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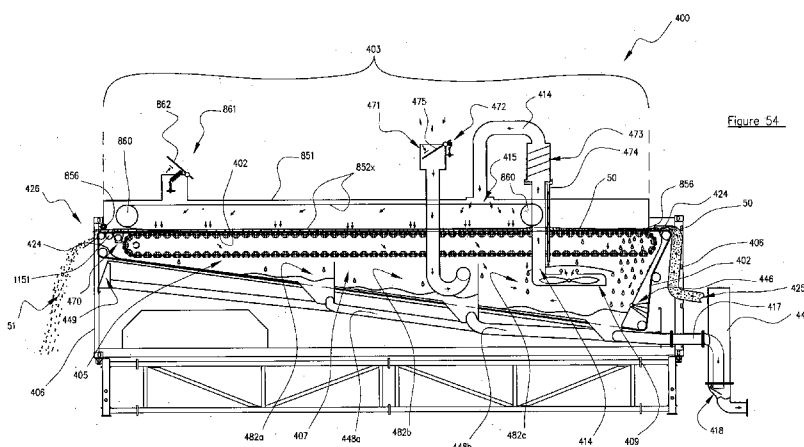
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(54) Title: **LIQUID REMOVAL APPARATUS**



(57) Abstract: A liquid removal apparatus adapted to separate liquid from a composite slurry of liquid and solids. The apparatus includes a movable, permeable membrane having opposing first and second sides. A 'loaded belt portion' of the second side is configured to receive the slurry. A permeable membrane support system is configured to provide movable support for the loaded belt portion and includes a transport deck located in contact with the first side of the permeable membrane below the loaded belt portion. The liquid removal apparatus has a housing with a low-pressure chamber in sealing contact with the first side of the permeable membrane. A pressure conditioning system applies a differential pressure via the housing to generate a lower pressure on the first filter belt side than on the second side.

INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

B01D 33/056(2006.01)i, B01D 61/00(2006.01)i, C02F 11/12(2006.01)i

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)

B01D 33/056; G06F 15/16; H04J 3/22; H04B 7/02

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords:liquid, slurry, filter, belt, membrane, deck, pressure, differential

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6622870 B1 (PRINSSSEN; ALPHONS ARNOLDUS JOHANNES ANTONIUS) 23 September 2003 See abstract and claims 1-12; figures 1-2	1-92
A	US 4137169 A1 (EL-HINDI; AHMAD M.) 30 January 1979 See abstract and claims 1-4; figure 1	1-92
A	US 4908136 A1 (CHOU; TAI-SHENG et al.) 13 March 1990 See abstract and claims 1-12; figures 1-3	1-92
A	US 4008158 A1 (DAVIS; STEVEN S.) 15 February 1977 See abstract and claims 1-21; figures 1-6	1-92

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6622870 B1	23.09.2003	CN 1034396 C CN 1084424 C0 EP 0587223 B1 JP 03-884490 B2 JP 06-190213 A KR 10-0284786 B1	02.04.1997 30.03.1994 29.04.1998 21.02.2007 12.07.1994 15.03.2001
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US 4008158 A1	15.02.1977	JP 51-069266 A US 3992298 A1	15.06.1976 16.11.1976