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(71)(72) Applicants and Inventors: HERMAN, Heath, H. [US/US]; Suite I–2, 3825 LaVista Road, Tucker, GA 30084 (US). HERMAN, Tod, M. [US/US]; 3296 C Oakwood Village Lane, Chamblee, GA 30341 (US). ANDREWS, Arlan, K., Sr. [US/US]; Apartment 6120, 594 Wimbledon Road N.E., Atlanta, GA 30324 (US).

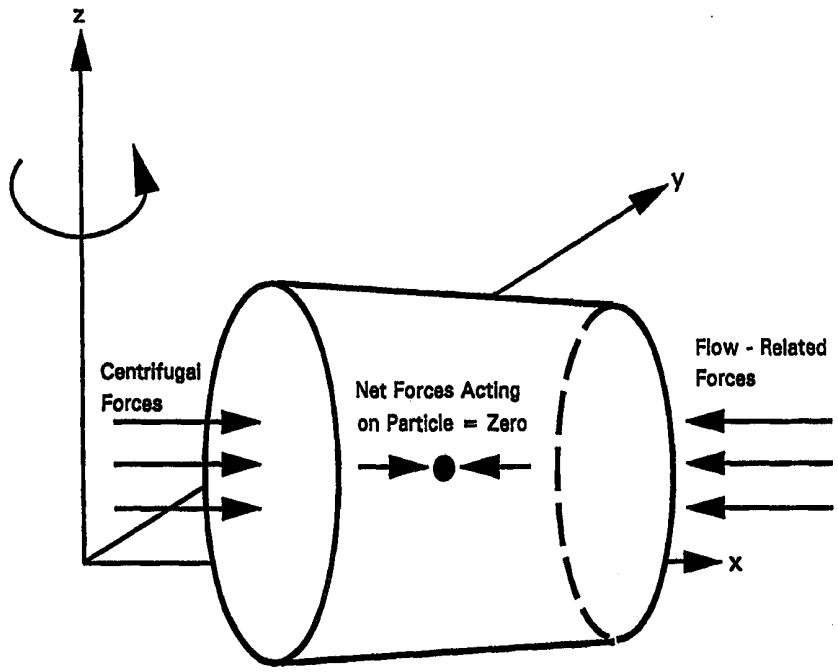
(74) Agents: SHOPE, Suzanne, Seavello et al.; Jones & Askew, LLP, 2400 Monarch Tower, 3424 Peachtree Road, Atlanta, GA 30326 (US).

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(57) Abstract

The present invention comprises novel culture methods and devices in which living cells or subcellular biocatalysts are immobilized by the opposition of forces. The immobilized cells or biocatalysts may be attached to support complexes that add to the resultant vector forces. One embodiment of the apparatus comprises a cruciform design. Commercial applications of the apparatus include efficient isolation of metals from ores and removal of gases.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 C12M1/10 C12M3/02 C12M1/40

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)
IPC 6 C12M

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 30101 A (KINETIC BIOSYSTEMS INC) 3 October 1996 (1996-10-03) the whole document	1-17

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INTERNATIONAL SEARCH REPORT

information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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