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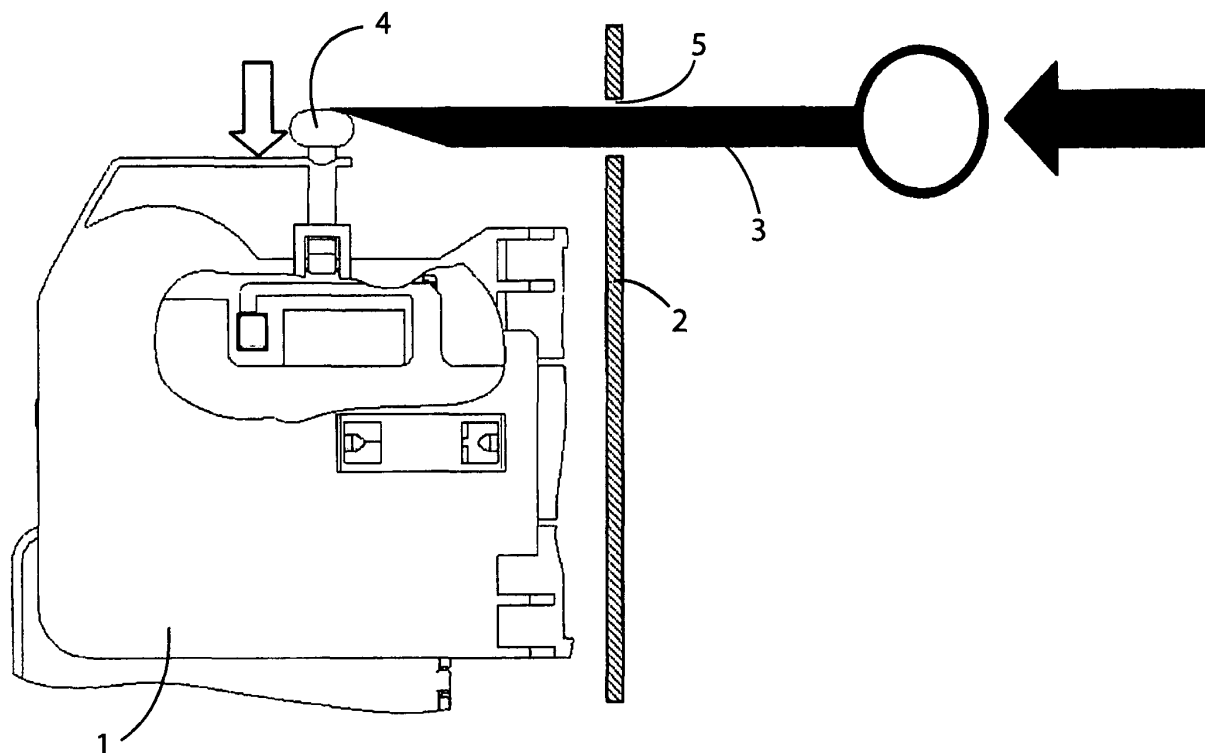
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(54) **Household appliance provided with an emergency opening system for door-locking device**

(57) The invention relates to a household appliance provided with a door, comprising a door-locking device of the kind provided with an element (4) for permitting activation of emergency opening of said door, and an emergency opening system for said door-locking device

(1), said household appliance being **characterised in that** it provides a slot (5), realized on its outer wall, and in that said system comprises a tool (3), that can be inserted through said slot (5) until interacting with said element (4) in order to permit activation of the system for emergency opening of said door.



Description

[0001] The present invention relates to a household appliance provided with emergency opening system for door-locking device.

[0002] More specifically, the invention concerns a system of the above kind permitting intervening on door-locking devices fully controlled by electronics even in case of sudden lack of electric supply.

[0003] It is to be underlined that door-locking device is not specific object of this invention, and system described and claimed can be applied to every kind of door-locking device.

[0004] In fact, as it is well known, emergency conditions can occur in some door-locking devices, and more particularly on those fully controlled by household appliance electronics, e.g. due to sudden and not foreseen lack of electric supply.

[0005] When this kind of situation occurs, if the door of the household appliance is closed, it is necessary acting from outside with respect to the door-locking device in order to open the same.

[0006] Usually, an emergency opening system is provided in door-locking device.

[0007] At present, emergency opening is made by intervention of maintenance service, opening machine and/or lifting the same. Unlocking mechanism is actuated by a cord or like, which is provided within the household appliance.

[0008] Examples of known documents describing household appliances provided with door-locking emergency opening systems are the US patent 3,841, 518 A1 and GB patent 2279401, providing safety systems with an activation system integrated within the emergency system.

[0009] A further example of known emergency systems is described in DE patent n°3006307 A1, concerning a washing machine having a safety unlocking device for opening the door, provided under the ring of the same door. Said safety unlocking device can be actuated by a tool or like, to be inserted between door ring and the front wall of the washing machine.

[0010] Said solution has the technical drawback due to the fact that it must be reached close to the door. This implies risk of accidental unlocking.

[0011] In this situation it is included the solutions suggested according to the present invention, permitting unlocking the door without the risk of accidental unlocking, but also without it is necessary intervention of assistance, or of opening or moving the machine from its working position.

[0012] It is therefore specific object of the present invention a household appliance provided with a door, comprising a door-locking device of the kind provided with an element for permitting activation of emergency opening of said door, and an emergency opening system for said door-locking device, said household appliance being **characterised in that** it provides a slot, realized

on its outer wall, and in that said system comprises a tool, that can be inserted through said slot until interacting with said element in order to permit activation of the system for emergency opening of said door.

[0013] Always according to the invention, said slot can be realized in the cabinet of said household appliance.

[0014] Preferably, according to the invention, said slot can be realised in joint separating two sheets or parts comprising the householding appliance cabinet.

[0015] Still according to the invention, said tool can be comprised of an element so shaped to interfere with said door-locking element in order to permit activation of the emergency opening.

[0016] Furthermore, according to the invention, said tool can be comprised of a key.

[0017] The present invention will be now described for illustrative and not limitative purposes according to its preferred embodiments, with particular reference to the enclosed drawing, showing an embodiment of the emergency opening system for a door-locking device according to the invention.

[0018] As already said, the system according to the invention applies on a household appliance provided with a door-locking device, generically indicated by reference number 1, that can be of any type, even an already existing and installed door-locking device.

[0019] By the solution according to the present invention, unlocking is carried out outside the household appliance 2, directly acting on door locking device 1, by a suitably shaped tool 3.

[0020] A pushing on element 4 is applied by tool 3 in order to permit activation of emergency opening by door-locking device 1.

[0021] As it can be observed, said action can be carried out by a very small tool 3, which is inserted through e slot 5, practically not visible, realised on household appliance 2. Dimensions of slot 5, which is obviously realised in a suitable position, to reach element 4 by tool 3, will obviously be reduced, and thus it cannot be seen from outside. Particularly, slot 5 can be realised on outer cabinet of household appliance 2. As already said, tool 3 can be suitably shaped at the end inserted through said slot 5, so that it is possible properly interact with said element 4, i.e. by a key (that can be directly provided to the user or to the maintenance service) and that is inserted within said slot 5 obtained in joint of household cabinet. In other words, said slot 5 cannot be distinguished by joint line separating two sheets or parts comprising the household appliance.

[0022] Emergency opening system of said door-locking device 1 can be placed in such a position to prevent any risk of accidental actuation, preferably far from the door, e.g. on lateral surface, on upper base or on the rear.

[0023] The present invention has been described for illustrative, but not limitative purposes, according to its preferred embodiments, but it is to be understood that variations and/or modifications can be introduced by those skilled in the art without departing from the scope

as defined in the enclosed claims.

Claims

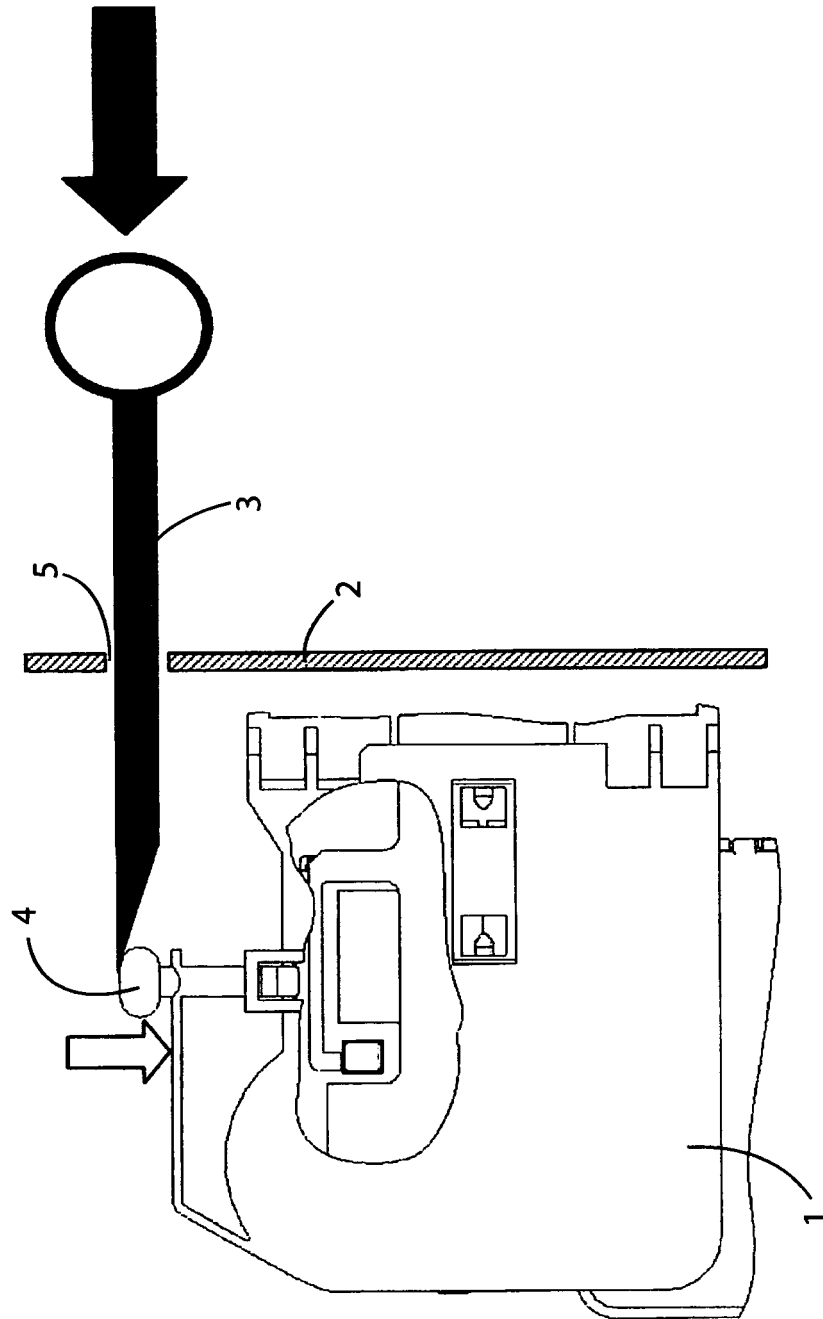
1. Household appliance provided with a door, comprising
a door-locking device of the kind provided with an
element (4) for permitting activation of emergency
opening of said door, and
an emergency opening system for said door-locking
device (1), said household appliance being **characterised in that** it provides a slot (5), realized on its
outer wall,
and **in that** said system comprises a tool (3), that
can be inserted through said slot (5) until interacting
with said element (4) in order to permit activation of
the system for emergency opening of said door.
2. Household appliance according to claim 1, **characterised in that** said slot (5) is realized in the cabinet
of said household appliance.
3. Household appliance according to claim 1 or 2, **characterised in that** said slot (5) is realised in joint separating two sheets or parts comprising the householding appliance cabinet.
4. Household appliance according to one of the preceding claims, **characterised in that** said tool (3) is comprised of an element so shaped to interfere with said door-locking element in order to permit activation of the emergency opening.
5. Household appliance according to one of the preceding claims, **characterised in that** said tool (3) is comprised of a key.

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EUROPEAN SEARCH REPORT

Application Number
EP 10 42 5158

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 30 06 307 A1 (MIELE & CIE) 27 August 1981 (1981-08-27) * the whole document *	1-4	INV. D06F37/28 D06F39/14
X	US 3 841 518 A (HINES B) 15 October 1974 (1974-10-15) * the whole document *	1-4	
X	GB 2 279 401 A (MILLER HERMAN INC) 4 January 1995 (1995-01-04) * page 1, paragraph 2 * * page 9, paragraph 4 - page 11, paragraph 2 *	1,3,4	
A	US 5 575 515 A (IWAMOTO SHOZO ET AL) 19 November 1996 (1996-11-19) * column 3, lines 7-38 *	1-4	
A	US 2 113 687 A (GRACE RICHARD W) 12 April 1938 (1938-04-12) * the whole document *	1-4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E05B D06F
Place of search		Date of completion of the search	Examiner
The Hague		2 September 2010	Cruyplant, Lieve
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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EPO FORM 1503 03.82 (P04C01)

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

EP 10 42 5158

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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02-09-2010

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US 3841518	A	15-10-1974	NONE
GB 2279401	A	04-01-1995	AU 690468 B2 23-04-1998
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Patent documents cited in the description

- US 3841518 A1 [0008]
- GB 2279401 A [0008]
- DE 3006307 A1 [0009]