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**Datasheet for the decision
of 10 July 2007**

Case Number: T 0630/06 - 3.2.05

Application Number: 99250277.3

Publication Number: 0982125

IPC: B41F 9/02

Language of the proceedings: EN

Title of invention:
Multicolour intaglio printing press

Patentee:
Komori Corporation

Opponent:
KBA-GIORI S.A.

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - yes"

Decisions cited:
-

Catchword:
-



Case Number: T 0630/06 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 10 July 2007

Appellant: KBA-GIORI S.A.
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Respondent: Komori Corporation
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 22 February 2006
rejecting the opposition filed against European
Patent No. 0982125 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: W. Zellhuber
Members: H. Schram
E. Lachacinski

Summary of Facts and Submissions

- I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division dated 22 February 2006 rejecting its opposition against European patent No. 0 982 125 as a whole, on the basis of Article 100(a) EPC (lack of inventive step, Article 56 EPC).
- II. Oral proceedings were held before the Board of Appeal on 10 July 2007.
- III. The appellant requested that the decision under appeal be set aside and that the European patent No. 0 982 125 be revoked.

The respondent (patent proprietor) requested, as a main request, that the appeal be dismissed, or, as an auxiliary measure, that the decision under appeal be set aside and that the patent in suit be maintained on the basis of claim 1 submitted as Alternative Request on 11 June 2007.

- IV. The following documents were *inter alia* referred to in the appeal proceedings:

D2 EP-B 0 406 157

D3 DE-A 0 877 000

D4 EP-A 0 091 709

D8 EP-A 0 873 866

V. Claim 1 of the main request (i.e. of the patent as granted) reads as follows:

"1. An intaglio printing press including a plate cylinder (15) capable of having three intaglio plates mounted along a circumferential direction of the plate cylinder (15), an ink collecting cylinder (16) contacted with said plate cylinder (15), a wiping roller (19) contacted with said plate cylinder (15), and an impression cylinder (14) having the same diameter as the diameter of said plate cylinder (15) and contacted with said plate cylinder (15), characterized in that

said ink collecting cylinder (16) is capable of having four blankets mounted along a circumferential direction of the ink collecting cylinder (16); and

the diameter ratio among the plate cylinder (15), the impression cylinder (14), and the ink collecting cylinder (16) is 3 : 3 : 4."

VI. The appellant argued in writing and during the oral proceedings essentially as follows:

The starting point for the patent in suit was document D2, which was referred to by its corresponding Japanese publication number JP 3-38347 in paragraphs [0002] to [0005] of the patent in suit. In paragraph [0005] of the patent in suit it was wrongly claimed that printing in five or more colours was impossible with the above-described conventional intaglio printing press, i. e. with the press described in JP 3-38347. However, the corresponding document D2 clearly taught that it was possible to install a large number of selective colour inking cylinders along the periphery of the ink

collecting cylinder, preferably four and even five (see column 3, lines 5 to 9 of document D2). The alleged technical problem mentioned in paragraph [0008] of the patent in suit, namely to provide an intaglio printing press capable of printing in five or more colours, was thus unfounded and had to be disregarded. Moreover, claim 1 of the main request was silent about the number of inking devices - this number was only defined in dependent claim 3 of the main request. The subject-matter of claim 1 of the main request was thus inconsistent with the alleged technical problem solved by the invention. The objective technical problem to be solved with respect to document D2, which was the closest prior art, was merely to provide an alternative intaglio printing press.

Document D2 disclosed an intaglio printing press with all the features of claim 1 of the main request with the exception of the claimed diameter ratio of 3 : 3 : 4, among the plate cylinder, the impression cylinder, and the ink collecting cylinder. The claimed diameter ratio was no more than an alternative to the diameter ratio disclosed in document D2, namely 1 : 1 : N, whereby N was 1, 2 or 3, because the claimed diameter ratio 3 : 3 : 4 did not provide a technical contribution to the art, just as, for example, diameter ratios 3 : 3 : 5 or 3 : 3 : 7 did not. The teaching of document D2 that it was possible to install four and even five selective colour inking cylinders along the periphery of the ink collecting cylinder applied to all values of N, thus also to the case that N was 1, i.e. when the diameter ratio was 1 : 1 : 1. In that case the plate cylinder, the impression cylinder and the ink collecting cylinder were equal in size. There was thus

no need to make the ink collecting cylinder larger than the plate cylinder with a view to install five selective colour inking cylinders. The starting point for the invention according to document D2 had been the intaglio printing press known from document D4. In document D4 the diameter ratio among the plate cylinder, the impression cylinder, and the ink collecting cylinder was 3 : 3 : 2. The thrust of document D2 was that, in order to install a large number of selective colour inking cylinders along the periphery of the ink collecting cylinder, the diameter of the ink collecting cylinder known from document D4 had to be increased with respect to the diameter of the plate cylinder, i.e. the diameter ratio was changed from 3 : 3 : 2 to 3 : 3 : 3 (6 or 9), whereby the diameter ratio 3 : 3 : 3 corresponded to the intaglio printing press smallest in size. The person skilled in the art, who started from the intaglio printing press known from document D2 having the diameter ratio 3 : 3 : 3, and who sought to provide an alternative intaglio printing press capable of printing in five or more colours, i.e. having even more room to install five or more selective colour inking cylinders, without the entire machine becoming too large, would thus take the logical next step to increase the diameter ratio from 3 : 3 : 3 to 3 : 3 : 4, especially since the increase in radius of the ink collecting cylinder going from a triple-size (three-segment) cylinder to a quadruple-size (four-segment) cylinder was the same as going from the diameter ratio 3 : 3 : 2 (document D4) to 3 : 3 : 3 (document D2). Moreover, the use of a four-segment ink collecting cylinder was well-known in the art, see for example document D3 (the sole Figure showed a four-segment ink collecting cylinder having the reference numeral 9; the

diameter ratio of plate-, impression-, and ink collecting cylinder was 4 : 4 : 4). Finally, although document D2 taught that it was advantageous that the same zones of the ink collecting cylinder came into contact with the same zones of the plate cylinder, a deviation of that principle was known from documents D4 and D8. Both documents disclosed a non-integer diameter ratio among plate cylinder and ink collecting cylinder, namely 3 : 2. The person skilled in the art starting from document D2 was, in the light of documents D4 and D8, not bound to choose an integer diameter ratio among plate cylinder and ink collecting cylinder. The subject-matter of claim 1 of the main request did therefore not involve an inventive step.

VII. The respondent argued in writing and during the oral proceedings essentially as follows:

Claim 1 of the main request comprised a specific structural feature, viz. *the diameter ratio among the plate cylinder (15), the impression cylinder (14), and the ink collecting cylinder (16) is 3 : 3 : 4*, which enabled five or more ink supply means to be disposed in the intaglio printing press. The subject-matter of claim 1 of the main request thus solved the problem reiterated in paragraph [0008] of the patent in suit. The inventors of the present invention found that by setting the diameter ratio among the plate cylinder, the impression cylinder, and the ink collecting cylinder to 3 : 3 : 4, it became possible to dispose five or more sets of ink supply means, each including a chablon roller and an inking unit, along the periphery of the ink collecting cylinder, thereby preventing the intaglio printing press from becoming large whilst

securing sufficient space between the chablon rollers and the plate cylinder to facilitate maintenance work.

The claimed diameter ratio was not disclosed in any of the documents cited by the appellant. Document D2 did not hint or suggest the claimed diameter ratio. It was virtually impossible to install five or more selective colour inking cylinders along the periphery of the ink collecting cylinder having a diameter equal to that of the plate cylinder (see Figure 1 of document D2). Starting out from the intaglio printing press shown in Figure 1 of document D2 there were several possibilities for the person skilled in the art to create more room for ink supply means, other than increasing the size of the ink collecting cylinder for the diameter ratio 1 : 1 : 1. Moreover, document D2 taught that the size of a larger ink collecting cylinder had to be two or three times of the size of the plate cylinder, not $4/3$ times of the size of the plate cylinder as claimed by the patent in suit. The subject-matter of claim 1 of the main request therefore involved an inventive step.

Reasons for the Decision

MAIN REQUEST

1. *Inventive step (Article 56 EPC)*

1.1 The problem that the invention seeks to solve is to provide an intaglio printing press capable of printing in five or more colours (cf. paragraph [0008] of the patent in suit).

This problem is solved by the subject-matter of claim 1, in particular by the last characterizing feature of claim 1, viz. "the diameter ratio among the plate cylinder (15), the impression cylinder (14), and the ink collecting cylinder (16) is 3 : 3 : 4".

Claim 1 further requires (see the first characterizing feature) that *said ink collecting cylinder (16) is capable of having four blankets mounted along a circumferential direction of the ink collecting cylinder (16)*.

The reasons for constructing the ink collecting cylinder 16 in the embodiment of the invention shown in Figure 1 as a quadruple-size cylinder, whilst the plate cylinder 15 and the impression cylinder 14 are both constructed as triple-size cylinders, are explained in paragraphs [0017] and [0018] of the patent in suit: on the one hand, five or more ink supply means (chablon rollers 17, inking devices 18) can be disposed along the periphery of the ink collecting cylinder, on the other hand the entire machine will not be too large. It may be noted that the size of the impression cylinder 14 is taken to be of the same size as the plate cylinder 15 with a view of avoiding misregister in printing.

The intaglio printing press according to the invention can thus be seen as a trade-off between the conflicting requirements of printing in five or more colours and keeping the size of the press small.

- 1.2 Document D2 is the closest prior art. This document discloses an intaglio printing press having all the

features of the preamble of claim 1 of the main request. A family member of document D2, the Japanese Unexamined Patent Publication No. 3-38347 is cited in paragraphs [0002] to [0005] of the patent in suit. An embodiment of a conventional intaglio printing press, whereby four ink supply means 115, 116 are disposed along the circumferential direction of the ink collecting cylinder, is shown in Figure 2 of the patent in suit (this Figure corresponds substantially to the sole figure of document D2, wherein the ink supply means are indicated by the reference numerals 7, 8). In this prior art embodiment the diameter ratio among the plate cylinder, the impression cylinder, and the ink collecting cylinder is 1 : 1 : 1 (or 3 : 3 : 3).

The object of document D2 is to provide an intaglio printing press capable of printing paper currency having a finely engraved multicolour safety background and a deeply engraved main design, wherein the adjustment of the register between the elements inking the safety background and the main design is greatly simplified (see column 1, lines 41 to 49). One of the measures to achieve this, is that the same inked zones on the ink collecting cylinder always come exactly in contact with the same zones of the same engraved plate (see column 1, lines 54 to 57): the intaglio printing press is characterized in that the diameter of the ink collecting cylinder 5 is equal to N times the diameter of the plate cylinder 4, N being an integer between 1 and 3 (see characterizing part of claim 1 of document D2). Document D2 further discloses that the plate cylinder 4 generally has to carry at least two plates, preferably three or four plates (see column 1, line 57, to column 2, line 4, and claim 4), and that, because of the relatively large size of the ink

collecting cylinder 5, there is room along its periphery to install more than three colour inking cylinders 7, preferably four and even five (see column 3, lines 5 to 14).

- 1.3 The subject-matter of claim 1 differs from the intaglio printing press disclosed in document D2 in particular in that *the diameter ratio among the plate cylinder (15), the impression cylinder (14), and the ink collecting cylinder (16) is 3 : 3 : 4.*

This distinguishing feature is not known from, or suggested by, document D2 or any other document cited by the appellant.

In particular, document D2 teaches that the diameter of the ink collecting cylinder is equal to 1, 2 or 3 times the diameter of the plate cylinder, so that the ink collecting cylinder always comes exactly in contact with the same zones of the same engraved plate. It would go against the teaching of document D2 to abandon the principle that the diameter ratio of the ink collecting cylinder and the plate cylinder must be an integer between 1 and 3, and to choose the rational ratio 4 : 3 as claimed in claim 1 of the main request.

It is true that the applications D4 and D8 were both filed in the name of De La Rue Giori SA, the same firm that is the assignee of document D2, a predecessor of the appellant in the present proceedings. The priority dates of documents D4, D2 and D8 are 1983, 1989 and 1997, respectively. The intaglio printing press described in document D4 is of a different kind than the intaglio printing press disclosed in D2 or D8, because the former

has a direct ink roller 4 for the main drawing and three indirect colour inking means 7, 8 disposed along the periphery of the ink collecting cylinder, whereas in the latter all colour inking means are of the indirect type. Coincidentally the diameter ratio of plate-, impression-, and ink collecting cylinder is 3 : 3 : 2 in both document D4 and D8. It is also true that in document D8 the teaching of document D2, that the diameter ratio among the ink collecting cylinder and the plate cylinder had to be an integer between 1 and 3 in order to assure a high quality, was questioned (see column 1, lines 19 to 42) and that *inter alia* the diameter of the ink collecting cylinder was chosen to be 2/3 of the diameter of the plate cylinder with a view of providing an intaglio printing press having a smaller size than any of the intaglio printing presses known from document D2 whereby said ratio was 1/1, 2/1 or 3/1. This is not to say, however, that the person skilled in the art starting from document D2 would also be willing sacrifice the integer diameter ratio among the ink collecting cylinder and the plate cylinder, if the resulting intaglio printing press would be larger than the smallest intaglio printing press known from document D2.

Consequently, it was not obvious for the person skilled in the art, starting from the intaglio printing press known from document D2 to provide said intaglio printing press with a plate cylinder, an impression cylinder and an ink collecting cylinder having a diameter ratio of 3 : 3 : 4.

The subject-matter of claim 1 according to the main request thus involves an inventive step in the meaning of Article 56 EPC.

AUXILIARY REQUEST

2. Since the main request of the respondent is allowable, there is no need to consider the Alternative Request of the respondent.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Meyfarth

W. Zellhuber