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Datasheet for the decision of 22 September 2021

Case Number: T 2199/15 - 3.2.05

Application Number: 07388009.8

Publication Number: 1820632

IPC: B31B1/88, B31B1/16, B31B1/74

Language of the proceedings: EN

Title of invention:
Method and system for manufacturing a packaging unit

Patent Proprietor:
Vega S.r.l.

Opponents:
Heidelberger Druckmaschinen AG
Chesapeake Limited
Bobst Mex SA

Relevant legal provisions:
EPC Art. 123(2)
EPC 1973 Art. 83, 84, 56

Keyword:
Amendments - allowable (yes)
Sufficiency of disclosure (yes)
Clarity (not open to examination)
Inventive step - (yes)

Decisions cited:
G 0003/14, T 0345/90, T 0440/91, T 0701/91

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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 2199/15 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 22 September 2021

Appellant I: (Opponent 1)	Heidelberger Druckmaschinen AG Kurfürsten-Anlage 52-60 69115 Heidelberg (DE)
Representative:	Strehl Schübel-Hopf & Partner Maximilianstrasse 54 80538 München (DE)
Appellant II: (Opponent 3)	Bobst Mex SA Route de Faraz 3 1031 Mex (CH)
Representative:	Dilg, Haeusler, Schindelmann Patentanwaltsgesellschaft mbH Leonrodstraße 58 80636 München (DE)
Respondent: (Patent Proprietor)	Vega S.r.l. Via Visconti di Modrone, 7 20100 Milano (IT)
Representative:	Pezzoli, Ennio c/o Maccalli & Pezzoli S.r.l. Via Settembrini 40 20124 Milano (IT)
Party as of right: (Opponent 2)	Chesapeake Limited Church House St Marys Court The Broadway Old Amersham Buckinghamshire HP7 0UT (GB)
Representative:	Dehns St. Bride's House

10 Salisbury Square
London EC4Y 8JD (GB)

Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted on 20 October 2015 concerning maintenance of the European Patent No. 1820632 in amended form.**

Composition of the Board:

Chairman P. Lanz
Members: T. Vermeulen
A. Bacchin

Summary of Facts and Submissions

I. Each of opponent 1, opponent 3 and the patent proprietor lodged an appeal against the interlocutory decision of the opposition division finding that European patent No. 1 820 632 as amended with auxiliary request 4 met the requirements of the European Patent Convention.

II. The oppositions were filed against the patent as a whole on the basis of Article 100(a) (lack of novelty, lack of inventive step) and Article 100(b) EPC 1973.

III. In the decision under appeal the opposition division found that the patent disclosed the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art, but that the independent claims of the main request and of auxiliary requests 1 to 3 lacked an inventive step.

IV. On 20 November 2019 the parties were summoned to attend (first) oral proceedings to be held on 11 September 2020.

V. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal in the 2020 version (RPBA 2020), issued on 16 April 2020, the parties were informed of the board's provisional opinion.

VI. First oral proceedings before the board were held on 11 September 2020. The duly summoned opponent 2 was not present as announced with letters dated 12 December 2019 and 12 March 2020. At the beginning of the oral proceedings opponent 3 requested postponement of the

oral proceedings on account of the absence of one of their professional representatives due to travel restrictions introduced the day before the oral proceedings in view of the Covid-19 pandemic. It was argued that since opponent 3 had announced with letter of 27 July 2020 that they would be represented during oral proceedings by two professional representatives, holding the oral proceedings in the absence of one of them would constitute a violation of the party's right to be heard. The request was granted by the board.

VII. On 17 September 2020 the parties were summoned to attend (second) oral proceedings to be held on 15 December 2020.

VIII. In a letter dated 9 November 2020 the patent proprietor called attention to the ongoing restrictions caused by the Covid-19 pandemic, which affected travel to and from Italy. They requested that the oral proceedings scheduled for 15 December 2020 be postponed or held by videoconference.

IX. In a communication dated 20 November 2020 the board asked the parties for their consent with the oral proceedings scheduled for 15 December 2020 being held by videoconference on 18 December 2020.

X. With letter dated 4 December 2020 opponent 1 submitted that they did not agree to conduct the oral proceedings as a videoconference.

XI. Subsequently, the oral proceedings scheduled for 15 December 2020 were cancelled with notification of 11 December 2020.

XII. On 25 January 2021 the parties were summoned to attend (second) oral proceedings to be held on 22 September 2021.

XIII. The parties were notified on 2 September 2021 that the oral proceedings would be held by videoconference. None of the parties expressed an objection thereto.

XIV. Second oral proceedings before the board were held on 22 September 2021. The duly summoned opponent 2 was not present as announced with letters dated 3 March 2021 and 15 September 2021. At the end of the oral proceedings the patent proprietor withdrew their appeal.

XV. Both appellant I (hereinafter: opponent 1) and appellant II (hereinafter: opponent 3) requested that the decision under appeal be set aside and the European patent No. 1 820 632 be revoked.

The patent proprietor requested that the appeals of appellants I and II be dismissed; or, alternatively, that the decision under appeal be set aside and the patent be maintained according to one of the fifth to eleventh auxiliary requests, filed during opposition proceedings.

Opponent 2 did not file any requests.

XVI. The following documents were referred to during appeal proceedings:

E5(O1) EP 0 885 809 A1;
E6(O1) DE 26 58 887 A1;
E7(O1) FR 2 843 911 A1;
E16(O1) US 4 759 741;

E3(O2) US 4 108 066;
E4(O2) US 3 598 042;
E5(O2) US 6 206 815 B1;
E6(O2) US 2 472 883;
D5(O3) "Braille on folding cartons", European Carton Makers Association, September 2005 edition.

Document E3(O2) is a patent family member of document E6(O1), and document E5(O2) is a patent family member of document E5(O1).

XVII. Claims 1 and 9 according to auxiliary request 4, corresponding to the version underlying the decision under appeal, read as follows (the claim numbering placed in square brackets is adopted hereinafter by the board):

"[**M0**] A method of manufacturing a packaging unit with applied embossing of a Braille lettering for forming a closed packaging, comprising the following steps:
- [**M1**] to provide the packaging unit by punching or cutting of a packaging bulk to have the packaging unit punched-out therefrom, [**M2**] said packaging bulk being in the form of a roll or a sheet;
- [**M3**] to provide at least one of the side faces of the packaging unit after the punching or cutting thereof with at least one embossing [**M3.1**] of a Braille lettering [**M4**] by conveying the packaging unit between a first roller (11) and a second roller (12) configured for cooperating with each other, [**M5**] said first roller (11) and said second roller (12) being configured with complementary means for providing at least one embossing [**M5.1**] of a Braille lettering;
- [**M6**] folding and adhesive joining of the embossed packaging unit."

"[**S0**] A system (1) for manufacturing a packaging unit with applied embossing of a Braille lettering for forming a closed packaging, comprising:
- [**S1**] a shearing device for punching or cutting a packaging unit from a packaging bulk to have the packaging unit punched-out therefrom, [**S2**] said packaging bulk being in the form of a roll or a sheet;
- [**S6**] a folding and adhering apparatus;
- [**S2'**] a conveyor (21) such as an endless conveyor belt with a direction of conveyance (20) for conveying the packaging unit through the system to a discharge position, where the packaging units are discharged;
characterised in further comprising [**S3**] an embossing device [**S4**] comprising a first and a second roller (11, 12) configured for cooperating with each other, [**S5**] said first roller (11) and said second roller (12) being configured with complementary means for providing embossing [**S5.1**] of a Braille lettering on a packaging unit after the punching or cutting thereof."

XVIII. The parties' submissions may be summarised as follows:

Allowability of amendments

- *Opponent 3*

The amendment "after the punching or cutting thereof" in feature M3 of claim 1 according to auxiliary request 4 had no basis in the original application. The passage invoked in the decision under appeal referred to the explanation in the paragraphs [0013] and [0014] of the published application with respect to the steps immediately before and after the embossing step, without however specifying which of those steps were performed immediately before and which of those steps

were performed immediately after the embossing step. The order of the method steps was not clearly described in the original application.

- *Patent proprietor*

The objection of added subject-matter pursuant to Article 123(2) EPC was raised for the first time only at a very late stage of the appeal proceedings and should therefore not be admitted.

Sufficiency of disclosure

- *Opponent 3*

The patent did not teach the skilled person how to convey the packaging unit through and between the various stations in order to perform the various steps of claim 1. The description in paragraphs [0014] and [0015] of the patent was very general and only hinted that there must be a certain direction of conveyance. Further, there was no disclosure in the patent on how to arrange the various stations relatively to one another or how to deal with different shapes of the processed packaging unit in order to allow for a proper conveyance. Therefore, the invention was not sufficiently disclosed.

Clarity

- *Opponent 3*

The term "after" was added to the second process step of claim 1 according to the auxiliary request 4. Inasmuch as the term should mean that the embossing and Braille lettering were effectuated "immediately after"

the punching or cutting operation, it introduced a lack of clarity. Not only was the term "immediately" relative in that it failed to quantify the time passed, it was without standard meaning in the packaging industry and therefore unclear. It further raised the question whether it was excluded that another operation was performed in between the two steps.

- *Patent proprietor*

The objection against Article 84 EPC was raised for the first time only at a very late stage of the appeal proceedings and should therefore not be admitted.

Inventive step

- *Opponents 1 and 3*

The subject-matter of claims 1 and 9 did not involve an inventive step when starting from documents E5(O1), E6(O2) or E16(O1).

Starting from document E5(O1) the subject-matter of both claim 1 and claim 9 according to auxiliary request 4 had two distinguishing features: the embossing of a Braille lettering and the embossing being done after the punching or cutting. The objective technical problem associated with the first distinguishing feature was to provide a packaging unit with information for the visually impaired, which the skilled person would have solved in an obvious manner in view of the teaching of document E6(O1), document E7(O1) or document E4(O2). The second distinguishing feature did not have any technical effect. This was because changing the order of the punching or cutting step and the embossing step would not have improved the

accuracy of the manufacturing system, it would have deteriorated it. In fact, punching or cutting the single continuous web 19 of document E5(O1) before embossing would require sensors and synchronising control in order to maintain the position of the mechanically less stable pre-cut blanks and to avoid their edges from lifting. Further, the opposition division erred in concluding that the progression disclosed in document E5(O1) would risk the Braille embossing getting damaged by the punching or cutting step. In practice, cutting was carried out remotely from any embossing pattern. Also the description of the patent in suit did not reveal any technical effect. In paragraph [0004] it merely mentioned the risk of mixing up different types of embossment matrices. This was solved, not by the order of the method steps, but by the identification codes that were only introduced in the dependent claims. In T 440/91 the board found that an alleged technical effect should not be taken into consideration unless it was at least hinted at in the patent. As a consequence, the second partial problem was to provide an alternative solution. There were only limited possibilities for arranging the cutting tool and the embossing tool: either the embossing step was carried out prior to the punching step as in document E5(O1), or the steps took place simultaneously as taught by document D5(O3), or the packaging unit was embossed after the punching step but before the folding/adhering step. Selecting one of these three possibilities did not require any inventive merit. In fact, in view of the passage in column 1, lines 19 to 32 of document E5(O2) - the English language family member of document E5(O1) - it would have been even more likely for the skilled person to consider the last alternative. Document E6(O2) also disclosed such a solution (cf. column 4, lines 40 to 44). The claimed

subject-matter was therefore obvious when starting from document E5(O1).

In document E6(O2) the embossing step and the punching or cutting step were already carried out in the claimed order. The only difference lied in the embossment of Braille lettering. The objective technical problem was how to provide a packaging unit with information for the visually impaired. It would have been obvious for the skilled person to replace at least one pair of the embossing rollers shown in Figure 2 of document E6(O2) with the printing roller and the counterpressure roller disclosed in E3(O2), an English language family member of E6(O1). Also from documents D5(O3), E7(O1) and E4(O2) the skilled person would have been aware of rotary Braille embossing; they would have been motivated to apply Braille markings to various types of goods. According to the embodiment shown in Figures 4 and 5 of the starting point E6(O2), the embossment was confined to narrow bands on the central walls leaving not only the areas between the bands and the edges, but also the bottom and top flaps free of any embossment (column 3, lines 55 to 57; column 4, lines 68 to 71). The passage in column 5, lines 20 to 22 of document E6(O2) already suggested that the bottom flap should not contain any cushioning. It was therefore possible to foresee information for the visually impaired in the unembossed areas. In order to do that, the skilled person would have removed one of the roller pairs shown in Figure 2 of document E6(O2) by means of the adjusting screw 37 and replaced it with Braille embossing rollers. A pointer to that effect was disclosed by document E6(O1) (page 7, line 4: "Auswechseln der genannten Gegenwalze"). The skilled person would have been aware that the diameter and/or the material of the rollers had to be adapted to

provide the different pressures required for embossing the Braille lettering and for embossing the cushioning. Alternatively, the skilled person would have placed a matrix mat with Braille embossing features on one of the available rollers similarly to the arrangement shown in Figure 1 of document E4(O2). In that case, the skilled person would have foreseen a negative roller below the blank of Figure 2 of document E6(O2) in order to ensure that the Braille lettering remained visible despite the cushioning embossings. Also the cut-away portion 56 illustrated by Figure 4 of document E6(O2) would be suitable for holding the Braille matrix mat. A further alternative solution would put the Braille embossing rollers on a separate shaft placed after the first embossing shaft. Hence, it would have been obvious to solve the objective technical problem in the manner of claim 1 or claim 9.

Document E16(O1) concerned the manufacture of a packaging unit according to which a packaging blank was cut ("die cutting section 22") prior to undergoing a slotting step ("slotting section 24"). It differed from the method of claim 1 and the system of claim 9 in that no embossing was carried out. However, the definition of "to slot" included the meaning "to cut a groove", which could be understood as to mean embossing. There was further no mention of any Braille lettering in document E16(O1). Faced with the objective technical problem to describe a method for manufacturing packaging units containing Braille lettering, the skilled person would have turned to either document E6(O1) or document E7(O1) and replaced the rollers of the slotting section 24 of document E16(O1) with a set of rollers that embossed Braille lettering on the packaging unit. In view of the passage in column 5, lines 6 to 22, only those functional units were

deployed which were required for the manufacture of the package unit. As a result, the subject-matter of claims 1 and 9 was obvious when starting from document E16(O1).

- *Patent proprietor*

The subject-matter of claims 1 and 9 according to auxiliary request 4 involved an inventive step, for the following reasons.

Document E5(O1) was not an appropriate starting point. It failed to include a reference to Braille lettering, but concerned the manufacture of cigarette packages. The opposition division's formulation of the first objective technical problem contained pointers to the solution of the claims resulting in an *ex post facto* analysis. The second distinguishing feature was not a mere alternative solution. Embossing after punching or cutting provided many advantages. First, the Braille lettering did not risk getting damaged by a subsequent punching or cutting step bound to put the paper fibres under tension. Further, it allowed positioning the Braille lettering closer to the edges of the packaging unit, hereby making better use of the wall surface of the packaging unit. The second objective technical problem was therefore to improve the quality of the Braille lettering on the packaging unit by avoiding damage and making optimal use of the surface. No issues with accuracy or damage avoidance were obvious from document E5(O1); the emblems embossed on the prior art cigarette package merely served the purpose of merchandising. From column 1, lines 19 to 33 of its patent family member E5(O2) it was clear that the main concern of document E5(O1) was to improve the supply. There was therefore no reason for altering the order of

the embossing step and the punching or cutting step in document E5(O1) in order to solve the second objective technical problem, so that the solution of claim 1 was not obvious.

The embodiment shown in Figure 1 of document E6(O2) was incompatible with the claimed solution, because it did not leave any area available to emboss Braille lettering. The embodiment shown in Figure 5 did not serve for Braille embossing either. Neither the glue flap 43 nor the top or bottom flaps 44 to 51 could be used, see also column 5, lines 20 to 24. But the skilled person would have also not considered embossing Braille lettering in the very small areas left aside the centrally embossed bands. Apart therefrom, it was important to realise that blind people would have considerable difficulties reading Braille lettering provided on a heavily corrugated package as shown in Figure 7 of document E6(O2). Further, it was difficult to emboss thin and precise Braille lettering on a very thick cardboard. Even if the skilled person would have opted to do so, there were still three possibilities: i) before the cushioning step, in which case the Braille lettering risked being destroyed, ii) at the same time as the cushioning step, requiring an inventive solution for dealing with the different pressures the cushioning and the Braille rollers arranged on the same shaft were designed to exert on the blank, iii) after the cushioning step, which made it difficult to apply the Braille lettering on an already distorted support surface. It was further worth considering that the replacement of one of the rollers illustrated in Figure 2 of document E6(O2) would result in the undesired situation that the package manufactured to protect fragile products had a wall

without any cushioning. The claimed solution was therefore not obvious having regard to document E6(O2).

Document E16(O1) related to corrugated boxes, see column 1, lines 6 to 9 and the substrate 106 in Figure 4. It would have been technically impossible to emboss such a substrate. Furthermore, only slotting was disclosed, no embossing. These terms did not have the same meaning. The subject-matter of claims 1 and 9 was not obvious when starting from document E16(O1).

Reasons for the Decision

1. Applicable law

The application on which the opposed patent is based was filed on 20 February 2007. According to the decision of the Administrative Council of 28 June 2001 on the transitional provisions under Article 7 of the Act revising the EPC of 29 November 2000 (OJ EPO 2007, Special edition No. 4, 219), Articles 56, 83 and 84 EPC 1973 and Article 123(2) EPC apply to the present case.

2. Allowability of amendments - Article 123(2) EPC

2.1 The board concurs with point 14 of the decision under appeal that the amendment "after the punching or cutting thereof" in feature M3 of claim 1 according to the auxiliary request 4 has basis in the original application pursuant to Article 123(2) EPC. In fact, the wording of original claim 1 "to provide at least one of the side faces of the packaging unit with at least one embossing/Braille by conveying the packaging unit..." (emphasis by the board) inherently requires

that the punching or cutting step, which turns the packaging bulk into the packaging unit, precedes the embossing step.

2.2 Under these circumstances, the question whether the objection of added subject-matter should be admitted can be left open.

3. Sufficiency of disclosure - Article 83 EPC 1973

3.1 Opponent 3 argued that the very general description in paragraphs [0014] and [0015] of the patent did not teach the skilled person how to convey the packaging unit through and between the stations or how to arrange the stations relatively to one another.

The other parties did not comment on this issue.

3.2 The board observes that the description in paragraph [0013] of the patent refers to the process steps immediately before and after the embossing step, as follows:

> "*The method ... will be described in further detail in the following in respect of those parts of the method that relate to the process steps immediately before and after the step in which the packaging unit is provided with an embossing*".

Consequently, the subsequent paragraphs [0014], [0015] and [0016] can only be understood in the sense that the packaging unit is conveyed through the embossing rollers illustrated in Figure 1 immediately after it is formed by punching and cutting the packaging bulk and immediately before undergoing further processing steps,

such as printing text, prior to the packaging unit being finally packed.

3.3 In view thereof, the board concludes that the invention is disclosed in a manner sufficiently clear and complete to be carried out by the person skilled in the art (Article 83 EPC 1973).

4. Clarity - Article 84 EPC 1973

4.1 Opponent 3's clarity objection is based on the premise that the amendment "after the punching or cutting thereof" was taken from the description and added to the granted claim 1 by way of amendment. However, the board holds the view that the order of the punching or cutting step, on the one hand, and the embossing step, on the other hand, is implicit from the wording of original claim 1 (see point 2.1 above). This means that the alleged non-compliance with Article 84 EPC was not introduced by way of amendment into the claim; it was already there. Pursuant to decision G 3/14 of the Enlarged Board of Appeal (OJ EPO 2015, 102, Order), the amendment "after the punching or cutting thereof" in claim 1 of auxiliary request 4 may therefore not be examined for compliance with the requirements of Article 84 EPC when considering whether, for the purposes of Article 101(3) EPC, the patent as amended meets the requirements of the EPC. It is uncontested that, within the domain of scrutiny open to the board in application of decision G 3/14, claim 1 of the main request complies with Article 84 EPC.

4.2 The above conclusion obviates the need to decide on the patent proprietor's request not to admit the late-filed clarity objection into the appeal proceedings.

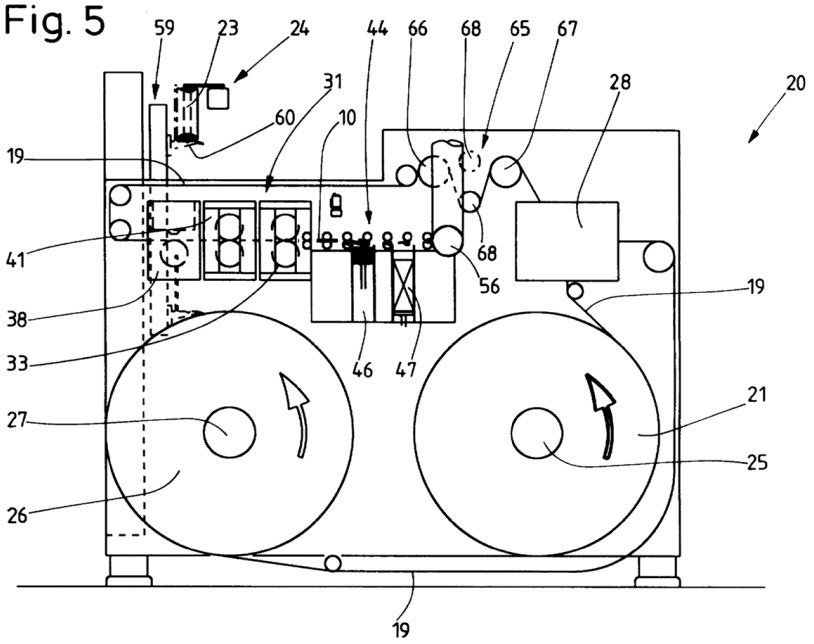
5. Inventive step - Article 56 EPC 1973

5.1 Starting from document E5(O1)

5.1.1 The board cannot share the patent proprietor's view that document E5(O1) is not a suitable starting point for assessing inventive step of the subject-matter of claims 1 and 9 according to auxiliary request 4, for the following reasons.

Document E5(O1) relates to an installation for manufacturing packaging units, in particular cigarette packets. As illustrated in Figure 3, the installation consists of a first unit 20 ("Zuschnittsvorrichtung", referred to as "blanks device" in the English language family member E5(O2)) connected through a conveyor belt 24 to a second unit 22 ("Verpackungsmaschine" or "packaging machine"). Figure 5 reproduced below schematically shows how a packaging bulk 19 in the form

Fig. 5



of a continuous web of thin cardboard is rolled off a spool 21 inside the first unit 20. The cardboard web 19 is subsequently printed in a first module 38, embossed in a second module 41, and punched and cut in a third

module 33. The separate blanks 10 are then stacked and exit the first unit 20 on the conveyor belt 24 to the second unit 22 for further processing, such as folding and adhesive joining. According to column 5, lines 31 to 39, the embossing module 41 comprises first and second rollers configured with complementary means for cooperating with each other. Hence, document E5(O1) discloses features M1, M2, M4, M5 and M6 of claim 1 and features S1 to S5 of claim 9.

In the board's view, document E5(O1) is also directed to a similar purpose as the claimed invention, namely manufacturing packaging units with applied embossing for forming a closed packaging. Incidentally, their concrete use is not part of the contested claims, but is only mentioned in passing in paragraphs [0002] and [0004] ("such as medicine", "when the packaging is used for prescription drugs") of the patent description.

Hence, document E5(O1) is regarded as an appropriate starting point for the assessment of inventive step.

5.1.2 The subject-matter of claim 1 differs from the method disclosed by document E5(O1) in that a Braille lettering is embossed (features M0 and M3.1) and in that the packaging unit is embossed after the punching or cutting thereof (feature M3). Similarly, the subject-matter of claim 9 differs from the system disclosed by document E5(O1) in that the rollers are configured with complementary means for providing embossing of a Braille lettering (features S0 and S5.1) and in that the packaging unit is embossed after the punching or cutting thereof (feature S5.1).

5.1.3 It is undisputed that the technical effect of the first distinguishing feature is that the packaging unit is

provided with information for the visually impaired (cf. paragraph [0002] of the patent).

Regarding the second distinguishing feature, the board concurs with the patent proprietor that a change in order of the two manufacturing steps is not a mere alternative solution. Certainly, it is not denied that the approach taken in document E5(O1) has some advantages of its own. The embossment of a single continuous web may, for example, require a less elaborate position control compared to a solution using individual pre-cut blanks. Conversely, that does not mean that the features M3 and S5.1 are without technical effect. The patent proprietor convincingly demonstrated that the claimed progression prevents the impairment of the embossed area by the punching or cutting module. This is all the more relevant in view of the fact that the punching step is not merely optional, as was suggested by opponent 1, but is an essential requirement of the claimed subject-matter ("to have the packaging unit punched-out therefrom" in features M1 and S1).

5.1.4 In this connection opponent 1 referred to decision T 440/91 to underpin the argument that an alleged technical effect should not be taken into consideration unless it is at least hinted at in the patent. Firstly, the board wishes to point out that T 440/91 actually rules that additional technical effects not mentioned in the original application can be taken into account for the assessment of inventive step, so long as they concern the same field of use and do not alter the character of the invention (Reasons 4.1). In the context of the present case, however, opponent 1 did not put forward any arguments alleging a different field of use or a change in character of the invention.

The board is not convinced that there are any. Further, in a situation like the present one, where the claims were substantially amended after grant and the prior art used as starting point for the assessment of inventive step was not acknowledged in the original application or in the patent, it would be unreasonable and run counter to the practice of the problem-solution approach not to take account of effects achieved by the amended subject-matter vis-à-vis the new prior art.

5.1.5 There was no dispute between the parties that the technical effects of the first and second distinguishing features represent an aggregation of isolated effects which have no interdependence. According to established case law, this gives rise to two technically independent partial problems; for the subject-matter of the claim to be considered inventive, it suffices to show that the solution to just one of these problems is not obvious (cf. T 345/90, point 5 of the reasons, and T 701/91, points 6.4 and 6.5 of the reasons).

5.1.6 In view of the foregoing, the board formulates the partial problems as how to provide a packaging unit with information for the visually impaired and how to improve the quality of the embossing.

5.1.7 Regarding the second partial problem, the opponents argued that the solution involved selecting one out of just three possible arrangements. In the board's view, this argument circumvents one of the central aspects of the problem-solution approach, namely the question whether or not the skilled person, in the expectation of solving the problem, would have been prompted to modify the teaching in the starting point so as to arrive at the claimed invention. Since it is one of the

key features of document E5(O1) that the continuous web of thin cardboard is embossed before being punched and cut into separate packaging blanks (Figures 1, 2 and 5 to 7; column 2, lines 1 to 8; column 5, lines 19 to 39), it is hardly conceivable that the skilled person would have decided to modify the prior art method or system by changing the order without any concrete motivation to do so. Such an approach would be artificial and at odds with what the skilled person would have done in realistic situations. This conclusion is not altered by the passage in column 1, lines 20 to 33 of document E5(O1) - corresponding to column 1, lines 19 to 32 of the English family member E5(O2) - which, contrary to opponent 1's contention, concerns the supply of the separate blanks to the packaging machine rather than the order of the different manufacturing steps.

By the same token the board is not persuaded that the teaching of document E6(O2) would have led the skilled person to change the order of the embossing step and the punching or cutting step in document E5(O1). Apart from the different nature of the embossings (emblems in document E5(O1) vs. cushioning corrugations in document E6(O2)), it is not clear how the transversally driven web shown in Figure 1 of document E5(O1) would be embossed by the longitudinally operating rollers depicted in Figure 2 of document E6(O2).

5.1.8 Since the board considers that it is not obvious to modify the method or the system known from document E5(O1) in order to arrive at the second distinguishing feature, the question of whether the first distinguishing feature is obvious may be left open.

5.1.9 In conclusion, the subject-matter of claims 1 and 9 is not obvious when starting from document E5(O1).

5.2 Starting from document E6(O2)

5.2.1 The prior art document E6(O2) concerns the manufacture of carton packaging units used for shipping fragile articles. To that end a cushioning effect is foreseen by corrugating a substantial part of the surfaces of

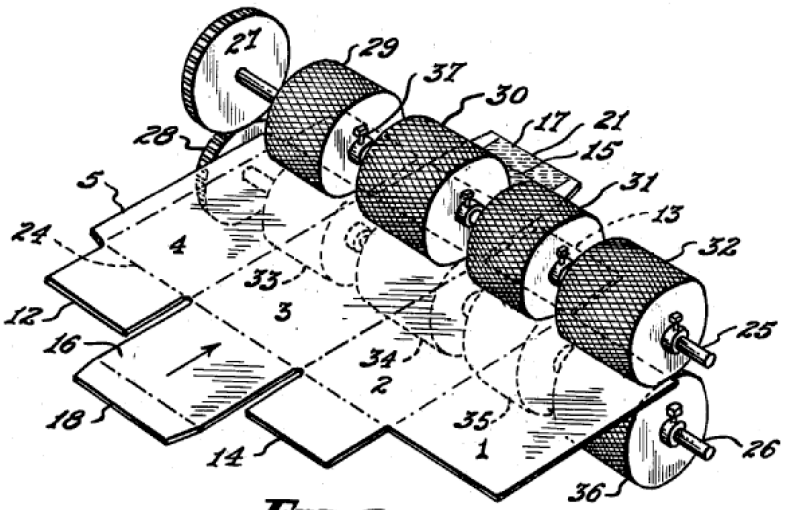


FIG.2.

the packages. This is done by conveying the pre-cut blanks between pairs of cooperating rollers (29 to 36 in Figure 2 reproduced above) each configured with complementary embossing means. There is no dispute between the parties that document E6(O2) is an appropriate starting point for assessing inventive step, differing only from the subject-matter of claims 1 and 9 in that it does not refer to Braille lettering.

5.2.2 As was set out in point 5.1.6 above, the objective technical problem is how to provide a packaging unit with information for the visually impaired.

5.2.3 The opponents' main line of argument in support of the obviousness of the claimed subject-matter hinges on their understanding of the embodiment illustrated in

Figures 4 and 5 of document E6(O2). Other than in Figures 1 and 2, designated rollers 52 and 53 with cut-away portions 56 and 57 accomplish a non-continuous so-called 'timed embossing operation' that leaves specific areas of the packaging unit unembossed (column 4, lines 68 to 75 and Figure 4). It is, however, not clear to the board why the skilled person would have been prompted to fill the cut-away portions with a matrix mat of the type disclosed by document E4(O2). Not only are the prior art mats made from "a flexible sheet of material, preferably heavy paper or cardboard" (column 2, lines 55 to 56 of document E4(O2)), which would appear to be unsuitable for the desired purpose, such an arrangement would further emboss the Braille lettering in an unsatisfactory area extending across the lateral score lines of the bottom and top flaps (cf. Figure 5 of document E6(O2)).

5.2.4 Even more improbable appears the scenario in which the skilled person would have placed the matrix mats known from document E4(O2) on the surface of a pair of the rollers 29 to 36 shown in Figure 2 of the document E6(O2). As pointed out by the patent proprietor, the pressure required by the rollers to corrugate the carton blank would not be compatible with the more delicate impact typically exerted by the Braille pins. A similar consideration is applicable in respect of the argument that one of the rollers 29 to 32 could be replaced by a separate Braille roller. The board is not convinced that the skilled person would have considered such a design, and if yes, would have had the level of skill necessary to solve the issue by, as the opponents argued, adapting the diameter and/or the material of the rollers in order to adjust the different pressures.

5.2.5 The opponents further submitted that the skilled person would have foreseen Braille embossing rollers of the type known from document E6(O1) or document E7(O1) on a separate shaft placed after the first embossing shaft. It is not lost on the board that the bottom or top flaps of 44 to 51 of the carton blank illustrated in Figure 5 of document E6(O2) would, in the right circumstances, offer sufficient free space for the purpose of providing Braille text. However, it is also evident that the increase in effective thickness of the carton blank due to the corrugated bands 39 to 42 (column 5, lines 28 to 30) would pose considerable difficulties for handling between the paper resp. label embossing rollers known from document E6(O1) or document E7(O1). None of the prior art documents cited by the parties hints at a solution on how to overcome those difficulties. Nor have the opponents indicated how the skilled person would have proceeded using their common general knowledge. Hence, the argument is unconvincing.

5.2.6 All things considered, the board is convinced that the skilled person who is incapable of invention would have been discouraged to emboss a Braille lettering on a package with corrugated walls. In comparison to a general process of embossing, a Braille embossing process involves numerous technical considerations, such as the height of the individual dots, the spacing between consecutive dots, characters and lines, and the minimal distance between the dots and the creasing lines (cf. pages 7 to 11 of document D5(O3)). Each of those are essential for achieving the textural variations that are required for the purpose of tactile perception. The board agrees with the patent proprietor that visually impaired people would have considerable difficulties to perceive and correctly interpret such

texture variations on a package that has been heavily corrugated, regardless of whether the different embossings are superposed or juxtaposed.

5.2.7 In conclusion, the subject-matter of claims 1 and 9 is not obvious when starting from document E6(O2).

5.3 Starting from document E16(O1)

5.3.1 The board does not share opponent 1's view that the term "slotting" falls under the meaning of "embossing". It is well-known in the art of packaging that the former term refers to removing material in order to form, for example, the flaps a a packaging box, whereas the latter term refers to stamping a material to create a raised relief image. Hence, document E16(O1) does not disclose an embossing step nor does it mention Braille lettering.

5.3.2 The argument that the person skilled in the art would have had an incentive to replace the slotting step of document E16(O1) with an embossing step is not persuasive. In the board's view, should the need exist to emboss part of the surface of the packaging unit disclosed by document E16(O1), the skilled person could

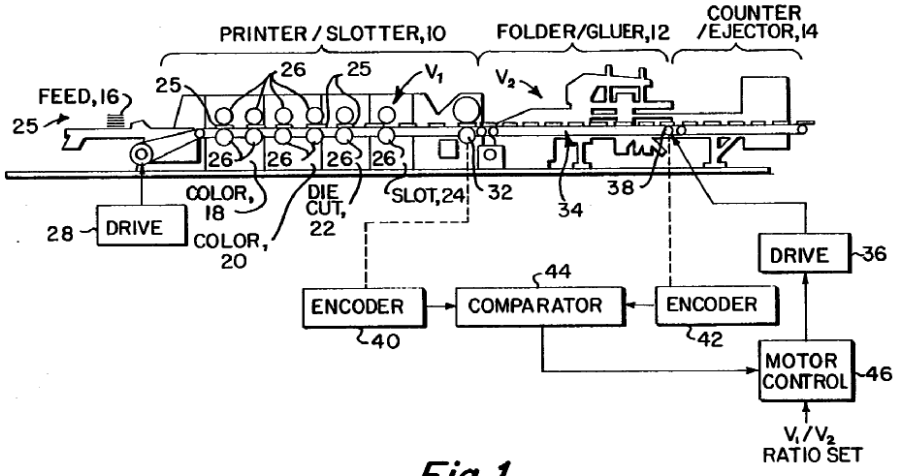


Fig. 1

have also opted to implement the additional embossing step at a different point in the manufacturing system: prior to one of the printing sections 18 or 20 in Figure 1 of document E16(O1), reproduced above, immediately prior to the cutting section 22, in combination with either the printing or the cutting step, immediately after the cutting section 22, or even after the slotting section 24. The board takes the view that pinning down the order of the steps to one of these possible options without any pointer in the prior art is tainted by hindsight.

For that reason the subject-matter of claims 1 and 9 cannot be obvious when starting from document E16(O1).

5.4 Conclusion on inventive step

The subject-matter of claims 1 and 9 according to auxiliary request 4 involves an inventive step (Article 56 EPC 1973).

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar: The Chairman:

N. Schneider P. Lanz

Decision electronically authenticated