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(71) Applicant: **ARCELIK ANONIM SIRKETI** [TR/TR]; Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTANBUL (TR).

(72) Inventors: **CERKEZ, Volkan**; Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTANBUL (TR). **KAYTAZ, Adem**; Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTANBUL (TR). **TEKES, Yunus Ekrem**; Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTANBUL (TR). **CALISKAN, Ilhan**; Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTANBUL (TR).

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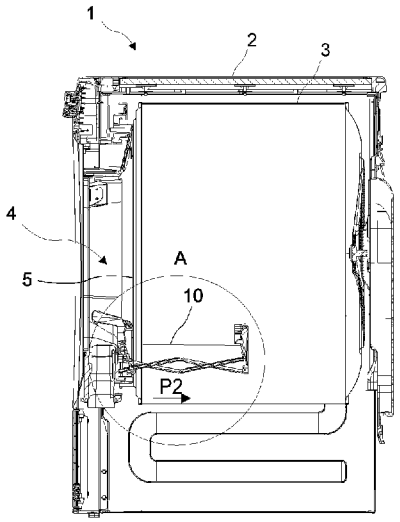
(54) Title: A LAUNDRY DRYER

Figure 2



(57) **Abstract:** The present invention relates to a laundry dryer (1) comprising a body (2); a drum (3) which is placed into the body (2) and wherein the laundry is loaded; a loading opening (4) which is provided on the body (2) and which provides access into the drum (3); and a front bearing (5) which rotatably supports the drum (3) and whereon the loading opening (4) is provided.

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Description

A LAUNDRY DRYER

[0001] The present invention relates to a laundry dryer with improved performance.

[0002] Today, drum-type laundry dryers are widely used. In such laundry dryers, some types of laundry and items may excessively wear down while being rotated in the drum. Especially items prone to wear such as shoes, bags, etc. and delicate laundry such as silk, wool, etc. get damaged while being dried in the laundry dryers. Therefore, such items are generally dried by being placed on a carrying means positioned into the drum. After the drying process is completed, the user leaves the carrying means inside the drum if there is no other laundry to be dried. However, if the user wants to dry laundry without using the carrying means, the carrying means must be taken out of the drum and stored elsewhere. This causes the carrying means to occupy unnecessary space in the house.

[0003] In the Patent Document No. WO2012/110319 A2, a laundry dryer is disclosed, having with a detachable carrying means for holding the laundry inside the drum. Said state of the art carrying means can be detachably and immovably placed into the drum of the laundry dryer so as not to rotate during the drying process.

[0004] The aim of the present invention is the realization of a laundry dryer with improved usability wherein said disadvantages of the prior art are eliminated.

[0005] The laundry dryer realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a body; a drum which is placed into the body; a loading opening which provides access into the drum; and a front bearing which rotatably supports the drum. The loading opening is provided on the front bearing.

[0006] The laundry dryer of the present invention comprises a housing which is provided on the front bearing, and a carrying means which can move between a first position wherein the carrying means is almost completely concealed in said housing and a second position wherein the carrying means extends from the housing into the drum by means of a movement

mechanism having a fixed end fixed into the housing and a free end. By applying force onto the free end of the movement mechanism, the position of the free end in the drum can be changed. When the free end is shifted to the second position, the carrying means becomes suitable for placing laundry thereon. The user shifts the carrying means to the second position if he/she desires to dry the delicate laundry without getting damaged due to the rotation of the drum in a fixed manner by using the carrying means. The carrying means may have a locking mechanism which can prevent the backwards movement thereof in the second position. In a preferred version of the present invention, the carrying means is produced from a flexible material.

[0007] In an embodiment of the present invention, the user shifts the carrying means from the first position to the second position by pushing the free end. As a result of the force applied by the user onto the free end, , the length of the carrying means in the drum can be changed. As the user pushes the free end towards the rear wall of the drum, the length of the carrying means increases. If the user desires to perform the drying process without using the carrying means, he/she pulls the free end towards himself/herself and shifts the carrying means to the first position.

[0008] In another embodiment of the present invention, the housing is provided at the portion of the front bearing facing the drum and remaining under the loading opening. By means of said position of the housing, the user can easily access the carrying means.

[0009] In another embodiment of the present invention, the movement mechanism is of scissor type. The scissor-type movement mechanism has at least two feet. Said feet are pivotably connected to each other. By changing the angle between the feet, the length of the carrying means in the drum is increased or decreased.

[0010] In an embodiment of the present invention, the movement mechanism is of telescopic type. By means of said telescopic structure moving linearly, the length of the carrying means in the drum can be easily adjusted.

[0011] In another embodiment of the present invention, a handle is provided on the free end. By means of the handle, the user can easily apply force onto

the carrying means. Thus, the user can easily grip the handle by hand and adjust the position of the carrying means in the drum.

[0012] In another embodiment of the present invention, a spool is provided on the free end in the housing, and a carrying means suitable for placing the laundry thereon is provided with one end connected to the free end and the other end to the spool wherein the length of the carrying means between the free end and the spool is changed with the movement of the free end. The carrying means covers the movement mechanism and comprises a flat surface area. The carrying means can be produced from a easily-foldable flexible textile such as fabric, cloth, etc. Thus, the movement on the spool is facilitated.

[0013] By means of the present invention, in the laundry dryers the carrying means can be concealed in the machine when not in use and can be easily accessed and shifted to the usable position when desired to be used, thus providing ease of use.

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

[0015] Figure 1. is the schematic view of a laundry dryer comprising the carrying means when the carrying means is in the first position.

[0016] Figure 2. is the schematic view of a laundry dryer comprising the carrying means when the carrying means is in the second position.

[0017] Figure 3. is the view of detail A in Figure 2.

[0018] The elements illustrated in the figures are numbered as follows:

1. Laundry dryer
2. Body
3. Drum
4. Loading opening
5. Front bearing
6. Housing
7. Free end
8. Fixed end
9. Movement mechanism
10. Carrying means

11. Handle
12. Spool

[0019] P1. First position

[0020] P2. Second position

[0021] The laundry dryer (1) comprises a body (2); a drum (3) which is placed into the body (2) and wherein the laundry is loaded; a loading opening (4) which is provided on the body (2) and which provides access into the drum (3); and a front bearing (5) which rotatably supports the drum (3) and whereon the loading opening (4) is provided.

[0022] The laundry dryer (1) of the present invention comprises a housing (6) which is provided on the front bearing (5) and a movement mechanism (9) having a free end (7) and a fixed end (8) connected to the housing (6). The laundry dryer (1) of the present invention further comprises a carrying means (10) which can be moved by means of the movement mechanism (9) between a first position (P1) wherein the carrying means (10) is almost completely concealed in the housing (6) and a second position (P2) wherein the free end (7) extends into the drum (3) as a result of a force exerted thereon and the carrying means (10) allows the placement of the laundry thereon. In the second position (P2), the carrying means (10) extends into the drum (3) parallel to the ground. In the preferred embodiment of the present invention, when in the second position (P2), the carrying means (10) does not contact the rear wall of the drum (3) so as not to be affected by the rotation of the drum. When in the second position (P2), the carrying means (10) enable the laundry placed thereon to be dried in a fixed manner. The carrying means (10) is shifted to the first position (P1) when the drying process is desired to be performed without using the carrying means (10). In the first position (P1), the carrying means (10) is concealed in the housing (6) and does not occupy space in the drum (3). Thus, when the user does not want to use the carrying means (10), he/she is not required to remove the same from the drum (3) and store the same elsewhere.

[0023] In an embodiment of the present invention, the laundry dryer (1) comprises the carrying means (10) which is shifted from the first position (P1) to the

second position (P2) as the user pushes the free end (7) into the drum (3). As the user pushes the free end (7) towards the rear wall of the drum (3) by hand, he/she shifts the carrying means (10) to the second position (P2). Similarly, as the user pulls the free end (7) towards himself/herself by hand when the carrying means (10) is in the second position (P2), the latter is shifted to the first position (P1).

[0024] In an embodiment of the present invention, the laundry dryer (1) comprises the housing (6) which is positioned at the portion of the front bearing facing the drum (3) and under the loading opening (4). Thus, the user can easily access the carrying means (10) in the housing (6). Moreover, since the carrying means (10) leaving the housing (6) remains under the level of the loading opening (4) after being shifted to the second position (P2) parallel to the ground, the user can easily load/unload laundry onto the carrying means (10).

[0025] In an embodiment of the present invention, the laundry dryer (1) comprises the scissor-type movement mechanism (9) which moves in a foldable manner. The scissor-type movement mechanism (9) is shown in Figure 2 and Figure 3. The scissor-type movement mechanism (9) comprises at least two feet. One of the feet is connected to the fixed end (7) and the other is connected to the foot connected to the free end (7). Said feet are pivotably connected to each other. While the carrying means (10) is shifted from the second position (P2) to the first position (P1), the feet of the scissor-type movement mechanism (9) are folded onto each other with the angle therebetween decreasing. Thus, the length of the carrying means (10) is decreased. Similarly, while the carrying means (10) is shifted from the first position (P1) to the second position (P2), the feet make a pivot motion at the joint with the angle therebetween increasing. With this movement, the length of the carrying means (10) in the drum (3) is increased.

[0026] In an embodiment of the present invention, the laundry dryer (1) comprises the telescopic movement mechanism (9). The telescopic-type movement mechanism (9) comprises a first member and a second member with a diameter smaller than that of the first member. The second member is

placed so as to move concentrically and linearly in the first member. While the carrying means (10) is shifted from the second position (P2) to the first position (P1), the second member moves into the first member. While the carrying means (10) is shifted from the first position (P1) to the second position (P2), the second member moves linearly so as to extend from inside the first member into the drum (3). Thus, the length of the carrying means (10) in the drum (3) can be changed.

[0027] In an embodiment of the present invention, the laundry dryer (1) comprises a handle (11) which is provided on the free end (7) and which enables the user to apply force so as to move the carrying means (10) by hand. In a preferred version of this embodiment, the handle (11) is in the form of a protrusion extending from the movement mechanism (9) upwards in an almost upright manner. In this version, the length of the handle (11) is smaller than the size of the housing (6) such that the carrying means (10) can be completely concealed in the housing (6) in the first position (P1).

[0028] In an embodiment of the present invention, the laundry dryer (1) comprises a spool (12) which is provided in the housing (6) and which can rotate around its own axis, and a carrying means (10) suitable for placing the laundry thereon is, with one end connected to the free end (7) and the other end to the spool (12), which extends between the free end (7) and the spool (12) upon being shifted to the second position (P2). When the carrying means (10) is in the first position (P1), most of the carrying means (10) is wound around the spool (12). When the free end (7) is moved into the drum (3), the spool (12) rotates and releases the carrying means (10). When the free end (7) is pulled towards the housing (6), the spool (12) rotates and the carrying means (10) is wound around the spool (12).

[0029] By means of the present invention, a carrying means (10) which provides ease of use in the laundry dryers (1) is realized.

Claims

1. A laundry dryer (1) **comprising** a body (2); a drum (3) which is placed into the body (2) and wherein the laundry is loaded; a loading opening (4) which is provided on the body (2) and which provides access into the drum (3); and a front bearing (5) which rotatably supports the drum (3) and whereon the loading opening (4) is provided, **characterized by** a housing (6) which is provided on the front bearing (5), a movement mechanism (9) having a free end (7) and a fixed end (8) connected to the housing (6) and a carrying means (10) which can be moved by means of the movement mechanism (9) between a first position (P1) wherein the carrying means (10) is almost completely concealed in the housing (6) and a second position (P2) wherein the free end (7) extends into the drum (3) as a result of a force exerted thereon and the carrying means (10) allows the placement of the laundry thereon.
2. A laundry dryer (1) **characterized by** the carrying means (10) which is shifted from the first position (P1) to the second position (P2) as the user pushes the free end (7) into the drum (3).
3. A laundry dryer (1) as in any one of the above claims, **characterized by** the housing (6) which is positioned at the portion of the front bearing (5) facing the drum (3) and under the loading opening (4).
4. A laundry dryer (1) as in any one of the above claims, **characterized by** the scissor-type movement mechanism (9) which moves in a foldable manner.
5. A laundry dryer (1) as in any one of the Claims 1 to 3, **characterized by** the telescopic movement mechanism (9).
6. A laundry dryer (1) as in any one of the above claims, **characterized by** a handle (11) which is provided on the free end (7) and which enables the user to apply force so as to move the carrying means (10) by hand.
7. A laundry dryer (1) as in any one of the above claims, **characterized by** a spool (12) which is provided in the housing (6) and which can rotate around its own axis, and a carrying means (10) suitable for placing the laundry thereon is, with one end connected to the free end (7) and the other end to the spool (12), which extends between the free end (7) and the spool (12) upon being shifted to the second position (P2) by the user.

Figure 1

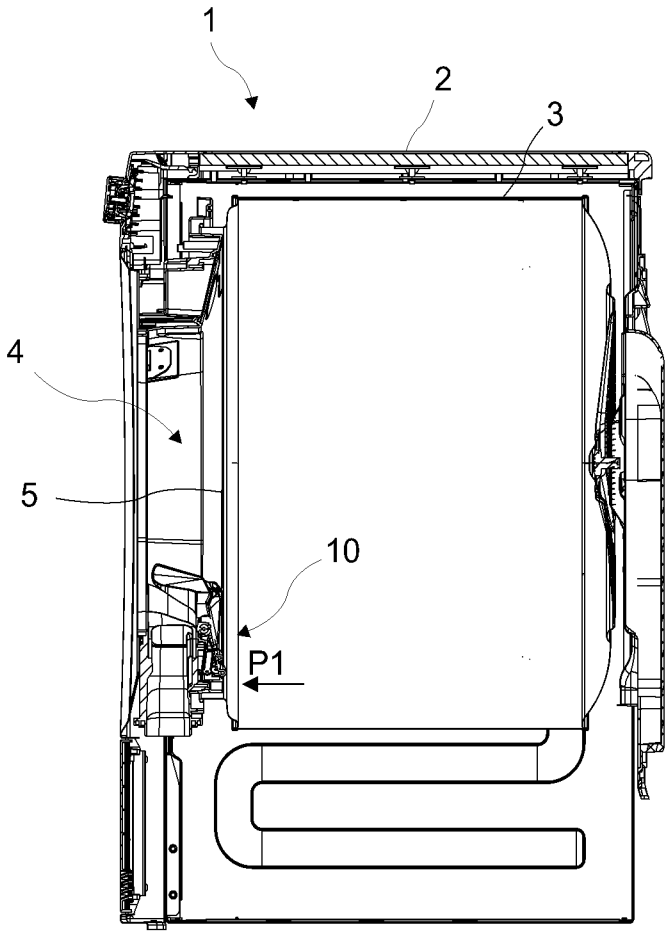


Figure 2

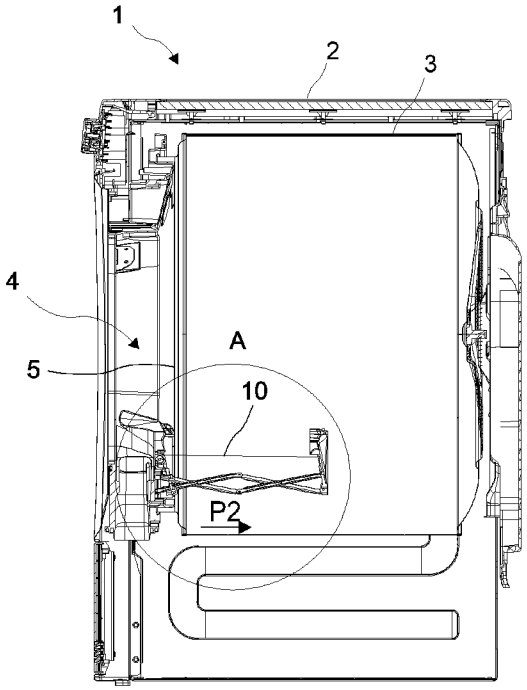
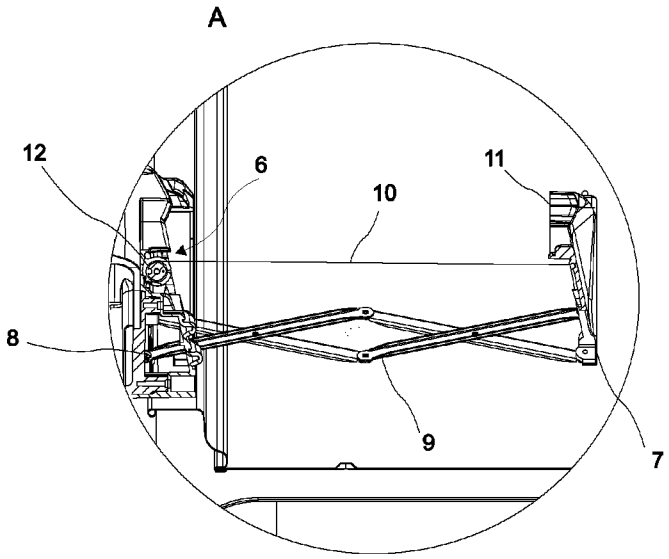


Figure 3



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/058324

A. CLASSIFICATION OF SUBJECT MATTER
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ADD. D06F58/20

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)
D06F

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	JP S58 49696 U (JPS5849696U) 4 April 1983 (1983-04-04) figures 1-2 claim 2	1,2,4-6
A	EP 1 522 625 A1 (CANDY SPA [IT]) 13 April 2005 (2005-04-13) figure 2	1-7
A	JP S54 122168 U (JPS54122168U) 27 August 1979 (1979-08-27) figures 1-2	1-7

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Werner, Christopher

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2020/058324

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP S5849696 U	04-04-1983	NONE	
EP 1522625 A1	13-04-2005	NONE	
JP S54122168 U	27-08-1979	JP S5742396 Y2	17-09-1982
		JP S54122168 U	27-08-1979