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(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
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(54) **STAGED FRYER HEATING SYSTEM**

(57) Systems, methods, and computer program products for controlling a heating system (40) in a fryer (10). At startup, a setpoint temperature (T_{SP}) for a cooking medium (36) is set to a melt temperature (T_{MELT}). While in melt mode, each of a plurality of heating elements (44-47) each located in a different region of a fry pot (12, 14) is sequentially activated to control an amount of heat provided to the cooking medium. Once the cooking medium has reached the melt temperature, the setpoint temperature is increased to a target cooking temperature (T_{TCT}). While in cooking mode, if an order to cook a food product is not received within a predetermined time period, the setpoint temperature is set to an idle temperature (T_{IDLE}) which is below the target setpoint temperature and above the melt temperature. The target cooking temperature is adjusted using a set of setpoint bias temperatures that is selected based on a cooking load.

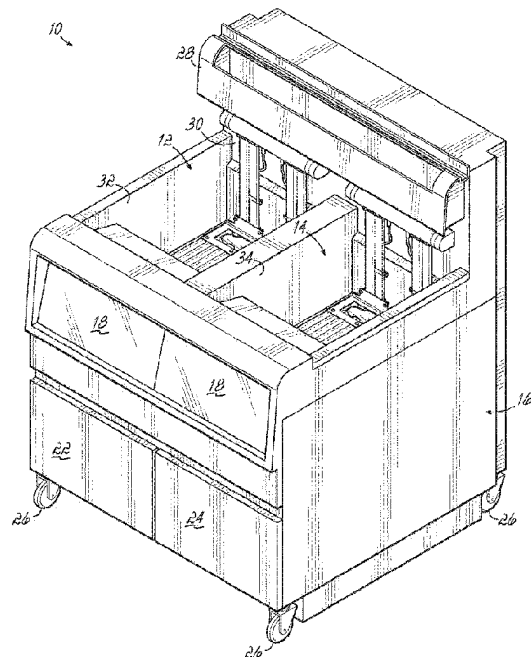


FIG. 1

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2008/110346 A1 (ALLESINA GIOVANNI [IT]) 15 May 2008 (2008-05-15) * paragraph [0024] * -----	1-15	INV. A47J37/12
A	US 5 141 760 A (DAVIS JOHN R [US] ET AL) 25 August 1992 (1992-08-25) * column 5, lines 9-53 * -----	1-15	
A	US 2020/000264 A1 (LINGENHEIL MARKUS [FR] ET AL) 2 January 2020 (2020-01-02) * the whole document * -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47J
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 September 2023	Examiner Douhet, Hervé
CATEGORY OF CITED DOCUMENTS 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		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	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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07-09-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008110346 A1	15-05-2008	CN 101224091 A	23-07-2008
		EP 1920688 A2	14-05-2008
		US 2008110346 A1	15-05-2008
US 5141760 A	25-08-1992	NONE	
US 2020000264 A1	02-01-2020	DE 102017101407 A1	26-07-2018
		EP 3574264 A1	04-12-2019
		US 2020000264 A1	02-01-2020
		WO 2018138078 A1	02-08-2018

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82