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Datasheet for the decision of 19 September 2016

Case Number: T 1825/13 - 3.2.05

Application Number: 02028730.6

Publication Number: 1323529

IPC: B41F33/00

Language of the proceedings: EN

Title of invention:
Printing quality checking apparatus of printing press

Patent Proprietor:
Komori Corporation

Opponent:
KBA-NotaSys SA

Relevant legal provisions:
EPC Art. 123(2), 123(3)

Keyword:
Admissibility of the new main request (yes)
Inadmissible extension of scope of protection (yes)
Inadmissible amendment (yes: auxiliary requests 1-3)
Admissibility of the fourth auxiliary request (no)

Decisions cited:
G 0002/10

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Case Number: T 1825/13 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 19 September 2016

Appellant: (Patent Proprietor)	Komori Corporation 11-1, Azumabashi 3-chome Sumida-ku Tokyo (JP)
Representative:	Uexküll & Stolberg Partnerschaft von Patent- und Rechtsanwälten mbB Beselerstraße 4 22607 Hamburg (DE)
Respondent: (Opponent)	KBA-NotaSys SA Avenue du Grey 55 1000 Lausanne 22 (CH)
Representative:	e-Patent SA Rue Saint-Honoré 1 2000 Neuchâtel (CH)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 27 June 2013 revoking European patent No. 1323529 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	M. Poock
Members:	O. Randl
	D. Rogers

Summary of Facts and Submissions

I. This appeal lies against the decision of the opposition division to revoke European patent No. 1 323 529 for lack of compliance with the requirements of Article 123(2) EPC.

II. The oral proceedings before the board took place on 19 September 2016.

III. The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained upon the basis of the claims of the Main Request, submitted at the oral proceedings before the board, or alternatively upon the basis of the claims of one of Auxiliary Requests 1 to 3, submitted under cover of a letter dated 17 August 2016, or upon the basis of the claims of the Fourth Auxiliary Request, submitted at the oral proceedings before the board.

The respondent requested that the appeal be dismissed.

IV. Claim 1 of the main request reads:

"A printing quality checking apparatus of a printing press, said printing press comprising:

transport means (10, 11, 12, 17, 18, 23-25, 29) for transporting a printing product (W), which has been produced by printing, to a delivery unit;

at least two drying devices (15, 16) for drying ink printed on both surfaces of said printing product transported by said transport means;

two detectors (21, 22) for checking both printed surfaces of said printing product transported by said transport means (10, 11, 12, 17, 18, 23-25, 29);

characterized in that

said transport means (10, 11, 12, 17, 18, 23-25, 29) is composed of four transport cylinders (11,12,17,18);

the first drying device (15) is provided opposing a circumferential surface of the first transport cylinder (11) such that said first drying device (15) dries a first surface of said printing product during transportation on said first transport cylinder (11);

the second drying device (16) is provided opposing a circumferential surface of the second transport cylinder (12) being in contact with said first transport cylinder (11) such that said second drying device (16) dries a second surface of said printing product during transportation on said second transport cylinder (12);

the first detector (21) of the printing quality checking apparatus is provided opposing a circumferential surface of the third transport cylinder (17) being in contact with said second transport cylinder (12) such that said first detector (21) checks the first surface of said printing product during transportation on said third transport cylinder (17);

the second detector (22) of said printing quality checking apparatus is provided opposing a circumferential surface of the fourth transport cylinder (18) being in contact with said third transport cylinder (17) such that said second detector (22) checks the second surface of said printing product during transportation on said fourth transport cylinder (18);

and said first detector (21) of said printing quality checking apparatus is provided in a shaded area in which heat or light from said second drying device (16) is blocked by said second transport cylinder (12) and by said third transport cylinder (17)."

Claim 1 of the first auxiliary request differs from claim 1 of the main request in that "for drying ink" has been replaced by "for drying by heat ink".

Claim 1 of the second auxiliary request differs from claim 1 of the main request by the additional feature "said printing press further comprising a face side printing unit (50a) , a reverse-side printing unit (50b), a face-side printing unit (52a), and a reverse side printing unit (52b), wherein said printing units (50a, 50b, 52a, 52b) and the transport cylinder (11) opposed to the drying device (15) for the first surface are directly in contact with one another" and in that "for drying ink" has been replaced by "for drying by heat ink".

Claim 1 of the third auxiliary request differs from claim 1 of the first auxiliary request in that "heat or light" has been replaced by "light".

Claim 1 of the fourth auxiliary request differs from claim 1 of the first auxiliary request in that "for drying by heat" has been replaced by "for drying by heat or light".

NB: For the sake of concision the expression "printing quality checking apparatus" is abbreviated to PQCA in the following.

V. The appellant (patent proprietor) argued as follows:

(a) Claim interpretation

The interpretation proposed in point 5.1 of the communication of the board is correct: what is claimed

is a PQCA as such rather than a printing press comprising such an apparatus.

"Devices for drying" should be interpreted as "devices suitable for drying", as suggested by the board in point 5.4 of its communication.

(b) Main request

(i) Admission

The appellant asked the board to admit the request.

(ii) Allowability of the amendments

The deletion of the expression "by heat" is not contrary to Article 123(3) EPC. In this context the appellant adopted the understanding of the board as expressed in its communication. Because "for drying" has to be understood as "suitable for drying", it does not limit the scope of protection and the deletion of the words "by heat" complies with Article 123(3) EPC.

(c) Auxiliary requests 1-3

Claim 1 does not violate Article 123(2) EPC.

The drying devices are only suitable for drying by heat. Drying by heat is an option. The feature is disclosed in the original application. The whole application relates to dryers. There are three different types of dryers: hot air dryers, IR dryers and UV dryers. The general function is disclosed with respect to the related art, which corresponds to common knowledge of the skilled person. The reference is to dryers in general, without any restriction, for example

in paragraph [0003]. This means that any dryer generates heat. With respect to the invention, drying devices in general are cited in paragraph [0007]. The detector should be arranged in order not to be affected by the heat of the drying device. The embodiments have UV dryers, but this is not relevant for the scope of claim 1. The skilled person has to interpret the meaning of the invention based on the whole description. He would start from the description of the prior art, i.e. from dryers in general, which generate heat. It is obvious for the skilled person that the heat generated by the dryer can be used for drying the ink. The UV devices are cited as an example: even if UV devices are used, there is a problem because even such devices generate heat, and this could be used for drying the ink.

The opposition division itself has acknowledged that (IR) dryers using infrared radiation are disclosed in the originally filed documents. As stated in "The Lithographers Manual" of 1988, inks dry with heat from infrared radiation. Thus it was common knowledge to those skilled in the art that (IR) dryers using infrared radiation dry inks by heat from infrared radiation.

(d) Fourth auxiliary request

The appellant asked the board to admit the request because the board had changed its opinion with respect to its preliminary opinion, which came as a surprise to the appellant.

VI. The respondent (opponent) argued as follows:

(a) Claim interpretation

There is no legal basis for interpreting "PQCA of a printing press" as "PQCA for a printing press". One should rather interpret the expression in the light of the description and the drawings. Paragraph [0001] states that the invention "relates to a printing press". Moreover, all the embodiments refer to printing presses; there is no basis for disregarding this fact. From paragraphs [0014] and [0016] it is clear that only the embodiments of Figures 1 and 12 are embodiments of the invention, whereas the embodiments shown in Figures 3 and 5 to 11 are not. This is irreconcilable with the provisional interpretation developed by the board in its communication. During the entire grant and opposition proceedings, the claimed subject-matter was understood to be a press comprising a PQCA, as can be seen from the first examination report. Even the proprietor had understood the invention in this way, as can be seen from the amendments proposed.

If "PQCA of a printing press" is interpreted as "PQCA suitable for a printing press", it is difficult to understand how exactly the PQCA is defined by the features for the printing press.

(b) Main request

(i) Admission

The respondent objected to the request being admitted as it was surprised by this new request.

(ii) Allowability of the amendments

Claim 1 violates the requirements of Article 123(3) EPC. Regardless of the interpretation chosen, the nature of the dryer has an impact on the scope of protection.

(c) Auxiliary requests 1-3

The feature according to which the transport means is "composed of" four transport cylinders excludes any additional element and is not disclosed in the application as filed.

The feature "drying devices ... for drying by heat" has no basis in the original application. The drying devices disclosed are exclusively UV devices. Nor is it disclosed that their heat is used for drying the ink. Paragraphs [0002] to [0005] of the opposed patent refer to the state of the art and are not relevant for the invention. The application systematically refers to UV dryers, which do not dry by heat. The use of such dryers for drying by heat is not disclosed. Moreover, drying by infrared radiation is not equivalent to drying by heat. The reference to "The Lithographers Manual" is of no avail because its teaching is not part of the original disclosure of the application.

The introduction of the feature "drying devices ... for drying by heat" has led the patent proprietor into the "inescapable trap"; its deletion would contravene Article 123(3) EPC.

(d) Fourth auxiliary request

The respondent objected to the request being admitted. There had not been any new and unexpected arguments justifying the filing of a new request. Moreover, the new claim does not overcome the objection under Article 123(2) EPC because the feature "by heat" is still part of the claim.

Reasons for the Decision

1. Claim interpretation

1.1 Overall scope

Claim 1 of all requests on file is directed at a "PQCA of a printing press". Original claim 1 makes clear that the PQCA is part of the printing press. As most of the features of claim 1 concern elements of the printing press that are distinct from the PQCA, the question arises what exactly is claimed: the PQCA as such ("partial interpretation") or a printing press comprising the PQCA ("holistic interpretation").

When the claim is considered as it stands, the partial interpretation appears to be the most straightforward one, the expression "PQCA of a printing press ..." being understood as equivalent to "PQCA for a printing press ...", i.e. a PQCA that is suitable for a printing press as defined in the claim. This is also the understanding presented in the communication of the Board.

Accordingly, the features of claim 1 would structurally define the claimed PQCA as follows:

- the PQCA has to comprise (at least) two detectors;
- each of the detectors is of such dimensions that it can be provided opposing the surface of one associated transport cylinder;
- each of the detectors is suitable for checking the surface of a printing product transported by the associated transport cylinder;
- one of the detectors has to be of such dimensions that it can be provided in an area of the printing press in which its associated transport cylinder and the transport cylinder associated with the heat drying device shield it from the heat or light originating from the heat drying device.

A closer inspection, however, reveals that there are features and facts that raise doubts as to whether the partial interpretation is appropriate. For instance, there are characterising features that are not relevant for the PQCA as such, e.g. the fact that the transport means is composed of four transport cylinders. The number of transport cylinders appears not to have any effect on the PQCA, even via its suitability for the printing press as defined in claim 1.

In view of these doubts, the skilled person would revert to the description and the drawings of the patent in order to clarify the scope of claim 1.

When doing so, the skilled person would note that the "invention relates to a printing press having .... a PQCA ..." (paragraph [0001]).

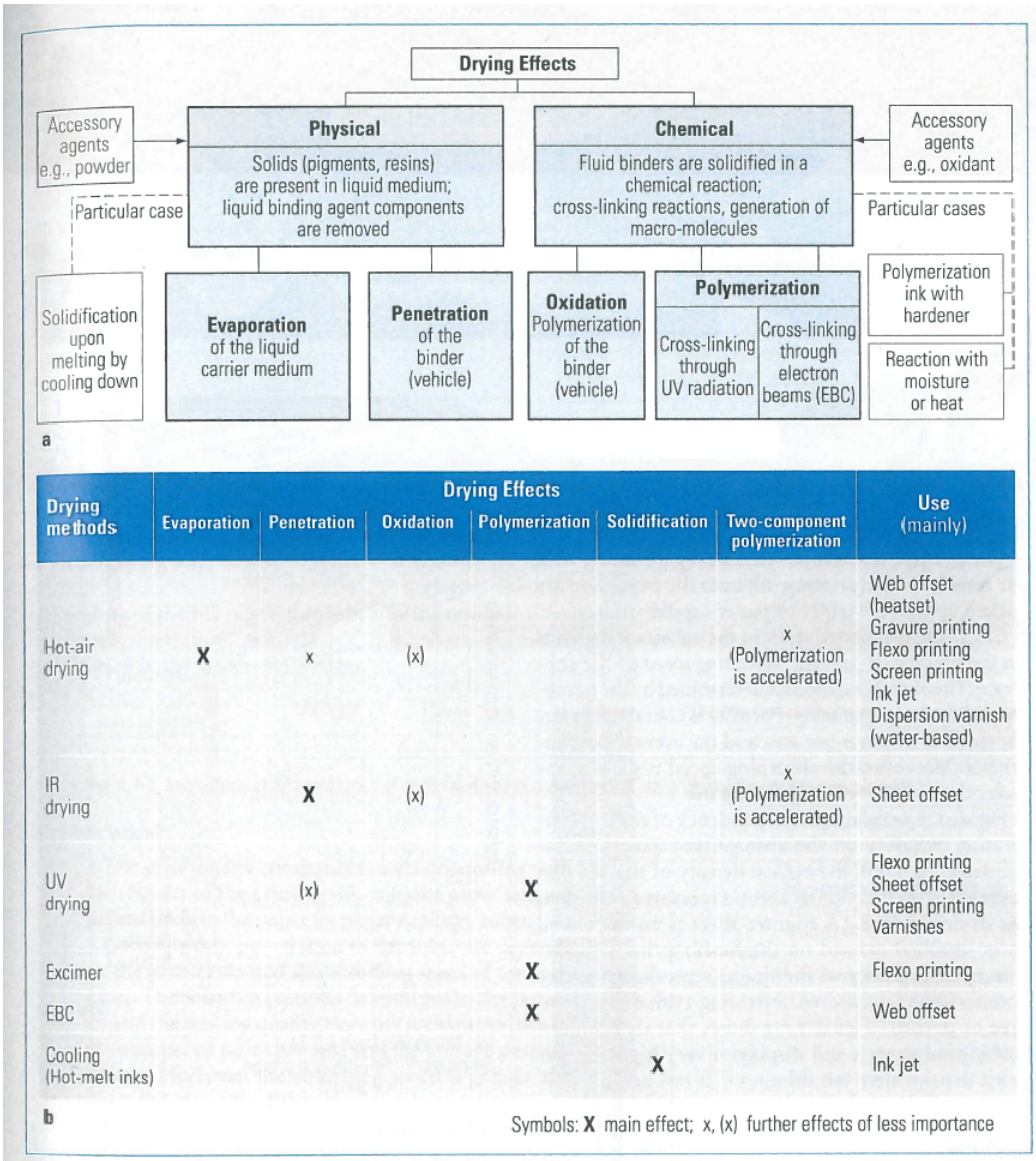
He would also note that the second to ninth embodiments (corresponding to Figures 3 and 5 to 11) are stated not to be embodiments of the invention (see paragraph [0016] in connection with paragraph [0014]), although the corresponding PQCAs possess all the features of claim 1 that structurally define the claimed PQCA if the partial interpretation is adopted. These amendments to the description are a first indication that during the examining proceedings the holistic interpretation has prevailed. This impression is confirmed by a closer inspection of the file wrapper.

Therefore, in view of the text of the patent as granted and in order to be coherent with the grant and opposition proceedings, it appears appropriate to adopt the holistic interpretation, understanding "a PQCA of a printing press" to mean "a printing press comprising a PQCA".

1.2 Drying

In the context of printing, the term "drying" includes all processes taking place after the ink has been transferred onto the substrate and which establish a stable bond between the substrate and the ink. The ink solidifies during the course of this process (see Helmut Kipphan, "Handbook of Printmedia", Springer, 2001, point 1.7: "Drying Methods").

The original application only mentions IR drying and UV drying. The skilled person is, however, aware of other drying methods. The following table is extracted from Kipphan's Handbook; it gives an overview over the different drying methods and the drying effects involved:



Drying methods	Drying Effects: Evaporation	Penetration	Oxidation	Polymerization	Solidification	Two-component polymerization	Use (mainly)
Hot-air drying	X	x	(x)			x (Polymerization is accelerated)	Web offset (heatset) Gravure printing Flexo printing Screen printing Ink jet Dispersion varnish (water-based)
IR drying		X	(x)			x (Polymerization is accelerated)	Sheet offset
UV drying		(x)		X			Flexo printing Sheet offset Screen printing Varnishes
Excimer				X			Flexo printing
EBC				X			Web offset
Cooling (Hot-melt inks)					X		Ink jet

b

Symbols: **X** main effect; x, (x) further effects of less importance

Fig. 1.7-1 Drying processes.
a Overview of drying types and effects;
b Overview of drying methods, drying effects and fields of application

1.3 "heat of/from the drying device"

Although the original application often refers to drying devices or dryers, respectively, it contains no information on any purposeful use of heat. As a matter of fact, whenever "heat" is mentioned, the application refers to its adverse effect on cameras or detectors:

- page 2, lines 14-15;
- page 3, lines 9-12 and 24;
- page 12, lines 23-26;
- claim 1.

The board also notes that the application never mentions hot-air drying devices or the like.

1.4 "... drying devices for drying by heat ink ..."

According to the long-standing practice of the EPO, "apparatus for carrying out process X ..." is construed as meaning an apparatus that is suitable for carrying out the process (*cf.* Guidelines for Examination in the EPO, F-IV 4.13).

Accordingly, "drying devices for drying by heat ink" is construed as meaning devices that are suitable for drying ink by exposing the ink to heat.

This does not mean that any device generating heat is a "drying device for drying by heat ink". A device in which heat generation is only an unwelcome side-effect that is to be avoided as much as possible would not qualify. In other words, the skilled person would not consider such a device to be suitable for drying ink by using the heat generated by the device; the mere fact that the device dissipates some heat does not make it suitable for drying ink in the context of a printing press.

UV drying is based on the polymerisation (curing) of the ink film (see, for instance, Kipphan, *op.cit.*, point 1.7.2.2). Consequently, a UV drying device is *a priori* not suitable for drying ink by heat.

Infrared (IR) drying is based on different mechanisms. IR light raises the temperature and, as a consequence, decreases the viscosity of the printing ink and thereby accelerates its penetration/absorption by the paper substrate; the IR radiation also favours the chemical drying process, i.e. oxidation of the binder (see, for instance, Kipphan, *op.cit.*, point 1.7.1.1). Therefore, a dryer using IR radiation may be said to be a device for drying ink by heat.

2. Main request

2.1 Admission

The new main request has been filed at the beginning of the oral proceedings. Its admission is governed by Article 13(1) and (3) of the Rules of Procedure of the Boards of Appeal (RPBA) (see OJ EPO 2016, Supplementary publication 1, p. 41 et seq.)

The new request differs from the previous main request by the deletion of the last feature, which is also absent from auxiliary requests 1 and 3.

As the new main request does not raise complex issues which the board or the respondent could not reasonably be expected to deal with without adjournment of the oral proceedings, the board decided to admit the new main request into the appeal proceedings.

2.2 Compliance with Article 123(3) EPC

Claim 1 differs from claim 1 as granted *inter alia* by the deletion of the words "by heat". Whereas claim 1 as granted requires the printing press to comprise at least two drying devices for drying ink by heat,

claim 1 of the main request only requires the drying devices to be suitable for drying ink, regardless of whether the drying is obtained by heat or by other means.

The board has reached the conclusion that this amendment extends the scope of protection of claim 1 beyond the scope of protection of claim 1 as granted.

One can easily convince oneself of this conclusion by considering two printing presses:

- a first printing press comprising a PQCA according to claim 1 of the main request, in which the ink is dried by a hot-air blower, i.e. by heat;
- a second printing press that is identical to the first one, with one exception: the ink is dried by UV curing, i.e. not by heat.

Claim 1 as granted only encompasses the first printing press but not the second, because its drying device is not a device for drying ink by heat.

Claim 1 of the main request, however, encompasses both printing presses, because both comprise drying devices for drying ink.

As claim 1 of the main request encompasses printing presses that are not encompassed by claim 1 as granted, the scope of extension must have been extended by the amendment.

The fact that the board had reached a different provisional opinion in its communication is due to the fact that the communication was based on the "partial

interpretation", which the board has subsequently abandoned (see point 1.1 above).

Considering the above, the main request has to be dismissed as failing to comply with the requirements of Article 123(3) EPC.

3. Auxiliary requests 1 to 3

Claim 1 of auxiliary requests 1-3 contains the feature according to which the printing press comprises drying devices "for drying by heat ink". In what follows the board examines whether the introduction of this feature complies with the requirements of Article 123(2) EPC.

3.1 Standard to be applied

In its decision G 2/10 (OJ EPO 2012,376), the Enlarged Board of Appeal has summarised the established jurisprudence of the boards of appeal relating to amendments. According to this "gold standard", amendments are possible only "within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of these documents as filed" (point 4.3 of the reasons).

3.2 Original disclosure

As already mentioned (see point 1.3), the original application does not dwell on the use or origin of the heat of a dryer but concentrates on its adverse effect on cameras or detectors.

The application first gives an overview of the state of the art. It considers adverse effects of the heat of the dryer (page 2, second paragraph). The only example mentioned in this context are UV devices. Then adverse effects of light are considered (page 2, third paragraph); both ultraviolet and infrared devices are mentioned in this passage.

The statement on the purpose of the invention (page 3, second paragraph) refers in very general terms to the adverse effects of heat or light. The following paragraph defines the object of the invention and cites the features of original claim 1. Only the adverse effects of heat of the drying device are mentioned.

Finally, the effect of heat is mentioned in the context of an embodiment using UV devices on page 12, penultimate line.

Considering that:

- there is not a single reference to drying by heat in the original application;
- whenever heat is mentioned, its adverse effects are being considered;
- the only concrete drying device for which the generation of heat is mentioned is a UV device, i.e. a device that is not suitable for drying by heat (see point 1.4);
- the generation of heat is not discussed for the only drying device mentioned in the application that may be said to be a device for drying ink by heat, i.e. an IR drying device;

the board has no doubt that the drafter of the original application only considered the generation of heat as a

problem to be dealt with. There is nothing in the original application suggesting that devices for drying ink by heat were considered as such.

It is true that the application mentions IR dryers, which arguably are drying devices for drying ink by heat. This notwithstanding, the association of IR dryers with drying by heat is not as straightforward as the appellant suggested. As mentioned above (see point 1.4), several physical and chemical mechanisms are involved in IR drying. The method that springs to the mind when drying by heat is mentioned is hot-air drying, which is mainly based on evaporation of the liquid carrier medium of the ink (see point 1.2), i.e. on quite different mechanisms. Thus it is at least questionable whether the skilled person would mentally associate a disclosure of IR dryers as such with the general concept of drying by heat, which encompasses very different technical approaches. Consequently, the board is unable to consider the reference to IR dryers as a direct and unambiguous disclosure of drying by heat in general.

The specific embodiments disclosed in the original application, including the embodiment in which the transport means is composed of four transport cylinders, exclusively use UV devices 16, which, as already stated, are not suitable for drying ink by heat.

The argument that it would be obvious for the skilled person that the heat generated by the dryer can be used for drying the ink has to fail. When compliance with Article 123(2) EPC is to be assessed, what is relevant is what is directly and unambiguously disclosed to the skilled person in the original application. What would

be obvious for the skilled person is a question that belongs to the assessment of inventive step and is not relevant in the present context.

In view of the above, the board has reached the conclusion that the original application does not directly and unambiguously disclose the general concept of drying devices for drying ink by heat, let alone in the combination claimed in claim 1.

Consequently, the auxiliary requests 1-3 have to be dismissed as failing to comply with the requirements of Article 123(2) EPC.

4. Fourth auxiliary request

This request has been filed towards the end of the oral proceedings. Its admission is governed by Article 13(1) and (3) RPBA.

Claim 1 differs from claim 1 of the first auxiliary request in that "for drying by heat" has been replaced by "for drying by heat or light". This amendment only adds an alternative ("drying by light") to the drying mechanism ("drying by heat") used in the drying device of the printing press of auxiliary request 1, which the board has found not to comply with the requirements of Article 123(2) EPC.

The board is unable to see how the addition of an alternative to a feature that involves subject-matter extending beyond the original description could possibly restore compliance with Article 123(2) EPC, all the more as the original disclosure of the alternative itself is doubtful. Therefore, the board

has decided not to admit the fourth auxiliary request into the proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Meyfarth M. Poock

Decision electronically authenticated