Datasheet for the decision
of 5 February 2013

Case Number: T 2021/09 - 3.3.09
Application Number: 01309356.2
Publication Number: 1204006
IPC: G03G 9/097, C09C 3/12, C09C 1/30, C09C 1/36

Language of the proceedings: EN

Title of invention:
Electrophotographic toner comprising an external additive and image forming apparatus containing the electrophotographic toner

Patent Proprietor:
Ricoh Company, Ltd.

Opponent:
Canon Kabushiki Kaisha

Headword:
-

Relevant legal provisions:
RPBA Art. 13(1)
EPC Art. 84, 123(2)

Keyword:
"Late-filed claim request (partially admitted)"
"Allowability of amendments under Article 123(2) EPC - no (first, second, fourth and fifth auxiliary requests)"

Decisions cited:
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Catchword:
-
Case Number: T 2021/09 - 3.3.09

DECISION
of the Technical Board of Appeal 3.3.09
of 5 February 2013

Appellant: Ricoh Company, Ltd.
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Representative: Lamb, Martin John Carstairs
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Respondent: Canon Kabushiki Kaisha
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Decision under appeal: Decision of the Opposition Division of the European Patent Office posted 4 August 2009 revoking European patent No. 1204006 pursuant to Article 101(3)(b) EPC.

Composition of the Board:
Chairman: W. Sieber
Members: M. O. Müller
R. Menapace
Summary of Facts and Submissions

I. This decision concerns the appeal by the proprietor of European patent No. 1 204 006 against the decision of the opposition division to revoke it.

II. An opposition was filed requesting revocation of the patent in its entirety on the grounds that the claimed subject-matter was neither novel nor inventive (Article 100(a) EPC) and that the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

The documents submitted during the opposition proceedings included:

D1: EP 1 150 175 A1;

D9: Translation of JP 2000-129240 A (first priority document of D1); and


III. The opposition division's decision, announced orally on 22 June 2009 and issued in writing on 4 August 2009, was based on a main request (filed with letter of 15 January 2009) and an auxiliary request (submitted with letter of 20 May 2009). Claim 1 of both requests referred to a toner comprising inter alia an external additive that was characterised by comprising an inorganic particulate material and a hydrophobising agent and by having a certain residual ratio, which was
determined by measuring the carbon amount of the sample before and after washing with chloroform. Furthermore, in claim 1 of both requests, certain external additives disclosed in D1 were disclaimed.

IV. The opposition division revoked the patent for lack of sufficiency of disclosure. It essentially argued as follows:

Despite the fact that several external additives in D9, D10 and the opposed patent were prepared in an almost identical way, the residual ratio obtained for these additives varied. This variation showed that different residual ratios were obtained when the experiments were carried out by different persons or in different laboratories. Therefore the procedure to determine the residual ratio described in the opposed patent did not allow the skilled person to obtain consistent results, presumably because not all conditions of the washing step, particularly time and temperature, had been disclosed sufficiently.

Furthermore, it was clear to the skilled person that the amount of an adsorbed substance that was removed by a washing step strongly depended both on the duration of the washing step and on the temperature at which the washing step was carried out. But the time and temperature conditions employed in the washing procedure had not been disclosed in the opposed patent.

Since such a washing procedure was an essential feature of claim 1, and as the opposed patent did not contain enough information to carry it out in a consistent
manner, the invention as defined in both requests was insufficiently disclosed.

V. On 29 September 2009, the proprietor (hereinafter: "the appellant") filed a notice of appeal against the above decision, having paid the prescribed fee on 28 September 2009. In the statement setting out the grounds of appeal, filed on 4 December 2009, the appellant requested maintenance of the patent on the basis of the main or auxiliary request before the opposition division (see point III above) and submitted

D12: Affidavit of Mr Hideki Sugiura, dated 7 July 2009; and

D13: Extraction treatment test.

VI. A response was filed by the opponent (hereinafter: "the respondent") by its letter of 18 June 2010 together with

D14: US 5,527,751 A;

D15: "Experimental Report I"; and

D16: "Experimental Report II".

VII. Together with the summons to oral proceedings, issued on 24 July 2012, the board communicated its preliminary opinion to the parties. The board explained that several specific steps of the chloroform treatment disclosed in the application as filed appeared to be missing in claim 1 of the main and auxiliary request (Article 123(2) EPC). Furthermore, several objections
concerning clarity and sufficiency of disclosure were raised, in particular as regards the chloroform treatment and the determination of the carbon amount. Finally, the admissibility of the disclaimer was addressed and it was stated inter alia that it had to be decided whether all examples of D1 were novelty-destroying.

VIII. By letter of 28 December 2012, the appellant filed a new main request and first to sixth auxiliary requests together with


IX. Also by letter of 28 December 2012, the respondent filed its comments on the board's preliminary opinion.

X. By letter of 31 January 2013, the respondent requested that the appellant's main and auxiliary requests filed by letter of 28 December 2012 not be admitted into the proceedings and submitted the following documents from parallel case T 2054/09:

D18: Letter from Ricoh Company Ltd, dated 4 May 2011;

D19: Letter from Ricoh Company Ltd, dated 20 January 2012;

D20: Minutes of the oral proceedings of 30 November 2012; and

D21: Affidavit of Mr Hiroshi Yamashita, dated 26 December 2011.
XI. By letter of 1 February 2013, the appellant filed a reply to the respondent's letter.

XII. On 5 February 2013, oral proceedings were held before the board. The appellant maintained all requests submitted in the written proceedings and furthermore filed "New first" and "New second" auxiliary requests. The respondent maintained its written requests and additionally requested that the "New first" and "New second" auxiliary requests not be admitted into the proceedings.

XIII. Each claim 1 of the main request, third auxiliary request and sixth auxiliary request no longer contains a disclaimer (as the decision hinges on the deletion of the disclaimer in these requests, the text of the claims is not reproduced here).

Each claim 1 of the first, second, fourth and fifth auxiliary requests contains a disclaimer and furthermore comprises the following wording:

"1. A toner comprising:
   a binder resin;
   a colorant; and
   a first external additive,
wherein [...] the first external additive is an external additive having an average primary particle diameter not greater than 100 nm and comprising:
   an inorganic particulate material selected from the group consisting of silica, titanium oxide and alumina; and
a hydrophobizing agent which is present on the inorganic particulate material in an amount represented by $W_s$ and present as a free hydrophobizing agent in an amount represented by $W_f$, wherein a residual ratio defined as the ratio $\{W_s/(W_s+W_f)\} \times 100$ is from 40 to 98.5%, wherein $W_s$ is the carbon amount of a sample of the inorganic particulate material after treatment with a solvent and $W_f$ is the difference between the carbon amounts of a sample of the inorganic particulate material before and after treatment with a solvent, wherein the treatment with a solvent comprises the steps of

i. adding the sample to chloroform to form a mixture;

ii. agitating the mixture and allowing the mixture to settle;

iii. centrifuging the mixture;

iv. removing the supernatant to obtain the precipitate;

v. adding chloroform to the thus prepared precipitate to form a mixture;

vi. agitating the mixture and allowing the mixture to settle;

vii. repeating the steps above [...]

Claim 1 of each of the "New first" and the "New second" auxiliary requests also contains a disclaimer and comprises the above wording except that "vii. repeating the steps above" has been replaced by "vii. repeating the steps above to remove the free hydrophobizing agent" ("New first auxiliary request") and "vii. repeating the chloroform addition, agitation, centrifugation and supernatant removal steps to remove
the free hydrophobizing agent" ("New second auxiliary request").

XIV. The appellant's arguments can be summarised as follows:

(a) Main request, third and sixth auxiliary requests

These requests should be admitted into the proceedings. The disclaimer was deleted in these requests because the priority of the examples of D1 disclaimed so far was not valid and hence these examples were not novelty-destroying. The deletion of the disclaimer constituted a reaction to the board's preliminary opinion that it had to be decided whether all examples of D1 were novelty-destroying. The question arising from this deletion, namely whether the examples of D1 enjoyed priority, was a rather simple issue. It could in particular be derived in a straightforward manner from the text of D1 and its priority document D9 that the examples of D1 differed from those in its priority document in terms of the amount of hydrophobising agent. Even though it could well be that, in the laboratory, the materials obtained were the same, what mattered was the texts of D1 and D9 and these were different.

(b) First, second, fourth and fifth auxiliary requests

These requests should equally be admitted into the proceedings. The amendments in these requests were simply an attempt to put things right, in
particular in view of the objections raised in the board's preliminary opinion.

As regards the allowability of these requests under Article 123(2) EPC, their claim 1, in the same way as the application as filed, required the washing sequences to be carried out again and again until all free hydrophobising agent was removed. There was thus no discrepancy between claim 1 of these requests and the application as filed.

(c) "New first" and "New second" auxiliary request

By adding the wording "to remove the free hydrophobizing agent" in claim 1, it was now even more explicit that the washing sequences had to be applied until all free hydrophobising agent was removed. Each claim 1 of the "New first" and "New second" auxiliary requests thus was clear and met the requirements of Article 123(2) EPC.

XV. The respondent's arguments can be summarised as follows:

(a) Main request, third and sixth auxiliary requests

These requests had been filed so late that there had not been enough time to discuss the claims with the client and to get technical advice. As the appellant was also the proprietor of D1, it must have known that the priority of D1 was invalid and thus could have deleted the disclaimer at a much earlier stage. Furthermore, objections against the disclaimer had already been raised in
response to the grounds of appeal, so the appellant could have deleted the disclaimer at the latest at that stage of the proceedings. Apart from being late-filed, the deletion of the disclaimer, and the related question of whether the priority of the examples of D1 was valid, raised complex new issues. In particular, what mattered was whether the products obtained in the examples of D1 were identical to those obtained in priority document D9. As both D1 and D9 disclosed the same free silicone degree for these products, it had to be assumed that they were identical and that priority was hence valid, contrary to the appellant's assertion. Things were further complicated by the fact that the appellant's assertion was contrary to its own statement in parallel case T 2054/09, as evidenced by D18 and D21.

(b) First, second, fourth and fifth auxiliary requests

These requests too had been filed late and raised complex new issues, eg whether the amended disclaimer satisfied the legal practice of the EPO. Furthermore, additional experiments would be necessary to see whether the disclaimed subject-matter was indeed novelty-destroying. Moreover, the definition of the solvent treatment in claim 1 did not meet the requirements of Article 123(2) EPC. Consequently, these requests should not be admitted into the proceedings.
(c) "New first" and "New second" auxiliary request

These requests had been filed extremely late. They did not overcome the objection raised under Article 123(2) EPC with regard to the first auxiliary request. Furthermore, the newly-introduced wording "to remove the free hydrophobizing agent" led to an additional clarity objection as to how often the washing with chloroform had to be repeated during the solvent treatment. Therefore, these requests should not be admitted into the proceedings.

XVI. During the oral proceedings, the board observed that the sentence "This procedure is repeated to remove the free hydrophobizing agent." on page 25, lines 15-22 of the application as filed was ambiguous. It was in particular not clear whether this sentence referred to the centrifugation step of the second washing sequence, or to the second or to both washing sequences in its/their entirety, or finally whether it required the washing sequences to be carried out as often as necessary to remove all free hydrophobising agent. Due to this ambiguity, this passage could not be regarded as a clear and unambiguous disclosure of the solvent treatment as defined in claim 1 of the first, second, fourth and fifth auxiliary requests and either of the "New first" or "New second" auxiliary requests.

XVII. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request, the first auxiliary request, the "New first" or "New second" auxiliary requests or one of the second to
sixth auxiliary request in that order of preference ("New first" and "New second" auxiliary requests as filed during the oral proceedings, the others as filed by letter of 28 December 2012).

XVIII. The respondent (opponent) requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. Admissibility

2.1 The main request was filed by the appellant by its letter of 28 December 2012. The respondent requested that this request not be admitted into the proceedings.

2.2 Throughout the entire appeal proceedings until 28 December 2012, the appellant relied on claim requests that contained a disclaimer. Based on the appellant's own comments in point 3 on page 2 of its statement of grounds of appeal, this disclaimer was introduced in order to restore novelty over the examples of D1 (the appellant referred to pages 13 and 14 of D1, which contain the examples).

Not until the appellant filed the current main request, by letter of 28 December 2012, was this disclaimer deleted. According to the appellant, the disclaimer was not needed as in fact the examples disclaimed so far
were not novelty-destroying since they did not enjoy the priority of D1.

2.3 The appellant in the present appeal case was also the proprietor of D1 and the inventors in the present appeal case are co-inventors of D1. Hence, if the priority of the examples of D1 is indeed not valid, as asserted by the appellant, the appellant should have known this from the very beginning of the present appeal proceedings. The appellant could therefore in fact have deleted the disclaimer when filing the grounds of appeal (letter of 4 December 2009) and could have addressed any related priority issues already at that stage.

The appellant argued during the oral proceedings that the disclaimer was deleted only at a late stage because it was a reaction to the board's preliminary opinion that a further point of discussion would be whether all the examples as disclaimed in claim 1 were novelty-destroying (point 3.4 of the annex to the summons to oral proceedings issued 24 July 2012). However, the board's preliminary opinion did not address the issue of priority of the examples of D1 at all, let alone its impact on the disclaimer. The deletion of the disclaimer can thus not constitute a reaction to the board's observations.

Furthermore, objections against the disclaimer had already been raised by the respondent in its letter of 18 June 2010. Hence, if not with the grounds of appeal (letter of 4 December 2009), the appellant could have deleted the disclaimer at the latest in direct response to the respondent's letter of 18 June 2010.
The main request in which the disclaimer has been deleted is thus clearly filed late.

2.4 Furthermore, the deletion of the disclaimer raises for the first time in the present appeal proceedings the question as to whether or not the priority of the examples of D1 is valid.

According to the appellant, this question does not raise any new complex issues. All that needed to be done was to compare the text of the examples in D1 with that in the priority documents. This comparison immediately revealed that the examples of D1 differed from those in the priority documents in terms of the amount of the hydrophobising agent. The priority of the examples of D1 thus was clearly invalid and the examples were therefore not novelty-destroying.

2.4.1 The examples of D1 and its priority documents describe the preparation of external additives by first dispersing an inorganic particulate material in a hydrophobising agent (polydimethyl siloxane) and by subsequently preparing a powder from this dispersion. As pointed out by the appellant, the text of the examples of D1 does indeed differ from that in the priority documents in terms of the amount of hydrophobising agent. More particularly, in D1, an amount of 2.73 and 0.9 parts is disclosed, while a slightly higher amount of 3.0 parts and 1.0 parts is reported in the priority documents.
This difference in itself is however not sufficient to conclude that the priority of the examples of D1 is invalid, as asserted by the appellant.

2.4.2 More particularly, what is relevant is whether the priority of the external additives obtained in the examples of D1 is valid, because it was these external additives that had been disclaimed in the appellant's previous claim requests. The above-discussed difference in the amount of one of the starting materials (hydrophobising agent) used to prepare the external additives does not however necessarily mean that the obtained external additives are different. It is in particular not known how much of the starting material remains on the external additive and thus, even though the amounts of starting material are different, their amounts in the resulting external additives may well be the same. Therefore, the priority of the external additives obtained in the examples of D1 is not necessarily invalid.

In fact, the only feature of the obtained external additives that is explicitly disclosed in the examples of D1 is the free silicone degree, and this is identical to, rather than different from, that in the priority document of D1, namely D9. Hence, it could equally be assumed that the external additives obtained in the examples of D1 are identical to those obtained in D9 and thus would enjoy priority, contrary to the appellant's assertion.

2.4.3 This is even confirmed by the appellant's own position taken in parallel case T 2054/09. More particularly, contrary to the appellant's current assertion that the
priority is invalid, the appellant and one of the co-inventors of D1 declared in this parallel case that the examples in D1 are identical to the respective examples in priority document D9, implying that the priority is valid:

"... it is evident to the reader of D11 [priority document D9 in the present proceedings] and the opposed patent [D1 in the present proceedings] that D11 refers to the experiments of the opposed patent, simply giving rounded amounts (e.g. external additive A 3.0 pbw instead of 2.73; external additive B using 1.0 pbw instead of 0.9 pbw)." (page 3 of the appellant's letter of 4 May 2011, submitted as D18 by the respondent in the present proceedings; insertions in square brackets by the board).

"I declare that the Manufacturing examples of external additives A, B, C, D, E, F, G and H disclosed in EP 1 150 175 B1 [D1 in the present proceedings] correspond to the respective Manufacturing examples provided in D11 [priority document D9 in the present proceedings]." (affidavit of one of the inventors of D1, submitted by the respondent in the present proceedings as D21; insertions in square brackets by the board).

2.4.4 For the above reasons, it is far from straightforward whether the priority of the examples in D1 is invalid, as asserted by the appellant in the present case.

2.5 The board therefore decided not to admit the main request into the proceedings (Article 13(1) RPBA).
Third and sixth auxiliary requests

3. Admissibility

As in the main request, the disclaimer was deleted in the third and sixth auxiliary requests. Therefore, for the same reasons as given above with regard to the main request, these two auxiliary requests were not admitted into the proceedings.

First, second, fourth and fifth auxiliary requests

4. Admissibility

4.1 These requests were filed by the appellant's letter dated 28 December 2012. The respondent requested that these requests not be admitted into the proceedings.

4.2 The amendments effected in these requests constitute a bona fide attempt to address the board's objections raised in its preliminary opinion, namely with regard to the carbon amount (objections under points 2.2.1 and 2.2.2), the solvent treatment (objections under point 1.2) and the admissibility of the disclaimer (objections under points 3.2 and 3.3).

4.3 The respondent argued that additional experiments would be necessary in order to see whether the disclaimed subject-matter was indeed novelty-destroying. However, the disclaimer was in fact already present in the claim requests filed with the grounds of appeal. Therefore, the board does not see any reason why any additional experiments should now be necessary.
4.4 The board therefore decided to admit the first, second, fourth and fifth auxiliary requests into the proceedings.

5. 

Amendments - Article 123(2) EPC

5.1 Claim 1 of the first, second, fourth and fifth auxiliary requests differs from claim 1 as granted inter alia by defining the residual ratio of the external additive as being determined by a solvent treatment that "comprises the steps of

i. adding the sample to chloroform to form a mixture;

ii. agitating the mixture and allowing the mixture to settle;

iii. centrifuging the mixture;

iv. removing the supernatant to obtain the precipitate;

v. adding chloroform to the thus prepared precipitate to form a mixture;

vi. agitating the mixture and allowing the mixture to settle;

vii. repeating the steps above."

Steps i-iv represent a first washing sequence with chloroform. Steps v and vi define a second washing sequence with chloroform, this time without centrifugation. Step vii requires the repetition of steps i-vi, implying at least two further washing sequences with chloroform (the second again lacking centrifugation). Hence, what claim 1 as amended requires is a solvent treatment with at least four washing sequences.
5.2 The solvent treatment disclosed on page 25, lines 15-22 of the application as filed reads as follows:

"(1) Treatment with a solvent

A sample to be measured is added in chloroform, and the mixture is agitated and then allowed to settle. The mixture is centrifuged and then the supernatant is removed to obtain the precipitate.

Then chloroform is added to the thus prepared precipitate, and the mixture is agitated and then allowed to settle.

This procedure is repeated to remove the free hydrophobizing agent." (formatting in three paragraphs by the board).

5.2.1 As acknowledged by both parties, the first two paragraphs provide a basis for the first and second washing sequences, ie steps i-vi of amended claim 1.

5.2.2 However, contrary to step vii of amended claim 1, the last sentence of the above passage of the application as filed does not require the repetition of the two washing sequences such that at least four washing sequences are needed in total. In fact the last sentence is entirely ambiguous in this regard.

More particularly, the term "This procedure" in the last sentence could refer to the missing centrifugation step of the preceding second washing sequence, which is needed to remove the free hydrophobising agent from the
supernatant resulting from this sequence. In this case, the passage would require only two washing sequences. The term "This procedure" could however equally refer to the preceding second washing sequence in its entirety, such that the whole second washing sequence would have to be repeated, in which case three washing sequences would be required (one first and two second washing sequences). It could also be that the term "This procedure" refers to both the first and second washing sequences, in which case four (or more) washing sequences would be needed. Finally, this last sentence could mean that the washing sequences are repeated as many times as necessary to remove all free hydrophobising agent, a line of argument which was pursued by the appellant during the oral proceedings.

5.3 It is thus entirely unclear from the above passage of the application as filed how many washing sequences must be carried out. This passage therefore cannot be regarded as a clear and unambiguous disclosure of the solvent treatment as required by amended claim 1, in which at least four washing sequences have to be applied. Amended claim 1 therefore does not meet the requirements of Article 123(2) EPC.

5.4 Consequently, the first, second, fourth and fifth auxiliary requests are not allowable.

"New first" and "New second" auxiliary requests

6. Admissibility

6.1 The "New first" and "New second" auxiliary requests were filed during the oral proceedings before the board.
The respondent requested that these requests be not admitted into the proceedings.

6.2 Compared to the first auxiliary request, claim 1 of the "New first auxiliary request" has been additionally amended by inserting the wording "to remove the free hydrophobizing agent" in step vii of the solvent treatment of claim 1, so that this step now reads

"vii repeating the steps above to remove the free hydrophobizing agent."

6.2.1 This additional amendment renders the solvent treatment unclear in the sense of Article 84 EPC as regards the number of washing sequences. More particularly, on the one hand, the insertion "to remove the free hydrophobizing agent" may merely be an explanation of the purpose of the washing sequences. In this case, amended claim 1 would still require at least four washing sequences in total (see point 5.1. above). On the other hand, as argued by the appellant, this insertion may imply that the washing sequences have to be repeated as many times as necessary to remove all the free hydrophobising agent.

6.2.2 Furthermore, irrespective of which of the above two interpretations of claim 1 is chosen (at least four washing sequences or as many washing sequences as necessary to remove all the free hydrophobising agent), this claim still does not meet the requirements of Article 123(2) EPC. More specifically, as has been shown above (point 5.2), the relevant passage in the application as filed is entirely unclear as to how many washing sequences should be applied and may eg also be
read to the effect that two or three washing sequences are required. Hence, this passage cannot be regarded as a clear and unambiguous disclosure for the amended wording of claim 1.

6.2.3 In summary, the additional amendment effected in claim 1 of the "New first auxiliary request" gives rise to a new objection under Article 84 EPC and does not overcome the objection under Article 123(2) EPC raised already against the first auxiliary request. In view of this, and as the amendment was effected only at the latest possible stage in the appeal proceedings, the board decided not to admit the "New first auxiliary request" into the proceedings (Article 13(1) RPBA).

6.3 Claim 1 of the "New second auxiliary request" differs from claim 1 of the "New first auxiliary request" merely in that "the steps above to remove the free hydrophobizing agent" have been defined as "the chloroform addition, agitation, centrifugation and supernatant removal steps to remove the free hydrophobizing agent". This amendment does not change anything with regard to the above findings concerning the "New first auxiliary request". More particularly, this wording is still unclear as it does not clarify whether it implies the application of at least four washing sequences or of as many washing sequences as necessary in order to remove all free hydrophobising agent. In the same way, this wording still does not meet the requirements of Article 123(2) EPC as the two possibilities covered by this wording are not clearly and unambiguously derivable from the application as filed. Therefore, for the same reasons as given above with regard to the "New first auxiliary request", the
"New second auxiliary request" was not admitted into the proceedings.

7. In summary, there is no admissible or allowable request of the appellant on file, in particular:

- main request not admitted
- first auxiliary request added subject-matter
- "New first auxiliary request" not admitted
- "New second auxiliary request" not admitted
- second auxiliary request added subject-matter
- third auxiliary request not admitted
- fourth auxiliary request added subject-matter
- fifth auxiliary request added subject-matter
- sixth auxiliary request not admitted.
Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber