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(54) A DOMESTIC APPLIANCE PROVIDED WITH CONTROL APPARATUS

(71) We, LICENTIA PATENT-
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 Republic of Germany, a limited liability
 5 company organised under the laws of the
 Federal Republic of Germany, do hereby
 declare the invention, for which we pray
 that a patent may be granted to us, and the
 method by which it is to be performed, to be
 10 particularly described in and by the follow-
 ing statement:-

The present invention relates to a domes-
 tic appliance such as an electrical stove.

According to the present invention there
 15 is provided a domestic appliance provided
 with control apparatus comprising a selector
 disc rotatable to different positions to select
 corresponding different general order
 characteristics, coded data generating
 20 means actuatable by the selector disc to gen-
 erate coded data corresponding to the
 selected order characteristics, a data storage
 addressable by the coded data, a counter
 settable to a desired count by a manually
 25 operable control to enter each of a number
 of specific order characteristics sequentially
 within the scope of corresponding general
 order characteristics, in the data storage,
 and a digital indicator to indicate the
 30 specific order characteristics each associated
 with a bit, each switch can being associated
 with a respective contact to generate respec-
 tive coded data.

The coded data generating means may
 35 comprise a plurality of covered lamps and
 corresponding photo-transistors, each lamp
 and corresponding photo-transistor being
 associated with a bit and one of said differ-
 ent positions of the selector disc, the selec-
 40 tor disc being provided with apertured mask
 means uncovering the associated lamp when
 the selector disc is rotated to a respective
 one of said different positions.

The selector disc may be exchangeable
 45 with another selector disc provided with a
 differently arranged mask means.

The selector disc may be provided with a
 window through which the selected general
 order characteristic is observable, the digital
 50 indicator being disposed adjacent the win-

dow.

The domestic appliance may further com-
 prise a frequency oscillator coupled to the
 counter to regulate the cycle time thereof
 and be controllable in frequency by a poten- 55
 tiometer operable by the selector means.

The domestic appliance may further com-
 prise a plurality of indicator lamps each
 associated with a respective general order
 characteristic to indicate the respectively 60
 selected characteristic.

An embodiment of the present invention
 will now be more particularly described by
 way of example and with reference to the
 accompanying drawings in which:- 65

Fig. 1a shows, schematically, the face of a
 control apparatus at one setting,

Fig. 1b shows, schematically, the face of
 the control apparatus shown in Fig. 1a, but
 at another setting, and 70

Fig. 2 shows, schematically, various ele-
 ments of the control apparatus shown in
 Figs. 1a and 1b.

Referring now to the drawings, there are
 shown various features of a control 75
 apparatus accommodated in a switch box,
 provided with a shutter, of a stove or in a
 separate control box, such as for example
 for use in built-in kitchens. The control
 apparatus comprises a selector disc 1 which 80
 is disposed behind a glass shutter which is
 provided with a central selector toggle or
 knob 2 for rotation of the selector disc. A
 digital indicator field 3 of a digital indication
 is arranged beside the selector disc 1 and a 85
 central input toggle a knob 4, is disposed
 underneath the indicator field 3, for prog-
 ramme and control data of specific order
 characteristics. The selector disc 1 is pro-
 vided with different general order charac- 90
 teristics, such as Kg, °C, D for duration, E
 for end and symbols 5 for the different kinds
 of meat to be cooked. Associated with the
 selector disc 1 is an indicator window 6,
 which is disposed exactly opposite the indi- 95
 cator field 3. This has the advantage that
 opposite the specific order characteristic
 data indicated by the indicator field 3 is the
 corresponding general order characteristic
 or symbol at the right in the indicator win- 100

dow 6. In this manner, the chosen setting or storage can be read off free of error at one glance. For example, as shown in Fig. 1a, the specific time appearing in the indicator field 3 is situated opposite the general clock symbol in the indicator window 6 of the selector disc 1. As shown in Fig. 1b, the general symbol °C is situated opposite the specific indication appearing in the indicator field 3, i.e. 200°C is chosen or recorded.

Referring to Fig. 2, several switching cams 7 are associated with the selector disc 1, namely one switching cam being provided for each bit. Each switching cam 7 switches one contact 8, whereby an electrical connection to one data storage 9 is produced and a certain code is predetermined, which addresses the storage.

In place of the switching cams 7 and contacts 8, photo-transistors illuminated by lamps can also be used. The selector disc 1 is, for this purpose, provided with so-called apertured masks which, according to setting of the selector disc and code thus chosen, free the covering of the lamp concerned so that the lamp illuminates a photo-transistor which then chooses the address of the data storage. Exchangeable discs with different apertured mask arrangements may be utilized so that different programme-inputs may be actuated.

When the chosen or set code is addressed into the data storage 9, the frequency of an oscillator 11 is changed through a potentiometer 10 with the aid of the central input toggle or knob 4. The frequency is zero when the knob 4 contacts an abutment at the right. The respective setting of the potentiometer thus determines the speed, at which the setting or input of the specific order characteristics i.e. the individual numbers of the respective programme and control data takes place. The desired data are recorded in the data storage 9 by way of a counter 12, the cycle time of which is varied by the correspondingly set oscillator 11, and digitally indicated by way of a so-called 7-segment decoder + driver 13 in the indicator field 3 in the shutter.

The put-in or recorded programme and control data are brought to indication by the lighting-up of a lamp 14 associated with the respective general order characteristic on the selector disc 1. Thereby, the user is given an indicator of which order characteristics data inputs have been undertaken.

Advantages attainable by the above described embodiment are in the operation or manipulation of the apparatus, which is simpler for the user. Also input of prog-

ramme and control data into the apparatus is clearer so largely avoiding faulty operations.

WHAT WE CLAIM IS:-

1. A domestic appliance provided with control apparatus comprising a selector disc rotatable to different positions to select corresponding different general order characteristics, coded data generating means actuable by the selector disc to generate coded data corresponding to the selected order characteristics, a data storage addressable by the coded data, a counter settable to a desired count by a manually operable control to enter each of a number of specific order characteristics sequentially within the scope of corresponding general order characteristics, in the data storage, and a digital indicator to indicate the specific order characteristics.

2. A domestic appliance as claimed in claim 1, wherein the coded data generating means comprises a plurality of switch cams each associated with a bit and each switch cam is associated with a respective contact to generate respective coded data.

3. A domestic appliance as claimed in either claim 1 or claim 2, wherein the coded data generating means comprises a plurality of covered lamps and corresponding photo-transistors, each lamp and corresponding photo-transistor being associated with a bit and one of said different positions of the selector disc, the selector disc being provided with apertured mask means uncovering the associated lamp when the selector disc is rotated to a respective one of said different positions.

4. A domestic appliance as claimed in claim 3, wherein the selector disc is exchangeable with another selector disc provided with a differently arranged mask means.

5. A domestic appliance as claimed in any one of the preceding claims, wherein the selector disc is provided with a window through which the selected general order characteristic is observable and the digital indicator is disposed adjacent the window.

6. A domestic appliance as claimed in any one of the preceding claims, further comprising a frequency oscillator coupled to the counter to regulate the cycle time thereof and controllable in frequency by a potentiometer operable by the selector means.

7. A domestic appliance as claimed in any one of the preceding claims, further comprising a plurality of indicator lamps each associated with a respective general

order characteristic to indicate the respectively selected characteristic.

8. A domestic appliance substantially as
5 hereinbefore described with reference to the accompanying drawings.

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