

①② **EUROPEAN PATENT APPLICATION**

②① Application number: **84109688.6**

⑤① Int. Cl.⁴: **B 01 F 5/04, B 01 F 3/04**

②② Date of filing: **14.08.84**

③① Priority: **16.08.83 US 523796**

⑦① Applicant: **Weske, John R., P.O. Box 116, Sandy Spring Maryland 20860 (US)**

④③ Date of publication of application: **24.04.85**  
**Bulletin 85/17**

⑦② Inventor: **Weske, John R., P.O. Box 116, Sandy Spring Maryland 20860 (US)**

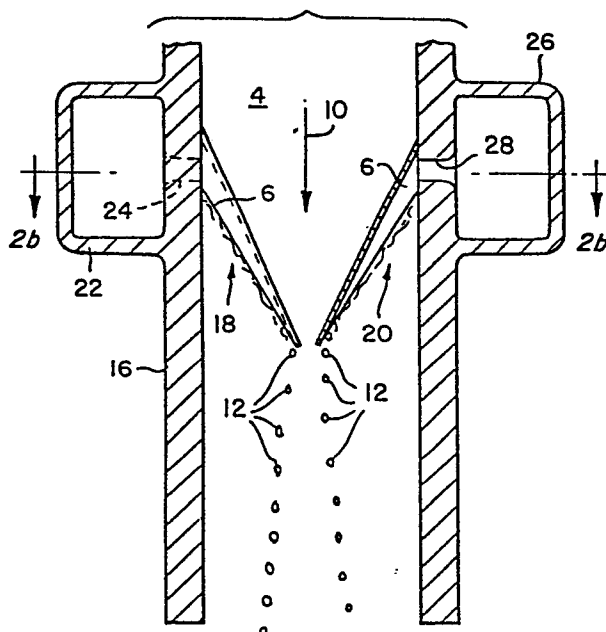
⑧④ Designated Contracting States: **AT BE CH DE FR GB IT LI LU NL SE**

⑧⑧ Date of deferred publication of search report: **16.06.87 Bulletin 87/25**

⑦④ Representative: **Patentanwälte Zellentin, Zweibrückenstrasse 15, D-8000 München 2 (DE)**

⑤④ **Method and apparatus for mixing fluids.**

⑤⑦ Method and apparatus are disclosed which are used to mix two fluids, two gases, or a fluid and a gas. The preferred embodiment is useful primarily for the aeration of water but can be used to mix any gas with a liquid. The method involves creating relative movement between an elongate element and a fluid whereby a low-pressure area will be developed on the lee side of the element. The gas is then admitted to the low-pressure area and bubbles are formed. The element is preferably pointed to form a spike, and the bubbles are moved along the spike by a component of the relative motion toward the tip. When the bubble reaches the tip it will be detached and entrained in the fluid. When a plurality of spikes is used, significant efficiencies are observed. One embodiment employs spikes mounted to a rotating body and other embodiments use arrays of parallel spikes.





European Patent  
Office

# EUROPEAN SEARCH REPORT

0137955

Application number

EP 84 10 9688

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	US-A-4 271 099 (T.S. KUKLA)  * column 1, lines 7-10; figures 4, 5, 8, position 44 *	1-5, 7, 9, 12	B 01 F 5/04 B 01 F 3/04
A	--- EP-A-0 031 166 (GRÜNZWEIG + HARTMANN UND GLASFASER AG) * figure 4, position 19 *	1-3, 5, 7, 9, 12	
A	--- AT-B- 371 373 (K. HÜTTER) * claim 1; figures 5-7 *	1-4, 9	
D, A	--- US-A-2 295 391 (A.C. DURDIN) * figure 1 *	8, 19	
			-----
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			B 01 F 3/04 B 01 F 5/04 B 01 F 13/02 C 02 F 1/74
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
BERLIN		26-02-1987	KUEHN P
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone		T : theory or principle underlying the invention	
Y : particularly relevant if combined with another document of the same category		E : earlier patent document, but published on, or after the filing date	
A : technological background		D : document cited in the application	
O : non-written disclosure		L : document cited for other reasons	
P : intermediate document		& : member of the same patent family, corresponding document	