

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 25 October 2000

Case Number: T 0794/98 - 3.5.1

Application Number: 91305891.3

Publication Number: 0465166

IPC: H04N 1/32

Language of the proceedings: EN

Title of invention:

Job/page proofing for electronic printers

Patentee:

XEROX CORPORATION

Opponent:

Océ-Nederland B.V.

Headword:

-

Relevant legal provisions:

EPC Art. 100(a), 56

Keyword:

"Inventive step (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0794/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 25 October 2000

Appellant: XEROX CORPORATION
(Proprietor of the patent) Xerox Square
Rochester
New York 14644 (US)

Representative: Grünecker, Kinkeldey,
Stockmair & Schwanhäusser
Anwaltssozietät
Maximilianstrasse 58
D-80538 München (DE)

Respondent: Océ-Nederland B.V.
(Opponent) St. Urbanusweg 43
NL-5914 CC Venlo (NL)

Representative: Van de Sande, Jacobus
Océ-Nederland B.V.
Postbus 101
NL-5900 MA Venlo (NL)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 28 May 1998
revoking European patent No. 0 465 166 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: A. S. Clelland
P. H. Mühlens

Summary of Facts and Submissions

I. This is an appeal against the decision of the Opposition Division to revoke European patent No. 465 166 on the ground that the subject-matter of claim 1 as amended in the course of the opposition oral proceedings was not new, whilst that of claim 4, also amended in the course of the opposition oral proceedings, lacked an inventive step. The Opposition Division referred *inter alia* to the following documents:

D3: GB-A-1 531 401

D5: Abstract of JP-A-60 45834

D6: JP-A-60 45834 and translation.

II. In the oral proceedings before the Board the main request of the appellant (patentee) was that the decision under appeal be set aside and the patent maintained as granted; as a first auxiliary request he requested maintenance on the basis of at least one of the independent claims of the patent as granted. A second auxiliary request was for maintenance on the basis of claims 1 and 4 filed in the course of the oral proceedings before the Opposition Division and claim 11 as granted, and a third auxiliary request was for maintenance on the basis of one of the independent claims of the second auxiliary request.

III. The respondent (opponent) requested that the appeal be dismissed.

IV. Claims 1, 4 and 11 as granted read as follows:

"1. A method of making proof prints using an electronic printer, comprising the steps of:

- (a) temporarily interrupting scanning of the job currently being scanned to commence scanning of a proof job;
- (b) while performing step (a), continuing printing of the job then in process,
- (c) when scanning of said proof job is completed or at least sufficient to enable printing of said proof job to be started, interrupting printing of the job then in process to start printing said proof job;
- (d) resuming scanning of the job that was interrupted when scanning of said proof job is completed; and
- (e) resuming printing of the job that was interrupted when printing of said proof job is completed."

"4. A method of making proof prints using an electronic printer which processes printing jobs in accordance with printing instructions, each of said printing jobs comprising one or more pages of hard copy document originals, the method comprising the steps of

- a) programming said printer with printing instructions for each printing job;
- b) scanning the document original pages that comprise each job and converting said pages to electronic pages;
- c) combining said electronic pages of each job with the printing instructions for said job to provide a job file for each of said jobs;

- d) storing said job files in memory pending printing;
- e) for printing, forming a print queue with said jobs in a preset printing priority for successive accessing of the print files therefor when printing said jobs;
- f) for said proof prints, interrupting said job file succession in said print queue to insert the job file for said proof prints in said job file succession for printing said proof prints at the earliest opportunity;
- g) said printer, on detecting the job file for said proof prints, interrupting the job currently being printed;
- h) reprogramming said printer with the printing instructions from the job file for said proof prints;
- i) printing said proof prints;
- j) detecting said interrupted job file as printing of said proof prints is ending;
- k) reprogramming said printer with the printing instructions from the job file for said interrupted job; and
- l) resuming printing of the interrupted job."

"11. Printing apparatus comprising a scanner for scanning the document pages of a job to be printed and for converting the document images scanned into pixels; a printer for making prints from the pixels in accordance with job programming instructions; and control means operable to:

- (i) interrupt the scanning of the job, to enable the scanner to commence scanning of a proof job, while the printer continues printing of the job then in progress;
- (ii) interrupt the printing of the job then in

progress, to enable the printer to commence printing of the proof job, when scanning of the proof job has reached an appropriate stage;

(iii) cause the scanner to resume scanning of the job that was interrupted, when scanning of the proof job has been completed, and

(iv) cause the printer to resume printing of the job that was interrupted, when printing of the proof job has been completed."

V. Claims 1 and 4 of the second auxiliary request, i.e. claims 1 and 4 as filed in the course of the proceedings before the Opposition Division read as follows:

"1. A method of making proof prints using an electronic printer in which prints are produced from an electronic memory using a corresponding set of stored image data, comprising the steps of:

(a) temporarily interrupting scanning of the job currently being scanned to commence scanning of a proof job;

(b) while performing step (a), continuing printing of the job then in process using a corresponding set of stored image data;

(c) when scanning of said proof job is completed or at least sufficient to enable printing of said proof job to be started, interrupting printing of the job then in process to start printing said proof job;

(d) resuming scanning of the job that was interrupted when scanning of said proof job is completed; and

(e) resuming printing of the job that was interrupted when printing of said proof job is completed."

"4. A method of making proof prints using an

electronic printer which processes printing jobs in accordance with printing instructions, each of said printing jobs comprising one or more pages of hard copy document originals, the method comprising the steps of:

- a) programming said printer with printing instructions for each printing job;
- b) scanning the document original pages that comprise each job and converting said pages to electronic pages;
- c) combining said electronic pages of each job with the printing instructions for said job;
- d) storing all of said jobs in a job file in memory pending printing;
- e) for printing, forming a print queue with said jobs by moving each job from said job file to said print queue in a preset printing priority for successive accessing of the print jobs in said print queue;
- f) for said proof prints, interrupting said print job succession in said print queue to insert the print job for said proof prints in said print job succession for printing said proof prints at the earliest opportunity;
- g) said printer, on detecting the print job for said proof prints, interrupting the print job currently being printed;
- h) reprogramming said printer with the printing instructions from the print job for said proof prints;
- i) printing said proof prints;
- j) detecting said interrupted print job as printing of said proof prints is ending;
- k) reprogramming said printer with the printing instructions from the print job for said interrupted job; and
- l) resuming printing of the interrupted print job."

Claim 11 of the second auxiliary request corresponds to claim 11 of the main request.

Reasons for the Decision

1. *Background to the invention*

1.1 The classic photocopier, sometimes referred to as an electrophotographic or light-lens photocopier, projects an image onto an electrostatically charged photosensitive cylinder or web to which toner is then applied and which is brought into contact with copying paper, after which the transferred image is fixed by heating. Such photocopiers can be described as "synchronous" inasmuch as all parts are directly coupled and scanning of an image results in subsequent output of the same, copied, image. An example of such a photocopier is known from D1, in which a photosensitive web stores several images; any image scanned and stored will, with a slight delay, be copied.

1.2 An alternative to an electrophotographic copier comprises a scanner and a printer; since the scanner and printer are only coupled electrically it is in principle possible for the device to be asynchronous, that is, for scanning to be carried out separately from printing by the provision of a data buffer between scanner and printer. D3 is an example of such a device.

1.3 The patent is concerned with a problem specific to asynchronous copiers, namely the most efficient manner of interrupting an existing job in order to allow another job, in particular a proof job, to be copied. In such a copier the provision of a buffer raises the question of how the skilled person would implement an interrupt function for a proof job whilst minimising the resulting disruption and maximising throughput.

2. *Inventive step*

2.1. It was argued by the appellant that the prior art would not lead the skilled person to provide an interrupt specifically for a proof job. A proof job differed from an interrupt job in that it did not require the completion of a batch but merely single prints. It was self-evident that unless such prints could be produced reasonably quickly without interrupting the flow of data to the printer and whilst minimising delay to existing jobs, the provision of proof jobs would not be practical. Independent claim 4 moreover included additional technical features which could not be found in any of the cited documents. Specifically, the claim required that the printer be reprogrammed twice, firstly with printing instructions from the job file for the proof job and, when this job was finished, with the printing instructions from the interrupted job file.

2.2. The respondent, on the other hand, argued that no technical distinction of substance existed between an interrupted job and a proof job; it was merely a question of the intention of the user what kind of job was being performed. Although a proof job might only require a single copy of each image, this could also be true of any normal interrupt job and indeed it was to be expected that interrupt jobs would by their very nature be of shorter duration than batch jobs being interrupted.

2.3 In the Board's view no technical distinction exists between a proof job and any other kind of job. It may be that a proof job requires less work, ie only a single set of prints for each image, but the Board

accepts that this could equally well be true of any other interrupt job. The Board accordingly interprets the references in the claims to "proof job" as implying no technical distinction over any other form of interrupt job.

2.4 It was common ground between the parties that the single most relevant document is D3, which however makes no mention of providing an interrupt function as is required for a proof job. In D3, read buffers supply data from the scanner to a bus for storage in main memories which can hold a plurality of pages. The question before the Board has accordingly been how the skilled person would implement an interrupt function in the D3 copier.

2.5 As noted at point 1.3 above, a primary criterion for the skilled person is the requirement that throughput be maximised, i.e. that the copier be kept working with minimal interruptions and without the need to re-scan pages. It was suggested by the appellant that if the skilled person were to provide an interrupt function for proof prints in D3 he would empty the buffer, carry out the urgent job, and thereafter re-scan the uncopied documents of the interrupted job into the buffer. The Board does not consider that such a procedure meets the goal of maintaining a high throughput since it requires rescanning of the documents deleted from the buffer. More plausible is the suggestion that in order to keep the work flowing the old job would continue to be printed until scanning of the proof job is sufficiently advanced for it to be printed, at which time the data flow to the printer is switched from the old to the new job.

2.6 This implies that the sequence of steps set out in claim 1 of the main request, as granted, is merely that which the skilled person would necessarily perform in order to maximise throughput. Self-evidently scanning of the current job must be interrupted to commence scanning of the proof job, step (a). While the proof job is being scanned it would be efficient to continue printing of the existing job, step (b). Thereafter, as soon as scanning is sufficiently advanced, the existing job would be interrupted and the proof job printed, step (c). Self-evidently, once the proof job has been completed, scanning of the interrupted job would be resumed, step (d), and thereafter also printing, step (e). The Board accordingly considers that the skilled person, faced with the problem of providing an interrupt for proof jobs in the D3 system, would without the exercise of invention arrive at the subject-matter of claim 1, Articles 52(1) and 56 EPC. The main request is accordingly not allowable.

2.7 The appellant argued against the above analysis, considering that the cited art nowhere suggested the simultaneous processing of an existing and a proof job as was done in the patent. All the prior art documents, it was argued, allowed the existing job to continue until it was fully cleared and only then started the new job, there being no suggestion of scanning the new job whilst printing the old. The only arrangement which permitted an interrupt in the same sense as the patent was that of the Japanese documents D5/D6, which did not disclose scanning but merely referred to printing. In D5/D6 all the data was already stored and the patentee's problem did not arise.

2.8 In arriving at its conclusion the Board has not started

out from D5/D6 but from D3. It has not been contested by the appellant that the provision of an interrupt feature is a desirable one which the skilled person would, at the claimed priority date, have sought to implement. Nor has the appellant contested that the skilled person could be expected to maximise throughput in any practical printer. From this background it appears to the Board that the implementation of an interrupt feature in the D3 copier, in which a buffer memory is present, could only be implemented efficiently if the data in the buffer were retained and used for printing until new data became available. Although the appellant argued that the simultaneous processing of an existing and an interrupt job gave rise to issues of complexity which required the exercise of invention for their solution, claim 1 does not reflect such complexity and merely states the obvious *desiderata* for efficient copying.

2.9 Turning now to the granted claim 4, the Board does not consider that the references to reprogramming the printer in order to carry out the proof job and then reprogramming it again in order to continue with the interrupted job constitutes a technical distinction over the cited art. It would appear self-evident that every job will have attached to it printing instructions, so that if a job is interrupted it will be necessary to send the printing instructions for the interrupt job to the printer, and on completion of this job resend the printing instructions for the interrupted job. Since claim 4 adds nothing further of substance to claim 1, it follows that the claim is open to the same objection of lack of inventive step as claim 1.

- 2.10 Claim 11 is directed to apparatus to carry out the steps of the method of claim 1 and is open to the same objection of lack of inventive step as claim 1.
- 2.11 It follows that neither the main request nor the first auxiliary request is allowable.
- 2.12 The second auxiliary request is based on the amended claims filed in the course of the opposition oral proceedings; claim 1 of this request differs from that considered above merely in requiring that the prints are produced from an electronic memory using a corresponding set of stored image data; in the above discussion of claim 1 in relation to the document D3 this has been assumed to be the case and the Board's conclusions on claim 1 of the main request apply to this request also. Claim 4 of this request differs only in minor clarifying amendment from claim 4 as granted and the Board's conclusions on claim 4 as granted apply equally to this claim. Claim 11 is unamended and the conclusion at point 2.10 above applies. It follows that neither the second nor the third auxiliary request is allowable.
3. There being no allowable requests, it follows that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg