Patents Act 1977 | **Opinion Number** | **16/16**

OPINION UNDER SECTION 74A

Patent	EP 0877666 B1
Proprietor(s)	Markem-Imaje Holding
Exclusive Licensee	
Requester	Domino UK Limited
Observer(s)	Markem-Imaje Holding
Date Opinion issued	10 August 2016

The request

1. The comptroller has been requested to issue an opinion as to whether EP0877666 B1 (the Patent) is invalid for reasons of a lack of novelty and/or inventive step in view of submitted prior art documents numbered D8 to D11 (documents cited in the International Search Report were numbered D1-D7). The request is by Domino UK Limited (the requester).

    D8: US5049898

    D9: JP7234578 (machine translation submitted)

    D10: US4963939

    D11: Extracts from Codebox 2 Maintenance Manual

Observations

2. Observations were received from Patent Attorneys Barker Brettell LLP on behalf of Markem-Imaje Holding (the observer).

Observations in reply

3. Observations in reply were received by the requester.

The Patent

4. The Patent was filed on 31 January 1997 with a priority date of 1 February 1996, was granted on 24 April 2002 and is still in force. It relates to an industrial printer which receives a consumable ink cartridge. The cartridge has an electronic label storing information relating to the cartridge which can be wirelessly communicated to the printer. Information such as batch reference, use by date, ink volume and viscosity may be stored in the label and used by the printer to optimise its performance.

5. The patent has 12 claims, the first of which is independent as follows:

> *Printing system incorporating an industrial printer and at least one consumable cartridge, each cartridge being equipped with an electronic label, the printer being equipped with communications means able to establish a link with the electronics label of each cartridge, the electronic label containing information intended to ensure an optimal operation of the printer, characterized in that the link is a contactless link by means of radio-type electromagnetic waves.*

6. The requester has helpfully divided the claim into a number of features for ease of analysis as follows:

Printing system	*Feature 1*
incorporating an industrial printer	*Feature 2*
and at least one consumable cartridge	*Feature 3*
each cartridge being equipped with an electronic label	*Feature 4*
the printer being equipped with communications means	*Feature 5*
the communications means able to establish a link with the	
electronics label of each cartridge	*Feature 6*
the electronic label containing information intended to ensure an	
optimal operation of the printer	*Feature 7*
characterized in that the link is a contactless link	*Feature 8*
by means of radio-type electromagnetic waves	*Feature 9*

Claim Construction

7. Before considering the documents submitted with the request I will need to construe the claims of the patent following the well known authority on claim construction which is *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9. This requires that I put a purposive construction on the claims,

interpret it in the light of the description and drawings as instructed by Section 125(1) and take account of the Protocol to Article 69 of the EPC. Simply put, I must decide what a person skilled in the art would have understood the patentee to have used the language of the claim to mean.

8. Section 125(1) of the Act states that:

> *For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.*

9. And the Protocol on the Interpretation of Article 69 of the EPC (which corresponds to section 125(1)) states that:

> *Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties.*

10. Claim 1 appears generally straightforward to construe and there has been no specific discussion put forward by the requestor as to its meaning. I will therefore take each prior art document or combination of documents in turn and consider the arguments submitted by the requestor regarding novelty and inventive step, including any points of construction as they arise.

Does claim 1 lack novelty in view of D8?

11. D8 discloses a printer having a number of replaceable printheads each comprising an ink chamber and means for expelling ink. Affixed to each printhead housing is a memory element storing data relating to the printhead (ink colour, ink level, serial number etc.). The memory element may be a magnetic or optical strip or semiconductor memory which can be read by a read/write head interface of the printer. In an alternative, a radio coupling to the printhead may be used. The requester asserts that D8 has all the features necessary to anticipate claim 1.

12. The observer argues that D8 lacks features 2 to 6 and 9.

13. Regarding feature 2, the observer argues that an industrial printer is for printing data on objects but is not for printing documents, whereas D8 is for printing documents

and so feature 2 is absent. The requester counters that it is not the design of the printer that makes it industrial but how it is used and there is no restriction in D8 as to the printer's use.

14. I am not persuaded by such a narrow construction of "industrial" as suggested by the observer. The patent does not define "industrial" but gives an example of inkjet printing on food products. The invention may also apply to "any industrial marking installation" (page 10 lines 25-25). The skilled person would understand that this may include printing documents or labels for objects for example. The term "industrial" does not describe any particular technical feature of the apparatus. Any apparatus suitable for use in an industrial setting will therefore satisfy the requirement of feature 2. D8 relates to inkjet printing documents but is applicable to "a variety of other printing devices". It is not explicitly restricted to any particular use, whether in domestic, business or industrial applications. However the discussion of background art refers to "office automation" and it appears that the type of printer described would be mainly used in an office environment. So is this still suitable for "industrial" use? Other than the fact that it prints documents rather than prints on objects, I have no evidence to persuade me that the D8 printer is unsuitable for some sort of industrial use. The skilled person would I think appreciate that the printer of D8 could be suitable for either domestic, business or industrial use. Feature 2 is therefore disclosed.

15. Regarding feature 3, the observer argues that the printhead of D8 is not a cartridge because a cartridge has no other function than containing ink which can be pumped to the printhead. It is argued that an industrial printer has a junction between cartridge and printhead. I disagree with this narrow construction. To my mind the printhead having an ink chamber can equally be considered a cartridge, and there is no evidence to suggest that all industrial printers must have separate ink cartridge and printhead. Thus feature 3 is therefore disclosed.

16. Regarding feature 4, the observer argues that the semiconductor memory element disclosed in D8 is not an "electronic" label, since "it comprises semiconductor materials, not necessarily electronic components". The patent does not describe any electronic components comprising the electronic label. It is simply described as a label which can store information and be read by electromagnetic waves. The memory element of D8 also does not describe any electronic components but does store information and can be read by "radio coupling", I am therefore satisfied that feature 4 is disclosed.

17. Regarding features 5, 6 and 9 the observer argues that the memory element is a magnetic strip to which no "link" is established and that the radio coupling mentioned is between the printhead and printer rather than memory element and printer. I do not agree. D8 discloses a semiconductor memory element and although describes radio coupling between printhead and printer, it is in the context of reading memory elements and the skilled reader would understand that it is the semiconductor memory element that is actually being read or written to using radio waves. Features 5, 6 and 9 are therefore disclosed.

18. I therefore conclude that D8 has all the required features of claim 1.

Does claim 1 lack novelty in view of D10

19. D10 discloses a printer with a number of replaceable toner cartridges. Each cartridge may have a magnetic or IC card storing toner information which can be read by the printer using a “well known analyzer”.

20. The requester argues that the skilled person would know that an example of IC card includes the well-known radio frequency identification card, so that every feature of claim 1 is disclosed. The observer argues that features 2, 5, 6 and 9 are absent.

21. The arguments and my reasoning regarding feature 2 also apply to D10. Feature 2 is therefore disclosed.

22. D10 discloses features 5 and 6 by having a readable IC card and analyzer. However it does not disclose features 8 and 9. An IC card read by an analyzer is not necessarily a contactless radio-wave link. Other ways of reading an IC card are possible.

23. I therefore conclude that D10 does not have all the features of claim 1.

Does claim 1 lack an inventive step in view of D8 and D9?

24. To determine whether or not the invention defined in claim 1 is inventive in view of D8 and D9, I will rely on the principles established in Pozzoli SPA v BDMO SA [2007] EWCA Civ 588, in which the well known Windsurfing steps were reformulated:

> *(1)(a) Identify the notional “person skilled in the art”;*
> *(1)(b) Identify the relevant common general knowledge of that person;*
> *(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;*
> *(3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;*
> *(4) Viewed without any knowledge of the alleged invention as claimed, determine whether those differences constitute steps which would have been obvious to the person skilled in the art.*

25. The requester asserts that the skilled person would be a team comprising a mechanical designer familiar with consumable cartridges for printers, an electronics engineer familiar with circuits used in printers RF communication technology and a software engineer familiar with writing code for communication between printer components. The observer argues that this presupposes knowledge of the invention and that the skilled person would more reasonably be someone skilled in the art of industrial ink-jet printers having some mechanical and electrical engineering knowledge. I agree with the observer but would broaden the definition to a person skilled in the art of printers with some knowledge of domestic and business as well as industrial applications. Furthermore such a skilled person, with a prospective solution in mind, might seek advice from an expert in the fields identified by the requester.

26. D9 discloses a printer with a replaceable toner cartridge having a strip of “magnetic media” attached which is read or written to by a magnetic head of the printer.

27. The requester argues that D9 has all the features of claim 1 except for a link by means of radio-type electromagnetic waves (feature 9). Such a link is shown in D8 and since D8 is in the same field, then the skilled person would apply the teaching of D8 to D9 to arrive at the invention.

28. The observer argues that D9 does not disclose features 2, 4, 5, 6 and 9. The patent solves the problem of soiling of electrical contacts between printer and cartridge by ink when the cartridge is replaced. Since D8 does not have such contacts then there is no solution provided and no incentive to add features 2, 4, 5, 6 and 9.

29. Feature 2 has already been discussed in relation to D8 and D10 and the same considerations apply to D9.

30. Regarding features 4, 5, 6 and 9, D9 does not explicitly disclose a contactless communications link but the skilled reader would understand the magnetic media and read/write head of the printer to provide these features. The difference between D9 and the invention is therefore an electronic label communicating using radio-type waves. As discussed earlier, this type of label is disclosed on an ink cartridge in the printer of D8. The skilled person, on reading D8, would readily appreciate that the label of D8 could obviously be applied as an alternative in the printer of D9. However, given that I have considered claim 1 of the patent to lack novelty in view of D8 alone, this argument is moot.

Does claim 1 lack an inventive step in view of D9 or D11 and common general knowledge?

31. According to the requester, D11 comprises extracts from an operating manual of an inkjet printer manufactured in the past by the requester especially for use in industrial environments. It is dated 1 March 1991 and in the absence of any other evidence I shall assume this to be the case and that it has been made available to the public.

32. D11 discloses a printer with a replaceable ink reservoir having a read only memory in its base which the printer reads via a wired connection. The requester argues that only features 8 and 9 are absent. The observer argues that the ink reservoir is not a cartridge and so features 4, 5, 6 and 9 are absent.

33. I agree with the requester in that the ink reservoir can be considered a cartridge and so only features 8 and 9 are absent.

34. However I disagree with the requester’s assertion that the skilled person would know of the existence of radio frequency labels and require no inventive skill in using them in the printer of D11 or the printer of D9. I am not convinced that the skilled person as I have defined him or her would have such common general knowledge. It follows that claim 1 does not lack an inventive step in view of D9 or D11 and the common general knowledge of the skilled person.

Dependent claims

35. The requester argues that dependent claims 2 to 12 lack novelty or an inventive step in view of D8, D9 and/or D10.

36. Having reviewed these claims it is my opinion that the dependent claims either lack novelty or an inventive step in view of D8.

Opinion

37. I consider that the invention as defined in claim 1 of EP0877666 to lack novelty in view of US5049898. Dependent claims 2 to 12 lack novelty or an inventive step in view of this document.

Application for review

38. Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

GARETH GRIFFITHS
Examiner

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.