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(54) **Apparatus & method for heating objects with microwaves**

(57) An apparatus and method for heating planar and non-planar objects using microwaves, the method comprising: providing at least two beams of travelling microwaves from a coherent microwave source (4); directing each beam of travelling microwaves into separate arms (8,10) of a waveguide (6); isolating the beam of travelling microwaves in each arm using a microwave circulator (12); forming a standing wave from the travelling waves at the working area (14) where the arms meet; and varying the phase of at least one beam of

travelling microwaves by altering the path length of the microwaves in the waveguide to move the standing wave. An object passing through the working area is irradiated by the microwaves, thereby generating complex interference patterns in the object. Controlling changes to the phases of the incident microwaves changes and controls the time-averaged superposition of the interference patterns, facilitating effective volumetric heating of the object.

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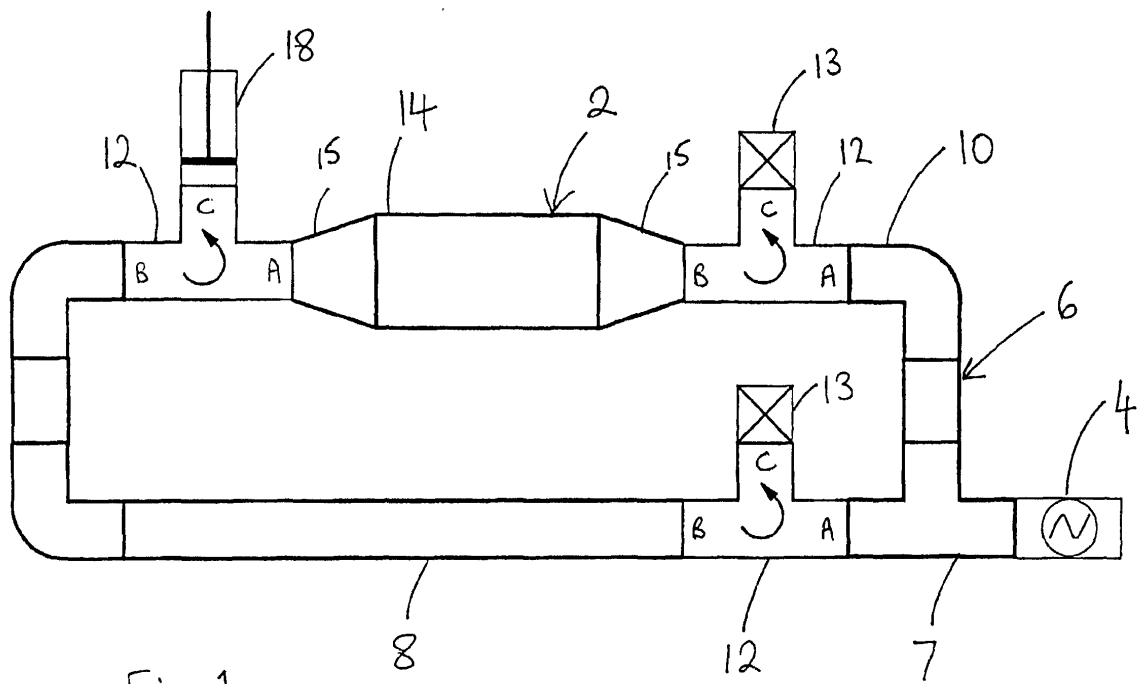


Fig. 1



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EUROPEAN SEARCH REPORT

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			H05B
Place of search		Date of completion of the search	Examiner
THE HAGUE		1 December 1997	De Smet, F
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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