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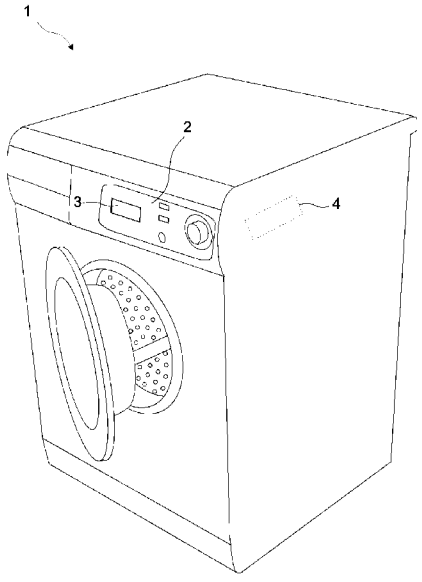
(54) Title: A HOUSEHOLD APPLIANCE WITH CHILD LOCK FUNCTION

(57) Abstract: The present invention relates to a household appliance (1), for example a dishwasher, comprising a control panel (2), a touch screen (3) that is disposed on the control panel (2) and that enables the program parameters to be determined and displayed, and a control unit (4) that enables the child lock function to be activated or deactivated by means of a key combination formed by determining a touch geometry on the touch screen (3).

Figure 1



Description

A HOUSEHOLD APPLIANCE WITH CHILD LOCK FUNCTION

[0001] The present invention relates to a household appliance with child lock function.

[0002] In household appliances with touch screens, for example in washing machines, key lock function, which is also named as the child lock, is used in order that the user interface functions such as program cancellation, program pause or new program start can be deactivated. In the state of the art household appliances with touch screens, the child lock function is activated or deactivated by touching the screen. This situation increases the risk of accidentally deactivating the child lock function. Moreover, since the household appliances with touch screens attract the attention of the children more than other household appliances due to their appearances, the possibility of the child lock function being deactivated by the children increases.

[0003] In the state of the art International Patent Document No. WO2010076138, a household appliance is described, wherein the child lock function is enabled to be easily cancelled by the user when required.

[0004] The aim of the present invention is the realization of a household appliance wherein the child lock is used in a safer manner.

[0005] The household appliance realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a control panel, a touch screen that is disposed on the control panel and that enables the program parameters to be determined and displayed, a key combination formed by selecting touch geometries to be formed on the touch screen and the number of forming touch geometries, and a control unit that does not allow any changes to be made on the running program as long as this key combination is not triggered while a program is running. The control unit deactivates the child lock function if the touch geometry is formed in the predetermined number of generating touch geometry. Thus, it becomes more difficult for the children to decipher the key combination.

[0006] In an embodiment of the present invention, the control unit allows the user

to determine the touch geometries defining the key combination and/or the number of generating touch geometry. The control unit comprises at least one memory wherein the key combinations determined by the user are saved and stored. In order that the key lock function can be activated or deactivated by the control unit, the key combination stored in the memory is required to be formed by the user. When the user desires to change the key combination, the new key combination determined by the user is saved in the memory by overwriting the old key combination in the memory. The key combination is stored in the memory until a new key combination is determined. Thus, the control unit enables the user to determine and change the key combination.

[0007] In an embodiment of the present invention, the control unit ensures that the amount of time to pass between two successive formations of the geometries determining the key combination is determined by the user. While determining the key combination, the time that passes between two touch geometries is saved in the memory and thus, the said time is introduced to the control unit. In order to activate or deactivate the child lock function, the time that passes between two consecutive touch geometries is required to match the time saved in the memory while determining the key combination. Thus, it becomes difficult for the children to decipher the key combination and for the child lock function to be involuntarily activated or deactivated.

[0008] In an embodiment of the present invention, the touch screen displays the predetermined number of forming touch geometry and/or the number of forming touch geometry remaining in order to deactivate the child lock.

[0009] In an embodiment of the present invention, the household appliance is a dishwasher.

[0010] In an embodiment of the present invention, the household appliance is a washing machine.

[0011] In an embodiment of the present invention, the household appliance is a dryer.

[0012] In an embodiment of the present invention, the household appliance is an oven.

[0013] By means of the present invention, it becomes more difficult to decipher the key combination thanks to the repetition of the touch geometry.

[0014] The household appliance realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

[0015] Figure 1 – is the perspective view of a household appliance.

[0016] The elements illustrated in the figures are numbered as follows:

1. Household appliance
2. Control panel
3. Touch screen
4. Control unit

[0017] The household appliance (1) comprises a control panel (2), a touch screen (3) that is disposed on the control panel (2) and that enables the program parameters to be determined and displayed, and a control unit (4) that enables the child lock function to be activated or deactivated by means of a key combination formed by selecting at least one touch geometry to be formed on the touch screen (3) and the number of forming touch geometries. When the child lock function is activated, the operational components are deactivated and thus, the corresponding function is not performed thanks to the child lock function even if the touch screen (3) is accidentally touched.

[0018] The control unit (4) of the present invention deactivates the child lock function if the touch geometry predetermined for the deactivation of the child lock is repeated in the predetermined number of forming touch geometry. Thus, it becomes difficult to deactivate the child lock, enabling the household appliance to be used in a safe manner.

[0019] In an embodiment of the present invention, the control unit (4) allows the user to determine the touch geometries defining the key combination and/or the number of forming touch geometry. The control unit (4) has at least one memory wherein the key combination is saved. The control unit (4) ensures that the new key combination entered by the user is saved by means of the memory and the child lock function is activated or deactivated as per the preference of the user. Thus, in cases that the child lock is deciphered without the intention of the user, for example in the case

that the child lock is deciphered by a child, the control unit (4) allows the user to determine a new key combination by changing the existing key combination. Thus, the user determines the key combination by himself/herself and can change it whenever desired.

[0020] In an embodiment of the present invention, the control unit (4) ensures that the amount of time to pass between two successive formations of the geometries determining the key combination is determined by the user. The time passing between the formations of touch geometries while the user determines the key combination is saved in the memory. The saved time is required to match the time passing between touch geometries formed while deactivating the child lock function. Thus, it becomes more difficult for the key combination to be accidentally deactivated.

[0021] In an embodiment of the present invention, the touch screen (3) displays the predetermined number of forming touch geometry and/or the number of forming touch geometry remaining in order to deactivate the child lock. Thus, the user can learn from the touch screen how many times he/she must form the touch geometry in order to deactivate the child lock.

[0022] In an embodiment of the present invention, the household appliance (1) is a dishwasher.

[0023] In an embodiment of the present invention, the household appliance (1) is a washing machine.

[0024] In an embodiment of the present invention, the household appliance (1) is a dryer.

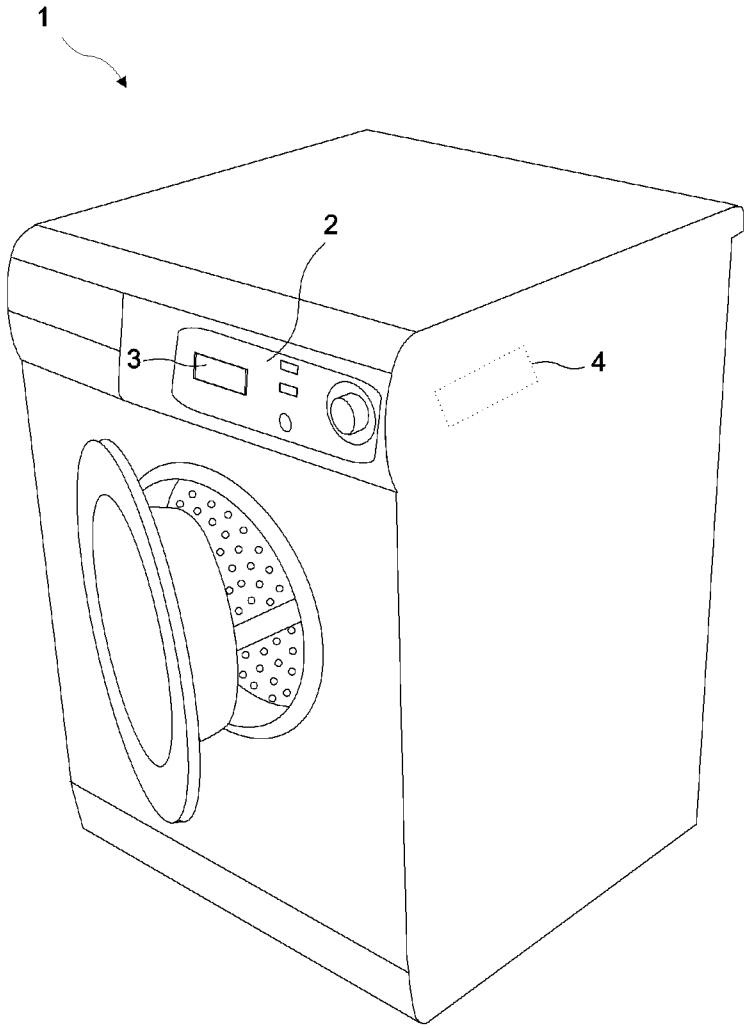
[0025] In an embodiment of the present invention, the household appliance (1) is an oven.

[0026] By means of the present invention, thanks to the key combination that can be determined and changed by the user, a household appliance (1) operating in a safe manner is realized. Since the child lock is deactivated only if the selected touch geometry is repeated in the predetermined number, it becomes more difficult to accidentally enter the key combination.

Claims

1. A household appliance (1) **comprising** a control panel (2), a touch screen (3) that is disposed on the control panel (2) and that enables the program parameters to be determined and displayed, and a control unit (4) that enables the child lock function to be activated or deactivated by means of a key combination formed by selecting at least one touch geometry to be formed on the touch screen (3) and the number of forming touch geometries, **characterized by** the control unit (4) that deactivates the child lock function if the touch geometry predetermined for the deactivation of the child lock is repeated in the predetermined number of forming touch geometry.
2. A household appliance (1) as in Claim 1, **characterized by** the control unit (4) that allows the user to determine and/or change the touch geometry defining the child lock combination and/or the number of forming touch geometry.
3. A household appliance (1) as in any one of the Claims 1 or 2, **characterized by** the control unit (4) ensuring that the amount of time to pass between two successive formations of the touch geometries defining the child lock combination is determined by the user.
4. A household appliance (1) as in any one of the above claims, **characterized by** the touch screen (3) that displays the predetermined number of forming touch geometry and/or the number of forming touch geometry remaining in order to deactivate the child lock.
5. A household appliance (1) as in any one of the above claims, which is a dishwasher.
6. A household appliance (1) as in any one of the Claims 1 to 4, which is a washing machine.
7. A household appliance (1) as in any one of the Claims 1 to 4, which is a dryer.
8. A household appliance (1) as in any one of the Claims 1 to 4, which is an oven.

Figure 1



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

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)
A47L D06F F25D

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)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	EP 2 426 244 A2 (SAMSUNG ELECTRONICS CO LTD [KR]) 7 March 2012 (2012-03-07) paragraph [0001] paragraph [0044] - paragraph [0054]; figures 1, 2 paragraph [0157] - paragraph [0158]; figures 38, 39 -----	1,6 5,7
Y A	EP 0 978 773 A1 (BSH BOSCH SIEMENS HAUSGERAETE [DE]) 9 February 2000 (2000-02-09) paragraph [0001] - paragraph [0005] paragraph [0009] - paragraph [0012] paragraph [0017] - paragraph [0020]; figure 1 paragraph [0023]; example 2 -----	5,7 1
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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
24 November 2014	01/12/2014

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INTERNATIONAL SEARCH REPORT

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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.
X	US 2010/141104 A1 (BEAUDET DOUGLAS B [US] ET AL) 10 June 2010 (2010-06-10) paragraph [0041] - paragraph [0045]; figure 1 paragraph [0053] - paragraph [0058]; figure 5 paragraph [0093] - paragraph [0094] -----	1,4,5
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
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