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(71) Applicants:

 Campeol, Fabio 31050 Villorba (Treviso) (IT)

 Campeol, Livio 31050 Villorba (Treviso) (IT)

 Nardi, Adriano 31050 Villorba (Treviso) (IT) (72) Inventors:

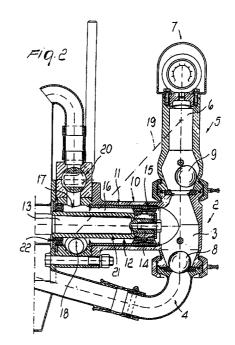
- Campeol, Fabio 31050 Villorba (Treviso) (IT)
- Campeol, Livio 31050 Villorba (Treviso) (IT)
- Nardi, Adriano 31050 Villorba (Treviso) (IT)

(74) Representative:

Modiano, Guido, Dr.-Ing. et al Modiano & Associati SpA Via Meravigli, 16 20123 Milano (IT)

(54) Single-cylinder pump particularly for pumping mortar and similar materials

(57) A single-cylinder pump (1), particularly for pumping mortar and similar materials from a hopper or tank. The pump comprises a lower intake chamber (3) provided with a first gravity valve (8), the intake chamber (3) is connected to the delivery of a piston (12) with dual compensating action and to a second gravity valve (9) for feeding the mortar to an upper delivery chamber (6). The dual-action piston (12) is also provided with a transit chamber (17) which is connected to an outlet (18) for the pressurized material and to a duct (19) for connection to the upper delivery chamber (16). A single-cylinder pump is thus obtained which allows to have a sufficiently constant output flow of material at high pressure.





EUROPEAN SEARCH REPORT

Application Number EP 99 12 2043

	DOCUMENTS CONSIDE	KED TO BE RELEVAN	l 		
Category	Citation of document with inco of relevant passag		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)	
X	GB 925 412 A (BERTHO 8 May 1963 (1963-05- * page 1, line 61 - figure 1 *	08)	1,6,10	F04B15/02	
Α	US 3 999 896 A (SEBA 28 December 1976 (19 * column 2, line 23 figure 1 *	STIANI MARTIN) 76-12-28) - column 3, line 68;	1		
Α	US 3 637 328 A (KURC 25 January 1972 (197 * abstract; figure 2	2-01-25)	1		
A	US 4 521 163 A (STAF 4 June 1985 (1985-06 * abstract; figure 1		1		
			i E	TECHNICAL FIELDS SEARCHED (Int.Cl.7)	
				F04B	
-	The present search report has be	en drawn up for all daime			
	Place of search	Date of completion of the search	<u> </u>	Examiner	
	THE HAGUE	16 October 200		gelbrecht, P	
X : par Y : par doc A : teol	ATEGORY OF CITED DOCUMENTS ticularly relevant if taken alone ticularly relevant if combined with another ument of the same category hnological background 1-written disclosure	E : earlier pater after the filin er D : document of L : document of	nciple underlying the int document, but public g date ited in the application ted for other reasons the same patent family	shed on, or	

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

EP 99 12 2043

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.

16-10-2000

	Patent document cited in search report		Publication date	Patent family member(s)		Publication date
GB	925412 A					
US	3999896	Α	28-12-1976	NONE		
US	3637328	Α	25-01-1972	JP GB	49025722 B 1293071 A	03-07-197 18-10-197
US	45 21163	A	04-06-1985		8312806 U	04-10-198

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