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(54) **Grid arrangement**

(57) A self-cleaning grid arrangement (11, 19) is provided for use in bulk materials handling, e.g. quarry, chemical, waste or recycling industries during the conveyance of particulate material to prevent the passage of oversize particles or foreign objects to the destination of the particulate material. The grid arrangement (11) is formed of a first set bars (12) disposed substantially parallel with each other, the bars (12) extending between and being supported in holes (14, 21) in the sides (13, 22) of a chute (10) in which the bars (12) are free to rotate and/or reciprocate lengthways. At least some of the bars (12) have disturber plates (31) extending upwardly therefrom spaced along their length. As a result of such rotation and/or reciprocation, if particulate material does stick to or coagulate above a bar (12), there will be a lesser tendency for any material to bridge to an adjacent bar

(12) and an increased tendency for the particulate material to fall between the bars (12). The bars (12) are curved along their length and have a radius of curvature greater than the length of the bars (12) between the sides (13). Each bar (12) has one end (16) depending from the remainder of the bar (12) in the direction away from the centre of curvature of the bar (12). A second set (19) of bars (20) that are substantially parallel with each other, is disposed substantially at right angles to the first set of bars (12). The bars (12, 20) may be inclined, and bars (26) may be tapered towards their lower ends. The support structure for the bars (12, 20) has inner (13) and outer (32) side plates so that particulate material passing through the holes (14) in the inner side plates (13) pass through a passageway (33) between the side plates (13) and outer side plates (32) and are returned to the lower part 28 of the chute (10).

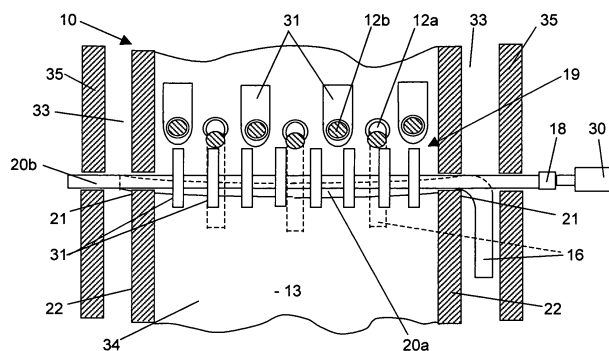


Fig. 3



European Patent
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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 06 25 1498 shall be considered, for the purposes of subsequent proceedings, as the European search report

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	CH 116 294 A (GUBLER EMIL [CH]) 16 August 1926 (1926-08-16) * page 1, line 1 - page 2, line 21 * * page 3, line 26 - line 32 *	1-3, 12-15	INV. B07B1/46 B07B1/50 B65B37/04
Y	*the same passages*	1,12,13, 15	
X	DE 935 481 C (SITEG SIEBTECH GMBH) 24 November 1955 (1955-11-24) * page 1, line 1 - page 2, line 47 *	1,3,5,7, 9	
Y	*the same passage*	1,5,7,9	
X	US 2 367 785 A (MICHAEL KUTIL) 23 January 1945 (1945-01-23) * page 1, line 11 - line 28 *	1,3,5,9	
D,Y	GB 2 379 433 A (REBY LTD [GB]) 12 March 2003 (2003-03-12) * the whole document *	1,5,7,9, 12,13,15	
A		6,10, 16-19	TECHNICAL FIELDS SEARCHED (IPC)
A	US 5 740 950 A (KANZLER ESTACIA [US] ET AL) 21 April 1998 (1998-04-21) * column 6, line 29 - line 46 *	1-3,5,9	B07B B65B
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search		Date of completion of the search	Examiner
Munich		4 October 2007	Militzer, Ernest
CATEGORY OF CITED DOCUMENTS		<p>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</p> <p>& : member of the same patent family, corresponding document</p>	
<p>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</p>			

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EPO FORM 1503 03.82 (P04C07)



Claim(s) not searched:
20

Reason for the limitation of the search:

The present claim 20 relates to an extremely large number of possible grid arrangement. Since claim 20 refers to the figures there are so many possibilities that the claims as a whole are not in compliance with the provisions of clarity and conciseness of Article 84 EPC. The skilled man is not able to find out which combination of features in the figures the applicant intends to claim. The extent of the search was consequently limited to claim 1-19, which appear to comprise a reasonable definition of what is understood to be the invention for which protection is sought.

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

EP 06 25 1498

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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04-10-2007

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