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Datasheet for the decision of 12 February 2008

Case Number: T 0343/06 - 3.2.05

Application Number: 99250296.3

Publication Number: 0983852

IPC: B41F 31/00

Language of the proceedings: EN

Title of invention:
Ink film thickness control method and apparatus for multi-color printing press

Patentee:
Komori Corporation

Opponent:
MAN Roland Druckmaschinen AG

Headword:
-

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0343/06 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 12 February 2008

Appellant: (Opponent)
MAN Roland Druckmaschinen AG
Mühlheimer Strasse 341
D-63075 Offenbach (DE)

Respondent: (Patent Proprietor)
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Tokyo (JP)

Representative:
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 10 February 2006 rejecting the opposition filed against European patent No. 0983852 pursuant to Article 102(2) EPC 1973.

Composition of the Board:

Chairman: W. Zellhuber
Members: P. Michel
M. J. Vogel

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition filed against European Patent No. 0 983 852.

The Opposition Division held that the subject-matter of claims 1 and 10 as granted involved an inventive step.

II. Oral proceedings were held before the Board of Appeal on 12 February 2008.

III. The appellant requested that the decision under appeal be set aside and that the European Patent No. 0 983 852 be revoked.

The respondent (patentee) requested that the appeal be dismissed.

IV. The following documents have been referred to in the appeal proceedings:

D1: DE-A-195 05 560
D2: EP-A-0 121 675
D3: EP-A-0 324 118
D4: DE-A-43 12 229

V. Claims 1 and 10 as granted read as follows:

"1. An ink film thickness control method for a multi-color printing press having a plurality of printing units (11-1 - 11-4) for continuously performing designated color printing on a printing paper by means of ink supplied to a printing plate through an ink

roller group (6), characterized by comprising the steps of:
when in at least two of said printing units as plate exchange printing units, exchange to new printing plates (7-1 - 7-4) is simultaneously performed, setting a respective number of printing papers to be printed for ink removing in each unit in which plate exchange is performed;
turning off an ink feed operation in each of said plate exchange printing units; and
performing printing for ink removing in each of said plate exchange printing units on the basis of their respective set number of printing papers while keeping the previous printing plate mounted to form a first ink film thickness distribution (Ma) minimum and necessary for printing on said ink roller group of said plate exchange printing unit."

"10. An ink film thickness control apparatus for a multi-color printing press having a plurality of printing units (11-1 - 11-4) for continuously performing designated color printing on a printing paper by means of ink supplied to a printing plate through an ink roller group (6), characterized by comprising:
setting means (14) for, when in at least two of said printing units as plate exchange printing units, exchange to new printing plates is simultaneously performed, setting a respective number of printing papers to be printed for ink removing in each unit in which plate exchange is performed;
control means (21, 26) for turning off an ink feed operation in each of said plate exchange printing units; and

an ink removing means (21a) for printing for ink removing in each of said plate exchange printing units on the basis of their respective set number of printing papers while keeping the previous printing plate mounted to form a first ink film thickness distribution minimum and necessary for printing on said ink roller group of said plate exchange printing unit."

VI. The appellant has argued substantially as follows in the written and oral proceedings:

Whilst document D4 was only introduced into the procedure at the oral proceedings, the document should be admitted into the proceedings, since it is more relevant than the documents previously on file. In addition, US-A-5,447,102, corresponding to document D4 is acknowledged in the patent in suit and provides the basis for the invention as disclosed.

Document D4 is the closest prior art and discloses ink removal by printing before a plate exchange. It is disclosed that the number of sheets which must be printed is dependant on the machine, so that in a multi-colour press it would be obvious to adapt the number of sheets to the individual units.

Document D1 discloses a procedure in which, after detection of a double sheet, a specific number of sheets are printed for ink removal.

Document D2 suggests the individual control of a single unit, in which the number of sheets coated with varnish after the supply of varnish is stopped can be selected.

Document D3 discloses a method of ink removal which results in a thin, uniform layer of ink to which a fresh layer of ink can be applied.

The subject-matter of claims 1 and 10 thus does not involve an inventive step, in particular in view of the disclosure of document D4 taken alone, or in combination with document D2.

VII. The respondent has argued substantially as follows in the written and oral proceedings:

Document D4 should not be admitted into the proceedings in view of the lack of relevance of the document.

None of the prior art documents suggest adapting the number of sheets printed for ink removal at plate exchange individually for each unit. Document D4 teaches using a predetermined number, for example, 15 sheets. Document D1 also suggests printing the same number of sheets in each unit. Document D2 is concerned with a varnishing unit and so is only concerned with a single unit. Document D3 relates to a paperless ink removal means.

According to the invention, when two or more plates are exchanged simultaneously, the number of sheets printed for ink removal before plate exchange is adapted so as to form a desired minimum ink film thickness in each unit, so that this may be achieved with minimal paper wastage. In a multi-colour printing press, this may be achieved by allowing a sheet to pass through a first unit without printing and then printing the sheet in the second unit.

The subject-matter of claims 1 and 10 thus involves an inventive step.

Reasons for the Decision

1. Admissibility

Document D4 was only introduced into the proceedings by the appellant at the oral proceedings before the Board. However, the United States patent specification US-A-5 447 102 which claims priority from document D4 is referred to in the patent in suit at paragraph [0011] and the description of the patent in suit is based on an assumption that an ink thickness control method as disclosed in this document forms part of the state of the art.

In addition, document D4 is more relevant than the remaining cited prior art, since it is concerned with a procedure to be adopted at plate exchange.

The Board is accordingly of the opinion that US-A-5 447 102 should be admitted into the proceedings. The respondent made no objection to the admission of document D4 in place of US-A-5 447 102, the disclosure of which is included in the disclosure of US-A-5 447 102. Document D4 is thus admitted into the proceedings.

2. *Inventive step of claim 1*

2.1 The closest prior art is represented by document D4, which discloses an ink film thickness control method for use at plate exchange in which, after ink feed is terminated, a limited number of sheets are printed for ink removal. At column 1, lines 59 to 63, it is disclosed that the number of sheets which must be printed is dependent only upon the construction of the inking system and thus on the type of machine ("maschinentypisch"). In practice, approximately 15 sheets are said to be sufficient to reduce the ink profile to a uniform layer.

Document D4 does not refer specifically to multi-colour printing presses having a plurality of printing units. However, when the person skilled in the art applies the teaching of this document to such a press, a predetermined number of sheets (for example, approximately 15) would be fed through the press, so that the same number of sheets would be printed for ink removal in each of the plate exchange printing units. There is no indication that the number of sheets printed should differ from one unit to another. Indeed, since all the units are more or less identical, the indication that the number of sheets which must be printed is dependent on the type of machine indicates that the same number of sheets should be printed in each unit.

2.2 The object of the invention is to form an ink film thickness distribution for the next printing operation whilst reducing the waste of printing materials involved (see the patent in suit, paragraph [0012]).

According to claim 1 of the patent in suit, this is achieved by performing printing for ink removing in each of the plate exchange printing units on the basis of their respective set number of printing papers while keeping the previous printing plate mounted to form a first ink film thickness distribution minimum and necessary for printing on said ink roller group of said plate exchange printing unit.

By virtue of the fact that the number of sheets printed for ink removal is individually controlled for each of the plate exchange printing units, the amount of spoilage of paper involved in removing more ink than necessary is reduced.

2.3 This solution to the above problem is not suggested by the cited prior art.

Document D2 discloses a varnishing system for a printing machine in which, when a printing disturbance occurs, sheet feeding is only stopped after transfer of varnish from a varnish roller 14 to a varnish applicator roller 11 is stopped. In this way, a predetermined number of sheets passes through the varnishing system, so that residual varnish on the applicator roller is removed (column 3, lines 28 to 54). There is no indication of an appropriate procedure to be followed in the case of plate exchange being simultaneously performed in at least two printing units.

Document D1 discloses a method for controlling sheet feed in a printing press. In the event of a double sheet being detected, a calculation is carried out as

to how many sheets can still run over a conveyor table 2 into a first printing unit 5 without permitting the double sheet to enter the printing unit (column 3, lines 5 to 16). It is stated at column 4, lines 20 to 31, of document D1 that the last two sheets to be printed are printed in all the printing units, the ink feed in each case having been turned off. The disclosure of this document thus suggests that the same number of sheets should be printed in each unit during ink removal.

Document D3 discloses an ink reducing unit comprising a doctor blade for removing ink from a roller. At column 2, lines 32 to 41, it is noted that, after a plate change, it is necessary to have a defined ink film thickness and ink and dampening medium emulsion on all of the rollers of the ink roller unit. The disclosure of this document does not, however, contain any suggestion concerning an appropriate procedure to be followed for ink removal by printing.

Thus, none of the cited prior art documents discloses a method in which printing for ink removing is performed in each of at least two plate exchange printing units on the basis of their respective set number of printing papers while keeping the previous printing plate mounted to form an ink film thickness distribution minimum and necessary for printing on the ink roller group of the plate exchange printing unit. There is thus no incentive for the person skilled in the art to depart from a method in which the same number of sheets are printed in each printing unit during ink removal, as known from document D1 (column 4, lines 20 to 31).

The subject-matter of claim 1 thus involves an inventive step within the meaning of Article 56 EPC.

3. Claim 10 is directed to an ink film thickness control apparatus and specifies the presence of "setting means … and an ink removing means (21a) for printing for ink removing in each of said plate exchange printing units on the basis of their respective set number of printing papers while keeping the previous printing plate mounted to form a first ink film thickness distribution minimum and necessary for printing on said ink roller group of said plate exchange printing unit".

The subject-matter of claim 10 thus involves an inventive step for the same reasons as claim 1, as set out in section 2 above.

4. Claims 2 to 9 and 11 to 13 are directly or indirectly dependent from claims 1 or 10 and relate to preferred features of the method or apparatus respectively, so that the subject-matter of these claims similarly involves an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Meyfarth W. Zellhuber