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Datasheet for the decision
of 17 April 2018

Case Number:       T 0248/14  -  3.2.06
Application Number: 07112493.7
Publication Number: 2014822
IPC:               D06F58/28
Language of the proceedings: EN

Title of invention:
Control method for controlling a tumble laundry drier for drying wool laundry

Patent Proprietor:
Electrolux Home Products Corporation N.V.

Opponent:
Whirlpool EMEA S.p.A.

Headword:

Relevant legal provisions:
EPC Art. 100(b), 54(2), 56, 111(1)
RPBA Art. 13(1), 12(2)
Keyword:
Sufficiency of disclosure - (yes)
Novelty - main request (yes)
Inventive step - main request (no)
Late-filed auxiliary request 1 - request clearly allowable (no)
Late-filed auxiliary request 1b - request clearly allowable (yes)
Remittal to the department of first instance - main request - (no) - auxiliary request 1b - (yes)

Decisions cited:

Catchword:
DECISION
of Technical Board of Appeal 3.2.06
of 17 April 2018

Appellant: Whirlpool EMEA S.p.A.
(Opponent)
Via Carlo Pisacane 1
20016 Pero (MI) (IT)

Representative: Santonicola, Paolo
PGA S.p.A.
Via Mascheroni, 31
20145 Milano (IT)

Respondent: Electrolux Home Products Corporation N.V.
(Patent Proprietor)
Raketstraat 40
1130 Brussels (BE)

Representative: Electrolux Group Patents
AB Electrolux
Group Patents
105 45 Stockholm (SE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted on 2 December 2013
rejecting the opposition filed against European
patent No. 2014822 pursuant to Article 101(2)
EPC.

Composition of the Board:
Chairman M. Harrison
Members: P. Cipriano
W. Ungler
Summary of Facts and Submissions

I. An appeal was filed by the appellant (opponent) against the decision of the opposition division rejecting the opposition to European patent No. 2 014 822. It requested that the decision be set aside and the patent be revoked. The appellant also cited the following documents:

E5 EP 0 404 047 B1
E6 DE 1 924 961

II. In reply, the respondent (proprietor) requested that the appeal be rejected as inadmissible or dismissed as unallowable. It also filed auxiliary requests 1 to 7.

III. The Board issued a summons to oral proceedings including a communication containing its provisional opinion, in which it indicated inter alia that the ground for opposition under Article 100(b) EPC appeared not to be prejudicial to maintenance of the patent and that novelty and inventive step of the main request might require discussion. It was also indicated that, should it be necessary, the allowability of the auxiliary requests and the possibility of remittal to the department of first instance might also be discussed at the oral proceedings.

IV. With letter of 16 March 2018, the respondent filed additional auxiliary requests 1a and 2a, specifying the order of requests as 1, 1a, 2, 2a, 3, 4, 5, 6 and 7.

V. With letter dated 16 March 2018 the appellant further requested that auxiliary requests 1, 2, 3, 4, 5, 6 and 7 not be admitted into the proceedings and that, should the Board admit at least the auxiliary request 1 into...
the proceedings, the case should be remitted to the Opposition Division for examination of novelty and inventive step.

VI. Oral proceedings were held before the Board on 17 March 2018, during which the respondent renumbered auxiliary requests 1 and 1a into auxiliary requests 8 and 1 respectively. The respondent further filed an auxiliary request 1b, withdrew its request for rejection of the appeal as inadmissible and, at the end of the proceedings, withdrew its auxiliary requests 2 and 8.

VII. The appellant requested that the decision under appeal be set aside and the European patent be revoked.

VIII. The respondent requested that the appeal be dismissed (main request), auxiliarily that the patent be maintained in amended form on the basis of one of the auxiliary requests 1 (i.e. former auxiliary request 1a filed with letter dated 16 March 2018), amended 1b (filed during the oral proceedings of 17 April 2018), 2a (filed with letter dated 16 March 2018), 3 to 7 (filed with letter dated 12 August 2014). Furthermore, the patent proprietor requested that the case be remitted to the opposition division for further prosecution.

IX. Claim 1 of the main request (as granted) reads as follows:
"1. A control method for controlling a tumble laundry drier (1) for drying wool laundry (5); the control method comprising the steps of:

loading the wool laundry (5) into a drum (3) of the tumble laundry drier (1);
feeding a stream of drying air into the drum (3); and
rotating the drum (3) about a rotation axis (6) at a variable rotation speed (n);
the control method comprising the steps of:

rotating the drum (3) at a first rotation speed \( (n_1) \) greater than a second rotation speed \( (n_2) \) at which centrifugal acceleration of the inner surface of the drum (3) equals gravitational acceleration, so the wool laundry (5) is pressed by centrifugal force against the inner surface of the drum (3), as opposed to dropping inside the drum (3);

characterized in that the method further comprises the step of cyclically stopping rotation of the drum (3) by zeroing the rotation speed (n) and then re-accelerating the drum (3) back to the first rotation speed \( (n_1) \) to rearrange the wool laundry (5) inside the drum (3)."

Claim 1 of auxiliary requests 1 and 1b further includes the features of granted claim 4:
"wherein, at each cyclic stop in rotation of the drum (3), the rotation speed (n) of the drum (3) is decreased/increased with a deceleration/acceleration of about 20-35 revolutions/second\(^2\)."

In addition to the features of granted claim 1, claim 2 of auxiliary requests 1 and 1b includes the features of granted claim 7:
"wherein, at the stop stage, the drum (3) is stopped for about 1-3 seconds."
In addition to the features of granted claim 1, claim 3 of auxiliary requests 1 and 1b additionally includes the features of granted claim 9:
"measuring the electric resistance/conductivity between two electrodes (14) contacting the wool laundry (5) inside the drum (3); and stopping the drying cycle when the electric resistance/conductivity between the two electrodes (14) is above/below a resistance/conductivity threshold."

In addition to the features of granted claim 1, claim 4 of auxiliary request 1 additionally includes the features of granted claim 11:
"comprising the further steps of: determining the position of the wool laundry (5) inside the drum (3); and stopping the drum (3) so that, when the drum (3) is stopped, the wool laundry (5) is at the bottom of the drum (3)."

X. The appellant's arguments may be summarized as follows:

Main request - Article 100(b) EPC

The invention underlying claims 11 to 13 was not sufficiently disclosed. The means for determining the position of the wool laundry inside the drum were not conventionally known and the skilled person would not know how to use such means in tumble dryers.

Main request - Novelty

The combination of claims 2 and 4 in E5 disclosed a control method for controlling a tumble laundry drier with the features of claim 1, particularly with the disputed feature "the method further comprises the step
of cyclically stopping rotation of the drum (3) by zeroing the rotation speed (n) and then re-accelerating the drum (3) back to the first rotation speed (n₁)". This was not put into doubt simply because the detailed embodiment in E5 was directed to a washing process, since the description of E5 (page 4, lines 14-16) contemplated the possibility of applying the invention also to a dryer.

The mention to "aforesaid speed" in claim 4 referred to an "angular speed equal or higher than the lowest speed allowing to hold said articles adhering to the drum walls" in claim 2 which was a fixed constant speed value.

The alternating sequence defined in claim 4 was not arbitrary and defined several rotation stops of the drum and re-accelerations back to the rotation speed, thus creating a kind of cycle, regardless of which of the "and/or" alternatives were used.

Main request - Inventive step

Starting from E5, it was obvious for the skilled person to return to the aforesaid speed in order to continue the process and simply increase the number of alternations. Also E6 taught the skilled person faced with such a technical problem to increase the number of repetitions. The skilled person would thus arrive at the subject-matter of claim 1. The skilled person would not re-accelerate to a lower speed since this would increase felting and relaxation.

Auxiliary request 1 - admittance
The auxiliary request 1 was filed at a late stage and should not be admitted into the proceedings, because the subject-matter of claim 4 was obvious for the skilled person starting from E5 and applying common general knowledge to solve the technical problem. This subject-matter thus prima facie did not involve an inventive step.

Auxiliary request 1b - admittance and remittal

The amendments carried out did not comply with Rule 80 EPC. The respondent had already had enough opportunities to present new requests and could have presented this request earlier. In addition, the new request added complexity and thus did not fulfil the need for procedural economy.

The appellant had no objections to the remittal requested by the proprietor.

XI. The respondent's arguments may be summarized as follows:

Main request - Article 100(b) EPC

The means for determining the position of the wool laundry inside the drum, as used in claims 11-13, were known in the art and the skilled person knew how to use them in order to carry out the invention.

Main request - novelty

E5 provided no unambiguous disclosure for cyclically stopping the rotation of the drum and re-accelerating the drum back to the first rotation speed n. E5 only contained an embodiment directed to washing machines. In addition, the publication of originally
filed application of E5 did not even include an independent claim directed to a dryer. The skilled person would thus have taken the publication of the application into consideration and would have concluded that the disclosure did not include a process for a dryer.

The expression "aforesaid speed" did not always relate to the same speed value but to a variable speed that fell within the range defined in claim 2.

The alternation defined in claim 4 did not specifically disclose a fixed order of alternating periods of rotation.

**Main request – Inventive step**

Starting from E5, the objective technical problem formulated was new and remittal was therefore requested.

It was not obvious for the skilled person using common general knowledge to re-accelerate the drum to the same speed as before. If the drum were accelerated to a higher speed, swirls of hot air would be produced inside the drum that would increase the drying effect and reduce the energy needed for drying.

The skilled person also would not contemplate combining E5 with the teaching of E6, since E6 related to a washing machine and disclosed only the use of a lower speed and not periods of drum stopping.

**Auxiliary request 1 – admittance**

The subject-matter of claim 4 was *prima facie* inventive since the additional differing feature "determining the
position of the laundry" was not known from either E5 or E6.

Auxiliary request 1b - admittance and remittal

This request responded to an objection made by the Board during oral proceedings and added no new subject-matter or complexity to the case. Remittal of the case for further prosecution was requested.

Reasons for the Decision

1. Main request - Article 100(b) EPC

1.1 The appellant argued that the invention underlying claims 11 to 13 was not sufficiently disclosed under Article 100(b) EPC, because the skilled person would not be able to carry out a means for determining the position of the wool laundry inside the drum, since no information was given on the type of sensor to be used and these were not conventionally available or known. This argument is not accepted.

The disclosure of the invention mentions the use of sensors to determine the presence of wool laundry, as explained in paragraph 21 and claim 12. The Board finds that such presence sensing sensors are commonly used in the art and that the skilled person in the technical field has sufficient knowledge to use them to determine the position of the wool laundry as required by claim 11, to mount each one to a lifter of a drum as required by claim 12 and to assess which lifter/s are contacting the wool and which position they are at, as required by claims 12 and 13. For example, a pressure
sensitive or an inductive sensor can be mounted to a lifter in order to determine the presence of wool laundry and the position of the lifter. Such does not involve any undue burden for a skilled person. In response to the Board's preliminary opinion on this matter, expressed in its communication sent before the oral proceedings, the appellant filed no further arguments. No differing arguments were raised in the oral proceedings before the Board either.

1.2 The patent thus discloses the invention as claimed in claims 11 to 13 in a manner sufficiently clear and complete for it to be carried out by a skilled person. Since no further objections were raised under Article 100(b) EPC, the ground of opposition under Article 100(b) EPC therefore does not prejudice maintenance of the patent.

2. Main request - Novelty

2.1 It is undisputed between the parties that the features in the preamble of claim 1 are disclosed in E5. The Board also finds no reason to disagree. The appellant has only argued that the feature

"cyclically stopping rotation of the drum (3) by zeroing the rotation speed (n) and then re-accelerating the drum (3) back to the first rotation speed (n1) to rearrange the wool laundry (5) inside the drum (3)"

was also disclosed in E5, through the combination of claims 2 and 4.

2.2 The combination of claims 2 and 4 in E5 is directed to a process of hot-air drying textile articles by means of a drying machine, which is one of the three
possibilities provided in the wording of claim 2. The skilled person would not interpret the disclosure of the claim in a different way due to the fact that this claim did not exist in the publication of the application of E5 or because the only disclosed embodiment is related to a washing machine and a washing cycle.

The A-publication of E5 (corresponding to the originally filed application) and the B-publication of the granted patent of E5 are two different items of prior art, both published before the priority date of the contested patent. Each of them forms a separate independent disclosure per se under Article 54(2) EPC and it is immaterial if their subject-matter is not the same. The skilled person is not required to, nor is there any reason to, resort to the publication of the application to interpret the disclosure of the publication of the patent.

Also, the fact that the embodiment is directed to a washing machine would not cause the skilled person to reinterpret the claim in such a way that a process in a drying machine would be excluded from the disclosure. The last paragraph of the description (page 4, line 15) in E5 states that the invention can also be applied to dryers, thus instructing the skilled person that the invention in E5 was not limited to washing machines.

2.3 When considering claims 2 and 4 of E5 in combination (claim 4 being dependent on claim 2), it is evident that the expression "aforesaid speed" in claim 4 relates to the angular speed being equal to, or higher than, the lowest speed allowing to hold said articles adhering to the drum walls defined in claim 2. Said "aforesaid" speed in E5 thus corresponds to the first
rotation speed of claim 1 of the main request. The skilled person would not consider this speed of drum rotation to be variable with each alternation, since claim 4 of E5 defines that the alternations occur between the rotation speed defined in claim 2 and the periods where the rotation speed is different. The use of the definite article "the" indicates that the speed in claim 2 is a constant speed value chosen within the range.

Also a period absence of rotation ("steady drum") as defined in claim 4 of E5 corresponds to the unequivocal outcome of stopping rotation of the drum by zeroing the rotation speed as defined in claim 1 of the main request.

2.4 When separating the different periods listed (that alternate with the "aforesaid" speed) with commas and an "and/or" conjunction at the end, the skilled person reading the claim would understand that the commas are the abbreviated equivalent of the coordinating conjunction to be applied. Thus claim 4 of E5 discloses the possibility of alternating the "aforesaid speed" with periods only of absence of rotation, as this is one of the three "or"-possibilities disclosed in the claim.

In addition, since claim 4 refers to "periods" (plural), it is clear that such absences of rotation have to occur more than once, i.e. at least two alternations between the "aforesaid" speed and absence of rotation have to take place (aforesaid speed - absence of rotation - aforesaid speed - absence of rotation). These repeated alternations of speed at least 2 times constitute cycles in the sense that a series of events is regularly repeated.
2.5 However, this does not correspond to the missing feature of the claim. The expression "cyclically stopping rotation of the drum... and then re-accelerating the drum back to the first rotation speed" of the claim implies that cyclically (i.e. at least two times, in order for at least a repetition to take place) after stopping the rotation of the drum, the latter has to be re-accelerated back to the first rotation speed (first rotation speed - stop - first rotation speed - stop - first rotation speed). The use of the expression "to re-accelerate... back" implies that the original speed before the first stopping of rotation is the first rotation speed.

As explained in 2.4 above, the two alternations defined in claim 4 of E5 do not comprise a second re-acceleration back to the first rotation speed, and leave open to which speed the re-acceleration should occur after the second period of absence of rotation. The combination of claims 2 and 4 in E5 discloses cyclically stopping rotation of the drum by zeroing the rotation speed but provides no unambiguous disclosure of (cyclically) re-accelerating the drum back to the first rotation speed.

2.6 Thus the subject-matter of claim 1 is novel over document E5. Since no other attacks against novelty were made, the Board finds that the subject-matter of claim 1 is not prejudiced by the ground of opposition under Article 100(a) and 54(1) EPC.

3. Main request - Inventive step

3.1 As discussed above, the subject-matter of claim 1 differs from E5 in that the method comprises
"cyclically re-accelerating the drum (3) back to the first rotation speed (n₁) to rearrange the wool laundry (5) inside the drum (3)."

3.2 It has not been disputed that, based on this differentiating feature, the technical effect is to have an improved clothing distribution with minimal felting. The problem to be solved when starting from E5 would thus be to improve clothing distribution while avoiding felting.

3.3 The respondent requested that the case be remitted to the opposition division for further prosecution at this stage, particularly in view of the objective problem formulated by the Board, which had changed. The Board, on the other hand, finds that the formulation of the objective technical problem is an issue that has been dealt with by the parties throughout the proceedings and on which the parties should be prepared to make their arguments. The effect of the differing feature in question was even dealt with explicitly in the Board's communication (item 3.2.6). The appellant's request for remittal was therefore refused in the oral proceedings. The Board thus exercised its discretion not to remit the case to the department of first instance (Article 111(1) EPC) at least not at that stage of proceedings.

3.4 E5 discloses several possible speeds that the skilled person could choose from in order to perform the re-acceleration required by claim 1 of this request: quick rotation speed, "aforesaid" speed and reduced rotation speed. The respondent argued that the skilled person would not re-accelerate a second time to the first rotation speed (in E5 corresponding to the "aforesaid" speed) and that the skilled person would choose a
higher speed, since this produced swirls of hot air inside the drum that would increased the drying effect and consequently rendered the drying cycle more energy efficient than selecting a higher temperature. The Board does not accept this.

Contrary to the respondent's argument (for which no evidence had anyway been supplied), the skilled person in the present case when starting from E5 is not seeking to improve the energy efficiency or increase the drying effect but is concerned with trying to achieve a good balance between improving the clothing redistribution and avoiding felting. Re-accelerating to a higher speed than the "aforesaid" speed (thus establishing a period of quick rotation) would not improve clothing redistribution, since it would just imply that the clothing would be subject to higher forces than needed to stay pressed against the inside of the drum and would have no clear effect on clothing redistribution or reduction of felting, possibly even increasing the formation of wrinkles in the clothing.

On the other hand, re-accelerating the rotation speed to a speed lower than the "aforesaid" speed (thus establishing a period of reduced rotation) would imply that the clothing would keep being agitated and thus increase the felting or relaxation shrinking effect on the clothing, as this is well known from common general knowledge. Thus the obvious speed choice, also for the skilled person faced with the technical problem of adapting the process of E5, is to choose the "aforesaid" speed again as the speed to which re-acceleration brings the drum, thus establishing a further re-acceleration to the first rotation speed and arriving at the subject-matter of claim 1.
3.5 For the sake of completeness, it should be further noted that E6 also discloses on page 3 (in its first and second examples) more than two alternations between two different periods at different speeds in order to solve the objective problem posed. The fact that E6 is directed to a washing machine would not stop the skilled person from taking E6 into consideration, since E6 also relates to a drying process that implies rotation of the drum and the examples on pages 2 and 3 are directed to these. Also the fact that E6 does not disclose stopping of the drum would not lead the skilled person away from the solution, since this feature is already known from E5. Faced with the objective technical problem, the skilled person would thus recognize that E6 teaches the solution - i.e. to cyclically re-accelerate the drum back to the first rotation speed - and apply it to the drying process of E5, thus arriving at the subject-matter of claim 1 without involving an inventive step.

3.6 For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step (Article 100(a) and 56 EPC) when starting from E5 and given the technical problem to be solved, when considering common general knowledge or with the teaching of E6.

4. Auxiliary request 1 – admittance

4.1 This request was filed in response to the communication of the Board annexed to the summons to oral proceedings with letter dated 16 March 2018 and thus represented a change to the respondent's complete case as defined in Article 12(2) RPBA. Its admittance is to be considered at the Board's discretion under Article 13(1) RPBA, such discretion being exercised *inter alia* in view of
the need for procedural economy. As is established case law of the Boards of Appeal, such procedural economy implies that amended requests should at least be *prima facie* allowable in order to be admitted.

4.2 In comparison to claim 1 of the main request, claim 4 of this request further comprises the features

A) Determining the position of the wool laundry inside the drum
B) stopping the drum so that, when the drum is stopped, the wool laundry is at the bottom of the drum.

4.3 It has not been contested that feature A) is not disclosed in E5. The Board also finds no reason to disagree.

4.4 On the other hand, contrary to the respondent's argument, the Board considers that feature B) is basically inherent to the drum construction of every rotating drum dryer. When a rotating drum is de-accelerated in order to stop, it will at some point necessarily rotate at a speed providing a centrifugal acceleration lower than the gravitational acceleration g. From this point on, the laundry (e.g. on the upper part of the rotating drum) will no longer be pressed against the inner side of the drum and will always fall towards the bottom and thus be at the bottom when the drum comes to a halt. Thus feature B) is implicitly disclosed in E5.

4.5 The effect of feature A) is to know where the laundry is. As can be seen from 3.2 above, the differentiating features do not contribute to any common technical effect, the one not being defined as dependent on the other. Thus the stopping and re-accelerating of the
drum relate to the rearrangement process of the clothing, while the determination of the position contributing is only relevant to knowing where the clothing is in the drum. Since feature B) is known from E5, it cannot provide an effect contributing to the elaboration of the technical problem. The additional objective technical problem to be solved by feature A) is thus simply to be able to determine where the laundry is.

Accordingly, starting from the closest prior art represented by E5, the objective technical problems to be solved by the subject-matter of claim 1 can be regarded as the following partial problems:

(i) to improve clothing distribution while avoiding felting (see 3.2);
(ii) to know where the laundry is.

4.6 The partial problem of improving clothing distribution while avoiding felting has already been dealt under 3.3 above and considered obvious.

4.7 Regarding a solution to the partial objective technical problem of knowing where the clothing is, the Board considers that, although neither E5 nor E6 disclose such a determination of the position of the wool laundry, it would be obvious for the skilled person to choose one of the commonly available position detecting methods, e.g. sensors, and to provide them around the drum. As the respondent acknowledged on page 16 of its letter dated 12 August 2004, the skilled person is aware of many kinds of known sensors for detecting the presence of a piece of laundry. When faced with the task of knowing where laundry is, the skilled person would readily recognize that such sensors determine the position of the laundry and use them in a process as
disclosed in E5, arriving at subject-matter of claim 1 in an obvious manner.

4.8 The Board thus exercised its discretion under Article 13(1) RPBA not to admit auxiliary request 1 into the proceedings, since the subject-matter of claim 4 of auxiliary request 1 *prima facie* does not involve an inventive step.

5. Auxiliary request 1b - admittance

5.1 The respondent filed this request during oral proceedings. The amendments carried out in this request involve a deletion of claim 4 so as to overcome the reasons for not admitting auxiliary request 1 discussed under point 4 above, and an adaptation of the dependent claims. The deletion of the previous independent claim 4 resulted from objections raised for the first time in the preceding debate in the oral proceedings (*prima facie* inventive step) and thus could not readily have been carried out at a previous stage. Such a deletion also did not unnecessarily delay the proceedings as it did not introduce any further complexity. It also addressed the issues raised against the previous request without giving rise to new ones.

5.2 The Board does not accept the argument of the appellant that the amendments are not occasioned by a ground of opposition under Rule 80 EPC. The deletion carried out is occasioned by a ground of opposition, namely lack of inventive step. The adaptation of the dependent claims follows necessarily in order for the claims not to give rise to a further objection of lack of clarity. No dependent claims were added; certain ones were deleted and the remainder renumbered.
5.3 The appellant failed to persuade the Board that the particular subject-matter of independent claims 1 and 2 was *prima facie* obvious in view of alleged common general knowledge that the values defined in claims 1 and 2 required mere trial-and-error experimentation to arrive at solutions to their respective objective problems.

In light of the available prior art considered up to that point, the Board is also not convinced that it was *prima facie* obvious for the skilled person at the time of the filing to measure the resistance/conductivity between two electrodes contacting the wool and to stop the drying cycle when the measured resistance/conductivity was above/below a certain threshold.

5.4 In view of the above, the Board exercised its discretion under Article 13(1) RPBA to admit auxiliary request 1b into the proceedings.

6. Remittal of the case for further prosecution

6.1 According to Article 111(1) EPC, when deciding on an appeal, the Board may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution.

6.2 The respondent requested that the case be remitted to the opposition division for further prosecution and the appellant had no objection to this. In the exercise of its discretion in the present case, an important aspect is that the request now contains several independent claims directed to different combinations of features (coming from granted claims) and the opposition division has not yet examined the issue of inventive
step of any of these due to the opposition initially having been rejected. In order to give the parties an opportunity to develop their arguments on the particular subject-matter now claimed, the Board considers it suitable to remit the case for further prosecution.

6.3 For these reasons, the Board decided, in the exercise of its discretion conferred by Article 111(1) EPC, to remit the case to the opposition division for further prosecution of the opposition.

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 for further prosecution.

The Registrar: The Chairman:

M. H. A. Patin M. Harrison

Decision electronically authenticated