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D E C I S I O N
of 24 October 2002

Case Number: T 0593/00 - 3.2.5

Application Number: 91310759.5

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IPC: B41M 5/00

Language of the proceedings: EN

Title of invention:
Coated receiver sheets

Patentee:
XEROX CORPORATION

Opponent:
Sihl GmbH
Felix Schoeller Jr. GmbH & Co. KG
OJI PAPER COMPANY, LIMITED

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 123(2)
EPC R. 57a

Keyword:
"Added subject-matter (main request, no)"
"Novelty (main request and first and second auxiliary requests, no; third, fourth and ninth auxiliary requests, yes)"
"Inventive step (third to seventh auxiliary requests, no; ninth auxiliary request, yes)"
"Allowability of amendments (eighth auxiliary request, no)"

Decisions cited:
T 0002/81

Catchword:
-



Case Number: T 0593/00 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 24 October 2002

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 1 March 2000
revoking European patent No. 0 487 350 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: W. Moser

Members: P. E. Michel
W. Widmeier

Summary of Facts and Submissions

- I. The appellant (patentee) lodged an appeal against the decision of the Opposition Division revoking European patent No. 0 487 350.

Opposition had been filed against the patent as a whole based on Article 100(a) EPC (lack of novelty and inventive step). During the opposition proceedings the ground for opposition according to Article 100(c) EPC (inadmissible amendment) had also been raised.

The Opposition Division held that the subject-matter of claim 14 of a main request of the appellant extended beyond the disclosure of the application as filed, and thus offended against the provision of Article 123(2) EPC, and that the subject-matter of claims 1, 14 and 20 of a first auxiliary request of the appellant was not novel.

- II. The appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents filed on 4 July 2000:
- (a) claims 1 to 21, filed as main request; or
 - (b) claims 1 to 21, filed as first auxiliary request;
or
 - (c) claims 1 to 19, filed as second auxiliary request;
or
 - (d) claims 1 to 21, filed as third auxiliary request;
or
 - (e) claims 1 to 21, filed as fourth auxiliary request;
or

(f) claims 1 to 19, filed as fifth auxiliary request;
or

on the basis of the following documents filed on
24 September 2002:

(g) claims 1 to 19, filed as sixth auxiliary request;
or

(h) claims 1 to 19, filed as seventh auxiliary
request; or

(i) claims 1 to 19, filed as eighth auxiliary request;
or

on the basis of the following document submitted during
oral proceedings:

(j) claims 1 to 17 as ninth auxiliary request.

The respondents I, II and III (opponents 01, 02 and 03)
request that the appeal be dismissed.

Oral proceedings before the Board of Appeal were held
on 24 October 2002. Respondent II, although duly
summoned, was not represented at the oral proceedings.

III. The main request of the appellant includes the
following independent product claims:

"1. A receiver sheet including a substrate and a
coating which comprises a pigment and a binder
comprising polyvinyl alcohol, characterised by an
additional binder component selected from the
group consisting of cationic polyethyleneimines,
styrene-vinyl pyrrolidone copolymers, styrene-
maleic anhydride copolymers, and mixtures
thereof."

- "2. A receiver sheet comprising a substantially transparent substrate and a coating which comprises a pigment and a binder comprising polyvinyl alcohol and an additional binder component selected from the group consisting of cationic polyamines, cationic polyethyleneimines, styrene-vinyl pyrrolidone copolymers, styrene-maleic anhydride copolymers, vinyl pyrrolidone vinyl acetate copolymers, and mixtures thereof."
- "4. A receiver sheet including a paper substrate and a coating which comprises a pigment and a binder comprising polyvinyl alcohol, characterised in that said substrate has a Hercules sizing degree of at least about 50 seconds and a basis weight of less than about 90 grams per square meter, and further characterised by an additional binder component selected from the group consisting of cationic polyamines, cationic polyethyleneimines, styrene-vinyl pyrrolidone copolymers, styrene-maleic anhydride copolymers, vinyl pyrrolidone-vinyl acetate copolymers, and mixtures thereof."
- "13. A receiver sheet comprising a substantially transparent substrate and a coating which comprises a pigment and a binder comprising a mixture of polyvinyl alcohol, styrene-butadiene latex and a cationic polyamine."
- "14. A receiver sheet comprising a paper substrate having a Hercules sizing degree of at least about 500 seconds and a basis weight of less than about 90 grams per square meter, and a coating which comprises a pigment and a binder comprising a mixture of polyvinyl alcohol and styrene-butadiene latex."

The first auxiliary request differs from the main request in that an upper limit for the Hercules sizing degree of "about 1000 seconds" is introduced into claim 14.

The second auxiliary request differs from the main request in that claims 14 and 15 are omitted.

The third auxiliary request differs from the main request in that "cationic polyethyleneimines" are omitted from the list of additional binders in claim 1.

The fourth auxiliary request differs from the main request in that it incorporates the amendments of the first and third auxiliary requests.

The fifth auxiliary request differs from the main request in that it incorporates the amendments of the second and third auxiliary requests.

The sixth auxiliary request differs from the fifth auxiliary request in that "cationic polyamines, cationic polyethyleneimines" and "vinyl pyrrolidone-vinyl acetate copolymers" are omitted from the list of additional binders in claim 4.

The seventh auxiliary request differs from the sixth auxiliary request in that "cationic polyamines, cationic polyethyleneimines" and "vinyl pyrrolidone-vinyl acetate copolymers" are omitted from the list of additional binders in claim 2.

The eighth auxiliary request differs from the seventh auxiliary request in that "styrene-maleic anhydride copolymers" are omitted from the list of additional binders in claims 1, 2 and 4. Dependant claims 16 and 17 of the eighth auxiliary request read as follows:

"16. A receiver sheet as claimed in any one of claims 1 to 12 additionally comprising a styrene-butadiene lattice binder component."

"17. A receiver sheet as claimed in any one of claims 2 to 12 additionally comprising a polyvinyl pyrrolidone binder component."

The ninth auxiliary request differs from the eighth auxiliary request in that claims 16 and 17 are omitted and claims 18 and 19 are renumbered accordingly.

The independent claims of the ninth auxiliary request thus read as follows:

"1. A receiver sheet including a substrate and a coating which comprises a pigment and a binder comprising polyvinyl alcohol, characterised by an additional binder component selected from the group consisting of styrene-vinyl pyrrolidone copolymers and mixtures thereof."

"2. A receiver sheet comprising a substantially transparent substrate and a coating which comprises a pigment and a binder comprising polyvinyl alcohol and an additional binder component selected from the group consisting of styrene-vinyl pyrrolidone copolymers and mixtures thereof."

"4. A receiver sheet including a paper substrate and a coating which comprises a pigment and a binder comprising polyvinyl alcohol, characterised in that said substrate has a Hercules sizing degree of at least about 50 seconds and a basis weight of less than about 90 grams per square meter, and

further characterised by an additional binder component selected from the group consisting of styrene-vinyl pyrrolidone copolymers and mixtures thereof."

"13. A receiver sheet comprising a substantially transparent substrate and a coating which comprises a pigment and a binder comprising a mixture of polyvinyl alcohol, styrene-butadiene latex and a cationic polyamine."

"16. A process for generating images in an ink jet printing apparatus, characterised by incorporating into said ink jet printing apparatus a receiver sheet as claimed in any one of claims 1 to 15, and forming an image on the receiver sheet by causing ink to be expelled in droplets onto the coated surface."

The following documents have *inter alia* been referred to in the written and oral proceedings:

D4 DE-A-37 07 627

D5 DE-A-35 10 565

D6 DE-A-30 16 766

D7 EP-A-0 444 950 (state of the art in accordance with Article 54(3) EPC)

D11 EP-A-0 174 859

D13 JP-A-61-188183 (translation)

D14 US-A-4 474 847

IV. In the written and oral proceedings, the appellant argued essentially as follows:

The application as filed discloses a broad range of Hercules sizing degree of from about 50 seconds to the maximum practicable value. Within this range a preferred narrower range of from about 500 to about 1000 seconds is disclosed. Thus, in line with decision T 2/81, a range of from about 500 seconds to the maximum practicable value is disclosed in the application as filed. The subject-matter of claim 14 of the main request thus does not extend beyond the content of the application as filed.

The subject-matter of claim 1 of the main request and the first and second auxiliary requests is distinguished over the disclosure of document D4 in that the polyethyleneimine as disclosed in document D4 is not cationic. The formula appearing on page 9, lines 16 to 18, in contrast to the remaining formulae on pages 8 to 10, does not have an indication that the polymer is in the cationic form. In the absence of hydrochloric acid, the polyethyleneimine would not be cationic.

The subject-matter of claim 14 of the main, third and fourth auxiliary requests is new having regard to the disclosure of document D11. It is not possible to convert Stöckigt sizing degrees into Hercules sizing degrees. As stated in the patent in suit at page 3, lines 50 to 58, whilst a Hercules sizing degree of above 500 seconds refers to a highly sized paper, whilst a Stöckigt sizing degree of at least about 30 seconds refers to a moderately sized paper. A Hercules sizing degree of 500 may well refer to a higher degree of sizing than a Stöckigt sizing degree of 118.5, that is, the highest value of Stöckigt sizing degree disclosed in document D11, since different papers may

be involved. It thus remains unproven that the papers known from document D11 inevitably have a Hercules sizing degree of at least about 500 seconds or from about 500 to about 1000 seconds.

The subject-matter of claim 14 of the main, third and fourth auxiliary requests also involves an inventive step. The object of the invention is to make further coated media available. Example 1 of the patent in suit demonstrates the advantages of the receiver sheet as defined in claim 14. There is no motivation for the person skilled in the art to use a highly sized paper, and more particularly a paper having a Hercules sizing degree of at least about 500 seconds or from about 500 seconds to about 1000 seconds.

The subject-matter of claim 1 of the fifth, sixth and seventh auxiliary requests involves an inventive step. Document D4 is the closest prior art. It is not obvious to select one of the long list of binders disclosed in document D14 and thereby obtain the advantages demonstrated by the table appearing at page 8 of the patent in suit. Document D14 also does not specify a two component binder mixture.

The subject-matter of claims 1, 2 and 4 of the eighth and ninth auxiliary requests involves an inventive step. There is no mention in the prior art of styrene-vinyl pyrrolidone copolymers.

The subject-matter of claim 13 of the eighth and ninth auxiliary requests is novel. It is not permissible to pick out features from various points of document D6 and combine them to arrive at the subject-matter of the claim.

The subject-matter of claim 13 of the eighth and ninth auxiliary requests also involves an inventive step. Document D6 cannot be regarded as the closest prior art, since it does not relate to transparent substrates. Document D5 must therefore be regarded as the closest prior art. This document discloses a transparent substrate together with a coating comprising polyvinyl alcohol, optionally together with a second binder. There is, however, no suggestion in the prior art to use the combination of binders as specified in claim 13.

- V. In the written and oral proceedings, the respondents I, II and III argued essentially as follows:

The application as filed does not disclose a receiver sheet comprising a paper substrate having a Hercules sizing degree of at least about 500 seconds. In particular, nowhere in the application as filed does the phrase "at least about 500" appear. The subject-matter of claim 14 of the main request thus includes subject-matter which extends beyond the content of the application as filed.

Claim 1 of the main request and the first and second auxiliary requests of the appellant is not new in view of the disclosure of document D4. The polyethyleneimine as disclosed in document D4 is cationic as indicated in the description of document D4 at page 7, lines 64 to 66, at page 3, lines 6 and 20 and at page 4, lines 30 and 41.

The subject-matter of claim 14 of the main, third and fourth auxiliary requests lacks novelty having regard to the disclosure of document D11. Particular reference is made to Example 1b at page 22 and to Example 2b at page 24, as well as Table 2b at page 35. It is accepted that it is not possible to convert Stöckigt sizing

degrees, as used in document D11, directly into Hercules sizing degrees. Nevertheless, as shown in Table 2b, document D11 discloses Stöckigt sizing degrees ranging from 2 seconds, which represents insufficient sizing, permitting excessive absorption of the coating composition as evidenced by waviness of the paper surface, to over 100 seconds, which represents excessive sizing, preventing adhesion of the coating composition to the paper surface, resulting in areas of the surface not being coated. Document D11 thus discloses all degrees of sizing between these values which will give rise to satisfactory results.

Even if the subject-matter of claim 14 of the main, third and fourth auxiliary requests were to be regarded as being novel with respect to the disclosure of document D11, it would not involve an inventive step. Document D11 discloses that the degree of sizing of the paper substrate plays a significant role in printing quality, so that it is a matter of routine for the person skilled in the art to try out paper substrates having various degrees of sizing and thereby arrive at a paper having a Hercules sizing degree of from about 500 seconds to about 1000 seconds.

The subject-matter of claim 14 of the third and fourth auxiliary requests thus does not involve an inventive step

The subject-matter of claim 1 of the fifth, sixth and seventh auxiliary requests does not involve an inventive step. Document D4 is the closest prior art. The problem to be solved is to provide an alternative to the coating compositions disclosed in document D4. A list of hydrophilic binders which are candidates for use as the additional binder is provided in document D14 at column 3, lines 41 to 46. One of this list is a styrene-maleic anhydride copolymer. The person skilled

in the art will thus, without the exercise of inventive ingenuity, try a styrene-maleic anhydride copolymer as an additional binder in combination with polyvinyl alcohol.

The introduction of claims 16 and 17 in the eighth auxiliary request, which merely relate to preferred features of the receiver sheet, cannot be regarded as constituting an amendment which is occasioned by a ground of opposition.

The amendment thus does not comply with the requirement of Rule 57a EPC.

The subject-matter of claim 1 of the eighth and ninth auxiliary requests does not involve an inventive step. Example 1 of document D13 discloses a transparent substrate with a coating composition comprising polyvinyl alcohol and polyvinyl pyrrolidone binders. It does not involve an inventive step to use a styrene-vinyl pyrrolidone copolymer instead.

The subject-matter of claim 13 of the eighth and ninth auxiliary requests lacks novelty having regard to the disclosure of document D6. A transparent substrate is disclosed at handwritten page 13, and the following components of the coating are also disclosed: polyvinyl alcohol at handwritten page 10, styrene-butadiene latex at handwritten page 12 and a cationic polyamine at handwritten page 11, lines 7 and 8.

In the event that the subject-matter of claim 13 of the eighth and ninth auxiliary requests is considered to be novel, it nevertheless lacks an inventive step having regard to the disclosure of document D6.

The subject-matter of claim 13 represents an arbitrary selection from a number of equally good binders known from, for example, document D6. It does not require an inventive step to use the standard binder polyvinyl alcohol together with one or more known co-binders, even if this requires a selection from a large number of co-binders.

Alternatively, document D4 could be regarded as the closest prior art. The subject-matter of claim 13 only differs from the disclosure of this document in that the substrate is transparent. Such substrates are known from documents D6, D5 or D3.

Document D5 cannot be regarded as the closest prior art. The document having the most features in common with the claim should be regarded as the closest prior art, that is, either of documents D4 or D6.

Reasons for the Decision

Main request of the appellant

1.1 Amendments

The application as filed discloses, referring to the published version of the application at page 3, lines 54 and 55, that "the substrate typically is a highly sized paper, with a Hercules sizing degree of at least about 50 seconds, and preferably from about 500 to about 1000 seconds." Claim 14 of the main request specifies "a paper substrate having a Hercules sizing degree of at least about 500 seconds", without specifying an upper limit.

The disclosure in the application as filed represents a disclosure of a broad range of Hercules sizing degree of from about 50 seconds to the maximum practicable value. Within this range a preferred narrower range of from about 500 to about 1000 seconds is disclosed. Thus, in line with decision T 2/81 (OJ EPO 1982, 394), point 3 of the Reasons, a range of from about 500 seconds to the maximum practicable value is disclosed in the application as filed. It may be noted that, just as in the cited decision, the selection of this range does not give rise to novelty using the criteria of the established case law of the Boards of Appeal concerning the novelty of selection inventions.

It was pointed out on behalf of respondent I that nowhere in the application as filed does the phrase "at least about 500" appear. This is, of course, correct. However, as set out above, the presence of the expression "a paper substrate having a Hercules sizing degree of at least about 500 seconds" in claim 14 does not result in the presence of any new matter as compared with the application as filed and thus does not introduce any subject-matter which extends beyond the content of the application as filed.

1.2 Novelty

Document D4 discloses a receiver sheet including a substrate and a coating which comprises a pigment, a binder comprising polyvinyl alcohol and an additional binder in the form of a polyethyleneimine.

The polymer "J", which is used as an additional binder in comparative example 7 of document D4, is polyethyleneimine (Epomin 1000 P).

It was alleged on behalf of the appellant that the polyethyleneimine as disclosed in document D4 is not cationic, it being pointed out that the formula as appearing on page 9, lines 16 to 18, in contrast to the remaining formulae on pages 8 to 10, does not have an indication that the polymer is in the cationic form. However, it is noted that the sentence at page 7, lines 64 to 66, of document D4, which constitutes an introduction to the formulae appearing on pages 8 to 10, states that the structure of each cationic polymer used in the examples and comparative examples to show the effectiveness of the recording sheet according to the invention will be given as follows. The formulae of polymers A to D are then set out as being in accordance with the invention and polymers E to M are given as comparative examples.

In addition, there is an indication at page 3, lines 6 and 20 of document D4 that the polyethyleneimine is cationic. The opinion of the Opposition Division (see decision under appeal, paragraphs 4.1 to 4.5) that the polyethyleneimine as disclosed in document D4 is cationic can thus be accepted.

Claim 1 of the main request of the appellant is therefore not novel and the main request is therefore not allowable.

First and second auxiliary requests of the appellant

2.1 Novelty

Claim 1 of each of the first and second auxiliary requests is identical to claim 1 of the main request. These requests are accordingly not allowable for the reasons given under point 1.2 above.

Third and fourth auxiliary requests of the appellant

3.1 Novelty

Document D11 discloses a receiver sheet comprising a paper substrate having a basis weight of less than about 90 grams per square meter, and a coating which comprises a pigment and a binder comprising a mixture of polyvinyl alcohol and styrene-butadiene latex (SBR latex).

Table 2b, on page 35 of document D11, relates to paper substrates having a basis weight of 55 g/m² (cf. page 25, line 2 of document D11) and coated with a coating composition comprising polyvinyl alcohol and styrene-butadiene latex (SBR latex). The papers in the table differ in the degree of sizing, the papers having Stöckigt sizing degrees between 2 and 118 seconds.

Tables 2a, 2b and 2c, respectively on pages 33, 35 and 37 of document D11, demonstrate that, as far as regularity of dot diameter is concerned, poor results are obtained for the papers having Stöckigt sizing degrees of 2 and over 100 seconds. In the case of the Stöckigt sizing degree of 2 seconds, this is attributed to insufficient sizing permitting excessive absorption of the coating composition as evidenced by waviness of the paper surface. In the case of the Stöckigt sizing degree of over 100 seconds, this is attributed to excessive sizing preventing adhesion of the coating composition to the paper surface, resulting in areas of the surface not being coated.

On the other hand, comparatively good results are obtained for papers having Stöckigt sizing degrees of 5 to 100 seconds. Within this range, there is a disclosure of individual papers having a Stöckigt sizing degree of 32, 85 and 100 seconds, respectively.

It is noted that, according to claim 6 of the patent in suit, a Stöckigt sizing degree of at least about 30 seconds is preferred. However, it is not possible to convert Stöckigt sizing degrees into Hercules sizing degrees. It thus remains unproven that the papers known from document D11 will inevitably have a Hercules sizing degree of at least about 500 seconds (claim 14 of the third auxiliary request) or from about 500 to about 1000 seconds (claim 14 of the fourth auxiliary request).

The subject-matter of claim 14 of the third and fourth auxiliary requests is thus novel.

3.2 Inventive step

As discussed under point 3.1 above, document D11 discloses a receiver sheet comprising a paper substrate having a basis weight of less than about 90 grams per square meter, and a coating which comprises a pigment and a binder comprising a mixture of polyvinyl alcohol and styrene-butadiene latex (SBR latex).

Example I of the patent in suit compares a paper based on a substrate having a Hercules sizing degree of about 900 seconds (cf page 6, lines 20 and 21) with a commercial paper for which the Hercules sizing degree of the substrate is unknown. It is thus not possible to identify any particular aspect of print quality which is to be improved. The object of the invention can thus be regarded as being to provide a receiver sheet having an improved print quality in general.

Document D11 discloses at page 7, lines 7 to 12, that the degree of sizing of the paper substrate plays a significant role in printing quality. Thus, when attempting to improve print quality, the person skilled in the art has an incentive to experiment with changes

in the degree of sizing of the paper substrate. It is thus a matter of routine for the person skilled in the art to try out paper substrates having various degrees of sizing and thereby arrive at a paper having a Hercules sizing degree of from about 500 seconds to about 1000 seconds.

The subject-matter of claim 14 of the third and fourth auxiliary requests thus does not involve an inventive step and the third and fourth auxiliary requests of the appellant are consequently not allowable.

Fifth, sixth and seventh auxiliary requests of the appellant

4.1 Inventive step

In respect of claim 1, which is identical in each of the fifth, sixth and seventh auxiliary requests, document D4 is the closest prior art. This document discloses a receiver sheet including a substrate and a coating which comprises a pigment, a binder comprising polyvinyl alcohol and an additional binder. The subject-matter of claim 1 differs from the disclosure of document D4 in that the additional binder is selected from the group consisting of styrene-vinyl pyrrolidone copolymers, styrene-maleic anhydride copolymers, and mixtures thereof.

It was suggested on behalf of the appellant that the table appearing at page 8 of the patent in suit demonstrates the advantages of the specified additional binders. However, this table does not demonstrate any advantages arising from the use of the additional binders specified in claim 1 as compared with the additional binders disclosed in document D4. In the absence of any other problem, the problem to be solved is to provide an alternative to the coating compositions disclosed in document D4.

In the examples and comparative examples of document D4, the qualities of coatings involving ten candidates for the additional binder are compared. The person skilled in the art as a matter of routine will seek alternatives to the binders disclosed in document D4. A list of hydrophilic binders which are candidates for use as the additional binder is provided in document D14 at column 3, lines 41 to 46. One of this list is a styrene-maleic anhydride copolymer. The person skilled in the art will thus, without the exercise of inventive ingenuity, try a styrene-maleic anhydride copolymer as an additional binder in combination with polyvinyl alcohol.

The subject-matter of claim 1 thus does not involve an inventive step and the fifth, sixth and seventh auxiliary requests of the appellant are not allowable.

Eighth auxiliary request of the appellant

5.1 Amendments

The claims of the eighth auxiliary request include additional dependent claims 16 and 17 (cf. point III above).

These claims do not have a counterpart in the claims of the patent as granted. The introduction of such additional dependant claims, which merely relate to preferred features of the receiver sheet which were not previously the subject of any claims, cannot constitute an amendment which is occasioned by a ground of opposition.

The amendment thus does not comply with the requirement of Rule 57a EPC and the eighth auxiliary request of the appellant is not allowable.

Ninth auxiliary request of the appellant

6.1 Amendments

Claims 1, 2 and 4 of the ninth auxiliary request are amended as compared with the corresponding claims as granted by deletion of some of the binders from the list of additional binder components. Claim 13 is amended as compared with claim 13 as granted by combination with the features of claim 14. It may also be noted that claims 16 and 17 of the eighth auxiliary request (see point 5.1 above) are omitted.

The amendments do not extend the protection conferred and are made in order to overcome a ground of opposition.

The amendments made to the claims thus comply with the requirements of Article 123(2) and (3) as well as Rule 57a EPC. This was not disputed by the respondents.

6.2 Novelty

It was alleged that the subject-matter of claim 13 lacks novelty in view of the disclosure of document D6.

Document D6 relates to a receiver sheet for ink jet printing comprising a substrate and water-soluble polymer coating.

Among the materials listed as being suitable for the substrate at handwritten page 13, lines 15 to 17, are panes of glass, which would generally be transparent. Also listed are paper, cloth, plastics foils, sheets of metal and wood.

Among the list of water-soluble polymers is included polyvinyl alcohol (handwritten page 10, line 30) and polydimethylaminoethylmethacrylate (handwritten page 11, line 7). There is further a suggestion at handwritten page 12, lines 20 to 22, to add styrene-butadiene latex to the coating in order to improve adhesion of the coating to the substrate.

However, there is no disclosure of a mixture of polyvinyl alcohol, styrene-butadiene latex and a cationic polyamine drawn from the list of water-soluble polymers at pages 10 and 11 of document D6, or that such a mixture would be suitable for use as a coating for a transparent substrate.

The subject-matter of claim 13 of the ninth auxiliary request is thus new.

6.3 Inventive step

- 6.3.1 Each of independent claims 1, 2 and 4 specifies the presence of "an additional binder component selected from the group consisting of styrene-vinyl pyrrolidone copolymers and mixtures thereof".

The fact that document D13 discloses a transparent substrate with a coating composition comprising polyvinyl alcohol and polyvinyl pyrrolidone binders does not indicate to the person skilled in the art that styrene-vinyl pyrrolidone copolymers might be useful as an additional binder component. None of the cited prior art mentions styrene-vinyl pyrrolidone copolymers, and there is no suggestion that such polymers could be suitable for use as a binder in a coating for a receiver sheet.

The subject-matter of claims 1, 2 and 4 thus involves an inventive step.

6.3.2 Claim 13 is directed to a receiver sheet comprising a substantially transparent substrate. The closest prior art must thus be represented by a document which deals with such substrates. For this reason, document D4, which does not disclose any substantially transparent substrates, cannot be regarded as the closest prior art.

It was suggested on behalf of the respondents that document D6 could be regarded as the closest prior art. The disclosure of this document is discussed under point 6.2 above. This document lists the materials which are suitable for the substrate at handwritten page 13, lines 15 to 17, as being paper, cloth, plastics foils, sheets of metal, wood and panes of glass. Whilst it is true that panes of glass would generally be transparent, the teaching of document D6 does not include any indication as to which of the coatings would be particularly suitable for use with transparent substrates. All the examples concern coatings for paper. In addition, the opaque coatings disclosed in document D6 would generally not be selected for use with a transparent substrate, the reason for the use of a transparent substrate being to provide a transparent receiver sheet.

There is thus nothing which would suggest to the person skilled in the art that, from the list of water-soluble polymers at handwritten pages 10 and 11 of document D6, polyvinyl alcohol and a cationic polyamine should be selected and used in combination and that, in addition, this combination together with styrene-butadiene latex would be suitable for use as a coating for a transparent substrate.

Document D5 is accordingly regarded as being the closest prior art. This document relates to a receiver sheet for ink jet printing comprising a substantially

transparent substrate and a coating which comprises a pigment and a binder comprising polyvinyl alcohol, optionally together with a second binder. There is, however, nothing in this prior art which would point the person skilled in the art towards the selection of the combination of binders as specified in claim 13.

It may also be noted that document D5 suggests that a cation-modified product of polyvinyl alcohol be used, thus rendering the addition of a cationic polyamine superfluous.

Document D4 discloses a receiver sheet including a substrate and a coating which comprises a pigment and a binder comprising a mixture of polyvinyl alcohol and a co-binder. Among the co-binders disclosed in document D4 is a cationic polyamine. The document further suggests the addition of a styrene-butadiene latex (page 4, line 57). There is, however, no suggestion that a coating composition comprising all three components would be suitable for use with a substantially transparent substrate.

The subject-matter of claim 13 of the ninth auxiliary request thus also involves an inventive step.

6.3.3 Claim 16 is directed to a process for generating images in an ink jet printing apparatus using a receiver sheet as claimed in any one of claims 1 to 15. Claim 16 thus involves an inventive step for the same reasons as these claims.

6.3.4 The subject-matter of independent claims 1, 2, 4, 13 and 16 thus involves an inventive step. The remaining claims are directly or indirectly dependant from one or more of these claims and relate to preferred features thereof. The subject-matter of these claims thus also involves an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:
 - (a) claims 1 to 17 submitted as ninth auxiliary request during oral proceedings; and
 - (b) description: pages 2 to 8 submitted during oral proceedings.

The Registrar:

The Chairman:

M. Dainese

W. Moser