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Bezeichnung der Erfindung: Ink wiping device for intaglio rotary

Title of invention:

Titre de l'invention :

Klassifikation / Classification / Classement : B41F 9/08

### ENTSCHEIDUNG / DECISION

vom / of / du 3 April 1990

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /

Titulaire du brevet :

Komori Printing Mach. Co., Ltd.

Einsprechender / Opponent / Opposant :

De la rue Giori S.A.

Stichwort / Headword / Référence : Itaglio printing/KOMORI

EPÜ / EPC / CBE Article 56 EPC

Schlagwort / Keyword / Mot clé : "Inventive step (Yes)"

Leitsatz / Headnote / Sommaire



Case Number : T 446/87 - 3.2.3

DECISION  
of the Technical Board of Appeal 3.2.3  
of 3 April 1990

Appellant :  
(Opponent)

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Decision under appeal :

Decision of the Opposition Division of the European  
Patent Office dated 23 November 1987 rejecting  
the opposition filed against European patent  
No. 0 081 808 pursuant to Article 102(2) EPC.

Composition of the Board :

Chairman : P.E.M. Delbecque

Members : C.T. Wilson

J.-C. Saisset

## Summary of Facts and Submissions

- I. European patent No. 0 081 808 was granted on 6 November 1985 with three claims on the basis of European patent application No. 82 111 371.9. Claim 1 is worded as follows:

"An ink wiping device for an intaglio rotary printing machine having a plate cylinder (4) supporting an intaglio printing plate (5) wrapped therearound, comprising:  
a tank (1) for containing a cleaning liquid or solution (2) therein;  
an ink wiping roller (3) rotatably supported in said tank (1) and having a circumferential surface positioned for rolling contact with the printing plate (5), said ink wiping roller (3) having a portion immersible in the cleaning liquid (2); and  
a cleaning assembly (17,18) disposed in said tank (1) and immersible in the cleaning liquid (2) for cleaning said circumferential surface, characterized by said cleaning assembly (17,18) including at least one brush unit (17) adjustably supported in said tank (1) and having a plurality of rows of bristles (17a) having distal ends located in the vicinity of said circumferential surface, and a cleaning sheet (18) of synthetic fibered nonwoven cloth supported on said brush unit (17) and interposed between said circumferential surface and said distal ends of said bristles (17a)."

- II. The patent was opposed in due time and form on 24 July 1986. The Opponent requested revocation of the patent on the grounds that its subject-matter fails to meet the

requirements of Articles 52 and 54 to 56 EPC. The following documents were cited in support of the opposition:

FR-A-1 392 848 (D1)

FR-A-2 043 630 (D2)

FR-A-2 364 764 (D3)

III. The Opposition Division rejected the opposition in a decision dated 23 November 1987. According to the decision, the main claim was novel. Nowhere in the revealed prior art was an ink wiping device disclosed in which for example the brush unit is arranged to support at the distal ends of its bristles a cleaning cloth made of a non-woven fabric, consisting of synthetic fibres, as defined in the characterising part of Claim 1. Moreover, this feature could not be considered as trivial. An examination of the disclosures of D1 to D3 revealed that the problems underlying the inventions thereof are different from that underlying the present invention and that the disclosures of brushes or a felt fabric in these documents are of a peripheral interest only to these inventions, being non-essential for performing the inventions disclosed therein. The documents D1 to D3, which do not contain any more relevant material than those cited in the search report, do not hint or suggest that the springy bristles of the brushes be covered with an elastic cloth and, that the combined effect of elasticity provided thereby be used to clean the surface of the ink wiping roller highly uniformly without leaving any ink deposit thereon.

IV. The Appellant filed an appeal against the decision on 14 December 1987 with the payment of the appropriate fee

and submitted a Statement of Grounds on 10 March 1988. He argued substantially as follows:

- (i) The objects of the three citations D1 to D3 and of the present invention are practically the same. The problem to be solved by the present invention, namely that of providing an ink wiping device which is simple in construction, easy to service and capable of removing ink completely from the wiping roller without leaving residual ink thereon (see patent spec., col. 2, ll. 2-6), is to be found implicitly in all three citations D1 to D3. In these documents the problems have simply been drafted in a more specific, less vague manner. It is also questionable whether the construction according to the present invention is really more simple than that of D2.
- (ii) The disclosures of felt fabric and brushes in documents D1 and D2 respectively are most certainly not merely "peripheral" references.
- (iii) The document D2 discloses, in addition to the features of the pre-characterising part of Claim 1, the following features from the characterising part of the claim:

"... at least one brush unit adjustably supported in said tank and having a plurality of rows of bristles having distal ends located in the vicinity of said circumferential surface ..."

The only difference between the subject-matter of Claim 1 and the disclosure of D2 is therefore the provision of a cleaning sheet of synthetic fibred non-woven cloth supported on the brush unit and interposed between the circumferential surface and the distal ends of the bristles. This difference is lacking in inventive step in the light of the disclosure of such a cloth in D1 for the same purpose. Similarly, the utilisation of the elastic

effect does not contribute any inventive effect since this is also well known for example by every housewife or cleaning lady who scrubs the floor with a cleaning cloth wrapped around the head of a broom-like scrubbing brush. It is also known from US-A-282.995 (D4) filed by the Appellant on 17 August 1988.

- (iv) Alternatively, if D1 is considered the closest state of the art, the only difference between the subject-matter of Claim 1 and the disclosure of D1 is:

"... the fact that the support carrying the cleaning cloth is a brush unit."

This similarly cannot be considered to constitute an inventive step in the light of the prior art disclosed in the cited documents and in the opening paragraphs of the patent.

V. The Respondent argued essentially as follows:

- (i) As is stated under para. VII of the contested decision, the documents D1 to D3 do not hint at nor suggest that the springy bristles of the brush(es) be covered with an elastic cloth and, that the combined effect of elasticity provided by the bristles and the cloth be used to clean the surface of the ink wiping roller highly uniformly without leaving any ink deposit thereon.

Since this statement continues to be true independent of whatever argumentation is brought up by the Opponent the present application has the merits of inventiveness, so that the granting of the patent appears to be justified.

- (ii) Within the grounds of appeal (see para. 2, p. 1) the Opponent makes the observation that the problem of complete removal of ink from an ink wiping roller has been

solved in a satisfactory way before, thereby referring to the three references D1 to D3. This, however, is not true because the problem of complete removal of ink from the surface of an ink wiping roller up to now has not been solved satisfactorily because otherwise there would be no need either for the Applicant to file the present application or for the Opponent to file an appeal.

- (iii) The Appeal Board is requested to examine whether it is legal to introduce at this stage of the opposition procedure (17 August 1988) new prior art, namely D4, which was not mentioned as prior art when filing the original opposition 24 July 1986.
- (iv) Should the additional prior art mentioned by the Opponent have to be considered the following is to be stated:

The embodiment of Fig. 31 to 36 of D4 shows the provision of a series of rubbers (194), which according to Fig. 36 are pushed against a wiping cloth (h), in which case the inking action of the rubbers will not be exerted directly upon the inked plate but indirectly through the wiper cloth (see p. 11, ll. 54-57).

The main feature of the present invention however is the provision of brush units having a plurality of rows of bristles for holding the cleaning sheets and pressing them against the circumferential surface of the ink wiping roller. The brush units with their rows of bristles thereby have the double function of pressing the cleaning sheet with soft pressure and in a well distributed manner against the ink wiping roller, while at the same time the cleaning liquid can circulate through the bristles of the brush units up to the back side of the cleaning sheets, so that the ink wiping roller may be cleaned in a satisfactory manner.

With regard to D4, it therefore can be seen that this particular cleaning action can not be obtained because the cleaning liquid can not circulate through the rubbers (194) shown in Fig. 34.

In addition, according to p. 11, ll. 30 and 31 the rubbers (194) are used to drive the ink evenly into all the lines of the engraving. This does not correspond to the situation in the present invention, where the cleaning assembly is used only for cleaning the ink wiping roller having no engraving lines.

The Respondent also enclosed a new Claim 1 according to an auxiliary request which shall be considered if the Appeal Board is of the opinion that the granted Claim 1 is not delimited enough against the prior art.

- VI. In response to a communication from the Board setting out its provisional opinion, namely that late-filed document US-A-282 995 (D4) was not to be introduced into the procedure and that the Board could see no objection to maintenance of the patent as granted, and to the arguments of the Respondent, the Appellant submitted a further letter received on 29 January 1990. With this letter, he submitted two samples of brushes made in accordance with document D2, and argued that these brushes provided just as complete removal of ink from the roller as the brush unit of the contested patent.

Even if the man skilled in the art were not satisfied, he would immediately either increase the number and density of the bristles, or he would apply a pad over the bristles as suggested in document (D1). The contested patent gives no details of any particular material to be used for the sheet of synthetic fibered non-woven cloth, although it is quite clear that not all materials would have the required porosity or absorbability to allow the ink to be

sufficiently clearly cleaned away from the roller and then from the material.

Moreover, the use of a cloth over the brushes is more complicated than using brushes alone so that the Board is wrong to describe the contested arrangement as simple with respect to the prior art.

Use of the arrangement without a scraper blade necessitates pressing the brushes with a much higher pressure against the roller resulting in higher wear.

- VII. The Appellant requests that the decision under appeal be set aside and the patent be revoked. The Respondent requests that the appeal be dismissed and the patent be maintained, either unamended or on the basis of Claim 1 of the auxiliary request.

#### Reasons for the Decision

1. The appeal is admissible.
2. Whilst the Appellant has argued that the new document US-A-282 995 (D4) had been cited in answer to the comment from the Respondent dated 17 July 1988 that the combined effect of elasticity of the bristles and the cloth is inventive, this main effect achieved by the characterising features of Claim 1 was not introduced by the Respondent at that stage in the procedure, but was mentioned already in the application as filed and in the patent specification (see column 6, lines 13-21). Hence, the new document is to be considered to be late-filed.

The "rubbers" according to US-A-282 995, being formed of felt or other textile fabrics between clamping plates, do not appear to allow the cleaning liquid to circulate freely

and uniformly through to the back of the cleaning cloth, and cannot therefore be seen to suggest supporting the cloth on a brush unit for the purpose of removing printing ink from a wiping roller. This document, therefore, does not appear to be more relevant than the other cited documents, and will consequently not be taken into account in the present proceedings (Article 114(2) EPC).

3. Concerning the question of novelty, it is pointed out that none of the documents comprising the revealed prior art discloses an ink wiping device having all the features of Claim 1 of the main request. Consequently, the subject-matter of this claim is new within the meaning of Article 54 EPC.
4. It is therefore now to be investigated whether this subject-matter also involves an inventive step over the disclosure of the most relevant prior art, namely D1 to D3.
  - 4.1 In D2, which, like D1, discloses the device as defined in the preamble of Claim 1, there is disclosed an ink wiping roller cleaning tank containing an aqueous solution of a detergent, a first doctor blade, placed in front of the ink wiping roller cleaning tank and making an acute angle with the peripheral segment after the doctor blade looking in the direction of rotation of the roller. The first doctor blade - which removes up to 98% of the ink from the surface of the ink wiping roller - is connected to a tripping system, which permits the first doctor blade to be moved out of contact with the surface of the roller when the latter has been tripped. Additionally, the first doctor blade is followed by at least one further doctor blade facing in the opposite direction to that of the first doctor blade and at least one non-rotatable brush in contact with the surface of the roller, the brush serving to remove any ink traces left on

the roller surface, cf. page 6, lines 13 to 16. However, the brush is not really necessary and can be dispensed with, cf. page 6, lines 34 and 35.

The object underlying the invention of D2 was to replace the previously known rotary brushes in the cleaning tank, because they caused foaming of the liquid and suspension therein of comminuted ink particles, as well as to alleviate the danger of the first doctor blade biting into and hence damaging the surface of the roller.

4.2 In accordance with the ink wiping device of D1, the surface of the ink wiping roller is provided upstream of the tank inlet with a first doctor blade, which is capable of removing up to 98% of the ink from the roller surface. The latter is provided at the tank outlet with a second doctor blade for removing the cleaning liquid, whilst in the tank in which the ink wiping roller is partially immersed the roller surface is associated with a set of axially extending spraying nozzles which can be mounted on a pivotally supported bar. The nozzles can be oscillated peripherally and axially to dissolve the ink adhering to the roller surface, (cf. page 2, left-hand column, line 35 to line 67 in the right-hand column). Though spraying nozzles are preferred, cf. page 2, right hand column, lines 55 to 61, they can be replaced by any suitable cleaning device including brushes or a surface scrubbing material such as a felt fabric, (cf. page 4, right-hand column, lines 9 to 33).

4.3 According to D3, which was cited in the search report and considered in the substantive examination, the doctor blades in the tank and corresponding to the arrangement disclosed in D2 are preceded - looking in the direction of rotation of the ink wiping roller - by a set of axially disposed liquid spraying nozzles and the level of the cleaning liquid in the tank is maintained at a height at which the cleaned surface

of the roller would never come into contact with the liquid in order to prevent soiling of the cleaned ink wiping roller surface by splashes of the re-used cleaning liquid in the tank. The effect achieved is that the colour printing press can now be operated continuously, (cf, page 2, line 23 to page 3, line 12), as opposed to being stopped for 15 minutes every hour to clean the tank of the spent cleaning liquid (cf. page 1, line 20 to page 2, line 22).

In this manner, the previously used expensive and noxious trichloroethylene cleaning liquid can be replaced by an inexpensive, non-volatile one such as an aqueous dispersion of a detergent.

- 4.4 As against this prior art, the proprietor of the patent has set himself the problem of providing an ink wiping device which is simple in construction, easy to service and capable of scraping off ink completely from the ink wiping roller without leaving residual ink thereon (cf. patent specification, column 2, lines 2 to 6).

He has achieved this by providing a cleaning assembly which includes at least one brush unit, which is adjustably supported in the tank containing the cleaning liquid and which has a number of rows of bristles, the distal ends of which support a cleaning sheet of a non-woven cloth consisting of synthetic fibres. This arrangement permits the cloth, which is resilient, to be pressed, in association with the spring bristles, uniformly into face-to-face contact with the surface of the ink wiping roller to clean the surface of the roller highly uniformly without leaving any ink trace thereon (see characterising part of Claim 1 and the description in column 6, lines 13 to 33).

- 4.5 Since, therefore, none of the documents D1 to D3 suggests using a brush unit to support the cleaning sheet of non-woven cloth consisting of synthetic fibres, the subject-matter of Claim 1 of the main request involves an inventive step.
5. The arguments of the Appellant against this finding are not persuasive.
- 5.1 The Board is not impressed by the Appellant's contention that since wrapping a wiping cloth around a brush is known by housewives and cleaning-ladies, it would be obvious for the person skilled in the art to apply this idea to cleaning of an intaglio rotary printing machine. Scrubbing of floors is not to be compared with cleaning of printing machines, and it is only, in the opinion of the Board, with an ex post facto analysis that one could appreciate the new application of this idea. The fact that the solution to a posed problem is simple and immediately obvious once someone else has thought of it is not an indication in itself that the solution is lacking in inventive merit.
- 5.2 The problem to be solved by the present invention is inter alia to provide an ink wiping device which is "simple" in construction, and this is apparently achieved by the use of a brush covered by a cloth.

Further, whereas the Appellant has argued that the brushes disclosed in D2 provide a perfectly satisfactory cleaning effect and do in fact act as a continuous wiping surface, he has not attempted to prove this. The statement of the Respondent on the other hand that the bristles cause linear brush marks appears entirely reasonable to the Board so that, since the burden of proof is quite clearly with the Opponent in such cases, the Board accepts that there was a problem to be solved which was indeed solved in a simple manner by the present invention.

- 5.3 The cleaning sheet is defined in a general way as a "synthetic fibered non-woven cloth", and a particular material is quoted in column 3, line 27 of the contested patent. Further, the man skilled in the art can very easily ascertain whether a particular material is suitable or not merely by using it in the apparatus, without the need for any inventive ingenuity. The material is, therefore, sufficiently described in the patent.
- 5.4 The acceptance of a disadvantage, in this case greater wear due to the alleged need to push the brushes with a greater pressure against the roller due to the absence of a scraper blade, cannot be seen as in any way detracting from the inventive step of the subject-matter of Claim 1.
6. The question of whether Claim 1 is in the correct two-part form in the light of the nearest prior art need not be considered, since it does not constitute a ground of opposition.
7. Dependent Claims 2 and 3 relate to particular embodiments of the ink wiping device of Claim 1 and are also, therefore, allowable.
8. Since the main request is allowed, there is no need to consider the auxiliary request.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

S. Fabiani

P.E.M. Delbecque