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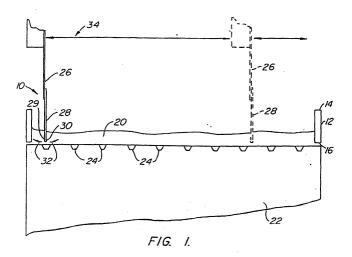
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(54) Method and apparatus for transporting a fine powder

(57) The invention provides methods, systems and apparatus for the metered transport of fine powders into receptacles. According to one exemplary embodiment, an apparatus is provided which comprises a hopper (12) having an opening (18). The hopper (12) is adapted to receive a bed of fine powder (20). At least one chamber

(24), which is moveable to allow the chamber to be placed in close proximity to the opening (18), is also provided. An element (28) having a proximal end and a distal end (29) is positioned within the hopper (12) such that the distal end (29) is near the opening. A vibrator motor (26) is provided to vibrate the element (28) when within the fine powder.





EUROPEAN SEARCH REPORT

Application Number EP 03 07 5990

	DOCUMENTS CONSIDE			
Category	Citation of document with inc of relevant passa		Relevan to claim	
Α	FR 2 537 545 A (TAKE LTD) 15 June 1984 (1 * page 6, line 22 -	984-06-15)	1,10-18 20-22, 30-34, 36-38,	B65B37/04
	figures *			
D,A	US 2 540 059 A (F. S 30 January 1951 (195		1,10-1 20-22, 30-34	5,
	* column 3, line 23 figures *	- column 6, line 5	I	34
Α	US 3 578 778 A (MATT 18 May 1971 (1971-05 * column 3, line 8 - figures 1-7 *	-18)	20,29,	
Α	US 5 377 727 A (UEDA 3 January 1995 (1995			TECHNICAL FIELDS
Α	GB 703 745 A (AMERIO 10 February 1954 (19		NY)	SEARCHED (Int.CI.7) B65B
Α	DE 32 10 787 A (FREM 6 October 1983 (1983			
	The present search report has be	een drawn up for all claims		
Place of search THE HAGUE		Date of completion of the s		Examiner agusiak, A
X : par Y : par doc	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone licularly relevant if combined with anoth- ument of the same category nnological background	T : theory of E : earlier parties the after the D : document L : document	or principle underlying to oatent document, but p e filing date ent cited in the applicate ent cited for other reaso	he invention ublished on, or ion ons
O: nor	mological background n-written disclosure rmediate document		r of the same patent fa	mily, corresponding

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

EP 03 07 5990

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.

27-08-2003

Patent document cited in search report		Publication date		Patent family member(s)		Publication date	
FR	2537545	Α	15-06-1984	JP	1827025	С	28-02-1994
				JP	5034201	В	21-05-1993
				JP	59115201	Α	03-07-1984
				CA		A1	02-09-1986
				СН	665601		31-05-1988
				DE			14-06-1984
				FR	2537545		15-06-1984
				IT	1159496		25-02-1987
				US 	4509568 	A 	09-04-1985
US	2540059	A	30-01-1951	NONE			
US	3578778	Α	18-05-1971	NONE			
US	5377727	Α	03-01-1995	JP	6033031	U	28-04-1994
GB	703745	Α	10-02-1954	NONE			
DE	3210787	 A	06-10-1983	DE	3210787	A1	06-10-1983

FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82