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D E C I S I O N
of 15 February 2005

Case Number: T 0967/03 - 3.2.5

Application Number: 98105664.1

Publication Number: 0867279

IPC: B41F 7/02

Language of the proceedings: EN

Title of invention:

Printing apparatus

Patentee:

Dainippon Screen Mfg. Co., Ltd.

Opponent:

MAN Roland Druckmaschinen AG

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0967/03 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 15 February 2005

Appellant:
(Opponent) MAN Roland Druckmaschinen AG
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Representative: -

Respondent:
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
4 August 2003 concerning maintenance of
European patent No. 0867279 in amended form.

Composition of the Board:

Chairman: W. Moser
Members: W. R. Zellhuber
P. E. Michel

Summary of Facts and Submissions

- I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division maintaining the European patent No. 0 867 279 in amended form.
- II. The Opposition Division held that the grounds for opposition submitted by the appellant under Article 100 (a) EPC (lack of novelty, Article 54 EPC, and lack of inventive step, Article 56 EPC) did not prejudice the maintenance of the patent in suit in amended form.
- III. Oral proceedings were held before the Board of Appeal on 15 February 2005.
- IV. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 867 279 be revoked.

The respondent (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents presented in the oral proceedings:

- (i) claims 1 to 16.
- V. Independent claims 1, 3, 12, 15 and 16 according to the sole request of the respondent read as follows:

"1. A printing apparatus for printing printing-papers with a plate (P), comprising:

- (a) a plate cylinder (11, 12) holding a plate;

- (b) a pair of bearings (33) pivotally supporting spindles (36) at both ends of said plate cylinder (11, 12);
- (c) an image recorder (25) recording an image to said plate held by said plate cylinder; and
- (d) a moving mechanism (31, 32) moving said plate cylinder between printing place for printing a printing-paper and image recording place for recording an image on said plate;
wherein said moving mechanism (31, 32) is operable to move said bearings (33) to linearly slide along a linear guide member (37), whereby said plate cylinder reciprocally moves between said printing place and said image recording place."

" 3. A printing apparatus for printing printing-papers with plates (P), comprising:

- (a) a first plate cylinder (11) holding a first plate (P);
- (b) a pair of first bearings (33) pivotally supporting first spindles (36) at both ends of said first plate cylinder (11);
- (c) a second plate cylinder (12) holding a second plate (P);
- (d) a pair of second bearings (33) pivotally supporting second spindles (36) at both ends of said second plate cylinder;
- (e) an image recorder (25) recording an image on a plate placed in image recording place;
- (f) a first moving mechanism (31) moving said first plate cylinder (11) between said image recording place and first printing place for printing a printing-paper, and

(g) a second moving mechanism (32) moving said second plate cylinder (12) between said image recording place and second printing place for printing a printing-paper,

wherein said first moving mechanism (31) is operable to linearly move said pair of first bearings (33) to slide along a first linear guide member (37), whereby said first plate cylinder reciprocally moves between said first printing place and said image recording place,

said second moving mechanism (32) is operable to move said pair of second bearings (33) to slide along a second linear guide member (37), whereby said second plate cylinder reciprocally moves between said second printing place and said image recording place, and

said first and second moving mechanism (31, 32) are operable to independently move said first and second plate cylinders, respectively."

"12. A printing method for printing printing-papers with a plate (P), comprising the steps of:

- (a) positioning a plate cylinder (11, 12) in image recording place by linearly moving a pair of bearings (33) in a first direction along a linear guide member (37), said bearings pivotally supporting spindles at both ends of said plate cylinder (11, 12);
- (b) feeding a plate (P) to said plate cylinder;
- (c) recording an image on said plate;
- (d) positioning said plate cylinder to printing place by linearly moving said bearings in a reverse direction of said first direction along said linear guide member;

- (e) applying ink to said plate; and
- (f) printing printing-papers with said plate."

"15. A printing method of printing printing-papers with plates, comprising the steps of:

- (a) positioning a first plate cylinder (11) in image recording place by linearly moving a pair of first bearings (33) in a first direction along a first linear guide member (37), said pair of first bearings pivotally supporting first spindles (36) at both ends of said first plate cylinder;
- (b) feeding a first plate to said first plate cylinder (11);
- (c) recording a first image on said first plate;
- (d) positioning said first plate cylinder (11) to first printing place by linearly moving said pair of first bearings (33) in a reverse direction of said first direction along said first linear guide member (37);
- (e) positioning a second plate cylinder (12) in image recording place by linearly moving a pair of second bearings (33) in a second direction along a second linear guide member (37), said pair of second bearings pivotally supporting second spindles at both ends of said second plate cylinder;
- (f) feeding a second plate to said second plate cylinder (12);
- (g) recording a second image on said second plate;
- (h) positioning said second plate cylinder (12) to second printing place by linearly moving said pair of second bearings (33) in a reverse direction of

said second direction along said second linear guide member;

- (i) applying ink to said first and second plates; and
- (j) printing printing-papers with said first and second plates."

"16. A printing method of printing printing-papers with plates, comprising the steps of:

- (a) positioning a first plate cylinder (11) in image recording place by linearly moving a pair of first bearings (33) in a first direction along a first linear guide member (37), said first bearings pivotally supporting a first spindle (36) of said first plate cylinder;
- (b) feeding a first plate to said first plate cylinder;
- (c) recording a first image on said first plate;
- (d) positioning said first plate cylinder (11) to first printing place by linearly moving said first bearings (33) in a reverse direction of said first direction along said first linear guide member (37);
- (e) applying first ink to said first plate;
- (f) printing printing-papers with said first plate;
- (g) positioning a second plate cylinder (12) in image recording place by linearly moving a pair of second bearings (33) in a second direction along a second linear guide member, said pair of second bearings pivotally supporting second spindles (36) at both ends of said second plate cylinder;
- (h) feeding a second plate to said second plate cylinder (12);
- (i) recording a second image on said second plate;

- (j) positioning said second plate cylinder (12) to second printing place by linearly moving said pair of second bearings (33) in a reverse direction of said second direction along said second linear guide member;
- (k) applying second ink to said second plate; and
- (l) printing printing-papers with said second plate, wherein at least one step of said steps g) to k) is performed during said step e) to f)."

VI. The following documents are referred to in the present decision:

D1: WO-A 92/07716;

D3: EP-A 0 764 523;

D4: brochure "Digital Change Over" of MAN Roland,
printed in Germany 4.95.

VII. In the written procedure and during oral proceedings, the appellant argued essentially as follows:

For a correct functioning of a printing apparatus, it was inevitable that the cylinders of the machine were movably mounted, thus allowing the cylinders to be brought off-contact from adjacent cylinders for cleaning, replacing a sleeve or a blanket, or for imaging a plate cylinder.

Accordingly, for a person skilled in the art, it was readily apparent that the plate cylinder, shown in the figures on page 2 of document D4, was movably mounted, which was commonly realized by providing eccentric

bearings. The plate cylinder could thus be moved into an imaging position, which was different from the printing position.

Document D4 further referred to the advantages of providing image recorders for imaging the printing cylinders within the printing machine. Consequently, a person skilled in the art would consider providing an image recorder also in a printing apparatus as shown in Figure 1 of document D3. The question of inventive step thus only focussed on the question of positioning the image recorder. Since, in the apparatus as shown in Figure 1 of document D3, the plate cylinders were solely movable in a linear, here vertical direction, a person skilled in the art would consider a position above or below the row of vertically arranged cylinders to be the only suitable positions of an image recorder.

The subject-matter of claim 1 of the sole request of the respondent was thus the result of an obvious combination of the teachings of documents D4 and D3, taking into account the common general knowledge of a person skilled in the art. Therefore, the subject-matter of claim 1 and, for substantially the same reasons, the subject-matter of claim 12 according to the sole request of the respondent did not involve an inventive step.

VIII. In the written procedure and during oral proceedings, the respondent argued essentially as follows:

Claim 1 according to the sole request concerned a printing apparatus comprising a pair of bearings pivotally supporting spindles at both ends of the plate

cylinder in combination with a moving mechanism operable to move the bearings to linearly slide along a linear guide member between a printing place and an imaging place.

Document D4 did not disclose that the printing cylinder was movable between a printing place and an imaging place.

Document D3 concerned a printing machine, wherein printing sleeves already carrying the image were mounted on the plate cylinder. The sleeve technology was used in a printing apparatus working at high speed and for print runs having long duration. It would be detrimental to have the images recorded on the sleeves within the printing apparatus, because this would lead to a loss in machine time. A person skilled in the art would thus not consider providing an image recorder within such a printing apparatus. There was thus no incentive to combine the teachings of documents D3 and D4.

Moreover, the distance the plate cylinder could be linearly moved in the apparatus according to document D3 was very short, just long enough to enable the use of sleeves of different diameter. A combination of the teachings of documents D3 and D4 would thus also not give rise to a printing apparatus as claimed in claim 1 according to the sole request of the respondent.

The subject-matter of claim 1 as well as the subject-matter of claims 3, 12, 15 and 16 according to the sole request of the respondent thus involved an inventive step.

Reasons for the Decision

1. Amendments (*Articles 123 and 84 EPC*)

The subject-matter of independent claims 1, 3, 12, 15 and 16 of the sole request of the respondent is disclosed in the printed version of the application as filed in claims 1, 3, 13, 16 and 17, respectively, in connection with the description, column 5, lines 35 to 41 and 51 to 58, and the drawings, in particular, Figures 2 to 4.

Dependent claims 2, 4 to 11, 13 and 14 correspond to claims 2, 4 to 11, 14 and 15, respectively, of the application as filed.

The description was amended to bring it in line with the subject-matter of the claims. A reference to document D1 was added. The drawings correspond to the drawings of the application as filed.

In the Board's judgement, the amendments comply with the requirements of Article 123(2) EPC and do not contravene the requirements of Article 84 EPC.

Furthermore, the scope of protection conferred by independent claims 1, 3, 12, 15 and 16 is more limited than that of the corresponding independent claims 1, 3, 13, 16 and 17 of the patent in suit as granted. The patent in suit as amended thus meets the requirements of Article 123(3) EPC.

2. *Novelty*

None of the cited documents discloses an apparatus or a method according to any of claims 1, 3, 12, 15 and 16 of the sole request of the respondent. In particular, a moving mechanism for linearly and reciprocally moving a plate cylinder between a printing place for printing printing-papers and an image recording place for recording an image on the plate is not disclosed in the cited prior art.

3. *Inventive step*

- 3.1 The closest prior art is described in the introductory portion of the patent in suit, cf. column 1, line 27 to column 2, line 46 (i.e. paragraphs [0004] to [0013]), and shown in Figure 1 of the patent in suit. It concerns a sheet-fed printing apparatus of the type Heidelberg Quickmaster DI46-4 comprising a plurality of plate cylinders 3 and a plurality of image recorders 5, which are arranged on a peripheral portion of the respective plate cylinder for forming images on the plates. Problems of that known apparatus are that, due to lack of sufficient space, the known apparatus does not allow the use of printing plates requiring damping water feeders, or the provision of feeders for feeding plates, and removal devices for removing plates, cf. paragraphs [0010] to [0013] of the patent in suit.
- 3.2 The patent in suit solves these problems by providing an apparatus and a method according to claims 1, 3, 12, 15 and 16, respectively, of the sole request of the respondent, in particular, by providing means for linearly and reciprocally moving the plate cylinder between a printing place for printing printing-papers

and an image recording place for recording an image on the plate.

According to the patent in suit, cf. paragraph [0015], the "image recorder and other means for printing can be arranged on separate positions not interfering with each other. Thus a space for arranging these elements can be readily ensured, for improving the degree of freedom of arrangement relation". A further advantage of the fact that the image recorder is arranged at an image recording place remote from the printing place is that one image recorder may be used for imaging the plates of two plate cylinders as claimed in claims 3, 15, and 16 of the sole request of the respondent.

- 3.3 The cited prior art does not suggest the claimed solution.
 - 3.3.1 Document D4 discloses a printing apparatus comprising an image recorder provided on a peripheral portion of the plate cylinder for recording an erasable image, whilst the plate cylinder is in the printing place, cf. the figures on page 2 of document D4.

A generally known measure in a printing apparatus is to provide means for moving the plate and/or blanket cylinder and/or impression cylinder for bringing the cylinders in and off contact with each other, cf. paragraph [0063] of the patent in suit, or document D3, column 3, lines 48 to 55. A person skilled in the art may thus consider providing such means in a printing apparatus according to document D4. However, in the Board's judgement, providing such moving means does not solve the problems underlying the patent in suit,

because the plate cylinder still remains in the printing place.

Document D4 does not hint at providing, in a printing apparatus, a printing place, an image recording place, and moving means for moving a plate cylinder between these two places as claimed in claim 1 of the sole request of the respondent, thus allowing, on the one hand, the image recorder, and, on the other, printing means, such as ink feeding means, plate feeding and removal means, and dampening means, being arranged in separate positions so as not to interfere with each other.

- 3.3.2 Document D3 discloses a web printing apparatus, wherein the plate and blanket cylinders of a printing unit are arranged along a vertically or horizontally extending line, cf. abstract and Figures. The bearings of all, or alternatively all but one, cylinders are mounted on carriers which are movable in the direction of said line, cf. column 2, line 41 to column 3, line 8, thus allowing the use of printing sleeves having different diameters, moving the cylinders in and off contact, and adjusting the distances between the cylinders in accordance with the thickness of the medium to be printed and temperature variations, cf. column 3, lines 48 to 55.

Document D3 is silent about providing an image recorder and, consequently, about a moving mechanism for moving a plate cylinder between a printing place and an image recording place. Document D3 is, in particular, silent about providing an image recorder at a place distant

from the respective printing place of the plate cylinder.

- 3.3.3 Neither document D3 nor document D4, alone or in combination, thus suggest providing a printing apparatus including a printing place and an image recording place, and a moving mechanism for moving the plate cylinder between these two places. Thus, a combination of the teachings of documents D3 and D4 does not give rise to an apparatus as claimed in claim 1 according to the sole request of the respondent.
- 3.3.4 Document D1, on the contrary, discloses a printing apparatus wherein a cylinder is moved between a printing place and an image recording place, cf. Figures 11 and 12. However, document D1 suggests a moving mechanism for moving two or more plate cylinders in such a way so as to replace the plate cylinder in the printing place by another cylinder, thus allowing printing with one of these cylinders whilst recording an image on the other, cf. page 25, lines 22 to 33.

A moving mechanism as claimed in claim 1 according to the sole request of the respondent, i.e. a moving mechanism which is operable to move a pair of bearings supporting spindles at both ends of the cylinder to linearly slide along a linear guide member, whereby the plate cylinder reciprocally moves between the printing place and the image recording place, does not allow such an exchange of cylinders as disclosed in document D1. Document D1 thus leads away from an apparatus as claimed in claim 1 according to the sole request of the respondent.

3.4 Therefore, the subject-matter of claim 1 involves an inventive step within the meaning of Article 56 EPC.

For the same reasons, the apparatus according to claim 3, and the methods according to claims 12, 15 and 16 of the sole request of the respondent also involve an inventive step.

The subject-matter of claims 2, 4 to 11, 13 and 14, which are appendant to claims 1, 3 and 12, respectively, similarly involve an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:
 - (a) claims 1 to 16 presented in the oral proceedings;
 - (b) description: pages 2 and 2a presented in the oral proceedings, and pages 3 to 13 of the patent specification;
 - (c) drawings: pages 20 to 38 of the patent specification.

The Registrar:

M. Dainese

The Chairman:

W. Moser