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**Datasheet for the decision
of 21 November 2023**

Case Number: T 2129/22 - 3.2.07

Application Number: 17179610.5

Publication Number: 3279104

IPC: B65D17/00, B41M5/26, G06K19/06

Language of the proceedings: EN

Title of invention:
METHOD OF PROVIDING MACHINE READABLE INFORMATION ON CAN ENDS

Patent Proprietor:
Crown Packaging Technology, Inc.

Opponent:
CANPACK S.A.

Headword:

Relevant legal provisions:
RPBA 2020 Art. 13(2)
EPC Art. 100(a), 56, 123(2)

Keyword:

Amendment after summons - exceptional circumstances (no) -
taken into account (no)

Grounds for opposition - lack of patentability (yes)

Inventive step - main request (no) - auxiliary requests 4 and
7 (no)

Amendments - added subject-matter - auxiliary request 1, 2, 3,
5 and 6 (yes)

Decisions cited:

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 2129/22 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 21 November 2023

Appellant: Crown Packaging Technology, Inc.
(Patent Proprietor) 11535 S. Central Avenue
Alsip, IL 60803-2599 (US)

Representative: Hoffmann Eitle
Patent- und Rechtsanwälte PartmbB
Arabellastraße 30
81925 München (DE)

Respondent: CANPACK S.A.
(Opponent) ul. Marii Konopnickiej 29
30-302 Krakow (PL)

Representative: Serravalle, Marco
Marco Serravalle S.L.
Calle Galicia, 18 - Apt. E5
38660 Adeje (ES)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 19 July 2022
revoking European patent No. 3279104 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairwoman A. Beckman
Members: A. Cano Palmero
L. Bühler

Summary of Facts and Submissions

- I. The patent proprietor (appellant) lodged an appeal within the prescribed period and in the prescribed form against the decision of the opposition division revoking European patent No. 3 279 104.
- II. The opposition division found that the subject-matter of claim 1 of the patent as granted (main request) as well as of claim 1 of auxiliary requests 4 and 7 was not inventive. The subject-matter of claim 1 of auxiliary requests 1 to 3, 5 and 6 extended beyond the content of the application as filed, contrary to the requirements of Article 123(2) EPC.
- III. The patent proprietor (appellant) requested

that the decision under appeal be set aside
and that the patent be maintained as granted (main request);
or, in the alternative,
that the patent be maintained in amended form
according to one of the sets of claims according to
auxiliary requests 1 to 7 corresponding to
auxiliary requests 1 to 7 underlying the decision
under appeal.
- IV. The opponent (respondent) requested

that the appeal be dismissed.
- V. In preparation for oral proceedings, scheduled upon the parties' requests, the board communicated its preliminary assessment of the case to the parties by means of a communication pursuant to Article 15(1) RPBA

2020, to which the appellant responded in substance with a letter dated 2 November 2023.

VI. Oral proceedings before the board were held on 21 November 2023.

At the conclusion of the proceedings the decision was announced.

VII. The following documents are referred to in this decision:

D2: US 6,498,318 B1;

D8: Anton Steeman, Quick Response (QR) and Augmented Reality (AR), 9 September 2011.

VIII. The lines of argument of the parties, which were focused on the admittance of the appellant's submissions in their letter of 2 November 2023, on inventive step of the subject-matter of claim 1 of the main request as well as of claim 1 of auxiliary requests 4 and 7 (Article 56 EPC), and on added matter with respect to the subject-matter of claim 1 of auxiliary requests 1 to 3, 5 and 6 (Article 123(2) EPC) are dealt with in detail in the reasons for the decision.

IX. Independent **claim 1 as granted** (*i.e.* according to the **main request**) reads:

"A method of providing information on a can end capable of having (i) an unopened configuration in which the end is sealed and (ii) an opened configuration in which, after application of the end to a can body, the contents of the can are accessible, the can end comprising:

an end shell and a pull tab (26), the pull tab having an orientation that is approximately parallel to a center panel of the end shell in the unopened configuration, the pull tab (26) being capable of being actuated to a part vertical position by lifting an end of the pull tab to rupture a score on the center panel and thereby achieve the opened configuration; the method being characterised by the provision of a two dimensional code (28) capable of being read on a hand held wireless communication device located on either one of a topside and underside of the tab, the code having a size of no more than 6mm by 6mm, whereby the method comprises the step of applying a laser to mark said two dimensional codes (28) onto the topside or underside of tab stock as it moves into a tab press or a conversion press, the laser being applied during a dwell period of the tab stock."

X. Independent **claim 1 of auxiliary request 1** corresponds to claim 1 as granted whereby the following feature has been introduced at the end of the claim:

"... to produce an image having a dot diameter or other characteristic dimension of no more than 50 microns."

XI. Independent **claim 1 of auxiliary request 2** corresponds to claim 1 as granted, whereby the following feature has been introduced at the end of the claim:

"... to produce a dot having a dot diameter of no more than 50 microns."

XII. Independent **claim 1 of auxiliary request 3** is based on claim 1 as granted whereby the characterising portion has been amended to read as follows (additions shown underlined):

"... characterised by the provision of a two dimensional code (28) capable of being read on a handheld wireless communication device located on either one of a topside and underside of the tab, the code having a size of no more than 6mm by 6mm, whereby the method comprises the step of applying a laser having a characteristic dimension or beam width of less than 50 microns to mark said two dimensional codes (28) onto the topside or underside of tab stock as it moves into a tab press or a conversion press, the laser being applied during a dwell period of the tab stock."

XIII. Independent **claim 1 of auxiliary request 4** is based on claim 1 as granted whereby the characterising portion has been amended to read as follows (additions shown underlined):

"... characterised by the provision of a two dimensional code (28) capable of being read on a handheld wireless communication device located on either one of a topside and underside of the tab, the code having a size of no more than 6mm by 6mm, whereby the method comprises the step of applying a CO₂ laser having a beam width of less than 50 microns to mark said two dimensional codes (28) onto the topside or underside of tab stock as it moves into a tab press or a conversion press, the laser being applied during a dwell period of the tab stock."

XIV. Independent **claim 1 of auxiliary request 5** is based on claim 1 as granted whereby the characterising portion has been amended to read as follows (additions shown underlined):

"... characterised by the provision of a two dimensional code (28), being a QR code or a matrix bar code having 14 by 14 modules, capable of being read on a handheld wireless communication device located on either one of a topside and underside of the tab, the code having a size of no more than 6mm by 6mm, whereby the method comprises the step of applying a laser to mark said two dimensional codes (28) onto the topside or underside of tab stock as it moves into a tab press or a conversion press, the laser being applied during a dwell period of the tab stock, to produce an image having a dot diameter or other characteristic dimension of no more than 50 microns."

XV. Independent **claim 1 of auxiliary request 6** is based on claim 1 as granted whereby the characterising portion has been amended to read as follows (additions shown underlined):

"... characterised by the provision of a two dimensional code (28), being a QR code or a matrix bar code having 14 by 14 modules, capable of being read on a handheld wireless communication device located on either one of a topside and underside of the tab, the code having a size of no more than 6mm by 6mm, whereby the method comprises the step of applying a laser having a characteristic dimension or beam width of less than 50 microns to mark said two dimensional codes (28) onto the topside or underside of tab stock as it moves into a tab press or a conversion press, the

laser being applied during a dwell period of the tab stock."

- XVI. Independent **claim 1 of auxiliary request 7** is based on claim 1 as granted whereby the characterising portion has been amended to read as follows (additions shown underlined):

"... characterised by the provision of a two dimensional code (28), being a QR code or a matrix bar code having 14 by 14 modules, capable of being read on a handheld wireless communication device located on either one of a topside and underside of the tab, the code having a size of no more than 6mm by 6mm, whereby the method comprises the step of applying a CO₂ laser having a beam width of less than 50 microns to mark said two dimensional codes (28) onto the topside or underside of tab stock as it moves into a tab press or a conversion press, the laser being applied during a dwell period of the tab stock."

Reasons for the Decision

1. *Appellant's submissions and supporting evidence filed with letter dated 2 November 2023 - Admittance, Article 13(2) RPBA 2020*
- 1.1 With its letter dated 2 November 2023, the appellant submitted *inter alia* argumentation on the interpretation of the feature "two dimensional code" and supporting evidence (international standard ISO 15415, a Google search and a Wikipedia entry). In particular, the appellant argued that the term "two dimensional code" should be interpreted as a whole, namely as information encoded in two directions

(horizontally and vertically) as opposed to a marking having a certain width and length and encoding information in only one direction (like a barcode). The interpretation by the board in the communication pursuant to Article 15(1) RPBA 2020 and by the opposition division in its decision considering the terms "two dimensional" and "code" separately was factually wrong in view of the supporting evidence submitted.

- 1.2 The respondent argued that this was an amendment to the appellant's case and requested not to admit it into the appeal proceedings.
- 1.3 According to Article 13(2) RPBA 2020, any amendment to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
- 1.4 The appellant argued that this argumentation and supporting evidence was a reaction to the board's preliminary opinion reflected in at least points 6.2.1 and 6.2.2 of the communication under Article 15(1) RPBA 2020. Further the appellant was of the view that the submitted supporting evidence represented the common general knowledge that had to be considered as being part of the proceedings.
- 1.5 The board does however not agree that its preliminary opinion, which concurred with the findings of the opposition division, amounts to exceptional circumstances justified by cogent reasons because the board did not introduce new matter. On the contrary, the interpretation of the respective feature has been

debated in opposition and is part of the contested decision. Therefore, the appellant could and should have filed these particular arguments and supporting evidence at the very latest when substantiating its appeal case, specifically when arguing that the interpretation of the opposition division in point 13.2 of the reasons for the decision under appeal was incorrect.

1.6 In view of the above, the argumentation on the interpretation of the feature "two dimensional code" and the supporting evidence (international standard ISO 15415, Google search and Wikipedia entry) filed with letter of 2 November 2023 are not taken into account in accordance with Article 13(2) RPBA 2020.

2. *Main request - Inventive step, Articles 100(a) and 56 EPC*

2.1 The appellant argued that the opposition division erred in its finding that document D2 disclosed "the provision of a two dimensional code".

2.1.1 Firstly, since the markings in D2 are obtained by laser-ablation, this laser-ablated surface is three dimensional and not two-dimensional.

2.1.2 Secondly, a two-dimensional code such as the one required in claim 1 of the patent as granted, is the one that is encoded in two directions. In contrast, the markings of D2 are not encoded in two directions and are thus not two dimensional codes.

2.2 The board disagrees.

- 2.2.1 The board is in the first place convinced that the markings of figures 1 and 3 of D2 are not to be considered as three-dimensional. Even if the marking process leaves some imprints on the surface to be marked, such indentation is technically insignificant, when considering the teaching of D2, compared to the other two dimensions of the characters, which are hence considered by the skilled person to be two-dimensional.
- 2.2.2 In addition, the board concurs with the findings of the opposition division in point 13.1 of the reasons for the decision under appeal that a plurality of characters and/or markings for security or verification purposes are encompassed by the term "code". The board further agrees with the respondent that the characters and/or markings of D2 are the result of a two-dimensional pattern or matrix arrangement of a multiplicity of dots, which fall within the meaning of a "two dimensional code capable of being read on a hand held wireless communication device" according to claim 1.
- 2.3 The appellant further argued that D2 failed to disclose the creation of such two-dimensional codes using laser light and that the use of laser dots in D2 is selected due to the short time available in the tab stock dwell period. The use of dot patterns would not accurately and reliably produce a two-dimensional code having minimum acceptable resolution and a size of no more than 6 mm by 6 mm with sufficient delineation between code pattern areas. In contrast, the process of D2 would result in low-resolution markings that are likely to lead to reading errors with the hand-held wireless communication device. In particular, the appellant indicated that the patent in suit dealt with dot sizes of 50 microns whereas D2 disclosed dot diameters of 100

microns. The skilled person would therefore not conceive of applying two-dimensional codes using the method of D2.

2.4 The board is not persuaded by the arguments of the appellant. It is to be noted that claim 1 according to the patent as granted is silent on the dot size and merely requires the application of a laser to mark the codes during a dwell period of the tab stock. Both features are anticipated by D2, namely in column 3, lines 5 to 13 (laser), and column 4, line 65 to column 5, line 1 (dwell time). Contrary to the allegation of the appellant, the board is not convinced that the resulting marking of D2 (characters) achieved by dot patterns would not be readable by a hand-held device. Finally, at least the height of the code of D2 of about 3 mm (see column 5, line 29) falls also within the claimed range.

2.5 In view of the above, the board concurs with the opposition division that the subject-matter of claim 1 of the patent as granted differs from the known method of D2 merely in the provision of a code with a width of no more than 6 mm.

2.6 The appellant argued that the reduction of the size of the code had the technical effect of providing a higher resolution.

The board, however, follows the respondent's view, as this alleged improvement is not reflected in the patent in suit, it is unsubstantiated and cannot be taken into account.

2.7 The board sees no error in the findings of the opposition division that limiting the width of the code

to 6 mm can only be considered as one of several straightforward possibilities which the skilled person would select, depending on the circumstances, without exercising inventive skill. In the absence of a technical effect linked to the distinguishing feature the problem can only be seen in the provision of an alternative method of providing information on a can end. Thus, the ground for opposition under Article 100(a) EPC (inventive step) prejudices the maintenance of the patent as granted.

3. *Auxiliary requests 1, 2 and 5 - Added subject-matter, Article 123(2) EPC*

3.1 The appellant argued that the opposition division erred in its finding of points 15, 18 and 24 of the reasons for the decision under appeal that the subject-matter of claim 1 of auxiliary requests 1, 2 and 5 contravened the requirements of Article 123(2) EPC. In particular, the appellant indicated that the originally filed paragraph [0073] is a general teaching of the invention and that it provided a basis to take the feature "to produce an image having a dot diameter or other characteristic dimension of no more than 50 microns" and include it in claim 1 of auxiliary requests 1 and 5 or to include the feature "to produce a dot having a dot diameter of no more than 50 microns" in claim 1 of auxiliary request 2. This was also consistent with the disclosure in originally filed paragraph [0060], which described a laser beam width of less than 50 microns.

3.2 The board disagrees. In the first place it is to be noted that, as correctly indicated by the respondent, there is no indication that paragraph [0073] of the application as originally filed relates to the teaching of the invention. Paragraph [0073] rather relates to

the description of the prior art recited in previous paragraph [0072] (see paragraph [0073] "... *the image produced by the above process ...*"), so that paragraph [0073] cannot serve as an allowable basis for the contested amendments.

Furthermore, a consistency in the disclosure of originally filed paragraphs [0060] and [0073] cannot be acknowledged.

- 3.2.1 In addition, even if paragraph [0073] of the original application could be considered as forming part of the teaching of the invention, this paragraph defines a dot having "a diameter or other characteristic dimension" of no more than approximately 50 microns, but not an image with such "other characteristic dimension", as is required by claim 1 of auxiliary requests 1 and 5.
- 3.2.2 In the case of auxiliary request 2, the introduction of the feature relating to the dot diameter in combination with the omission of the use of a substrate as required by the process of paragraph [0072] to which paragraph [0073] refers, results in an unallowable intermediate generalisation, even if paragraph [0073] could be considered as part of the teaching of the invention according to the patent in suit.
- 3.3 In sum, the board sees no error in the findings of the opposition division that auxiliary requests 1, 2 and 5 do not fulfil the requirements of Article 123(2) EPC.
4. *Auxiliary request 3 and 6 - Added subject-matter, Article 123(2) EPC*
 - 4.1 The appellant disputed the reasoned findings of the opposition division (see reasons for the decision under

appeal, points 20 and 26) that the subject-matter of claim 1 of auxiliary requests 3 and 6 did not meet the requirements of Article 123(2) EPC.

4.1.1 According to the appellant, the feature that the laser "having a characteristic dimension or beam width of less than 50 microns" had its basis in originally filed paragraphs [0060] and [0061]. In particular, those paragraphs made clear that a CO₂ laser was only a preferred example and that there was no suggestion that other types of laser should not be considered within the scope of the disclosure.

4.2 The board disagrees. As correctly found by the opposition division, the feature that the laser has a characteristic dimension or beam width of less than 50 microns was disclosed in those paragraphs as pertaining to a preferred example, but only in combination with a CO₂ laser. The omission of this latter feature in claim 1 of auxiliary requests 3 and 6 results in an unallowable intermediate generalisation that contravenes Article 123(2) EPC.

5. *Auxiliary request 4 - Inventive step, Article 56 EPC*

5.1 It is common ground that the subject-matter of claim 1 of auxiliary request 4 differs from the known method of D2 in that the code has a width of no more than 6mm, and furthermore in that the laser has a characteristic dimension or beam width of less than 50 microns.

5.2 According to the appellant, the distinguishing feature in relation to the beam width was directly correlated with a smaller dot size and a higher resolution which resulted in an improved coding with better readability. Such an improved resolution was not needed in a code

according to D2. Furthermore, there would have been no motivation and no obvious reason for the skilled person to modify D2 to use a CO₂ laser with a beam width of less than 50 microns. On the contrary, the skilled person would be dissuaded from using high resolutions (*i.e.* by applying small dot sizes) in D2 due to the time required to form the necessary number of dots, as well as the need to deliver adequate energy with each pulse to cause ablation of the surface. The teaching of D2 would thus lead away from the subject-matter of claim 1 of auxiliary request 4.

- 5.3 The board is not persuaded by the arguments of the appellant for the following reasons.
 - 5.3.1 The board concurs in first place with the respondent that the final dot size is not directly correlated with the beam width of the laser, and that small dots can be achieved, depending on the circumstances, with lasers with a larger beam width. The appellant's argument that D2 would teach away due to the limited time and required energy can only be seen as an unsubstantiated allegation in view of the whole disclosure of D2.
 - 5.3.2 Most importantly, as correctly indicated by the respondent, the patent in suit is silent on any particular technical effect delivered by the distinguishing feature of a laser with a beam width of less than 50 microns. The improvements and technical effect asserted by the appellant are based on mere allegations.
 - 5.3.3 In the absence of any clearly identifiable technical effect, and considering that there is no apparent technical prejudice to select an upper limit of 50 microns for the beam width of the CO₂ laser, the

proposed solution can only be regarded as one of several straightforward possibilities which the skilled person would select, depending on the circumstances, without exercising inventive skill.

5.3.4 Since the other distinguishing feature of selecting an upper limit of 6 mm for the width of the code falls within the same obvious possibilities, the skilled person, starting from D2 as closest prior art would arrive at the subject-matter of claim 1 of auxiliary request 4 in an obvious manner.

6. *Auxiliary request 7 - Inventive step, Article 56 EPC*

6.1 Auxiliary request 7 is based on auxiliary request 4 with the additional features of granted claim 3 or 4, namely that the code is a QR code or a matrix bar code having 14 by 14 modules.

6.2 The appellant argued that starting from D2, there is no suggestion or motivation to form two-dimensional codes, and there is no indication of the use of QR codes or matrix bar codes. There is nothing to suggest to the skilled person either to use the system of D2 for marking two-dimensional codes, nor any suggestion if starting from a known two-dimensional code to use the system of D2 to form the image. In addition, the provision of such a QR code implied minimum resolution requirements for which there is no teaching in the available prior art, especially not in D2. According to the appellant, starting from D2 the skilled person would only arrive at the subject-matter of claim 1 of auxiliary request 7 as the result of hindsight.

6.3 The board disagrees. To board again notes that there is no evidence in the patent in suit that a QR code as

claimed is directly linked with a specific resolution requirement. No particular technical effect can be directly linked to this feature alone. Consequently, the board considers that the problem solved by this feature is to be seen as providing an alternative method of implementing a two-dimensional code.

6.4 As correctly found by the opposition division in point 29.1 of the reasons for the decision under appeal, starting from D2 as closest prior art, the marking of can tabs with QR codes or matrix bar codes on cans is well known in the art, for example from D8, page 3. Since the system disclosed in D2 is suitable for making such codes and there is no apparent technical hindrance to obtain such a code with the claimed shape and size, this specific selection of size and type of codes can only be considered as one of several straightforward possibilities which the skilled person would select, depending on the circumstances, without exercising inventive skill, in order to solve the problem of providing an alternative code having a good readability with a hand-held wireless communication device while being of relative small size.

6.5 The board thus concurs with the finding of the opposition division that the additional features of claims 3 and 4 as granted cannot justify the presence of an inventive step. Furthermore, the board notes that there is no apparent synergetic effect between the size of the dot or of the laser beam with the nature of the code to be provided, or at least this has not been convincingly identified by the appellant.

6.6 In sum, and in view of the above conclusions and the above findings for the main request and auxiliary request 4, the distinguishing features that the code is

a QR code or a matrix bar code having 14 by 14 modules, with a width of no more than 6 mm and that the laser has a beam width of less than 50 microns, cannot render the subject-matter of claim 1 of auxiliary request 7 inventive in view of D2 as closest prior art.

7. *Conclusions*

It follows from the above that the appellant has not provided convincing and admissible arguments that would demonstrate the incorrectness of the decision under appeal. In the absence of any admissible and allowable request, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairwoman:



G. Nachtigall

A. Beckman

Decision electronically authenticated