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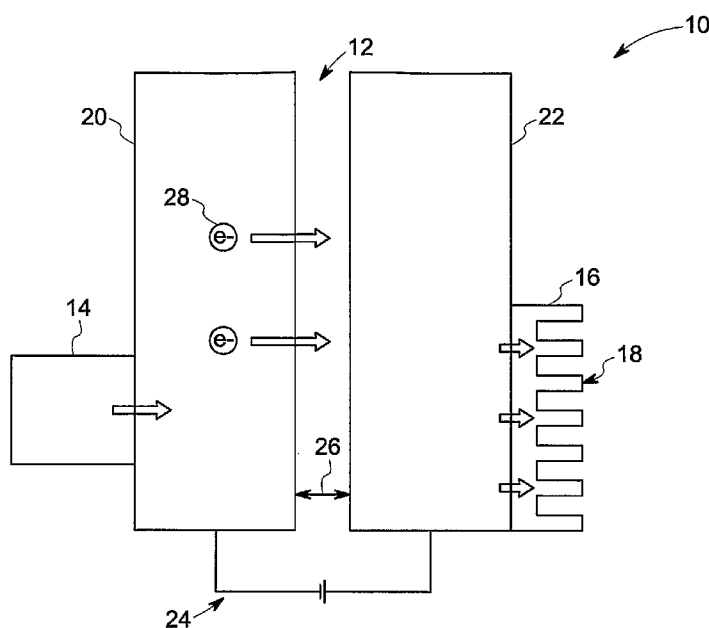
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**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: DEVICE FOR THERMAL TRANSFER AND POWER GENERATION



(57) Abstract: Surfactant penetrant treating solutions and their use in the manufacture of paper products. The surfactant penetrant treating solutions include two types. The first type is an enzymatic surfactant penetrant treating solution, and the second type is a defoaming surfactant penetrant treating solution. The solutions may be used to break down recyclable paper products for use as feedstock in paper manufacturing processes. The solutions may also be used to clean the internal and external components of machinery in a paper manufacturing line.

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A. CLASSIFICATION OF SUBJECT MATTER  
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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)

H01L H01J

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, WPI Data, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 376 437 A (MEYERAND JR RUSSELL G ET AL) 2 April 1968 (1968-04-02)  figure 4	1, 11-14, 16, 17, 23, 25-28, 31, 32
X A	US 2005/110099 A1 (SHIMOGISHI KENJI [JP] ET AL) 26 May 2005 (2005-05-26) paragraph [0031] - paragraph [0032]; figures 13A, 13B paragraph [0131] - paragraph [0136]; figures 1, 2	31  1-30, 32-36
P, X	US 2006/068611 A1 (WEAVER STANTON E JR [US] ET AL) 30 March 2006 (2006-03-30) paragraph [0038] - paragraph [0043]; figures 7-10	1, 12, 25, 27, 31, 32
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Date of the actual completion of the international search

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2004/195934 A1 (TANIELIAN MINAS H [US]) 7 October 2004 (2004-10-07) the whole document	1-32
A	US 2004/189141 A1 (TAVKHELIDZE AVTO [US] ET AL) 30 September 2004 (2004-09-30) paragraph [0094]	1-36
A	US 6 809 417 B1 (ROSSETTI NAZZARENO [US]) 26 October 2004 (2004-10-26) column 1, line 50 - line 56 column 2, line 65 - column 3, line 67; figure 2	1-36
A	US 5 994 638 A (EDELSON JONATHAN SIDNEY [US]) 30 November 1999 (1999-11-30) the whole document	1-36
A	WO 03/021758 A (BOREALIS TECHNICAL LTD [US]) 13 March 2003 (2003-03-13) figures 1-4	1-36
A	US 3 169 200 A (HUFFMAN FRED N) 9 February 1965 (1965-02-09) the whole document	1-36

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/025639

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3376437	A	02-04-1968	NONE	
US 2005110099	A1	26-05-2005	CN 1622356 A JP 2005158917 A	01-06-2005 16-06-2005
US 2006068611	A1	30-03-2006	WO 2006039446 A2	13-04-2006
US 2004195934	A1	07-10-2004	NONE	
US 2004189141	A1	30-09-2004	AT 349099 T EP 1018210 A1	15-01-2007 12-07-2000
US 6809417	B1	26-10-2004	DE 112004000583 T5 JP 2006522496 T KR 20050110038 A US 2004195675 A1 WO 2004091948 A2	13-04-2006 28-09-2006 22-11-2005 07-10-2004 28-10-2004
US 5994638	A	30-11-1999	NONE	
WO 03021758	A	13-03-2003	AU 2002361643 A1	18-03-2003
US 3169200	A	09-02-1965	CH 400269 A GB 1003204 A NL 294387 A	15-10-1965 02-09-1965 12-04-1965