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**Datasheet for the decision
of 15 June 2022**

Case Number: T 1012/19 - 3.2.05

Application Number: 11813443.6

Publication Number: 2658722

IPC: B41J13/12

Language of the proceedings: EN

Title of invention:

Ink-jet printer for printing on cards

Patent Proprietor:

Sicpa Holding SA

Opponents:

Bundesdruckerei GmbH
Boehmert & Boehmert Anwaltspartnerschaft mbB

Relevant legal provisions:

RPBA Art. 12(2), 12(4)
EPC Art. 56

Keyword:

Transfer of opposition (yes)
Late-filed objection - admitted (lack of novelty: not
substantiated: no; lack of inventive step: yes)
Inventive step - (yes)

Decisions cited:

G 0004/88, G 0002/04, T 0215/84, T 0523/89, T 0345/90,
T 0701/91, T 0967/97, T 0021/08, T 1742/12, T 0405/14,
T 1230/15, T 0015/19



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Case Number: T 1012/19 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 15 June 2022

Appellant: Bundesdruckerei GmbH
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 14 February
2019 rejecting the opposition filed against
European patent No. 2658722 pursuant to Article
101(2) EPC.**

Composition of the Board:

Chairman O. Randl
Members: T. Vermeulen
 A. Bacchin

Summary of Facts and Submissions

I. Opponent 1 lodged an appeal against the decision of the opposition division rejecting the oppositions of opponent 1 and opponent 2 against European patent No. 2 658 722 ("the patent").

In their notices of opposition they had sought revocation of the patent on the grounds of Article 100(a) EPC together with Article 54(1) EPC (lack of novelty) and with Article 56 EPC (lack of inventive step), and filed, inter alia following documents as evidence:

D1 EP 1 857 287 A2;
D2 WO 2009/124325 A1;
E1 EP 1 088 661 A2;
E2 JP 2009-202509 A;
E2b machine translation of E2;
E3 US 6,843,840 B2.

II. With letter dated 20 May 2022 the appellant submitted that the opposition status had been transferred. The following evidence was filed in support:

Annex A1 excerpt from the Commercial Register HRB80443B (chronological print);
Annex A2 excerpt from the Commercial Register HRB70764B (chronological print);
Annex A3 excerpt from the Commercial Register HRB80443B (printed on 21 January 2021).

III. Oral proceedings before the board were held on 15 June 2022 in the absence of opponent 2, who had informed the

board with letter dated 23 June 2021 that it did not intend to attend the oral proceedings.

- IV. The appellant (opponent 1) requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed (main request) or, alternatively, that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims of one of auxiliary requests 1 or 2 filed in reply to the notices of opposition with letter dated 22 November 2017.

Opponent 2, who was a party as of right under Article 107, second sentence, EPC, did not file any observations or requests in the appeal proceedings.

- V. Claim 1 of the main request, which corresponds to claim 1 as granted, has the following wording (the feature numbering proposed by the appellant and adopted by the board appears in square brackets):

"[1] Ink-jet printer for printing on cards comprising:
- [1.1] a printing station (50) for ink-jet printing on a card (11) made of thermoplastic material, [1.1.1] said printing station (50) including at least a printhead (51) coupled to a reservoir (52) containing an ink, [1.1.1.1] said ink comprising: a medium consisting of a low-boiling organic solvent, an auxiliary solvent consisting of a high-boiling organic solvent, and a colouring component soluble in said medium; - [1.2] a support carriage (40) [1.2.1] adapted to support said card (11), [1.2.2] said carriage (40) being drivable between a first position (P1), in which

said carriage (40) does not face said printhead (51), and a second position (P2) in which said carriage faces said printhead (51); - [1.3] a driving motor (DM) active on said carriage (40) for moving the same between said first and second positions (P1, P2); - [1.4] a guide member (41) for said carriage (40), the latter being movable along said guide member (41) between said first and second positions (P1, P2); - [1.5] one or more reference members (RM) [1.5.1] associated with said guide member (41), [1.5.2] the latter being interposed between said printhead (51) and said one or more reference members (RM) [1.5.3] so as to to [sic] prevent ink ejected by the printhead from reaching the reference member (RM); - [1.6] a detection device (DD) mounted on said carriage (40), said detection device (DD) being adapted to detect said one or more reference members (RM) and generate a corresponding main signal (MS); - [1.7] a control unit (U), connected with said detection device (DD) for receiving said main signal (MS) and regulating said driving motor (DM) according to said main signal (MS)."

VI. The appellant's submissions may be summarised as follows.

Transfer of opponent status

From Annex A1, point "2 a) Firma" on page 17, it was clear that the previous Bundesdruckerei GmbH was changed into the Bundesdruckerei Gruppe GmbH. Annex A1, point "6 b) Sonstige Rechtsverhältnisse" on page 17, and Annex A2, point "6 b) Sonstige Rechtsverhältnisse" on pages 10 and 11, showed that the business activities including all the essential assets and liabilities were transferred to the BIS Bundesdruckerei International Services GmbH pursuant to § 123, paragraph 3 of the

Transformation Act (German: Umwandlungsgesetz). It followed from Annex A2, point "1. Firma" on pages 1 and 12, that the BIS Bundesdruckerei International Services GmbH had changed in the meantime to the new Bundesdruckerei GmbH (HRB70764B), who now conducted the opposition proceedings and the opposition appeal proceedings as opponent 1 in its own interest (see G 4/88). Hence, the appeal proceedings were to be continued with the new Bundesdruckerei GmbH (HRB70764B) as opponent 1.

Ground for opposition under Article 100(a) EPC together with Article 54(1) EPC

The claimed subject-matter was not novel pursuant to Article 54 EPC. All features of claim 1 were disclosed by document E1. In particular, point IV.3 of the statement of grounds of appeal set out clearly why the features 1.5.2 and 1.5.3 were known in combination from document E1. The objection was therefore substantiated in accordance with Article 12(2) RPBA 2007.

Claim interpretation

Features 1.5.2 and 1.5.3 did not require that the printhead, the interposed guide member and the reference member be vertically aligned. They could also extend along an oblique line. Particularly in case of plural printheads, a protection only in the vertical direction would not be sufficient. An ink mist that might develop had to be prevented from reaching the reference member. Furthermore, feature 1.5.2 did not exclude other components interposed between the printhead and the reference members. Nor did it exclude that the relative arrangement of the printhead, guide member and reference member had an additional purpose

other than preventing ink from reaching the reference member. The construction "so as to" in feature 1.5.3 expressed the aim of the arrangement of feature 1.5.2, not its definite purpose. Should the guide member be removed, the ink ejected by the printhead would reach the reference member.

Ground for opposition under Article 100(a) EPC together with Article 56 EPC

(a) New attack

The attack based on the combination of documents D1 and E3 was not new since it had already been discussed by the opposition division.

(b) Closest prior art

The closest prior art was not limited to a single document. In the present case, the skilled person could take several routes, namely starting from document D1 or E1.

(c) Starting from document D1

Document D1 disclosed an ink-jet printer with all features of claim 1, except the ink composition in accordance with feature 1.1.1.1. It followed from paragraph [0026] that not only the guide rails 14 but the entire base element 10 served as the guide member along which the support carriages 16a and 16b were moved. The annotated Figure 3 (reproduced below) clearly illustrated that the base element 10 was interposed between the printhead and the reference members arranged on the inside of each of the projections 62a and 62b. Hence, ink ejected from the

printhead was prevented from reaching the reference member. The fact that ink flow was already impeded by the position of the carriages did not alter this conclusion, since also in

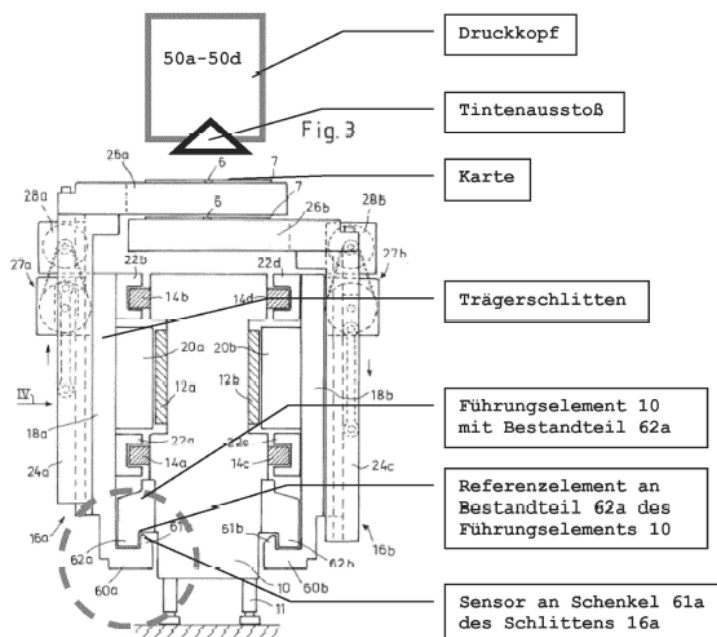


Figure 3 - annotated by the appellant

non-operative positions, in which the support carriages were moved away from the printhead, ink flow to the reference member had to be prevented, be it directly or indirectly in the form of an ink mist. Furthermore, in the operative position of the carriage 16a shown in Figure 3 of document D1, the guide rails 14c-d and the projection 62b on the opposite side of the base element 10 were normally not covered by a carriage. The reference member arranged on the inside of the projection 62b was therefore not protected by a support carriage. It had further to be taken into account that the indication of a new intended use of a known device could not render that device novel. Reference was made to decisions T 215/84, T 523/89 and T 15/19. As a consequence, not too much attention should be paid to

feature 1.5.3. Document D1 already disclosed a guide member interposed between a printhead and a reference member, that was suitable for the intended use. Features 1.5.2 and 1.5.3 were thus disclosed by document D1.

Alternatively, the projections 62a and 62b of document D1 could be regarded as guide members for guiding the respective support carriage 16a and 16b. They made sure that the support carriage were prevented from tilting in the vertical plane. The U-shaped portions 60a and 60b of the carriages engaged behind the projections much in the same way as it was done in Figure 3 of the patent. Even though claim 1 did not require that contact was made with the guide member, it was conceivable that the sensor on the U-shaped portion 60a made contact with the inside surface of the projection 62a. The function of the projections as a guide member was also clear from paragraph [0036] of document D1, where they were directly compared with the guide rails.

Therefore, the subject-matter of claim 1 differed from the printer known from document D1 only by feature 1.1.1.1. Its technical effect was that the ink composition was suitable for printing on thermoplastic substrates. The objective technical problem was thus to provide a suitable ink for printing on thermoplastic substrates.

In order to solve the problem, the skilled person would have turned to document E3, which disclosed inks comprising a medium consisting of a low-boiling organic solvent used to reduce the ink drying time (column 9, lines 60 to 67), an auxiliary solvent consisting of a high-boiling organic solvent for preventing the ink from drying and clogging (column 9,

lines 38 to 41), and a colouring component soluble in said medium (column 9, lines 1 to 2). In accordance with column 3, lines 26 to 27, of document E3, such an ink composition was suitable for printing on photographic paper. As an alternative, the skilled person would have consulted document D2, which also disclosed an ink composition according to feature 1.1.1.1 (see formulation 5750 in Table 1).

In view thereof, the subject-matter of claim 1 did not involve an inventive step when starting from document D1 in combination with document E3 of document D2.

(d) Starting from document E1

Document E1 also disclosed an ink-jet printer with all features of claim 1, except the ink composition of feature 1.1.1.1. The guide member for the support carriages 14a and 14b was formed by the entire base plate 10 including the rails 12. Both Figure 2 and paragraph [0032] of document E1 implied that they were made in one piece. In any case, a guiding function restricting the movement in one dimension, here the vertical direction, was sufficient for a component to be a guide member. Along an inclined line drawn between the printhead 20 and a reference member 26 arranged on the side surface of the base plate 10, the base plate occupied an intermediate position. It was therefore interposed between the printhead and the reference member. By reason of the arrangement of the measuring bar 24 on the side surface of the base plate 10, it was the base plate and also the edge of the rail 12 which prevented ink ejected by the printhead from reaching the reference member. Unlike the carriage in its operative position, the base plate and the rails also provided protection against an ink mist, which was all

the more important since the object to be printed passed through several printing stations.

The skilled person would have solved the problem of providing a suitable ink for printing on thermoplastic substrates by considering the teaching of document E3. Accordingly, feature 1.1.1.1 was obvious.

Even if feature 1.5.3 were not disclosed in document E1, the subject-matter of claim 1 would still be obvious. Features 1.1.1.1 and 1.5.3 did not have any synergy. The second technical problem would then be to protect the measuring system by the guide member to prevent ink from reaching the reference member. A solution to that problem was disclosed in document E2. The fact that document E2 required the printhead to be driven along the guide member whereas the substrate remained stationary was irrelevant. The simple kinematic reversal of the relative movement was not an obstacle for the skilled person. Figure 5, claim 1 and paragraphs [0028] and [0029] of document E2 showed a guide member 2 adapted to protect a reference member 7 from ink mist. Document E1 already disclosed the relative arrangement of printhead, guide member and reference member. With the solution of document E2 the reference member would have been better protected.

Therefore, the subject-matter of claim 1 did not involve an inventive step in view of the combination of document E1 with documents E3 and, optionally, also E2.

VII. The respondent's submissions may be summarised as follows.

Ground for opposition under Article 100(a) EPC together with Article 54(1) EPC

The novelty objection was not substantiated in the statement of grounds of appeal. In particular, the appellant acknowledged that both documents D1 and E1 failed to disclose feature 1.1.1.1. Accordingly, it could not be derived from the statement of grounds of appeal why the appellant was of the opinion that the claimed subject-matter lacked novelty.

Claim interpretation

By virtue of the expression "so as to", features 1.5.2 and 1.5.3 were interrelated.

Ground for opposition under Article 100(a) EPC together with Article 56 EPC

(a) New attack

The statement of grounds of appeal contained a new attack, namely lack of inventive step over document D1 as closest prior art and document E3. This combination had not been considered in the first instance proceedings.

(b) Closest prior art

Decision T 1230/15 confirmed that inventive step was to be discussed on the basis of a single closest prior art. It remained unclear in the statement of grounds of

appeal whether the appellant considered document D1 or document E1 as the closest prior art.

(c) Starting from document D1

In its annotated Figure 3, the appellant erroneously chose to illustrate the printheads in a location centrally above the base element 10 and between the different guide rails 14a-d. From the top view of Figure 2 of document D1, it appeared more likely that the printheads 50a to 50d extended significantly beyond the sides of the base element 10. In any case, it could not be directly and unambiguously derived from document D1 where exactly, and over which length in the transverse section of Figure 3 the printheads 50a to 50d might be positioned. Accordingly, feature 1.5.2 could not be directly and unambiguously derived from document D1.

Furthermore, the appellant misinterpreted the base element 10 to correspond to the guide member. Paragraph [0026] of document D1 was unambiguous that the guide rails 14a to 14d guided and held the carriages on the base element 10 through the interaction with the carriage shoes 22a to 22d. The base element 10 itself was not disclosed to guide the carriages. But even if the base element 10 were considered as a guide member, it would not be interposed between the printhead and one or more reference members, but rather next to and beyond the reference members at the projections 62a and 62b.

The appellant was also wrong in asserting that the projection 62a served as a guide member for the carriage 16a. Mechanical contact with the U-shaped portion 60a was not possible because of the optical

sensor arranged on the inside of the leg 61a. The passage of paragraph [0036] of document D1 referred to by the appellant had to be read as a comparison between the way the projections and the guide rails extended along the base element.

In any case, feature 1.5.3 was not disclosed by document D1. For preventing ink ejected by the printhead from reaching the reference members, the guide rails had to be arranged and designed to block every passage which, without the guide rails, would have allowed the ink ejected by the printhead to flow to the reference members. This was not possible in document D1, since the reference member was always protected by the projection 62a.

Hence, the subject-matter of claim 1 differed from the printer known from document D1 by features 1.1.1.1, 1.5.2 and 1.5.3. As the low-boiling solvent of the ink composition made the ink particularly corrosive, it was especially important to protect elements such as the reference member. Therefore, the distinguishing features had a synergistic effect. Similarly to paragraph [0008] of the patent, the objective technical problem was to provide an ink-jet printer for printing on cards of thermoplastic material that was capable of properly performing the printing operation without damaging parts of the same printer, in particular any reference member for regulating a driving motor for a support carriage for supporting the cards.

The prior art documents cited by the appellant failed to provide any hint for the skilled person to solve this technical problem. Document D1 was unambiguous with respect to what was considered a guide member. Accordingly, even the combination of documents D1 and

E3 could not render the subject-matter of claim 1 obvious.

Consequently, the subject-matter of claim 1 involved an inventive step when starting from document D1.

(d) Starting from document E1

Generally, a guide member was a part referred to as serving a guiding function. In document E1, only the guide rails 12 fulfilled this role. The base plate 10 merely supported the carriage; it did not guide its course in a certain direction. The appellant's argument that the base plate and the rails were made in one piece was without basis in the description or the drawings of document E1. Paragraph [0012] of document E1, for example, suggested that both the motor rail 11, the cross-section of which was hatched in Figure 2, and the guide rails 12 were added to the base plate 10.

Feature 1.5.2 required that the position of the printhead be known. This was not the case. The relatively large cubic volume illustrated in Figure 2 of document E1 did not allow the skilled person to determine the exact position of the printhead, let alone the nozzles which ejected the ink. As a consequence, it was impossible for the skilled person to unambiguously determine whether the guide member was interposed between the printhead and the reference member. But even if the skilled person were to imagine a direct line from an ejecting nozzle of a printhead to a reference member, and even if the guide member were located on that line there between, no technical function could be derived from the guide member, other than guiding the carriage.

The skilled person could not under any circumstances derive from Figure 2 of document E1 that the guide member prevented ink ejected by the printhead from reaching the reference member. The rails 12 were partially covered by the carriage. Thus, they could not prevent the ink from flowing towards the reference member. The parts of the rails not covered by the carriage were not affected since an oblique flow of ink in Figure 2 was not realistic. Feature 1.5.3 was not an inevitable result of the relative arrangement of the different parts according to feature 1.5.2.

Hence, the subject-matter of claim 1 differed from the printer known from document E1 by features 1.1.1.1, 1.5.2 and 1.5.3. The objective technical problem was to provide an ink-jet printer for printing on cards made of thermoplastic material that is capable of properly performing the printing operation without damaging parts of the same printer, in particular any reference member for regulating a driving motor for a support carriage for supporting the cards.

Document E1 and the further cited prior art documents failed to provide the skilled person with any hint to solve this problem in a way that would fall within the scope of protection of claim 1. Document E2 was not related to an ink-jet printer for printing on cards made of a thermoplastic material. It failed to disclose a support carriage adapted to support such a card. Rather, the printhead constantly changed its position while ejecting ink in a direction perpendicular to the conveying direction of the printing medium. Considering that the arrangement and design of a printhead, guide member and reference member strongly depended on whether the printhead moved or not, document E2 would not have been considered for the assessment of

inventive step. But even if its teaching had been taken into account, the combination with the printer of document E1 would not have resulted in the claimed subject-matter. The guide shaft of document E2 guided the printhead, not a support carriage adapted to support a card to be printed. Paragraphs [0028] and [0029] cited by the appellant related to the embodiment of Figure 7, where an additional pair of bellows were used to protect against ink flow. In contrast, the embodiment of Figure 5 was intended to protect against a user accidentally touching the encoder, which was covered in a completely different way.

Consequently, the subject-matter of claim 1 also involved an inventive step when starting from document E1.

Reasons for the Decision

Oral proceedings in absence of opponent 2

1. Opponent 2, who had been duly summoned to the oral proceedings, informed the board that it did not intend to attend the oral proceedings. In the appeal proceedings it did not file any observations or requests.
2. In accordance with Rule 115(2) EPC and Article 15(3) of the Rules of Proceedings of the Boards of Appeal in force from 1 January 2020 (RPBA 2020), the oral proceedings before the board took place in the absence of opponent 2.

Transfer of opponent status

3. The appeal was filed by the opponent 1 "Bundesdruckerei GmbH". A request for transfer of the status of opponent to the new Bundesdruckerei GmbH was filed by letter of 20 May 2022.
4. An opposition pending before the EPO may be transferred or assigned to a third party as part of the opponent's business assets together with the assets in the interests of which the opposition was filed (G 4/88, order; G 2/04, reasons 2.2.2).
5. Annexes A1 to A3 filed by the appellant with letter dated 20 May 2022 show the change of opponent 1, Bundesdruckerei GmbH, to Bundesdruckerei Gruppe GmbH (Annex A1, pages 4 and 17, entries 8 a) and 40 a)) and the subsequent transfer of the business assets concerning the Federal printing business (Bundesdruckereigeschäft), i.e. the part of the business in the interests of which the opposition was filed, from Bundesdruckerei Gruppe GmbH to BIS Bundesdruckerei International Services GmbH (see Annex A1, page 17, entry 40 b), and Annex A2, page 10, entry 23 b)). BIS Bundesdruckerei International Services GmbH then changed its name into Bundesdruckerei GmbH (Annex A1, page 17, entry 40 b), and Annex A2, page 10, entries 23 a) and b)). The board is thus satisfied that the evidence on file is sufficient to prove the transfer of the opponent status to the new Bundesdruckerei GmbH (HRB 70764 B, Annex A3).
6. The respondent had no comment in this respect.
7. Accordingly, the status of opponent 1 was transferred to Bundesdruckerei GmbH and the appeal proceedings are

to be conducted with Bundesdruckerei GmbH as the appellant.

Ground for opposition under Article 100(a) EPC together with Article 54(1) EPC

8. In point II.18.1 of the decision under appeal, the opposition division held that the ground for opposition under Article 100(a) EPC together with Article 54(1) EPC did not prejudice the patent as granted. In particular, document E1 was found not to disclose features 1.1.1.1, 1.5.2 and 1.5.3 of claim 1 (see the bottom half of page 7 of the decision). The appellant contested this finding in section IV.1 of the statement of grounds of appeal, albeit in most general terms. Apart from the allegation that the claimed subject-matter is not new, the appellant has not presented any arguments why the opposition division erred in its assessment that the claimed subject-matter was novel. Nor is this immediately apparent from section IV.3 of the statement of grounds of appeal concerning the inventive step objection starting from document E1. On the contrary, the appellant clearly identified feature 1.1.1.1 as a distinguishing feature in the top paragraph on page 14 of the statement of grounds of appeal ("Dem Offenbarungsgehalt der E1 mangelt es folglich lediglich an der Information, welche Zusammensetzung die im Vorratsbehälter enthaltene Tinte aufweist"; the board's translation: "Only the information concerning the composition of the ink in the reservoir is thus missing from the disclosure of E1").

9. Pursuant to Article 12(4) of the Rules of Proceedings of the Boards of Appeal in the version of 2007 (RPBA 2007), which applies here under Articles 24 and 25(2)

RPBA 2020, everything presented by the parties under Article 12(1) RPBA 2007 shall be taken into account by the board if and to the extent it relates to the case under appeal and meets the requirements of Article 12(2) RPBA 2007. This provision, whose content is substantially identical to Article 12(3) RPBA 2020, requires that the statement of grounds of appeal contain an appellant's complete case, setting out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and specifying expressly all the facts, arguments and evidence relied on.

10. The appellant's submissions with regard to the ground for opposition under Article 100(a) EPC together with Article 54(1) EPC do not satisfy the substantiation requirements of Article 12(2) RPBA 2007. Therefore, the board does not to take these submissions into account under Article 12(4) RPBA 2007.

Claim interpretation

11. The arguments of the parties on inventive step were based to a large extent on their understanding of feature 1.5 of claim 1. The board thus considers it expedient to take a closer look at the wording of this feature before addressing the inventive step objections:

"[1.5] one or more reference members (RM) [1.5.1] associated with said guide member (41), [1.5.2] the latter being interposed between said printhead (51) and said one or more reference members (RM) [1.5.3] so as to to [sic] prevent ink ejected by the printhead from reaching the reference member (RM);".

12. Exactly what is meant by the term "reference member" does not follow immediately from the claim wording.

In the detailed embodiment of the patent, it takes the form of an elongated element, such as a bar, which carries a graduation in the form of equidistant signs (see Figure 6 and paragraphs [0053] to [0057]). It is this graduation rather than the bar itself, which is detected by an optical detector (see paragraphs [0063] and [0064]). None of these limitations, however, are reflected in the claim.

Feature 1.6 of claim 1 imposes the requirement that the reference member be in such a way that it can be detected by a detection device mounted on the support carriage. According to feature 1.7, the main signal generated by the detection device is used in a control unit to regulate the driving motor of the carriage "according to said main signal". This is understood to mean that the driving motor is regulated in function of the detection of the reference member.

The board concludes from the above that the reference member of feature 1.5 can be any element of the ink-jet printer, as long as it is arranged in a way that allows detection by a sensor mounted on the support carriage and on the condition that its detection can meaningfully contribute to the control of the motor that drives the carriage.

13. Feature 1.5 is subdivided into three further aspects of the reference member. The first aspect 1.5.1 establishes a relation between the reference member and the guide member by means of the term "associated". Other than expressing a certain structural or

functional connection, the board does not see how it poses a limitation on the reference member.

14. The second aspect 1.5.2 dictates the relative arrangement of the reference member with respect to the printhead and the guide member. By reason of the conjunction "so as to", the third aspect 1.5.3 is a final clause which closely links the purpose of preventing ink ejected by the printhead from reaching the reference member to the relative arrangement of the second aspect. Aspects 1.5.2 and 1.5.3 must therefore be construed in combination.

The term "interposed between" is understood in its most general meaning, i.e. placed between, put or set between or in an intermediate position. In the detailed description of the patent, the graduated elongated bar 40a is placed immediately below a guide plate 41 (cf. Figures 3 and 6). Both parts are stationary. In contrast, the printhead 51 is mounted on a printing station which moves back and forth between an operative position in which it faces the carriage 40 (see Figure 4) and a rest position alongside the guide plate (see Figure 1). Only in the operative position ink is ejected from the printhead. The board therefore construes the interposed arrangement in combination with the purpose of preventing ink ejected by the printhead from reaching the reference member in the sense that it applies to the operative position of the printhead facing the support carriage.

It is further noted that the conjunction "so as to" implies that the final clause of feature 1.5.3 has the same subject as the main clause of feature 1.5.2. Hence, it is the position of the guide member intermediate between the printhead and the reference

member which impedes the passage of ejected ink towards the reference member. This does not mean that the three parts should necessarily be aligned in the vertical direction. Nor does it exclude other components from being positioned between the printhead and the reference member. It implies that the ink does not reach the reference member because of the interposed position of the guide member.

Ground for opposition under Article 100(a) EPC together with Article 56 EPC

15. The appellant has raised two inventive step objections against the claimed subject-matter. The first objection starts from document D1 and combines it with document E3 or document D2. The second objection starts from document E1 in combination with document E3, optionally also with document E2.

(a) New attack

16. In the respondent's view, the combination of documents D1 and E3 is a new attack raised for the first time with the grounds of appeal.
17. Although none of the parties brought this particular combination before the opposition division, the board is mindful of the fact that the opposition division in its inventive step reasoning starting from document D1 referred to "a similar argumentation as the one starting from E1" (see the antepenultimate paragraph of page 12 of the decision under appeal) for concluding that feature 1.1.1.1 was obvious. In the corresponding section of the inventive step reasoning starting from document E1, it was held that the skilled person would have used the teaching of document E3 for concluding

that the ink composition of feature 1.1.1.1 was obvious (see the antepenultimate paragraph of page 10 of the decision under appeal). In the board's view, the opposition division therefore gave consideration to the combination of documents D1 and E3, which, consequently, was not a new attack which needed to be assessed for the first time in appeal proceedings.

18. Taking further into account that the respondent has not formally objected to the admission of the first inventive step objection in the appeal proceedings, the board does not see any reason to make use of its discretionary power under Article 12(4) RPBA 2007 to disregard the objection.

(b) Closest prior art

19. The respondent challenged the approach taken by the appellant to start from two different prior art documents for the assessment of inventive step. They argued with reference to decision T 1230/15 that "inventive step is to be discussed on the basis of a single closest prior art".
20. The decision cited by the respondent deals with a case in which an opponent objected that it was not allowed to present *more than two* lines of attack on inventive step (cf. point 2.1 of the Reasons: "... it was allowed to present only two lines of attack on inventive step, namely, one starting from D1 and one starting from D11, each in combination only with a single document ..."). Already for this reason, the decision has little bearing on the present case.
21. It is true that point 2.4 of the Reasons of T 1230/15 reflects the established practice in some fields of

technology to cut down a plurality of feasible starting points to a single closest prior art. Nevertheless, the choice of words in that passage ("ideally", "which document(s) constitute(s)") indicates that this is often an ideal situation and that, in praxis, more documents may actually be considered in the first step of the problem-solution approach.

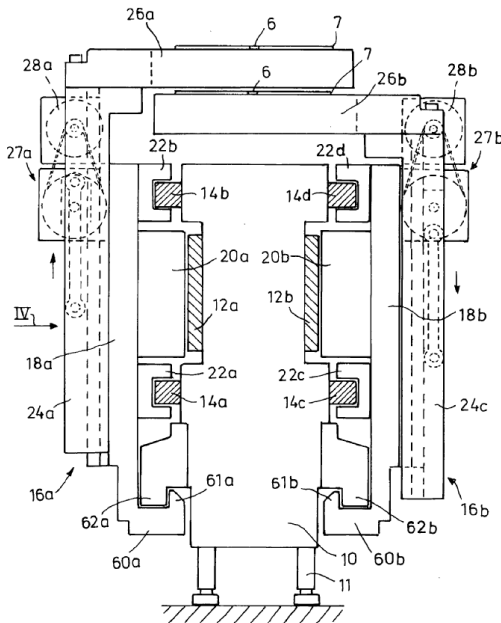
22. The board subscribes to the view taken in a consistent line of decisions that if the skilled person has a choice of several workable routes, i.e. routes starting from different documents which might lead to the invention, the rationale of the problem-solution approach requires that the invention be assessed relative to all these possible routes, before an inventive step can be acknowledged (see, for example, T 967/97, point 3.2 of the Reasons; T 21/08, point 1.2.3 of the Reasons; T 1742/12, point 6.6 of the Reasons). The relevant question to be answered, when selecting a starting point, is whether it allows a realistic objection of lack of inventive step to be raised. No particular restriction as to the choice of the prior art is foreseen in Article 56 EPC. There is thus also no requirement that such a starting point be unique. A document selected by a party as a starting point for assessing inventive step cannot be excluded only because some seemingly more promising item of prior art is available (see T 405/14, point 19 of the Reasons).

(c) Starting from document D1

23. The parties agree that document D1 is a suitable starting point. It discloses an ink-jet printer 1 having four printing stations 50a-d each with a printhead coupled to an ink reservoir. Each of the two

support carriages 16a-b is driven by a motor 12a-b, 20a-b between an operative position below one of the printheads and a second (inoperative) position. As illustrated in Figure 3 of document D1, reproduced below, the left carriage 16a is L-shaped and moves

Fig.3



along two rails 14a-b supported at a side surface of a base element 10. According to paragraph [0036], a detection device ("optischer Sensor") is mounted at the leg 61a of the lower, U-shaped portion 60a of the carriage. It cooperates with a reference member ("Teilung") held at the inner surface of the projection 62a. The signal generated by the detection

device ("Ist-Lage") is fed to a control unit for regulating the carriage motor accordingly (see paragraph [0028]: "sodass die Bewegung des Schlittens unter dem Druckkopf mit dem Druckvorgang synchronisiert werden kann"). It is common ground between the parties that the ink composition of feature 1.1.1.1 is not disclosed by document D1.

- 24. The opinions differ, however, on whether features 1.5.2 and 1.5.3 are known from document D1. As the parties' arguments depend to a large extent on the question which component of the prior-art printer plays the role of the guide member for the carriage, this needs to be established first.

Referring to paragraph [0026] of document D1, the appellant maintained that the base element 10 must be

considered as the guide member. The board disagrees. According to that paragraph, the carriages are guided and held on the base element by means of the guide rails ("Die Schlitten werden dabei am Basiselement 10 durch vertikal beabstandete und sich in Längsrichtung des Basiselements erstreckenden Führungsschienen geführt und gehalten"). The task of guiding the support carriages is therefore carried out by the guide rails 14a-b and 14c-d. This is confirmed in paragraphs [0021] and [0035] of document D1: it is the interaction between the shoes 22a-b of the left-hand carriage 16a and the guide rails 14a-b resp. the shoes 22c-d of the right-hand carriage 16b and the guide rails 14c-d which ensures that the movement of the carriages is restricted to the longitudinal direction shown in Figures 1 and 2. The base element 10 does not engage or interact with the carriages 16a-b; it merely functions as a support for the guide rails 14a-d. The board is therefore not persuaded that the base element 10 of document D1 fulfils the role of a guide member.

Also the appellant's alternative argument that the projection 62a can be regarded as a guide member for the carriage 16a (and the projection 62b a guide member for the carriage 16b) is without merit. For it to constitute a guide member, the inner surface of the projection 62a would have to engage with the leg 61a of the U-shaped portion 60a. The reference member would thus make contact with the detection device. Yet paragraph [0036] of document D1 explains that the detection device is an *optical* sensor for *optically* scanning the reference member ("Die Auskragungen 62a, 62b weisen [...] eine Teilung auf, welche vom Sensor optisch abgetastet wird ..."). This implies that a predetermined gap must exist between the leg 61a and the inside surface of the projection 62a. The carriage

can therefore not engage with the projection; it must be maintained at a certain distance from the projection.

In the board's view, only the guide rails 14a-d can be considered as guide member in the sense of claim 1.

25. Given that the guide rails 14a-b are positioned below the holding plate 26a of the left-hand carriage 16a and above the reference member, the board concludes that they will take an intermediate position between the printhead and the reference member as soon as the carriage is in the operative position. In this respect, the respondent has argued with reference to Figure 2 of document D1 that the printheads may extend significantly beyond the sides of the base element 10 so that the interposed arrangement of the guide member would not be immediately apparent. However, this argument disregards the fact that the chain lines bearing reference signs 50a-d in Figure 2 depict the printing *stations* ("Druckstationen"), not the printheads from which the ink is actually ejected. In fact, the printheads ("Druckköpfe" in paragraph [0028]; "Tintenstrahlköpfe" in paragraph [0029]) are not illustrated in document D1. Considering that paragraph [0028] of document D1 refers to document E1 (which gives in Figure 3 a more detailed representation of a printhead), the board concludes that, in the operative position of the carriage, the printhead of document D1 will assume the position immediately above the object 7 to be printed. The appellant's annotated Figure 3 reproduced in point VI. above thus correctly reflects the position of the printhead.

It follows that document D1 discloses feature 1.5.2.

26. Regarding feature 1.5.3, the board notes that on both sides of the base element 10, reference members are held at the inner surface of of the projections 62a-b. According to paragraph [0036] of document D1, the projections 62a-b extend along the entire operative length of the base element. Hence, no matter at which position or in which direction ink is ejected from the printhead, the reference members are always protected against contact with the ink. The position of the guide members 14a-b or 14c-d is therefore not decisive for preventing ink from reaching the reference members.

The board concludes that feature 1.5.3 is not disclosed by document D1.

27. The two distinguishing features 1.1.1.1 and 1.5.3 have no synergistic effect. In an arrangement as the one known from document D1, the reference member is already protected from a potentially aggressive component of the ink. In accordance with paragraphs [0002] to [0004] of the patent, the technical effect of feature 1.1.1.1 is that it provides a suitable ink composition for printing on cards made of plastic material. Feature 1.5.3, on the other hand, gives way to an alternative guiding arrangement for the support carriage. These effects do not have any interdependence. Thus, the distinguishing features solve two separate technical problems: (1) to find a suitable ink composition for printing on cards made of plastic material, and (2) to find an alternative guiding arrangement for the support carriage. In consequence, for the subject-matter of the claim to be considered inventive, it suffices to show that just one of the distinguishing features is not obvious (T 345/90, point 5 of the Reasons, and T 701/91, points 6.4 and 6.5 of the Reasons).

28. The appellant did not explain how the skilled person would have adapted the ink-jet printer known from document D1 in order to solve the second technical problem and how they would have arrived at feature 1.5.3 in an obvious manner. It merely cited documents D2 and E3 in connection with the first technical problem, namely to prove that the ink composition of feature 1.1.1.1 is known from the prior art.

29. The board is not aware of any teaching in the cited prior art that would have prompted the skilled person to modify the guiding arrangement of document D1 in a way that accords with the requirement of feature 1.5.3 whilst maintaining the relative position of the guide member, the printhead and the reference member as required by feature 1.5.2.

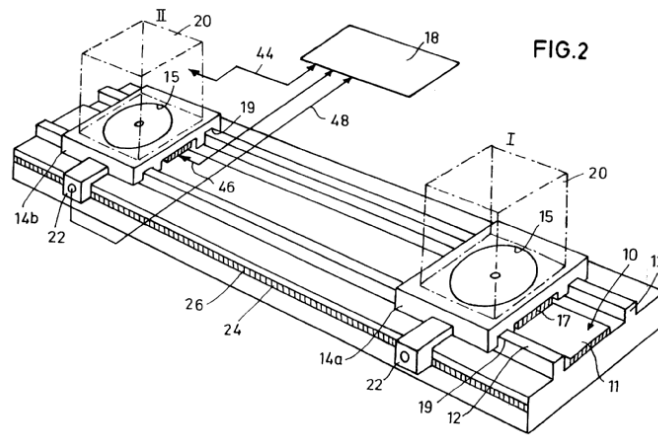
Hence, feature 1.5.3 is not obvious and the question of whether feature 1.1.1.1 is obvious may be left open.

30. The board concludes that the subject-matter of claim 1 involves an inventive step starting from document D1 (Article 56 EPC).

(d) Starting from document E1

31. There is no dispute between the parties that document E1 is a suitable starting point. Figure 2 of document E1 reproduced below gives a perspective view of how the prior art ink-jet printer operates. An object to be printed is held on a movable support carriage 14a in a position below a printhead 20. The carriage is driven by a linear electric motor, the stator 11 of which is arranged between two guide rails 12 on an elongated base plate. Attached to the carriage is an arm carrying

a sensor 22 that cooperates with measuring points 26 of a bar 24 held at the side surface of the base plate. A control unit 18 receives the position signal from the



sensor and regulates the linear motor in response thereto (see paragraphs [0016] and [0027] of document E1). It is not contested by the appellant that nothing can be derived from document E1 about the composition of the ink used by the printhead (feature 1.1.1.1).

32. The parties disagree on whether features 1.5.2 and 1.5.3 are known from document E1. As with document D1, basis for this disagreement is the question which part of the prior-art ink-jet printer plays the role of the guide member. However, only the rails 12, referred to as "Führungen", "Führungsleisten" throughout document D1, can be regarded as the guide member in the sense of claim 1. They clearly have the function of restricting the movement of the support carriage 14a in the lengthwise direction 34 indicated in Figures 1 and 3. To that end, they are engaged by two glide shoes formed at the lower surface of the support carriage 14a.

The view that the base plate 10, instead of the guide rails 12, is responsible for guiding the support carriage cannot be followed. Figure 1 of document E1

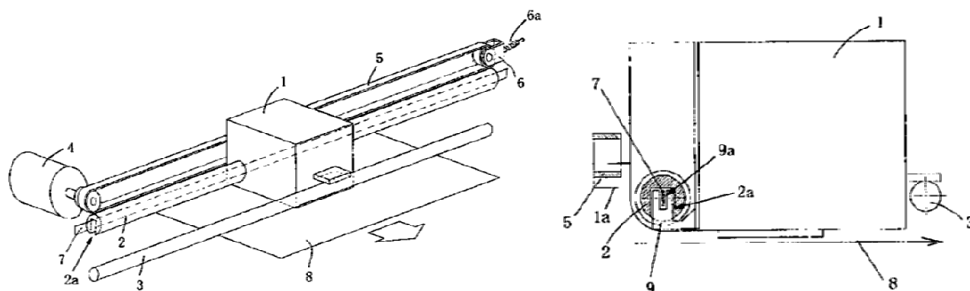
implies that the base plate 10 extends a certain distance below the glide shoes of the support carriage; it does not make contact with the support carriage. The role of the base plate 10 is to hold the stator 11, the rails 12 and the measuring bar 24 in their fixed positions. Neither Figure 2 nor paragraph [0032] of document E1 suffice to conclude without ambiguity that the rails and the base plate are made in one piece.

33. In the absence of any drawings giving a side view or a cross-sectional view of the prior-art printer, the relative position of the guide rails 12, the print-head 20 and the measuring bar 24 of document E1 is not straightforward. However, the guide rails 12 are locally covered by the support carriage in the operative position. At least in a transverse plane cutting across the carriage 14a in the position it occupies in Figure 2, ink flow from the printhead to the measuring bar is hindered by the support carriage and by the edge of the base plate 10, but not by the guide rails hidden below the carriage. Furthermore, it is not apparent that in some oblique plane cutting through the printhead and the uncovered part of the guide rails the latter would lie in a position intermediate between the printhead and the measuring bar, let alone in a way that would prevent ink from reaching the measuring bar. Consequently, neither feature 1.5.2 nor feature 1.5.3 are directly and unambiguously derivable from document E1.
34. Hence, the subject-matter of claim 1 differs from the ink-jet printer known from document E1 by features 1.1.1.1, 1.5.2 and 1.5.3. Similar to the case set out in point 27. above, these features solve distinct partial problems, namely to find a suitable ink composition for printing on cards made of plastic

material (feature 1.1.1.1), and to find an alternative guiding arrangement for the support carriage (features 1.5.2 and 1.5.3).

35. It was argued that the skilled person would have turned to document E2 for solving the second partial problem. In particular, Figure 5, claim 1 and paragraphs [0028] and [0029] were cited in support of the argument that the guide member 2 of document E2 was adapted to protect the reference member 7 from ink mist.

The arrangement of document E2 is quite different from that of document E1. It concerns a desktop printer with a printhead 1 movable by a motor-and-belt system along a cylindrical guide shaft 2. According to Figure 5 of document E2 and the corresponding description in



document E2b, the reference member (encoder sheet 7) and the detection device (encoder sensor 9) are both arranged in a slot 2a provided in the lower half of the guide shaft 2. A support carriage for cards is not disclosed. These differences would not have dissuaded the skilled person from combining documents E1 and E2. The movement of the printhead 1 in document E2 does not seem to affect its relative position with respect to the guide member and the reference member.

However, it is hardly conceivable that the skilled person would have managed to implement the highly

compact solution of document E2 in the guide rail(s) 12 sitting on the base plate 10 of document E1 without any inventive effort. But even if they had succeeded, incorporating the reference member *inside* the guide member would not have resulted in a configuration where the guide member is *interposed between* the printhead and the reference member, as required by feature 1.5.2.

36. Consequently, the board is not convinced that feature 1.5.2 of claim 1 would have been obvious to the skilled person starting from document E1 in combination with document E2. The question of whether the distinguishing feature 1.1.1.1 is obvious may therefore be left open.

37. It follows that the subject-matter of claim 1 involves an inventive step starting from document E1 (Article 56 EPC).

(e) Conclusion

38. As there was no further inventive step objection, the board concludes that the ground for opposition under Article 100(a) EPC together with Article 56 EPC does not prejudice the maintenance of the patent.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Hampe

O. Randl

Decision electronically authenticated