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(54) **Self-pumping heat exchange unit**

(57) In addition to efficiently removing residues from the inner wall of the inner tubes (20), reducing head loss and substantially improving the heat transfer coefficient, the present invention also allows obtaining different pumping flow rates for the product fluid. More particularly, the heat exchange unit (1) stands out because it comprises an elongated rotary rod (30) arranged inside at least one inner tube (20) and provided with cleaning means comprising scraping elements (40) suitable for

scraping and detaching the product fluid accumulated on the inner wall of the at least one inner tube (20); and an endless spiral (50) dimensionally suitable for surrounding the rotary rod (30) longitudinally through the spaces existing between the scraping elements (40), said endless spiral (50) being suitable for displacement of the product fluid circulating through the at least one inner tube (20), generating a self-pumping effect.

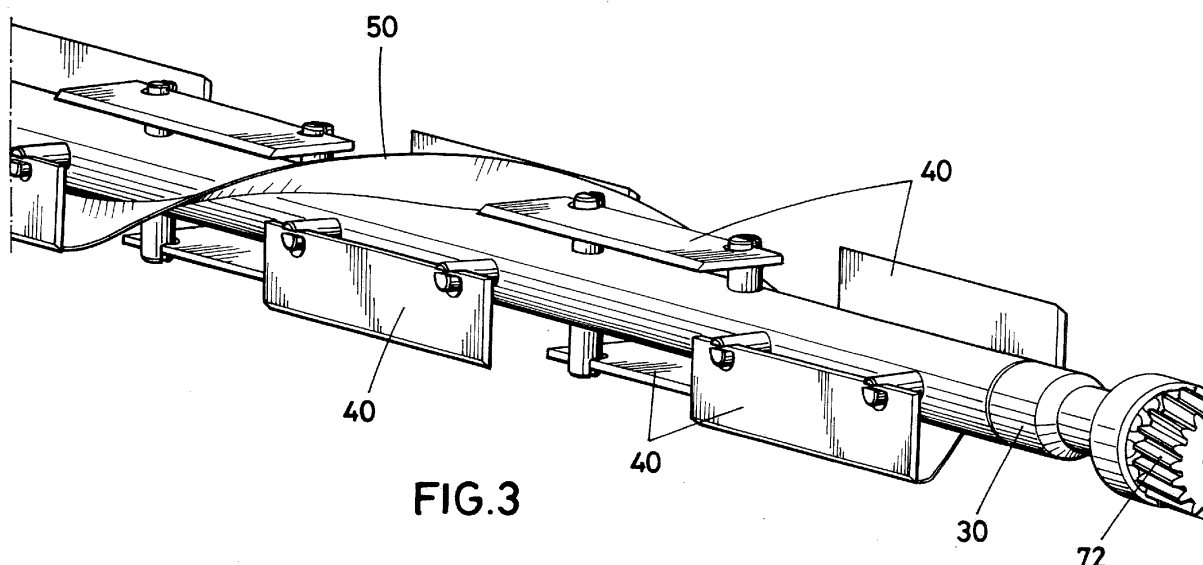


FIG.3



EUROPEAN SEARCH REPORT

Application Number
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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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X	WO 2012/007856 A1 (POTGIETER EVERT FREDERIK [ZA]) 19 January 2012 (2012-01-19) * abstract; figures 1,4,5 * * page 6 - page 9 * -----	1,3,4,8,9	
Y		2	
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X	DE 10 2009 026173 A1 (GEORG HIPPE MASCHB GMBH [DE]) 26 August 2010 (2010-08-26) * abstract; figures 2,4,5,7-9 * * paragraph [0031] - paragraph [0036] * -----	1,3,8,9	
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 15 April 2015	Examiner Berkus, Frank
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
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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
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15-04-2015

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