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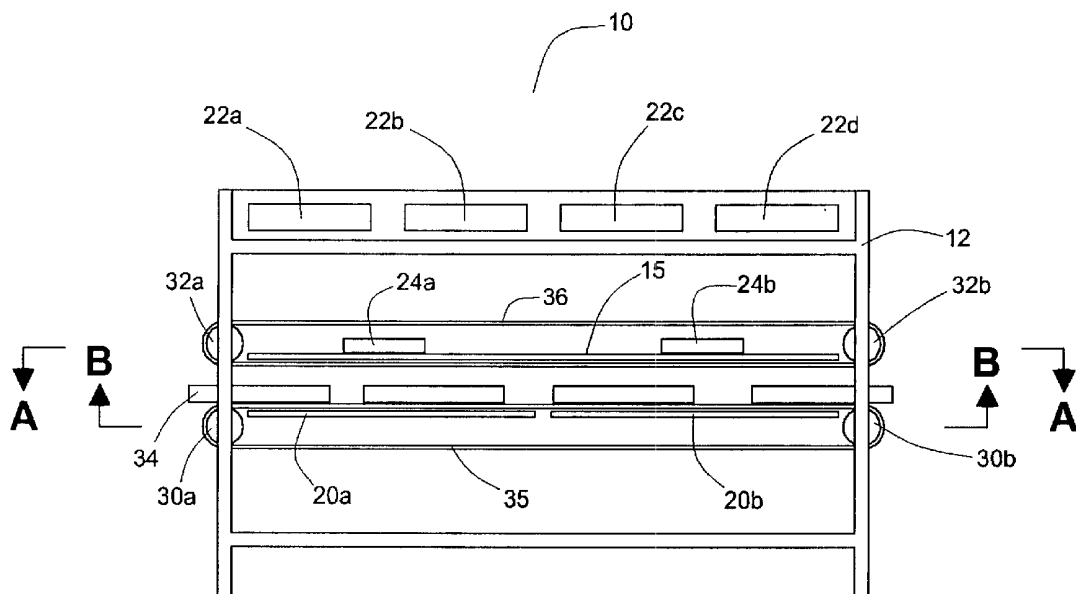
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(54) Title: RF ENERGY CONVEYOR OVEN



(57) Abstract: RF energy provided by electrodes (15,20a,20b) positioned between a product (34) in a conveyor oven (10) is used to heat a product (34) that exhibits a variable impedance during the heating process. As the product's impedance changes during the heating process, RF heating system impedance can be maintained constant by adjusting the distance between the electrodes (15,20a,20b), adjusting the impedance of a variable impedance device (24a,24b) connected between the RF power source (22a,22b,22c,22d) and an electrode (15,20a,20b), or a combination of electrode distance adjustment and impedance adjustment of the variable impedance device (24a,24b). The system is particularly applicable to the heating or pasteurization of bulk food products (34) with multiple heating zones.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 219/775, 776, 779; 99/358; 426/244; 422/22

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)

U.S. : 219/775, 776, 779, 778, 780, 770, 771; 99/358, 451, DIG. 14; 426/244; 422/22

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 practicable, 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 ---- Y	US 4,974,503 A (KOCH) 04 December 1990 See Figures 1-4, col. 3, line 61 - col. 4, line 52 and col. 5, lines 9-35.	1-7, 17 and 18 ----- 8-16 and 19
X ---- Y	US 4,221,950 A (LAMBERTS et al) 09 September 1980 See Figures 1 and 2 and col. 4, line 3 - col. 6, line 4.	1, 2 and 17 ----- 11-16
X	US 2,546,004 A (KINN) 20 March 1951 See Figures 1-5 and col. 2, line 21 - col. 5, line 19.	1, 2 and 17
Y	US 4,257,167 A (GRASSMAN) 24 March 1981 See Figures 1 and 2a and col. 2, lines 28-58.	8, 10, 15, 16 and 19

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,567,340 A (LATCHUM, JR.) 28 January 1986 See Figures 1 and 2 and col. 4, line 14 - col. 6, line 64.	8, 9, 15 and 19
Y	US 2,512,311 A (DAVIS) 20 June 1950 See Figure 1 and col. 2, lines 36-54.	10 and 16
A	US 5,942,146 A (BLAKER et al) 24 August 1999 See Figures 1-3 and col. 3, lines 24-64.	1-19