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(72) Inventor: **Jaccard, Leon**
. (CH)

(74) Representative:
Maschio, Antonio et al
D Young & Co,
21 New Fetter Lane
London EC4A 1DA (GB)

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(71) Applicant:
Chelmsford Services Limited
Douglas, Isle of Man IM99 1RZ (GB)

(54) **Microwave furnace for high temperature melting, decomposition or reduction to ash**

(57) An apparatus for melt, decompose or reduce materials to ashes comprising a microwave source, a metallic chamber which retains the microwaves, having a vented door and a thermal insulating structure inside which there is a cavity where the samples are placed and where there is a microwave absorbing material able to be heated up to temperatures in excess of 1200 °C. The thermal insulating structure having three exchangeable front parts to suit different operation conditions. In particular it is possible to perform the thermal treatment having a direct look to the sample without interrupting the treatment itself nor the microwave power.

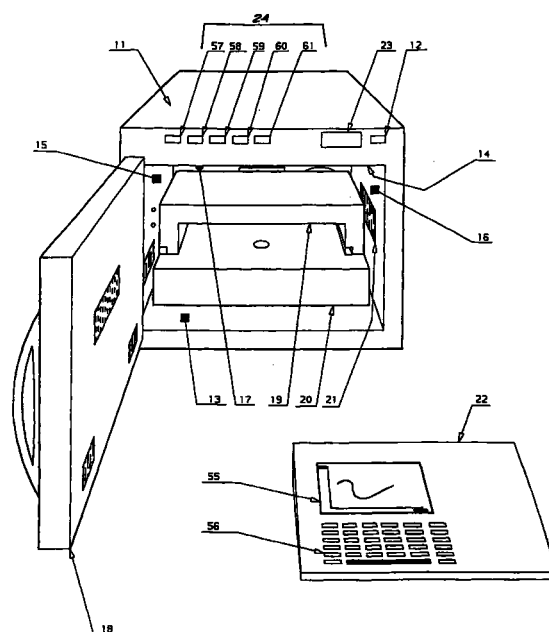


FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 97 30 8663

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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Y	GB 2 048 629 A (WILLCOCK W) 10 December 1980 * page 1, line 72 - line 76 *	1,2,4-6	
A	US 4 623 781 A (THOMAS CALVIN J) 18 November 1986 * column 7, line 50 - line 58 * * column 10, line 21 - line 29 *	4	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 19 March 1999	Examiner Castanheira Nunes, F
<p>CATEGORY OF CITED DOCUMENTS</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> <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 & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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