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**Datasheet for the decision  
of 2 November 2018**

**Case Number:** T 2088/14 - 3.2.06

**Application Number:** 08803243.8

**Publication Number:** 2185760

**IPC:** D06F35/00, D06F33/00

**Language of the proceedings:** EN

**Title of invention:**

A WASHING MACHINE

**Patent Proprietor:**

Arçelik Anonim Sirketi

**Opponent:**

Appl, Thomas

**Headword:**

**Relevant legal provisions:**

EPC Art. 100(a), 54(1), 56

**Keyword:**

Novelty - main request (no) - auxiliary request (yes)  
Inventive step - auxiliary request (yes) - non-obvious  
modification

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**

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Case Number: T 2088/14 - 3.2.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.06**  
**of 2 November 2018**

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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
8 August 2014 concerning maintenance of the  
European Patent No. 2185760 in amended form.**

**Composition of the Board:**

**Chairman** M. Harrison  
**Members:** P. Cipriano  
C. Brandt

## Summary of Facts and Submissions

- I. Appeals were filed by both the appellant (proprietor) and the appellant (opponent) against the interlocutory decision of the opposition division in which it found that European patent No. 2 185 760 in an amended form (according to a second auxiliary request) met the requirements of the EPC.
- II. The appellant (opponent), hereafter simply referred to as "opponent", requested with its grounds of appeal that the interlocutory decision be set aside and the patent be revoked.
- III. The appellant (proprietor), hereafter simply referred to as "proprietor", requested in its grounds of appeal that the decision under appeal be set aside and the patent be maintained as granted, or, alternatively, that the patent be maintained in amended form on the basis of the first auxiliary request filed with letter of 28 February 2013, or, as a second auxiliary request, that the appeal of the opponent be dismissed.
- IV. The following document, referred to by the opponent in its grounds of appeal, is relevant to the present decision:  
E1 JP 60-41986 and its translation into English
- V. The Board issued a summons to oral proceedings followed by a communication containing its provisional opinion, in which it indicated *inter alia* that the subject-matter of claim 1 of the main request did not appear to be novel in regard to E1 and that the subject-matter of claim 1 of the auxiliary request 1 appeared both to be novel in regard to E1 and to involve an inventive step.

VI. Oral proceedings were held before the Board on 2 November 2018.

The proprietor requested that the decision under appeal be set aside and the patent be maintained as granted, or, alternatively, that the patent be maintained in amended form on the basis of the first auxiliary request dated 2 November 2018 (clean copy of the claims of the first auxiliary request of 28 February 2013).

The opponent requested that the decision under appeal be set aside and the European patent No. 2 185 760 be revoked.

VII. Claim 1 of the main request reads as follows:

"A washing machine (1) that comprises a drum (2) wherein the laundry to be washed is emplaced and a control unit (3) that implements a spinning profile comprising a loosening step (GA) wherein the drum (2) is slowed down at certain intervals to be rotated at least once in clockwise direction and least once in counterclockwise direction with a speed ( $D_g$ ) lower than the spinning speed ( $D_s$ ) and characterized by a control unit (3) that rotates the drum (2) clockwise and counterclockwise for different angles ( $\alpha, \beta$ ) from each other in the loosening step (GA)."

Claim 1 of the first auxiliary request (auxiliary request 1) reads as follows:

"A washing machine (1) that comprises a drum (2) wherein the laundry to be washed is emplaced and a control unit (3) that implements a spinning profile comprising a loosening step (GA) wherein the drum (2) is slowed down at certain intervals to be rotated at least once in clockwise direction and least once in counterclockwise direction with a speed ( $D_g$ ) lower than

the spinning speed ( $D_s$ ) and with a control unit (3) that rotates the drum (2) clockwise and counterclockwise for different angles ( $\alpha, \beta$ ) from each other in the loosening step (GA), wherein the control unit implements a spinning profile comprising more than one loosening step (GA), characterized in that if a long rotation ( $\alpha/t_1$ ) in clockwise direction is performed in one of the consecutive loosening steps (GA), then the next one is performed in the counterclockwise direction."

VIII. The arguments of the opponent may be summarised as follows:

*Main request - novelty*

The term "the drum is slowed down" referred to changes of speed within the loosening step (slowing down from the speed  $D_g$  or from the speed  $-D_g$ ) and the claimed spinning profile might comprise a single loosening step since the claim referred to explicitly to a loosening step.

The "weak spin" process disclosed in E1, page 20 and Figure 12 disclosed all the features of claim 1 and corresponded to a spinning profile, even if it included optional steps.

The term "certain" in the expression "certain intervals" did not have a specified meaning and did not mean "predetermined", thus the optional vibration detection steps in E1 occurred also at "certain intervals" as claimed.

The balanced rotation speed in E1 corresponded to a spinning speed, albeit a low spinning speed, since its

purpose was to remove water from the laundry. This low spinning speed generated enough centrifugal force, since it was used at the beginning of the spinning process, when the laundry still contained a lot of water.

*Auxiliary request 1 - novelty*

The subject-matter of claim 1 was not novel in regard to E1, which also disclosed the further features added to claim 1 compared to claim 1 of the main request.

Unravelling operation c) on page 23, lines 2-6 disclosed several rotations with different lengths. This unravelling operation could be divided up such that the last 3 second rotation of the last of the seven cycles then corresponded to the claimed long rotation in clockwise direction and the following 3second low speed leftward rotation would be the claimed "next one" performed in counterclockwise direction.

*Auxiliary request 1 - inventive step*

The subject-matter of claim 1 of auxiliary request 1 did not involve an inventive step when starting from the "weak spin" process described on page 20 and in Figure 12 of E1 and considering common general knowledge of the skilled person. The objective technical problem was to distribute the laundry more effectively.

It was obvious for the skilled person to make long rotations in different directions to compensate the effects of rotation in one direction and distribute the laundry more evenly. The skilled person using their

common general knowledge would carry out this change of rotation direction either by changing the direction of the second long rotation or the complete second unravelling operation.

- IX. The arguments of the proprietor may be summarised as follows:

*Main request - novelty*

The plurality of intervals and the words "to be" contained in the expression "the drum is slowed down at certain intervals to be rotated at least once... with a speed ( $D_g$ ) lower than the spinning speed ( $D_s$ )" meant that the loosening step was only applied after slowing down the drum from spinning speed and furthermore this needed to happen at least twice, i.e. to define at least two loosening steps with a spinning speed period before each one of them such that two slowing downs occurred. In the weak spin process of E1 on page 20, the unraveling operation a) did not occur twice after slowing down from spinning speed. The opposition division had incorrectly interpreted the claim in this regard.

E1 did not disclose a spinning profile, i.e. a fixed scheme for applying the loosening steps, since the latter were dependent on the detection of vibration which might or might not occur. The loosening steps in E1 also did not occur at "certain" intervals, i.e. at specific predetermined intervals, as stated for example in paragraph [0009].

The balanced rotation in the "weak spin" process described in E1 on page 20, was not a spinning speed as defined in the claim because it was a low drum rotation



speed of 90 rpm (see E12, page 4, line 1) and this was not enough to press out water.

*Auxiliary request 1 - novelty*

An unravelling operation such as unravelling operation c) could not be divided into several loosening steps. Even if this were permissible, unravelling operation c) did not disclose a slowing down from spinning speed before the second loosening step (i.e. between the two loosening steps) nor did it form part of a single disclosure with the "weak spin" process on page 20 of E1.

*Auxiliary request 1 - inventive step*

The teaching of E1 was the detection of vibration and performing an unravelling operation if the laundry was too unbalanced.

Applying the teaching of E1, the skilled person trying to achieve a better laundry distribution would detect vibration and simply apply the subsequent unravelling operation more often. There was no hint to modify the unravelling operation in any way.

**Reasons for the Decision**

1. Main request - novelty
- 1.1 The opponent argued that the embodiment corresponding to the "weak spin" process of Figure 12 in E1 disclosed all the features of claim 1.

Specifically, the opponent argued that the "weak spin" process in E1 disclosed the features

- a spinning profile comprising a loosening step (GA) wherein the drum (2) is slowed down at certain intervals to be rotated at least once in clockwise direction and least once in counterclockwise direction with a speed ( $D_g$ ) lower than the spinning speed ( $D_s$ ) and
- a control unit (3) that rotates the drum (2) clockwise and counterclockwise for different angles ( $\alpha, \beta$ ) from each other in the loosening step (GA).

It is undisputed between the parties that all the other features of claim 1 are disclosed in E1. The Board also finds no reason to disagree.

1.2 In its communication issued prior to oral proceedings containing the Board's provisional opinion, the Board had stated that the term "wherein" in the feature

"a spinning profile comprising a loosening step (GA) wherein the drum (2) is slowed down at certain intervals to be rotated at least once in clockwise direction and least once in counterclockwise direction with a speed ( $D_g$ ) lower than the spinning speed ( $D_s$ )"

referred to the spinning profile and the slowing down at certain intervals which was understood to be referring to the slowing down from spinning speed to a speed lower than the spinning speed, and not to the slowing down needed to change directions between rotations in the clockwise and counterclockwise directions. As a result of this, the claim is not to be understood as defining a loosening step which starts with clockwise and counter-clockwise rotations without

first requiring reduction from a spinning speed. This was indeed not the interpretation arrived at by the opposition division (see the paragraph bridging pages 5 and 6 of the interlocutory decision).

The Board had reasoned this in its communication (see item 1.1 thereof) by stating that "If the term "wherein" were to be referring to the loosening step, the latter, in accordance with the claim, would need to comprise slowing down at certain time intervals (i.e. at least two times) to be rotated (i.e. the rotation occurring after the slowing down) at least once in the CW direction and at least once in the CCW direction. This does not seem to make sense, since to arrive at at least one rotation in CW and at least one rotation in the CCW direction only one "slowing down" is needed (accelerate/Dg/slow down/accelerate/-Dg)".

Since no arguments were made by the parties in reply to its preliminary opinion, or during the oral proceedings on this matter, the Board sees no reason to alter its provisional opinion in this regard, and thus confirms same herewith.

In addition, the claim requires slowing down from spinning speed to occur twice - the expression "slowing down at certain intervals" (plural) defines more than one interval such that more than a single slowing down followed by a loosening step must occur.

1.3 The embodiment "weak spin" of Figure 12 of E1, as can also be seen on page 20, lines 9-25, discloses a spinning profile with a loosening step at the beginning of the spinning cycle (unravelling operation (a) in lines 13-15). This loosening step is followed by a "balanced rotation" (see lines 16-18), which for the

purposes of assessing novelty may be considered as the first and lowest of the spinning speeds.

In case a vibration is detected during the balanced rotation - and this may occur twice (see lines 22 to 25 on page 20) - a further unravelling operation followed by balanced rotation is repeated after each detection of vibration. Thus, contrary to the argument of the proprietor, when vibration is detected twice, slowing down from spinning speed to a rotation in clockwise and in counterclockwise direction also occurs twice, as required by the wording of claim 1 as set out above under item 1.2.

Thus, the "weak spin" process of E1 discloses the feature "a spinning profile comprising a loosening step (GA) wherein the drum (2) is slowed down at certain intervals to be rotated at least once in clockwise direction and least once in counterclockwise direction with a speed ( $D_g$ ) lower than the spinning speed ( $D_s$ )".

- 1.4 As disclosed in the paragraph bridging pages 22 and 23 of E1', these unravelling operations a) alternate between left and right low-speed rotations and have a longer low-speed leftward rotation of 5 seconds at the end, which leads to a different angle of rotation in one of the directions.

Thus, the "weak spin" process of E1 also discloses the feature "a control unit (3) that rotates the drum (2) clockwise and counterclockwise for different angles ( $\alpha, \beta$ ) from each other in the loosening step (GA)", it being noted that the repeat of the unravelling operation after each of two vibration detections is a function of the control unit which is configured to enable this.

- 1.5 The proprietor argued that this embodiment of E1 did not disclose a fixed scheme for applying the loosening steps, since the latter were dependent on the detection of vibration which could occur or not. In its opinion, the loosening steps in E1 did therefore not occur at "certain" intervals, i.e. at specific predetermined regular intervals of a fixed duration in a spinning profile. The Board however finds this argument unconvincing.

The term "spinning profile" is not restricted to an immutable fixed sequence of drum spinning speeds and may, quite to the contrary, include conditional steps determined by the control unit. The patent itself even supports this interpretation by introducing in paragraph [0003] together with paragraph [0006] a prior art solution for reducing wrinkles in the spinning profile, where the loosening and spinning steps in the spinning profile are controlled in accordance with the washing parameters, i.e. the steps are conditional.

Further, the expression "at certain intervals" defines a plurality of intervals and thus requires that the slowing down occurs more than once (as discussed above in item 1.3) but does not require that these claimed intervals have regular predetermined durations, contrary to the proprietor's argument. The term "certain" means simply that they will take place (given the required conditions) but does not more specifically define the timing of these intervals. Albeit that the meaning of the claims is being judged, it may be added that the cited passage in paragraph [0009] of the patent stating that "a loosening step is employed by stopping the drum at specific intervals" in the washing machine of the present invention also does not imply

that the intervals are of a predetermined length, only that they are set for the purpose of introducing a loosening step.

1.6 The argument that the balanced rotation step described in the "weak spin" process from the flowchart in Figure 12 was not a spinning speed as defined in the claim because it did not press out water, is not accepted. Whilst a balanced rotation of 90 rpm may be the second lowest drum rotating speed defined in E1, page 1, lines 2-6, define it literally as a spinning speed. Further, in the weak spin process defined on page 20 of E1, it is also the first rotating speed to be implemented after the initial unravelling operation a) when the laundry still contains a lot of water and is very heavy. At this point, the soaked laundry does not need to rotate at high speeds in order to generate enough centrifugal force to expel water. As stated on page 4, lines 4-6, the balanced rotation speed is even enough for the clothes inside the rotation drum to become adhered to the inner surface of the drum. The Board therefore finds that a skilled person reading E1 would consider that the balanced rotation of E1 corresponds to a "spinning speed" as defined in claim 1.

1.7 The subject-matter of claim 1 therefore lacks novelty over E1 such that the ground for opposition under Article 100(a) EPC in combination with Article 54 EPC prejudices maintenance of the patent according to the main request.

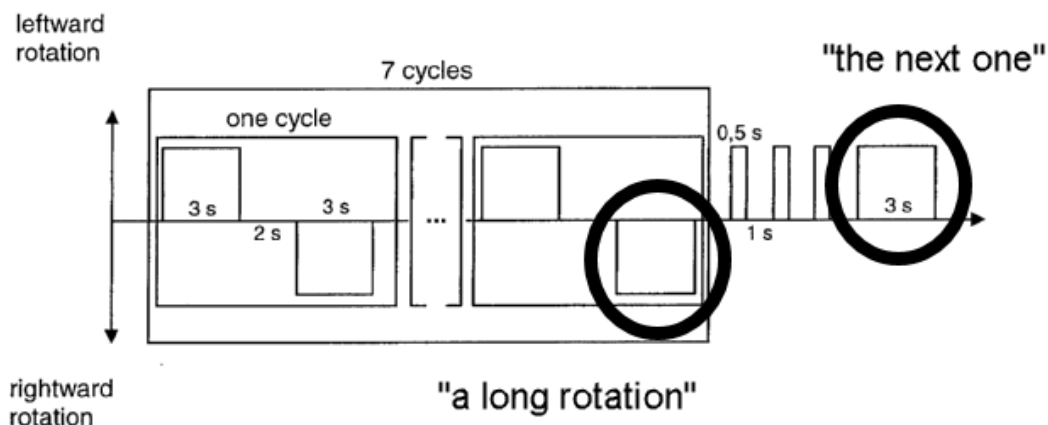
2. Auxiliary request 1 - novelty

2.1 Claim 1 of auxiliary request 1 combines the features of granted claim 1 discussed above with the following features of granted claims 3 and 4:

- wherein the control unit implements a spinning profile comprising more than one loosening step (GA),
- if a long rotation ( $\alpha/t_1$ ) in clockwise direction is performed in one of the consecutive loosening steps (GA), then the next one is performed in the counterclockwise direction (hereinafter referred to the feature "long rotations").

2.2 It has not been contested by the proprietor that the "weak spin" process of E1 described on page 20 and in Figure 12 discloses a control unit implementing a spinning profile with more than one loosening step. As explained in item 1.3, if vibration occurs, the loosening step a) is indeed applied at least twice. The Board thus finds no reason to conclude otherwise.

2.3 On the other hand, the feature "long rotations" is not disclosed in E1. As the opponent argued, the unravelling operation c) disclosed on page 23, lines 1-7 comprises several rotations with different lengths. This unravelling operation can be interpreted such that the last 3 second rotation of the last of the seven cycles corresponds to the claimed long rotation in clockwise direction and the following 3 second low speed leftward rotation would be the claimed "next one" performed in counterclockwise direction as seen in the following Figure describing unravelling operation c):



2.4 The Board agrees that in the presence of the 0.5 second rotations, the skilled person would recognise 3 second rotations (which are longer than 0.5 second rotations) as being "long" rotations and that the term "next one" must refer to a long rotation - if the term were meant to refer to a loosening step, it would need to be "in the next one" or similar language in order to be in accordance with the previous reference in the claim to a loosening step.

2.5 However, and even when asked to identify such a disclosure in E1, the opponent did not specify any direct and unambiguous disclosure of the specific features disclosed for unravelling operation c) (i.e. corresponding to the feature "long rotation") in combination with the "weak spin" process of page 20, or in fact that the loosening step c) might form part of another disclosure, which together might lead to the remaining features from claim 1.

The opponent argued simply that loosening step c) disclosed the feature "long rotations". However, the Board finds that loosening step c) alone does not



disclose all the remaining features of claim 1. For example, the unravelling operation c) of E1 does not disclose the feature "slowing down [from spinning speed] at certain intervals". It is then immaterial for the question of novelty if the unravelling operation c) may be split after the end of the 7 cycles in two different loosening steps or not.

2.6 The subject-matter of claim 1 of auxiliary request 1 is thus novel over E1.

3. Auxiliary request 1 - inventive step

3.1 When asked, the opponent argued only that the subject-matter of claim 1 of the auxiliary request 1 request did not involve an inventive step when starting from the "weak spin" process described on page 20 and in Figure 12 of E1 and considering common general knowledge of the skilled person.

3.2 As discussed above under item 2, the subject-matter of claim 1 differs from the "weak spin" process described in E1 in that

if a long rotation ( $\alpha/t_1$ ) in clockwise direction is performed in one of the consecutive loosening steps (GA), then the next one is performed in the counterclockwise direction.

3.3 It was not contested that the objective technical problem derived was to distribute the laundry more effectively. The Board agrees also with this formulation, since different drum rotation patterns for consecutive loosening steps increase the odds that the laundry will land or adhere to the wall in different positions and would then acquire different

configurations thus becoming more evenly distributed - paragraphs [0007], [0011] and [0025] of the patent also seem to confirm this.

- 3.4 However, there is no hint for a skilled person to adapt the loosening steps of the "weak spin" process of E1 such that when a long rotation is performed in clockwise direction, the next one is performed in counterclockwise direction.

E1 does not provide any hint that would prompt the skilled person to modify any of the unravelling operations of E1 in order to exchange the direction of rotation of the long rotations. In fact, as disclosed on page 2, in the paragraph headed "purpose of the invention", E1 teaches the use of detecting vibration at several stages of the spinning process to see if the load is balanced or if the laundry needs to be unravelled - the spinning process disclosed on page 20 of E1 provides several vibration detection steps at several stages of the spinning process to assess if the laundry is well distributed or not. At each vibration detecting stage and according to the circumstances, an unravelling operation may take place.

Starting from the "weak spin" process described on page 20 of E1, the skilled person faced with the technical problem of distributing the laundry more effectively is not taught anything from E1 or from common general knowledge except possibly the introduction of further vibration detection steps followed by possible further unravelling operations a) (containing a single long rotation of 5 seconds occurring always in the same sense) according to the teaching of E1 until it considered the load well distributed, i.e. the laundry well unravelled.

- 3.5 The skilled person using common general knowledge would not be prompted to modify or use a different unravelling operation with a long rotation in the opposite direction of rotation. Since the "weak spin" process of E1 only uses the unravelling operation a) in the various vibration detection steps, the Board finds that the skilled person using common general knowledge would (when adding further vibration detection steps) also add a further unchanged unravelling operation a) and they would not, without the benefit of hindsight, use a different kind of unravelling operation of the type c) or d) or modify the unravelling operation a) such that a long rotation in the opposite direction would occur. The opponent offered no evidence to support its claim that a skilled person, using common general knowledge, would simply use a different sequence of long rotations.
- 3.6 For the above reasons, the subject-matter of claim 1 of auxiliary request 1 is not obvious to a skilled person when starting from E1 and given the technical problem to be solved, and when considering common general knowledge. Since no other inventive step attacks were made, the inventive step requirement of Article 56 EPC is fulfilled.
4. The amendments made to the description to adapt this to the claims of auxiliary request 1 were not objected to by the opponent. Nor did the Board find any reason to raise objection to these. Auxiliary request 1 is thus found to meet the requirements of the EPC.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in amended form with the following documents:

claims 1 to 4 according to the first auxiliary request dated 2 November 2018,

amended pages 2 and 3 of the description as filed during the oral proceedings on 2 November 2018 and

Figures 1, 2 and 3 of the patent as granted.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated