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Datasheet for the decision of 11 September 2024

Case Number: T 1215/22 - 3.4.02

Application Number: 12830806.1

Publication Number: 2755037

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Language of the proceedings: EN

Title of invention:
AUTOMATIC ANALYSIS DEVICE

Applicant:
Hitachi High-Tech Corporation

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step (yes)

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Boards of Appeal

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Case Number: T 1215/22 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 11 September 2024

Appellant: (Applicant)	Hitachi High-Tech Corporation 17-1, Toranomon 1-chome Minato-ku Tokyo 105-6409 (JP)
Representative:	Mewburn Ellis LLP Aurora Building Counterslip Bristol BS1 6BX (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 24 November 2021 refusing European patent application No. 12830806.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	R. Bekkering
Members:	F. J. Narganes-Quijano
	C. Almberg

Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal against the decision of the examining division refusing European patent application No. 12830806.1.

In the decision under appeal the examining division held that the subject-matter of claim 1 of the main request and of the auxiliary request then on file did not involve an inventive step (Article 56 EPC) in view of the combination of the two following documents:

D1: US 6 444 171 B1
D5: US 2004/186360 A1.

II. With the statement of grounds of appeal the appellant filed claims according to a main and an auxiliary request identical to the claims of the main request and the auxiliary request underlying the decision under appeal. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the claims of the main or the auxiliary request.

III. In reply to a communication of the board issued under Article 15(1) RPBA and annexed to a summons to oral proceedings, the appellant, with its letter dated 6 June 2024, filed claims 1 and 2 according to auxiliary request 2 and pages 1 to 38 of the description.

IV. In reply to the observations expressed by the board in a subsequent communication, the appellant, with its letter dated 7 August 2024, withdrew the main request and the auxiliary request filed with the statement of

grounds of appeal and stated, in effect, that its request for grant of a patent was based on

- claims: No. 1 and 2 of auxiliary request 2 filed with the letter dated 6 June 2024;
- description: pages 1 to 38 filed with the letter dated 6 June 2024; and
- drawings: sheets 1/5 to 5/5 filed on 27 January 2014 upon entry into the regional phase before the EPO.

V. The oral proceedings were subsequently cancelled.

VI. Claim 1 of auxiliary request 2 - with the feature labelling "A1" to "A8", "B1", and "C0" to "C8" in square brackets inserted by the board - reads as follows:

"An automatic analyzer comprising:

[*A1*] an input section (101) to which sample containers containing samples are inputted;

[*A2*] an emergency sample input section (113) to which emergency sample containers containing emergency samples are inputted;

[*A3*] a detection means configured to detect an input of emergency sample containers to the emergency sample input section (113);

[*A4*] a storage means configured to store analysis items and the number of analysis items requested for respective samples;

[*A5*] a sample processing section (105) having a nozzle (107) configured to suck part of the samples to be discharged to other containers in accordance with the analysis items and the number of analysis items stored in the storage means;

[*A6*] a buffer (104) having a plurality of slots, the plurality of slots configured to hold plural sample

containers which have been inputted to the input section (101) and then carried into the buffer (104) from the input section (101) and emergency sample containers which have been inputted to the emergency sample input section (113) and then carried into the buffer (104) from the emergency sample input section (113), before the sample containers and emergency sample containers are conveyed to the sample processing section (105);

[*A7*] a conveyance means (102, 106) configured to convey the sample containers and the emergency sample containers held in the buffer (104) to a suction position by the nozzle (107); and

[*A8*] a display means (114);

wherein:

[*B1*] the conveyance means (102, 106) comprises a conveyance line (102) configured to convey the sample containers and the emergency sample containers held in the buffer (104) to the sample processing section (105), and a conveyor line (106) in the sample processing section (105) configured to convey the sample containers and the emergency sample containers from the conveyance line (102) to the suction position by the nozzle (107);

[*C0*] wherein the automatic analyzer is configured to:

[*C1*] receive and store in the storage means an input to change a predetermined number of analysis items;

[*C2*] receive and store in the storage means an input to change a predetermined number indicating a number of emergency slots of the buffer (104) in which only the emergency sample containers can be installed, and to set the number of emergency slots of the buffer to the predetermined number, wherein emergency sample containers which have been inputted to the emergency

sample input section (113) and then carried into the buffer (104) from the emergency sample input section (113) are installed in the emergency slots;

[*C3*] identify, based on a detection by the detection means, when emergency sample containers have been input into the emergency sample input section (113);

[*C4*] control the display means (114) to display a screen for setting a time slot indicating a period of time during which conveyance control is performed by the conveyance means (102, 106) based on the predetermined number of analysis items;

[*C5*] determine whether a current time is within the time-slot;

[*C6*] determine the current number of analysis items requested for samples in sample containers on the conveyor line (106) for which the suction by the nozzle (107) has not been completed;

[*C7*] determine whether the current number of analysis items requested for samples in sample containers on the conveyor line (106) for which the suction by the nozzle (107) has not been completed is equal to or smaller than the predetermined number of analysis items; and

[*C8*] upon determining that the current number of analysis items requested for samples in sample containers on the conveyor line (106) for which the suction by the nozzle (107) has not been completed is equal to or smaller than the predetermined number of analysis items, and that the current time is within the time slot, control the conveyance means (102, 106) to convey the emergency sample containers held in the buffer (104) to the sample processing section (105) in preference to conveying other sample containers."

Auxiliary request 2 also includes dependent claim 2 referring back to the automatic analyzer defined in claim 1.

Reasons for the Decision

1. The appeal is admissible.

2. *Preliminary comment*

The application in suit was originally filed in the Japanese language as International application PCT/JP2012/066637. In the following, when considering "the application as filed", the board will refer to the English translation of the international application as originally filed. The translation was filed with the EPO on 27 January 2014 upon entry into the regional phase.

3. *Amendments - Articles 84 and 123(2) EPC*

3.1 Claims 1 and 2 of auxiliary request 2 - i.e. the appellant's sole request - consist in substance of claims 1 and 2 of the main request considered by the opposition division in its decision, the claims having been amended to overcome objections of lack of clarity (Article 84 EPC) raised by the board in its communication under Article 15(1) RPBA (*cf.* point III above). In particular, the definition of the changeable "predetermined number of analysis items" in claim 1 of the then main request was unclear and, in addition, superfluous because the technical meaning of the changeable "predetermined number of analysis items" was

made clear in the last two sub-paragraphs of the claim (features C7 and C8) relating to the control of the number of sample containers being conveyed from the buffer to the sample processing section. For these reasons, the mentioned definition was deleted in present claim 1 (see feature C1). In addition, claim 1 was also amended to clarify the meaning of the claimed feature relating to "receiv[ing] and stor[ing] in the storage means an input to change a predetermined number indicating a number of slots of the buffer (104) in which only the emergency sample containers can be installed" (see present feature C2) and of the claimed feature relating to the "current number of analysis items on the conveyor line" (see features C7 and C8).

In view of the amendments made to the claims, the board is satisfied that the present claims are clear (Article 84 EPC).

As regards the description, its content has been brought into conformity with the invention as defined in the claims (Article 84 and Rule 42(1)(c) EPC), and the pertinent prior art (documents D1 and D5) has been appropriately acknowledged in the introductory part of the description (Rule 42(1)(b) EPC).

3.2 The board is also satisfied that the application documents amended according to the present request of the appellant satisfy the requirements of Article 123(2) EPC. In particular, claims 1 and 2 are based on the following passages and figures of the application as filed (Article 123(2) EPC):

- claim 1: claim 1 and dependent claims 2, 5 and 7, together with Fig. 2, 4, 5 and 7 and paragraphs [0007], [0018], [0020], [0032] to [0036], [0043], [0049] to

[0052], [0057], [0059], [0063], [0071], [0072] and [0081] of the application as filed; and

- dependent claim 2: dependent claim 8 of the application as filed.

4. *Novelty and inventive step*

4.1 Novelty

4.1.1 In its decision the examining division held in respect of the main request then on file that the automatic analyzer defined in claim 1 differed from that disclosed in document D1 in the following features:

a) the automatic analyzer is configured to "receive and store [...] an input to change a predetermined number indicating a number of slots of the buffer (104) in which only the emergency sample containers can be installed" (part of feature C2 of present claim 1), and

b) "emergency sample containers held in the buffer (104) [are conveyed] to the sample processing section (105) in preference to conveying other sample containers" (part of feature C8 of present claim 1).

The board agrees with the examining division's view that these two features are not disclosed in document D1 and concludes that the corresponding features of claim 1 amended according to the present request (features C2 and C8), are new over the disclosure of document D1.

4.1.2 In its decision the examining division also held that the positions 213 and 214 of supply line 47 of Fig. 1 of document D1 (see column 4, lines 25 to 41, and column 7, lines 54 to 58) constituted a buffer as claimed. The appellant submitted that the mentioned

positions did not constitute "a buffer having a plurality of slots" as required by feature A6 claim 1.

The board is of the opinion that, to the extent that the positions 213 and 214 of supply line 47 of Fig. 1 of document D1 constitute a buffer for the containers, this buffer does not comprise a plurality of slots configured to hold plural sample containers as claimed - irrespective of whether the claimed sample containers are loaded in racks each containing one or a plurality of sample containers, see paragraph [0018] together with the last paragraph of the description. More particularly, the buffer of document D1 does not comprise a plurality of slots that could be assigned to hold emergency sample containers as implicitly required by feature C2 of claim 1. In addition, the buffer of document D1 would - as acknowledged by the examining division in its decision and as submitted by the appellant - not allow for a selective conveyance of sample containers held in the buffer to the sample processing section as implicitly required by the preferential conveyance of emergency sample containers required by feature C8 of claim 1 (see document D1, Fig. 2(1) to 2(d), together with the paragraph bridging columns 4 and 5).

It is noted in this respect that the analyzer of document D1 allows for the conveyance of a rack of emergency sample containers (column 3, lines 6 to 20) from the emergency sample inlet unit 45 through the positions 213 and 214 to the sample processing section in precedence to the conveyance of racks of ordinary sample containers held in the ordinary sample inlet unit 40 (D1, column 3, lines 20 to 32), but not in precedence to the conveyance of racks of ordinary sample containers that have just left the ordinary

sample inlet unit 40 (see Fig. 2(A) to 2(D), together with the corresponding description).

Therefore, the claimed automatic analyzer also differs from that disclosed in document D1 in the following features:

c) the buffer and the means for controlling its operation are such that the buffer can receive emergency sample containers in a plurality of buffer slots corresponding to the predetermined number of slots referred to in feature C2 (part of feature A6 and part of feature C2), and

d) the emergency sample containers - or the corresponding racks holding emergency sample containers - held in the buffer slots can be selectively accessed over the remaining sample containers for being conveyed from the buffer (part of feature C8).

4.1.3 The board concludes that the automatic analyzer of claim 1 of the present request differs from the analyzer of document D1 in features a) to d) specified in points 4.1.1 and 4.1.2 above (Article 54 EPC).

4.2 Inventive step

4.2.1 In its decision the examining division did not address the possible technical effect of feature a) - and neither that of the additional distinguishing features c) and d) mentioned in point 4.1.2 above. In addition, the board notes the following:

- On the one hand, the automatic analyzer of document D1 already allows for a direct and fast conveyance of a rack of emergency sample containers fed into the emergency sample input section 45 from this section into the sample processing section (column 3,

lines 28 to 32), without it requiring the replacement of sample containers or racks of sample containers.

- On the other hand, the automatic analyzer of document D1 only allows handling one-by-one racks of emergency sample containers fed into the analyzer and in this analyzer a quick direct transfer of a rack of emergency sample containers to the sample processing section may be prevented by racks of ordinary sample containers still present in the conveyance line (Fig. 2(A) to 2(D) and the corresponding description). The distinguishing features identified above in combination with the remaining claimed features improve the analyzer in that they allow for an automatic handling of a big number of emergency sample containers - or of racks of emergency sample containers - fed into the analyzer and also for a fast and direct transfer of emergency sample containers from the buffer to the sample processing section, without them being obstructed by ordinary sample containers already being transferred.

In view of these considerations, in the board's opinion the objective technical problem solved by the claimed analyzer resides in improving the efficiency in the fast and automatic processing of a plurality of emergency sample containers.

4.2.2 In its decision the examining division held that the claimed automatic analyzer did not involve an inventive step in view of document D1 in combination with document D5.

Document D5 addresses the problem of an efficient and fast continuous analysis processing of sample containers held in racks (see paragraphs [0013] and [0024]), including a rack of urgency sample containers

(abstract and paragraphs [0005] and [0009]). This problem is solved in document D5 by the provision of an automatic analyzer (Fig. 1 and paragraphs [0011] and [0024] to [0026]) comprising a randomly accessible buffer (abstract) constituted by a rack rotor (Fig. 1, rack rotor 7) with slots for receiving racks holding sample containers (page 2, left column, line 4 from the bottom, to right column, line 4), together with the provision of means for sequentially transferring the racks to a sample processing section and transferring them back to the rack rotor and then to a sample collecting unit 4 (paragraph [0026]). Upon reception of a rack holding emergency sample containers, this rack is transferred to a specific slot of the buffer while, in parallel, the current processing of ordinary sample containers in the sample processing section is interrupted and the corresponding racks are evacuated to the buffer for ulterior processing. The rack holding emergency sample containers is then transferred - directly, and therefore in preference to other sample containers present in the buffer - to the sample processing section and processed (Fig. 5 together with paragraph [0034]).

Therefore, the analyzer of document D5 is - as it is the case in document D1, see Fig. 1, emergency sample inlet unit 45, together with column 3, lines 23 to 28, and column 7, lines 54 to 58 - configured to receive and process one-by-one racks of emergency sample containers fed one-by-one into the analyzer (D5, Fig. 1, urgent sample loading unit 5, and paragraph [0025] together with paragraph [0035], second sentence), and in particular to transfer the rack of emergency sample containers into the buffer for subsequently conveying them to the sample processing section. Thus, there is no disclosure in document D5 pointing towards the

automatic handling by the analyzer of a plurality of racks of urgent sample containers. More particularly, the buffer of document D5 comprises a plurality of slots for receiving a plurality of racks of sample containers (page 2, left column, lines 3 to 5 from the bottom, and Fig. 6 together with paragraph [0027]) and the analyzer is configured to assign one of these slots for receiving a single rack of emergency sample containers, see paragraph [0035], second sentence ("the urgent sample rack is [...] placed in the urgent sample slot"), together with Fig. 6 and paragraph [0027], in particular the first sentence ("a slot assignment window 110 for designating how 20 slots of the [buffer] are used") and the three last sentences ("«Loading of Urgent Sample» means a slot for receiving the sample rack containing urgent samples. This slot is usually held in a vacant state.").

Therefore, there is - contrary to the examining division's assumptions - no disclosure in document D5 relating to a transfer of emergency sample containers to a plurality of slots of a buffer as claimed, let alone relating to storing a predetermined number indicating a number of slots of the buffer in which only emergency sample containers can be installed.

4.2.3 In view of these considerations, the board is of the opinion that the disclosure of document D5 would not have led the skilled person to modify the analyzer of document D1 in an obvious way so as to arrive at the claimed analyzer.

Therefore, in the board's opinion the subject-matter of claim 1 and therefore also that of dependent claim 2 of the present appellant's request was not obvious in view of documents D1 and D5 (Article 56 EPC). The same

applies in respect of the remaining documents considered during the first-instance proceedings which are all less relevant than documents D1 and D5.

4.3 The board concludes that the subject-matter of claim 1 and of dependent claim 2 is new and involves an inventive step over the available documents of the state of the art (Article 52(1) EPC together with Articles 54(1) and 56 EPC).

5. In view of the above considerations, the board concludes that the decision under appeal is to be set aside and that a patent can be granted on the basis of the application documents amended according to the present request of the appellant.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to grant a patent on the basis of the following application documents:

- claims: No. 1 and 2 of auxiliary request 2 filed with the letter dated 6 June 2024;
- description: pages 1 to 38 filed with the letter dated 6 June 2024; and
- drawings: sheets 1/5 to 5/5 filed on 27 January 2014 upon entry into the regional phase before the EPO.

The Registrar: The Chairman:

L. Gabor R. Bekkering

Decision electronically authenticated