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**Datasheet for the decision
of 28 February 2023**

Case Number: T 3275/19 - 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. 56

RPBA 2020 Art. 12(3), 12(5)

Keyword:

Inventive step - attacks with E1, E1a, E10 and E18, reasons set out clearly and concisely (no) - auxiliary request 6 (yes)
Late-filed document E1a and E31 - error in use of discretion at first instance (no) - admitted (no)

Decisions cited:

T 0248/14, T 0036/82, T 0410/87

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 3275/19 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 28 February 2023

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

Representative: 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
S:t Göransgatan 143
105 45 Stockholm (SE)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
4 December 2019 concerning maintenance of the
European Patent No. 2014822 in amended form.**

Composition of the Board:

Chairman M. Hannam
Members: P. Cipriano
W. Ungler

Summary of Facts and Submissions

- I. The appellant (opponent) filed an appeal against the interlocutory decision of the opposition division in which the opposition division found that European patent No. 2 014 822 in an amended form met the requirements of the EPC.
- II. The appellant requested that the decision under appeal be set aside and the patent be revoked in its entirety.
- III. The respondent (patent proprietor) requested that the appeal be dismissed or, in the alternative, that the patent be maintained in amended form on the basis of one of auxiliary requests 1c', 2c', 2b' filed with the reply to the statement of grounds of appeal, or on the basis of auxiliary request 3a filed with letter of 3 May 2019, or on the basis of auxiliary request 6 filed with letter of 10 September 2013.
- IV. The following documents are relevant to the present decision:
- | | |
|-----|--|
| E1a | Italian patent application PN99A000085 |
| E5 | EP 0 404 047 B1 |
| E6 | DE 1 924 961 |
| E9 | EP 0 937 810 A1 |
| E10 | EP 0 796 942 A2 |
| E16 | CH 659 841 A5 |
| E18 | DE 19 728 107 A1 |
| E22 | EP 1 577 433 A2 |
| E31 | GB 1 084 919 |
- V. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion, in which it indicated *inter alia* that the

subject-matter of the respective claims 2 and 3 of the main request appeared to lack an inventive step.

VI. Oral proceedings were held before the Board on 28 February 2023, during which the respondent withdrew its main request and its auxiliary requests 1c', 2c', 2b' and 3a and requested that the patent be maintained according to auxiliary request 6 of 10 September 2013.

At the close of the proceedings the requests of the parties were as follows:

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

The respondent requested that the patent be maintained according to auxiliary request 6 of 10 September 2013.

VII. Claim 1 of auxiliary request 6 reads as follows (with the relevant features' identification in square brackets):

"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);

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); and

[feature a₁]cyclically stopping rotation of the drum (3) by zeroing the rotation speed (n) and [feature a₂]then re-accelerating the drum (3) back to the first rotation speed (n₁) to rearrange the wool laundry (5) inside the drum (3),

wherein,

[feature b)]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/second²."

VIII. The appellant's arguments relevant to the present decision may be summarised as follows:

Admittance of documents E1a and E31

Documents E1a and E31 should be admitted into the proceedings.

Document E31 was an important evidence of common general knowledge and therefore *prima facie* relevant. Document E1a was a suitable starting point for assessing inventive step and therefore also *prima facie* relevant.

Claim 1 of auxiliary request 6 - Inventive step

Starting from E5

E5 disclosed all the features of claim 1 with the exception of features a₂) and b).

Feature b) did not have a synergistic effect with feature a₂) since it did not provide any specific effect. The acceleration range was so wide that no benefit could be identified. The partial problem approach should be applied.

The partial solution of feature a₂) was not inventive as was already decided in item 3 of T 248/14.

Should the Board consider that feature b) had a synergistic effect with feature a₂) and contributed to an improved clothing distribution with minimal felting, the re-acceleration of the drum (3) back to the first rotation speed (n₁) and the determination of compromise acceleration values between two adverse actions certainly belonged to the skilled person's everyday work (the latter as shown in T 410/87).

The subject-matter of claim 1 of auxiliary request 6 did not involve an inventive step when starting from E5 in view of the technical problem to be solved, when considering common general knowledge (or the teaching from E6).

Starting from E9

E9 did not disclose the drying of wool laundry but it was equally suitable as a starting point since it referred to the gentleness of the process in paragraph [0020].

E9 disclosed three phases of movement and thus feature a₂). The speed could be a range and the range disclosed in paragraph [0018] corresponded to a speed as defined

in features a₁) and a₂). The only (relevant) differing feature was feature b).

As discussed for E5, even if it contributed to an improved clothing distribution with minimal felting, the selection of the claimed acceleration/deceleration range belonged to the skilled person's everyday work in view of the adverse impacts on the wool laundry of too high or too low acceleration/deceleration values.

Starting from E16 and E22

E16 and E22 disclosed all features of claim 1 except for feature b). Features a₁) and a₂) were disclosed on page 3, column 2, lines 18-28, of E16.

Although there was no explicit disclosure in E22 that the laundry drier was suitable for drying wool laundry, any tumble laundry drier was capable of handling any type of fabric, so that E22 implicitly disclosed a drier for drying wool laundry.

As stated above, feature b) required a simple determination of compromise acceleration values between two adverse actions, which certainly belonged to the skilled person's everyday work.

Admittance of further attacks

Similar considerations leading to the conclusion of a manifest lack of inventive step could be reached also if documents E1, E1a, E10 or E18 were selected as the closest prior art documents.

IX. The respondent's arguments relevant to the present decision may be summarised as follows:

Claim 1 of auxiliary request 6 - Inventive step

Admittance of documents E1a and E31

The respondent agreed with the opposition division that E1a and E31 were late-filed and were *prima facie* not relevant. There was no reason to change the decision of the opposition division and admit them at this stage of the proceedings.

Claim 1 of the auxiliary request 6 - inventive step

The subject-matter of claim 1 involved an inventive step.

Starting from E5

E5 disclosed all the features of claim 1 except features a₂) and b). From paragraph [0020] it could be derived that the acceleration values were important to reduce rubbing and prevent felting. Throughout the prior art, there was not even a hint as to how to set the acceleration parameter. Thus the skilled person had no pointer to guide them to the transient acceleration/ deceleration phases during a drying cycle for drying delicate wool laundry.

Starting from E9

E9 did not disclose features 1.2, 1.3, a₁), a₂) and b) of claim 1. Since E9 did not disclose features a₂) and b), claim 1 of auxiliary request 6 involved an inventive step for the same reasons as when starting from E5.

Starting from E16 and E22

E16 and E22 did not disclose at least features a₁), a₂) and b) of claim 1. Since E16 and E22 did not disclose features a₂) and b), claim 1 of auxiliary request 6 involved an inventive step for the same reasons as when starting from E5.

Admittance of further attacks

The appellant did not provide any reasons as to why the attacks starting from E1, E10 and E18 rendered claim 1 of auxiliary request 6 obvious. These attacks were therefore unsubstantiated.

Reasons for the Decision

1. *Admittance of documents E1a and E31*

1.1 In its grounds of appeal, the appellant requested that E1a and E31 be admitted into the proceedings.

1.2 The opposition division did not admit E31 into the proceedings. The opposition division considered that E31 was *prima facie* not relevant since it was not directed to a control method for drying wool laundry.

Similarly, the opposition division considered that E1a did not disclose the step of re-accelerating the drum back to the first rotation speed to rearrange the wool laundry and therefore was *prima facie* not more relevant than the documents already on file.

1.3 In its preliminary opinion the Board stated that it considered that the opposition division had exercised its discretion using the correct criteria in a reasonable way and did not see any reason to reverse this decision. Furthermore, the Board also could not recognize any reason why E31 should be more relevant than documents already filed by the appellant or why Ela presented any additional information with regard to E1 which would be relevant for the assessment of inventive step.

1.4 During the oral proceedings the appellant referred only to its written submissions and did not present any further arguments regarding this subject.

1.5 In the absence of any further arguments, the Board sees no reason to overturn the discretionary decision of the opposition division not to admit E31 and Ela into the proceedings and confirms its preliminary view (as set out in its communication dated 1 December 2022) that the documents Ela and E31 are not admitted into the proceedings.

2. *Claim 1 of the auxiliary request 6 - inventive step*

Starting from E5

2.1 It was already decided in T 248/14 (see items 2.3 to 2.5) that E5 did not disclose the feature

"cyclically [stopping rotation of the drum by zeroing the rotation speed and then] re-accelerating the drum back to the first rotation speed to rearrange the wool laundry inside the drum" [feature a₂]

In addition, it was not contested that E5 does not disclose the feature

"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/second²" [feature b)]

2.2 Feature a₂) alone has the effect of improving the clothing distribution with minimal felting as it was also decided in the previous appeal (cf. T 248/14, par. 3.2).

2.3 The appellant argued that feature b) did not have a synergistic effect with feature a₂) since it did not provide any specific effect. The acceleration range was so wide that no benefit could be identified. The partial problem approach should be applied.

The Board is not persuaded by this argument. The acceleration range defined in feature b) of claim 1 allows a fast stopping and acceleration of the drum while not damaging the wool laundry through over-abrupt braking/accelerating. This has the effect of minimising the time that laundry tumbles thus reducing the felting of the wool laundry. The patent also supports, in paragraph [0020] of the description, the idea that the effect of the claimed acceleration range is intended to reduce rubbing since it is stated that the deceleration/acceleration values of drum 3 defined in claim 1 "are important by greatly reducing rubbing (and so preventing felting) of wool laundry 5 during deceleration/acceleration of drum 3".

2.4 The features a₂) and b) thus provide a synergistic effect in minimizing felting.

- 2.5 The appellant further argued that the acceleration values defined in claim 1 were too high and would damage the clothing during the acceleration/ deceleration of the drum.

The Board can accept that laundry dryers typically rotate at speeds such as those stated in paragraph [0019] of the patent i.e. between 65 and 75 rpm, i.e. 1,25 rps maximum). It also sees the centrifugal forces defined in claim 1 as not acting for enough time to damage the wool laundry. Many dryers can even be opened during use and stop in much less than a full revolution. Therefore, the Board finds that an acceleration/deceleration of 35rps^2 (the highest value claimed) would not be able to damage the laundry. The appellant has also not provided any specific evidence to the contrary.

The objective problem solved by features a₂) and b) is thus to improve the clothing distribution with minimal felting while not damaging the wool laundry through over-abrupt braking/accelerating.

- 2.6 The appellant further argued that acceleration values have to be inherently set in every automatic drying machine and that the balance between minimizing felting and excessive accelerations having a detrimental effect on the clothes would be a normal design activity for the skilled person as also decided in T 36/82 and T 410/87.

The Board does not accept this argument. Both T 36/82 and T 410/87 concern the optimization of parameters already dealt with in the relevant prior art - in T 36/82 the maintenance of a relationship between f/D

and alpha in order to obtain the maximum efficiency of a front-fed parabolic reflector antenna is already known from the article cited by the examining division and in T 410/87 the process of roughening as a means of reducing the flow resistance of a boundary layer is already disclosed in D2. However, in the present case none of the cited prior art documents addresses the parameter of drum acceleration *per se*, let alone discusses a particular set of values.

- 2.7 The appellant argued that the setting of the acceleration was an inherent aspect already dealt with in E5, page 3, lines 24-28, but the acceleration mentioned there is "centrifugal acceleration", i.e. it relates to the inertial centrifugal force exerted on the laundry when it rotates about an axis, even at a constant angular speed. This is not the parameter defined in claim 1, which is the acceleration/ deceleration of the drum rotation speed.
- 2.8 The Board decided in T 248/14 that the skilled person faced with the problem of avoiding felting would recognise that E6 taught the cyclical re-acceleration of the drum back to the first rotation speed and its application to the drying process of E5 and that the obvious speed choice 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 the re-acceleration brings the drum. However, there is no teaching or guidance in the cited prior art, nor would it be a normal design activity for the skilled person attempting to reduce felting, to adjust the specific parameter acceleration/deceleration of the drum.

2.9 The Board finds that the subject-matter of claim 1 of auxiliary request 6 involves an inventive step when starting from E5 as the closest prior art and, in view of the technical problem to be solved, taking into account the teachings of E6 and/or common general knowledge.

Starting from E9

2.10 In items 2.7 to 2.10 of its provisional opinion, the Board considered that E9 was also a suitable starting point for the assessment of inventive step and that the subject-matter of claim 1 differed from the control method of E9 in:

- that the laundry is wool laundry,
- cyclically re-accelerating the drum (3) back to the first rotation speed (n_1) to rearrange the wool laundry (5) inside the drum (3) [feature a_2],
- that 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/second² [feature b)].

2.11 The appellant argued in writing that there was nothing preventing the method disclosed by E9 from being used in combination with wool laundry for the drying of wool laundry. The suitability of the control method of E9 for drying wool laundry was even suggested by E9, since the control method of document E9 was explicitly disclosed as being intended for treating the laundry gently (see paragraph [0020] of E9).

The Board is not persuaded by this argument. Whilst it is true that paragraph [0020] discloses that the method presses the laundry gently against the sides of the drum, E9 provides no unambiguous disclosure

that the method was ever used for any particular type of laundry, let alone wool laundry.

- 2.12 The appellant argued in writing that E9 disclosed at least three phases of movement and thus feature a₂). According to the appellant, the speed as defined in claim 1 could be a range, and the range disclosed in paragraph [0018] would correspond to a speed as defined in features a₁) and a₂).

The Board is not persuaded by these arguments. The Board concurs that E9 (e.g. paragraphs [0005] to [0007] or [0013] to [0020]) discloses at least three phases of drum rotation alternating with two phases where the drum is stopped. Feature a₁) is thus disclosed.

However, E9 in paragraph [0018] only describes speed rotation ranges for these phases of movement, so that it is not unambiguous that the drum returns to the specific first rotation speed after stopping as defined in claim 1 - it could return to another suitable value within the disclosed range. The first rotation speed in claim 1 is not a range such that feature a₂) is not disclosed in E9.

- 2.13 In items 2.11 and 2.12 of its provisional opinion the Board stated that wool is one of the obvious choices of laundry that the skilled person would take into consideration when contemplating suitable types of laundry that could be dried using the control method disclosed in E9.

However, regarding features a₂) and b), the Board considered in its preliminary opinion that when applying the problem-solution approach the skilled person would seemingly come to the same conclusion and for the same reasons as discussed when starting from E5

above, i.e. that the subject-matter of claim 1 involved an inventive step since at least the setting of the acceleration/deceleration parameter as defined in feature b) did not seem to be rendered obvious.

- 2.14 The appellant stated during the oral proceedings that the arguments relating to the inventive step objection starting from document E5 applied *mutatis mutandis* for the inventive step objections against claim 1 of auxiliary request 6 starting from document E9 and did not provide any further specific arguments regarding this attack.
- 2.15 The Board thus sees no reason to alter its provisional opinion and confirms the same herewith.
- 2.16 The Board therefore confirms that the subject-matter of claim 1 of auxiliary request 6 involves an inventive step when starting from E9 as the closest prior art and, given the technical problem to be solved, when considering the teaching of E6 and/or common general knowledge.

Starting from E16

- 2.17 E16 does not disclose the feature
- that 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/second² [feature b)]

This was not disputed by the parties and the Board also agrees.

- 2.18 Regarding the features a_1), the Board stated in its preliminary opinion that page 3, column 2, lines 18-27 of E16 disclosed this. E16 indeed discloses short stoppage times ("kurze Stillstandzeiten") between the intervals, with the intervals being periods of rotation at a first or second speed above or below satellisation speed, respectively. This opinion has not been further contested by the parties such that the Board finds that feature a_1) is disclosed in E16.
- 2.19 Regarding feature a_2), E16, page 3, column 2, lines 25-27 discloses that there can be short stoppage times (plural) between the intervals (plural). The skilled person reading the description would therefore find that, when stoppages are included between the intervals, there would be a short stoppage between every low-to-high and every high-to-low interval transition. Thus, the drum will always re-accelerate back to the higher rotational speed from stoppage at least twice (thus "cyclically") in two low-to-high transitions. Feature a_2) is therefore also disclosed in E16.
- 2.20 The subject-matter of claim 1 of auxiliary request 6 differs from E16 therefore only in feature b), one of the two differing features discussed above when starting from E5.
- 2.21 The appellant stated during the oral proceedings that the arguments relating to the inventive step objection starting from E5 applied *mutatis mutandis* for the inventive step objection against claim 1 of auxiliary request 6 starting from E16 and did not provide any further specific arguments regarding this attack.

2.22 Although E5 did not disclose feature a₂) of claim 1, the Board sees no reason why applying the problem-solution approach would lead to a different outcome than when starting from E5 regarding feature b) and therefore finds that items 2.3 to 2.8 above apply *mutatis mutandis* here as well.

2.23 The Board thus finds that the subject-matter of claim 1 of auxiliary request 6 involves an inventive step when starting from E16 as the closest prior art and, given the technical problem to be solved, when considering common general knowledge.

Starting from E22

2.24 The parties agree that E22 does not disclose the feature b). The Board also sees no reason to dispute this.

2.25 As stated in its preliminary opinion, the Board finds that paragraphs [0064] to [0066] of E22 disclose the features a₁) and a₂).

The appellant stated during the oral proceedings that the arguments relating to the inventive step objection starting from E5 applied *mutatis mutandis* for the inventive step objections against claim 1 of auxiliary request 6 starting from E22 and did not provide any further specific arguments regarding this attack.

The Board therefore has no reason to change its opinion and confirms that E22 discloses features a₁) and a₂)

2.26 Similarly to E9, the appellant argued that although there was no explicit disclosure in E22 that the laundry drier was suitable for drying wool laundry, any

tumble laundry drier is capable of handling any type of fabric, so that E22 implicitly disclosed a drier for drying wool laundry.

The Board does not find this argument persuasive with regard to E22 either. The drying cycle disclosed in paragraphs [0059] to [0066] of E22 is not disclosed as being used with any particular type of laundry, let alone wool laundry. E22 therefore does not unambiguously disclose a control method for controlling a tumble laundry drier for drying wool laundry.

- 2.27 The appellant stated during the oral proceedings that the arguments relating to the inventive step objection starting from E5 applied *mutatis mutandis* for the inventive step objections against claim 1 of auxiliary request 6 starting from E22 and did not provide any further specific arguments regarding this attack.
- 2.28 Although E22 does not disclose the feature relating to wool laundry, the Board sees no reason as to why, when applying the problem-solution approach, it should come to a different outcome regarding feature b) as when starting from E5. It therefore finds that items 2.3 to 2.8 above apply here *mutatis mutandis* as well.
- 2.29 The Board thus finds that the subject-matter of claim 1 of auxiliary request 6 involves an inventive step when starting from E22 as the closest prior art and, given the technical problem to be solved, when considering common general knowledge.
3. *Admittance of further attacks*
- 3.1 The appellant made several other inventive step attacks against claim 1 using E1, E1a, E10 and E18 as starting

points on page 19 of its grounds of appeal. E1a has however not been admitted into the proceedings (see point 1.5 above).

- 3.2 In its preliminary opinion the Board noted that the appellant argued that "similar considerations" applied but in its complete appeal case the appellant did not specify further what these considerations were and did not specify facts and arguments using E1, E10 and E18 that would allow the Board to reverse the decision under appeal on the basis of these documents.
- 3.3 During the oral proceedings the appellant did not wish to present any further arguments on this matter, such that the Board sees no reason to change its preliminary opinion, which is hereby confirmed.
- 3.4 The Board finds that these attacks do not fulfil the requirement of Article 12(3) RPBA and thus exercised its discretion not to admit these attacks into the proceedings (Article 12(5) RPBA).
4. In the absence of any other admissible attacks, the Board thus concludes that the subject-matter of claim 1 of auxiliary request 6 involves an inventive step under Article 56 EPC and thereby that it meets 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 as follows:
Claims 1 to 12 of auxiliary request 6 filed on 10 September 2013;
Description pages 2 to 4 as filed during the oral proceedings of 28 February 2023;
Drawings 1 and 2 of the specification

The Registrar:

The Chairman:



D. Grundner

M. Hannam

Decision electronically authenticated