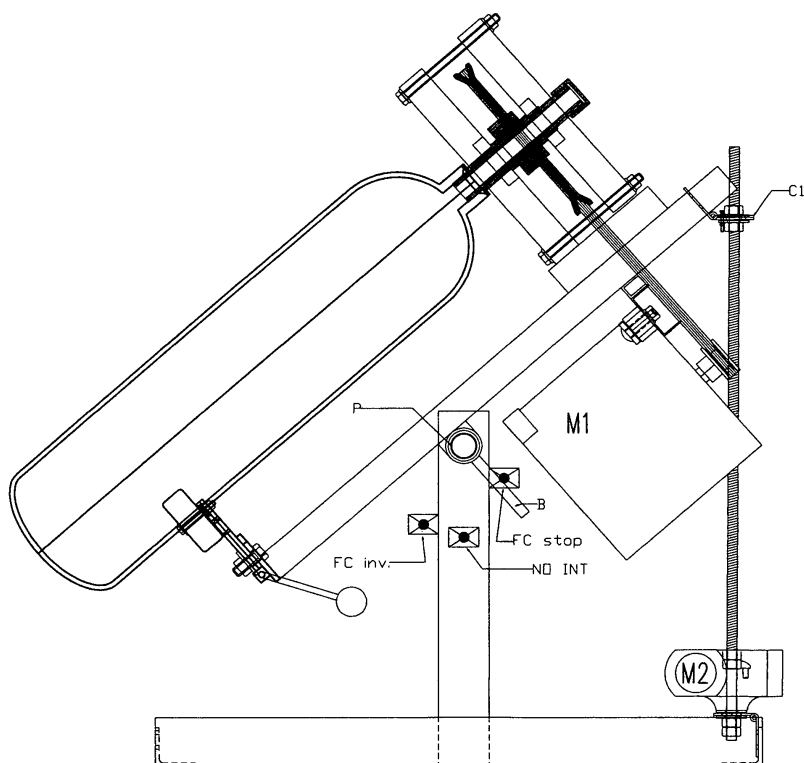
(54) **Cleaning-and-deoxidize machine the inside of tank by abrasion**

(57) The machine is useful to clean and deoxidize by abrasion the inside of metallic containers such as: cylinder for pressure gas storing, diving tanks, fire extinguishers, fuel containers; in general solid of revolution in particular of cylindrical form.

The objective is reached by inserting some abrasive material within the cylinder hard enough to remove rust from the inner part but not damage the tank.

Through the rotation applied to the tank along his axis, the abrasive material act by hitting and scraping on the inner surface of the tank.

Fig. 15





## EUROPEAN SEARCH REPORT

Application Number  
EP 08 42 5316

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                    |                                                                                                                                                         |                                                                                                                                                                                                                                                                                       |                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Category                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                                                           | Relevant to claim                                                                                                                                                                                                                                                                     | CLASSIFICATION OF THE APPLICATION (IPC)         |
| X                                                                                                                                                                                                                                                      | DE 196 28 842 A1 (RETENMAIER HERMANN [DE]; HONZ UWE [DE])<br>12 February 1998 (1998-02-12)<br>* column 1, line 52 - column 2, line 56;<br>figures 1-3 * | 1,2,4,5                                                                                                                                                                                                                                                                               | INV.<br>B24B31/023<br>B08B9/08                  |
| X                                                                                                                                                                                                                                                      | CA 1 139 908 A1 (CANADA MAJESTY IN RIGHT OF) 25 January 1983 (1983-01-25)<br>* page 7, line 12 - page 8, line 11;<br>figures 4-5c *                     | 1,4                                                                                                                                                                                                                                                                                   |                                                 |
| X                                                                                                                                                                                                                                                      | US 1 879 067 A (BUCKLEIN FRANK P)<br>27 September 1932 (1932-09-27)<br>* column 2, line 94 - column 3, line 32;<br>figures 1,2 *                        | 1                                                                                                                                                                                                                                                                                     |                                                 |
| X                                                                                                                                                                                                                                                      | WO 90/02002 A (HAULAGE W A TERMINAL PTY LTD [AU]) 8 March 1990 (1990-03-08)<br>* page 7, line 3 - page 9, line 15;<br>figures 1,2 *                     | 1,2,4,5                                                                                                                                                                                                                                                                               |                                                 |
| X                                                                                                                                                                                                                                                      | GB 2 378 641 A (TURNER ALAN [GB]; TURNER JASON ALAN [GB])<br>19 February 2003 (2003-02-19)<br>* page 2, line 1 - page 3, line 21; figure 1 *            | 1                                                                                                                                                                                                                                                                                     | TECHNICAL FIELDS SEARCHED (IPC)<br>B08B<br>B24B |
| X                                                                                                                                                                                                                                                      | DD 123 942 A1 (SATTLER)<br>26 January 1977 (1977-01-26)<br>* page 2, paragraph 4 *                                                                      | 1                                                                                                                                                                                                                                                                                     |                                                 |
| <p>4 <del>The present search report has been drawn up for all claims</del></p>                                                                                                                                                                         |                                                                                                                                                         |                                                                                                                                                                                                                                                                                       |                                                 |
| Place of search<br>Munich                                                                                                                                                                                                                              |                                                                                                                                                         | Date of completion of the search<br>1 September 2008                                                                                                                                                                                                                                  | Examiner<br>Berrington, Nigel                   |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                         | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |                                                 |

EPO FORM 1503 03/82 (P04C01)



Application Number

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
- 1, 2, 4, 5
- ☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 08 42 5316

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1,2,4,5

Cleaning and deoxidizing machine provided with means for tilting;

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2. claim: 3

Cleaning and deoxidizing machine provided with means for accepting tanks of different diameters

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-09-2008

| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|----|---------------------|----------------------------|---------------------|
| DE 19628842                               | A1 | 12-02-1998          | NONE                       |                     |
| CA 1139908                                | A1 | 25-01-1983          | NONE                       |                     |
| US 1879067                                | A  | 27-09-1932          | NONE                       |                     |
| WO 9002002                                | A  | 08-03-1990          | NONE                       |                     |
| GB 2378641                                | A  | 19-02-2003          | NONE                       |                     |
| DD 123942                                 | A1 | 26-01-1977          | NONE                       |                     |