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(56) Documents Cited
**GB 2300053 A EP 0626798 A EP 0577534 A
EP 0550124 A US 5285041 A US 4323773 A**

(58) Field of Search
**UK CL (Edition O) G3N NG1A4 NG1A9 , H5H HMAX
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ONLINE: WPI**

(54) **Microwave oven incorporating reader for code on food packaging**

(57) A reading device 2 incorporated into the front panel of the microwave oven 1 and designed to read a coded form of information printed onto, or embedded in the packaging of food items. When the food item to be cooked is presented to the reading device, the information is read by the reading device, decoded and passed to the controller of the microwave oven. The information contains data relating to the expiry date of the food and the cooking time and cooking power required to cook the food properly and safely. If the expiry date has already passed a warning will be given. The correct cooking time and duration will be set automatically on receipt of this information by the controller.

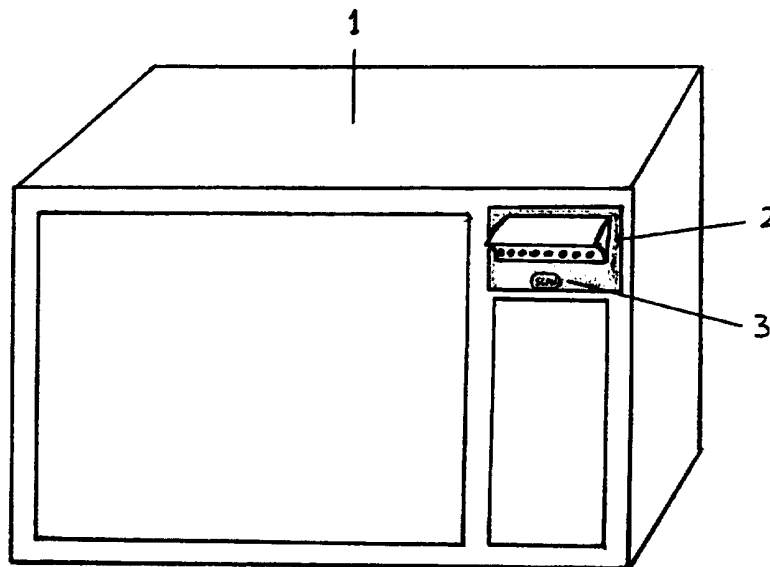
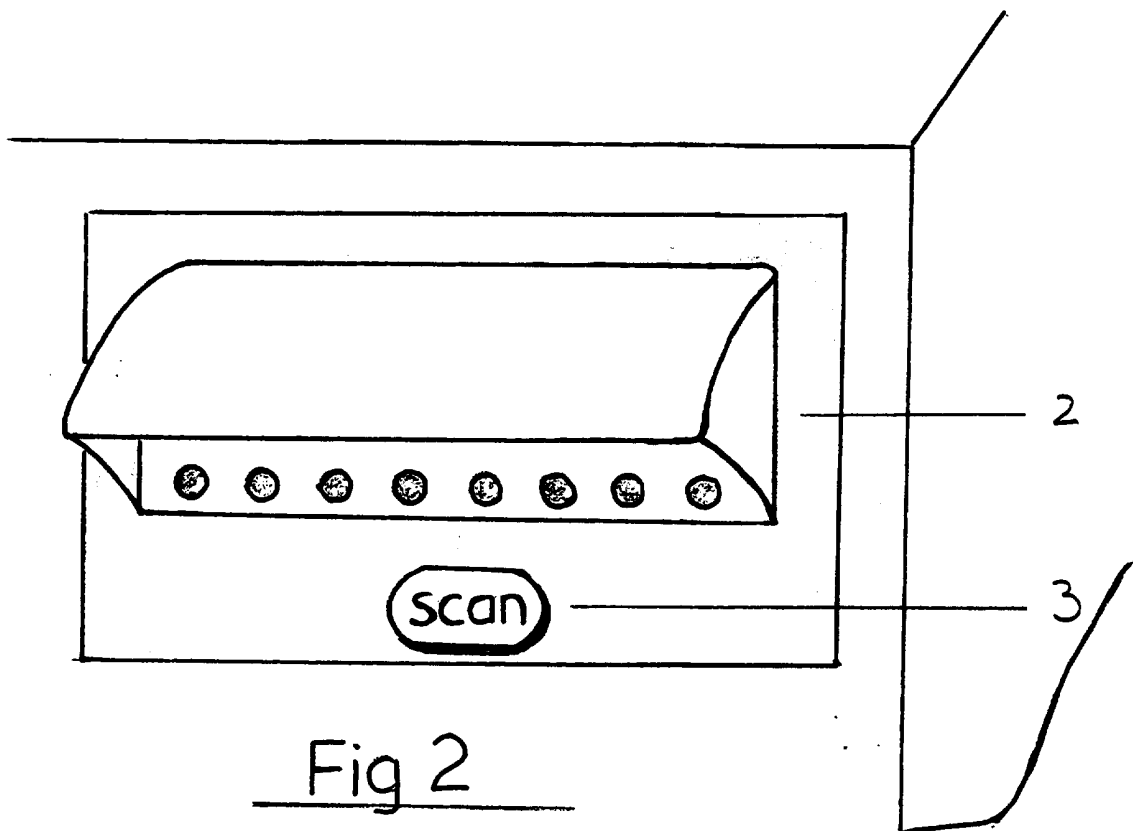
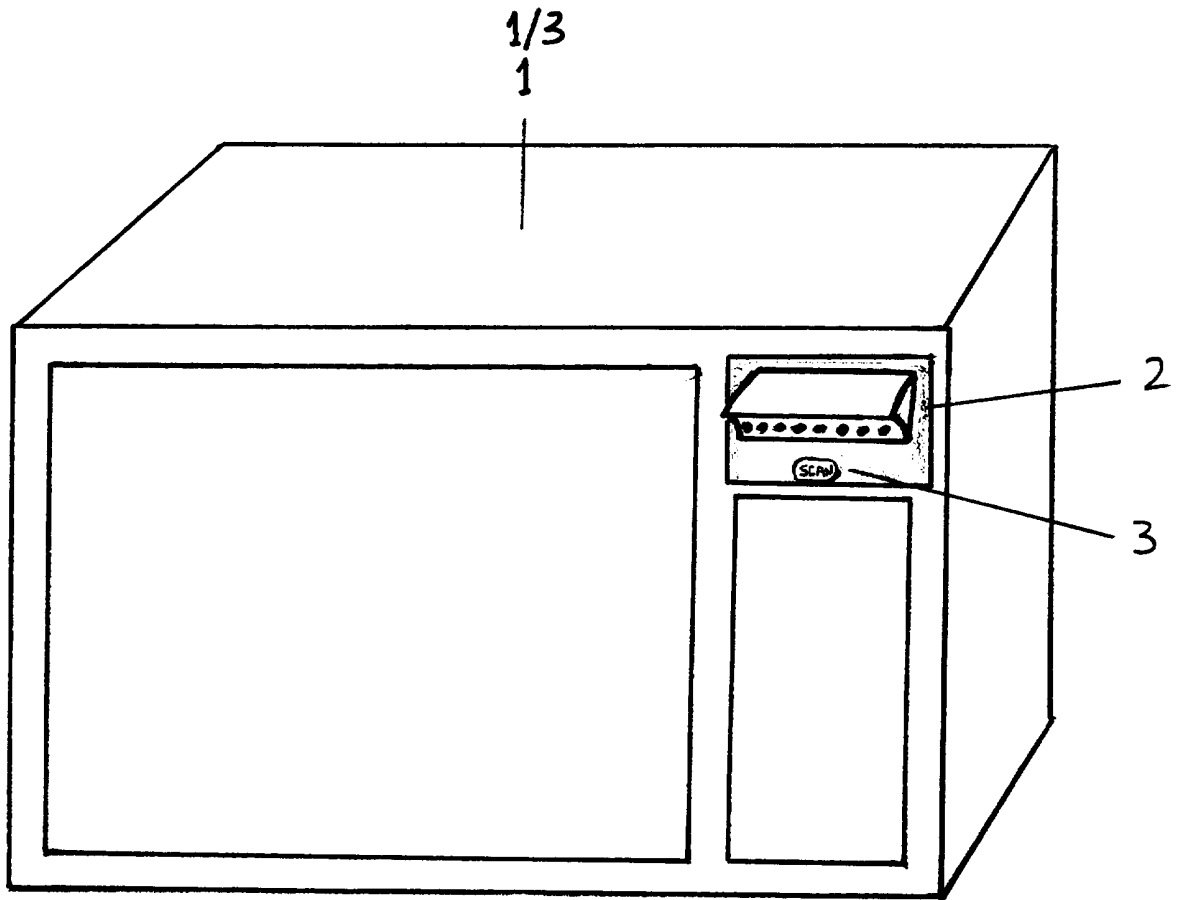


Fig 1

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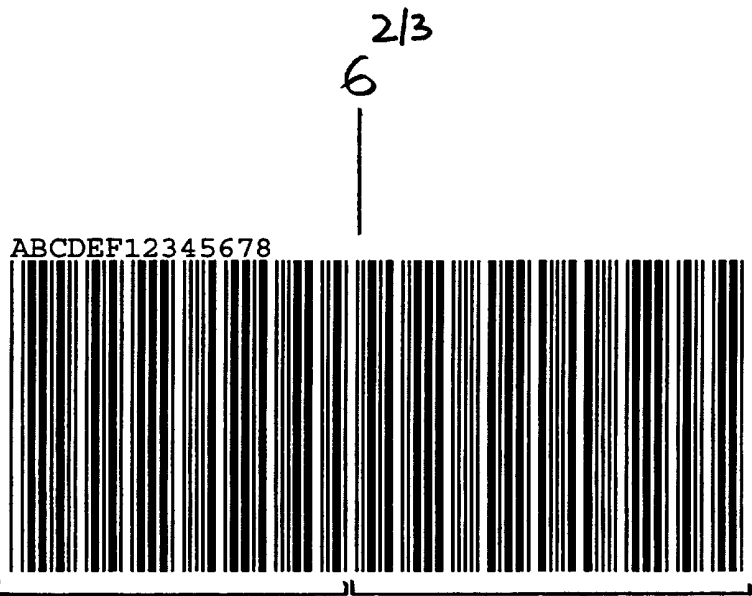


Fig 3

4 5

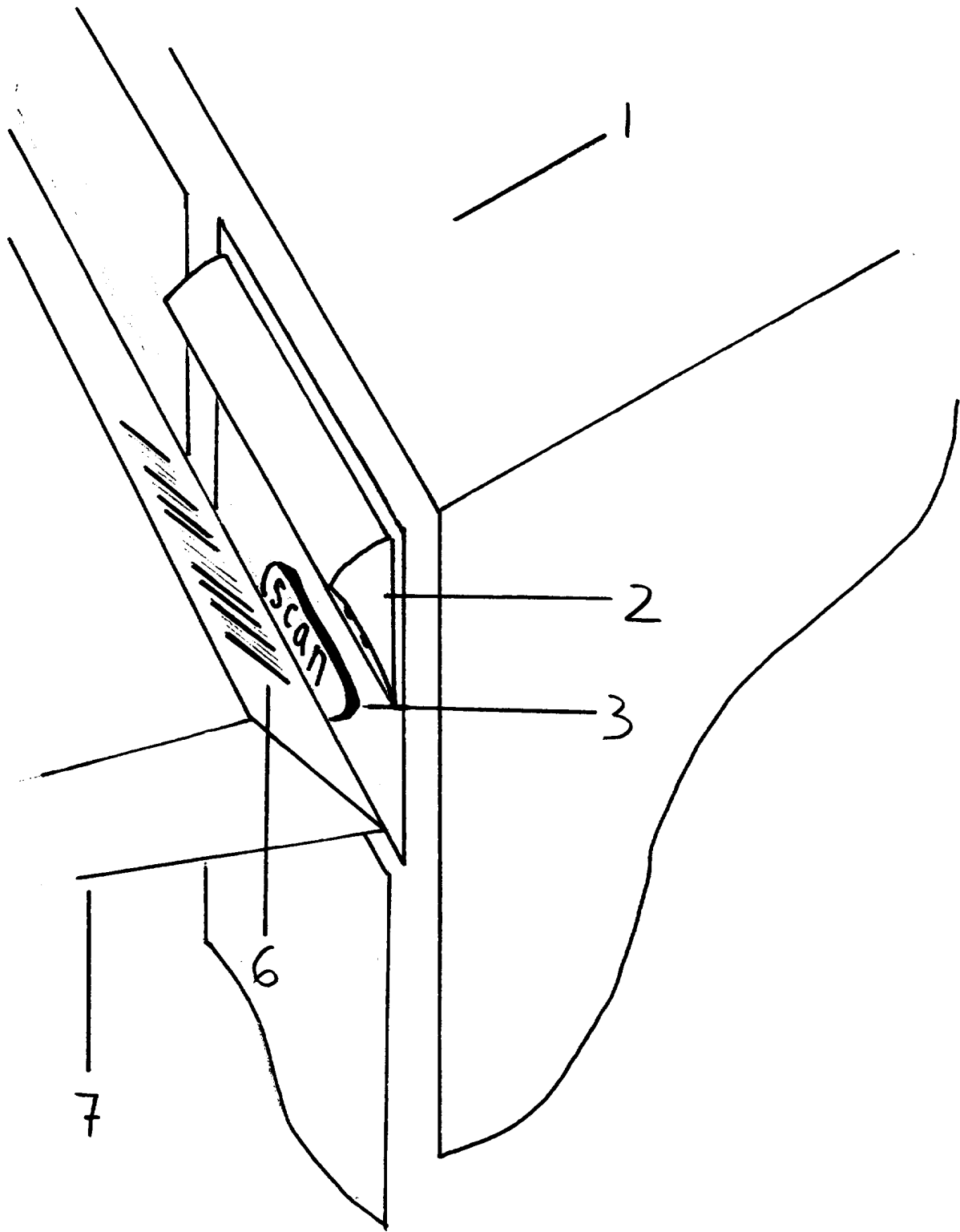


Fig 4

MICROWAVE OVEN PROGRAMMER

The invention relates to a microwave oven programmer.

Microwave ovens used for heating food are manufactured with output power ranging from 550 watts to 750 watts. In general no indication of the output power of a particular oven is indicated on the control panel of that oven.

Cooking times of pre-packaged foods (TV dinners etc) are totally dependant upon the output wattage of the oven to be used for cooking. Manufacturers of such pre-packaged foods provide only very basic and general information about the cooking time required to make the product safe for consumption. Since in many cases users do not know the output wattage of the microwave oven, insufficient cooking times can be set in error and foods may be undercooked presenting a health hazard.

The invention comprises a reading device to be mounted in the control panel of the microwave oven together with a coded form of information printed onto the outer packaging of the food item in the form of a bar code. The reading device is connected to the electronic controller, or CPU, of the microwave oven. The bar code printed on the packaging contains two elements of data. The first element is information relating to the date by which the product should be consumed, the 'eat by' date, the second element is information relating to the cooking time and microwave power required to cook the item. This information is decoded by the reading device and is transmitted to the CPU of the microwave oven. The CPU can then display a warning if the 'eat by' date has passed and can set the appropriate cooking time and power.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:-

Figure 1 shows in perspective the bar code reader mounted in the front panel of a microwave oven;

Figure 2 shows in detail the bar code scanner read head and actuating button;

Figure 3 shows the bar code which is printed on the food item packaging and

Figure 4 illustrates in perspective the bar code reader scanning the bar code on a food item package.

Referring to the drawings the programmer comprises a reading head 2 which will read the bar code 6 shown in Fig. 3.

The food item package is presented to the bar code reader as shown in Fig. 4 and the button 3 is pressed to turn the reader on. The bar code 6 as shown in Fig. 3 comprises two parts; the first part 4 is information relating to the 'sell by' date of the food, the second part 5 is information relating to the microwave power setting and the cooking time required to ensure that the food is properly cooked.

CLAIMS

- 1 A microwave oven programmer comprising a reading device to mount into the front panel of a microwave oven and a code printed onto the packaging of the food.
- 2 A microwave oven programmer as claimed in Claim 1 wherein the reading device is connected electrically to the main controller (CPU) of the microwave oven.
- 3 A microwave oven programmer as claimed in Claim 1 or Claim 2, wherein the code printed on the packaging of the food is read by the reading device and transmitted to the main controller (CPU) of the microwave oven.
- 4 A microwave oven programmer as claimed in Claim 2 or Claim 3, wherein the first part of the code read by the reading device is interpreted as the 'sell by' date of the food.
- 5 A microwave oven programmer as claimed in Claim 4, wherein the second part of the code read by the reading device is interpreted as the cooking setting and cooking time required by the food.
- 6 A microwave oven programmer as claimed in any preceding claim, wherein the reading device is an electrical signal transmitter/receiver.
- 7 A microwave oven programmer as claimed in Claim 6, wherein the code is transmitted by an electrical signal transmitter/receiver embedded in the packaging of the food item.
- 8 A microwave oven programmer as claimed in Claim 7, wherein the transmitter/receiver embedded in the packaging of the food item is activated by receipt of a signal transmitted by the reading device, causing it to transmit its code to be received by the reading device and interpreted as the 'sell by' date and the cooking time and power required.
- 9 A microwave oven programmer substantially as described herein with reference to Figures 1-4 of the accompanying drawing.



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Claims searched: 1-9

Examiner: David Mobbs
Date of search: 19 December 1996

**Patents Act 1977
Search Report under Section 17**

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.O): G3N NG1A4, NG1A9; H5H NMAX, HMCP.

Int CI (Ed.6): F24C 7/02, 7/08; H05B 6/68, 6/80.

Other: ONLINE: WPI.

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2,300,053 A (FUJITSU LIMITED) - see particularly figure 1.	1-8.
X	EP 0626,798 A (IHMELS)	1-8.
X	EP 0,577,534 A (R. FRITSCH S.A.) - see particularly figure 4 and column 4 lines 6-7.	1-8.
X	EP 0,550,124 A (MENUMASTER INC.)	1-8.
X	US 5,285,041 (WRIGHT FOOD SYSTEMS, INC.) - see particularly column 2 lines 60-62.	1-8.
X	US 4,323,773 (LITTON SYSTEMS, INC.)	1-8.

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.