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**Datasheet for the decision
of 12 July 2024**

Case Number: T 0855/21 - 3.5.01

Application Number: 16786850.4

Publication Number: 3289539

IPC: G06Q10/08, A47F3/04, G06K17/00,
G07F9/02, G09F23/00, G09F27/00,
G06Q30/02, G06Q50/12

Language of the proceedings: EN

Title of invention:

A MONITORING AND CONTROLLING SYSTEM FOR A FOOD BAR ARRANGEMENT
AND A FOOD BAR ARRANGEMENT WITH SUCH A SYSTEM

Applicant:

Picadeli AB

Headword:

Controlling a food bar/PICADELI

Relevant legal provisions:

EPC Art. 56
RPBA 2020 Art. 13(2)

Keyword:

Inventive step - replacing a food product sensor integrated
into a self-service food bar with a label-scanning mobile
device (yes - no hint in prior art)

Decisions cited:

T 0641/00



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Case Number: T 0855/21 - 3.5.01

D E C I S I O N
of Technical Board of Appeal 3.5.01
of 12 July 2024

Appellant: Picadeli AB
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 17 December
2020 refusing European patent application No.
16786850.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman E. Mille
Members: W. Zubrzycki
R. Moser

Summary of Facts and Submissions

- I. This is an appeal against the decision of the examining division to refuse European patent application No. 16786850.4 for lack of inventive step (Article 56 EPC).
- II. The examining division found that the independent claim of the sole request then on file lacked an inventive step over D8 (US6102162 A).
- III. In the statement setting out the grounds of appeal, the appellant requested that the decision of the examining division be set aside and a patent be granted on the basis of the main or first or second auxiliary request filed therewith. Furthermore, the appellant provided arguments in favour of inventive step.
- IV. In a communication, the Board set out its preliminary opinion that these requests were not admissible under Article 12(4) RPBA.
- V. In their reply, the appellant filed a new main request, identical to the refused request, and a new first auxiliary request, renumbering the former requests as second to fourth auxiliary requests.
- VI. The appellant was summoned to oral proceedings per videoconference.
- VII. In a communication pursuant to Article 15(1) RPBA, following the summons, the Board informed the appellant that it was inclined to admit the main request into the proceedings, as its previous abandonment appeared to result from an unfortunate oversight on the appellant's part. Furthermore, the Board indicated its inclination

not to admit the auxiliary requests into the proceedings. It set out its preliminary opinion that claim 1 of the main request contained added subject-matter (Article 123(2) EPC), was not clear (Article 84 EPC), and lacked inventive step (Article 56 EPC) over D8 combined with D2 (US 2014/0252091 A1). The Board also suggested that an appropriately amended claim 1 could meet the requirements of Article 56 EPC and mentioned D6 (US 2012/0101876 A1) in this context.

VIII. During the oral proceedings on 12 July 2024, the appellant filed a new main request. They withdrew the auxiliary requests 1 to 4, retaining the new main request as the sole request.

IX. Claim 1 of this request reads:

"A food self-service arrangement monitoring and controlling system (800) comprising:

a number of food self-service arrangements (100; 100'), each food self-service arrangement (100; 100') comprising a number of functional product holding stations (830;830A,830B,830C, 830D,830E) for holding food products at a plurality of different product holding locations and a station serving unit (840), each food self-service arrangement (100; 100') comprising a station serving unit server (841) associated with or arranged in the station serving unit (840),

a portable unit (804) comprising a display and a scanner or a scanning functionality for scanning product label codes provided on product holding means (104), said product label codes comprising information relating to a product and its service life, product

supplier, one or more of product identification, product batch number, shelf time or remaining shelf time, best before date, product label number,

a central server (880) located at a service provider premises in communication with each station serving unit server (841), comprising or being in communication with a number of databases (881) holding information about all food products in all the food self-service arrangements (100; 100'), the communication taking place over the Internet based on customized or specially adapted APIs (Application Programming Interfaces),

digital displaying means (805) for each of said product holding locations being provided for each functional product holding station (830;830A,830B,830C,830D,830E), each digital displaying means (805) being located such that it unambiguously can be associated with a product holding means (104) holding a fresh food product,

characterized in

that each functional product holding station (830;830A, 830B,830C, 830D,830E) comprises one or more holding arrangements (102,103;103A,103B) for holding said product holding means (104), comprising pans or canteens, and covering elements (10A,10B) adapted to cover the product holding means (104) from above so that the content is protected in time periods between end users accessing the content, and which can be transferred between an open position, in which access to the content is provided, and a closed position preventing access,

that the central server (880) is adapted to provide

each station serving unit (840) at least with product information, which may comprise information about article number, product name, a description of the product, nutrition value, food quantity declaration of contents, and user information, which may comprise information about client number, store information, contact person, contact information, and to communicate eventual food alarms concerning a certain product, a trademark or specific batches, as far as information on batch is available, such that batch numbers marked with a food alarm will be recognized when scanned with the portable unit (804),

that each station serving unit (840) is adapted to be in communication with the functional product holding stations (830;830A,830B,830C,830D,830E) of the respective food self-service arrangement via a local network for receiving from the functional product holding stations (830;830A,830B,830C,830D,830E) technical information concerning the operational status of the respective functional product holding stations (830;830A,830B,830C,830D,830E), said technical information comprising temperature data collected via temperature sensors in the functional product holding stations (830;830A,830B,830C,830D,830E) and operational data of electrical or mechanical elements, and for communicating information to the functional product holding stations (830;830A,830B,830C,830D,830E) for changing operational status to normal operating state, cleaning state or night operation state of the functional product holding stations (830;830A,830B,830C,830D,830E),

that each station serving unit (840) of a food self-service arrangement (100; 100') further is adapted to be in communication with the portable unit (804) by

means of a wireless local network,

that each station serving unit (840) is adapted to hold information about all products held in the functional product holding stations (830;830A,830B,830C,830D,830E) in the respective food self- service arrangement (100; 100'), and about the product holding locations in the functional product holding stations (830;830A,830B, 830C,830D,830E) at which said products are held, and in that said information, dynamically or continuously, and at occurrence of predetermined events, is updated through product label code information scanned by said portable unit (804) and instructions received from it and through information about the operation state or measured technical parameters received from the functional product holding stations (830;830A,830B, 830C, 830D,830E) of the food self-service arrangement, wherein through the scanning of the codes and storing the corresponding location of the scanned product or pan (canteen) codes, it is possible to keep control of the current location in a food self-service arrangement (100; 100') of every pan or product, as well as information about how long it has been in the food self-service arrangement (100; 100') and its remaining shelf time,

that each station serving unit (840) is adapted to provide the central server (880) at least with current status relating to the operation of the food self-service arrangement (100; 100'), including cooling capacity and sensed temperatures received from the station serving unit (840) and alarm information concerning temperature deviations from a predetermined interval, operation disorder or disruption, substantially in real time,

and in that the portable unit (804) is adapted to receive and hold at least part of the information held in, and provided to, the station serving unit (840), said portable unit (804) comprising an interactive user interface allowing handling, control and monitoring of at least the food products by means of the portable unit (804), and wherein the portable unit (804) receives information about alarms and the remaining time of products and generates alarms if the product has lapsed, and reminders if it is about to lapse."

X. The appellant argued as follows:

The claimed food self-service arrangement comprised covering elements that protected pans and canteens from above, whereas D8 disclosed a vertically arranged self-service arrangement. The claimed covering elements were suitable for a scenario where customers could take a small portion of food products from the offerings, such as in salad bars, but not in D8, where the plates with food products were sold as complete units.

D8 disclosed, as a crucial technical feature, that food item sensors were integrated into a food self-service arrangement. It provided no hints to replace these sensors with a mobile device comprising a scanner. Absent such hints, the mere availability of such mobile devices at the priority date was not a sufficient reason for the skilled person to make such modifications. The examining division's reasoning that the motivation would have come from the business requirement of staff to be able to move a stationary scanning means of D8 involved hindsight.

Reasons for the Decision

1. Admission

The Board admits the sole request into the appeal proceedings using its discretion under Article 13(2) RPBA. The amendments made are justified by exceptional circumstances, as they address and overcome objections under Articles 123(2), 84, and 56 EPC raised by the Board for the first time.

2. The invention

2.1 The invention in claim 1 concerns a system for monitoring a plurality of self-service food bars ("*food self-service arrangements*" in the claims - hereinafter: "*arrangement*"), see the published application, page 3, lines 21 to 30, Figure 1.

2.2 Looking at Figure 1, each arrangement is divided into cabinets 830 ("*functional product holding stations*"). Turning to Figure 9, the product holding stations comprise holding means 103 in which pans and canteens ("*product holding means*") containing fresh food are placed, see page 18, last paragraph. Furthermore, the cabinets are equipped with openable covering elements 10A, 10B that are placed above the pans and canteens to protect their content, see page 19, lines 15 to 19.

2.3 Looking at Figures 1 and 2, in order to control and monitor the arrangements, the invention uses three kinds of computer devices, namely:

- A controlling unit 840 ("*station serving unit*") integrated into each arrangement, see page 8, lines 15 to 19
- A portable unit 804 which, although not claimed, is

used by staff attending the arrangements, see page 9, lines 15 to 19

- A central server located at the service provider's premises, see page 10, lines 26 to 27

- 2.4 The station serving unit collects information about all food products contained in the respective arrangement, as well as technical information on its operation, see page 13, lines 21 to 25.

The information on the food products comes from the portable unit that scans label codes, such as QR codes (not claimed), attached to pans and canteens, see page 16, line 20 to page 17, line 11. The label codes identify a food product in the respective pan/canteen and include information about its shelf life. Although not claimed, the scanning occurs when new pans and canteens are placed into the food bar, see page 16, lines 20 to 21.

The portable unit is also used to monitor the remaining shelf life of food products – when a product has expired, an alarm is sent to it (see page 18, lines 5 to 10).

- 2.5 The central server backs up the information maintained by the station serving units and provides food alarms concerning specific batches of food products to the portable unit, see page 10, lines 26 to 29; page 12, lines 21 to 26; page 13, lines 18 to 25.

3. Articles 123(2) and 84 EPC

The Board is satisfied that the claims of the sole request meet the requirements of Articles 84 and 123(2) EPC. Objections under these Articles, raised earlier in

the proceedings, were overcome by amendments.

4. Article 56 EPC

- 4.1 The examining division found that claim 1 then on file lacked an inventive step over D8 which also relates to a self-service food bar.

Looking at Figure 2, D8 discloses a vertical arrangement ("cafeteria self-service unit") in which food items 212 and 214 are picked by a customer 208 at one door and refilled by kitchen staff 228 at the other, see column 9, lines 31 to 67. The food items are placed on shelves 211 and 213, with each shelf associated with a particular food item according to a planogram, see column 15, lines 11 to 31.

The arrangement of D8 automatically determines which food items are placed by the staff and removed by the customer. This is accomplished using food item sensors integrated into the shelves (column 15, lines 32 to 38 and Figure 4, item 422) and a bar code reader on the customer's side of the arrangement. The latter detects bar codes on the food items that the customer removes, see column 11, lines 28 to 34.

The information collected by the sensors and the bar code reader is provided to an external central control system located in the kitchen for processing and displaying to the staff, see column 12, lines 1 to 55.

While not argued by the appellant, the Board disagrees with the examining division's finding that D8 implicitly discloses that the arrangement includes a microcontroller corresponding to the station serving unit of D8, see decision, page 7. Such a

microcontroller is not implied by D8's teachings, nor is it necessary for the operation of the arrangement, as it is directly controlled by the central control system (see column 12, lines 15 to 22).

It is common ground that D8 does not disclose a portable unit, let alone one equipped with a scanner, see decision, pages 12 and 13, differences VI, VIII and XII.

4.2 Claim 1, which extends over more than two pages and defines the invention in considerable detail, differs from D8 by numerous features, see decision, pages 12 and 13. These features include among other things the use of pans and canteens, the server's functionality, such as providing food alarms, and the station serving unit's control functions, such as setting the arrangement's operating mode to a night or cleaning state. The appellant put forward extensive arguments on several distinguishing features, but the Board need not examine all these issues in detail. Rather, the Board will limit its examination of inventive step to the following two features that provide an inventive contribution:

- A) The covering elements (10A, 10B) are adapted to cover the product holding means (104) from above.
- B) A station serving unit, which stores information about all food products contained within the arrangement, is included in the arrangement rather than being external to it. This information is updated by scanning product labels attached to the pans and canteens using a portable unit with scanning functionality.

4.3 Distinguishing feature A was not present in refused claim 1, but since it is the core aspect of the main disclosed embodiment (see Figures 1 and 9 of the published application), the Board assumes that the examining division's search covered it.

4.4 The Board judges that starting from D8, this feature is not obvious. As stated by the appellant (cf. section X above), D8 discloses a conventional cabinet-like arrangement with vertical doors and provides no hints to replacing these doors with the claimed covering elements. Such a modification would require a complete and laborious reconfiguration of the arrangement in D8, with no apparent advantage.

Applying the "could-would approach" (see Case Law of the Boards of Appeal, 10th edition, I.D.5), the mere existence of food bars with canteens covered from above, as seen for example in salad bars, is, absent hints in D8 and potential advantages, not a sufficient reason to carry out the modification in question.

4.5 Distinguishing feature B specifies the key concept of the IT solution applied: the arrangement includes an internal computer ("station serving unit") that maintains an inventory of the stored food products, which is updated by scanning product labels with a portable unit.

4.6 The Board is not fully convinced by the examining division's argument that storing the inventory of food products in the arrangement would be an obvious solution to the problem of providing a backup copy for the central control system's data. The Board doubts that the skilled person would have considered the arrangement of D8, which is not equipped with any

computing means, as an obvious backup location. However, irrespective of this, the Board judges that this part of the solution is obvious in light of D2.

- 4.7 While not discussed in the decision, D2 discloses a SMART fridge for home use, which comprises an internal computer ([23] and [61]) that maintains the inventory of food products contained within the fridge, see [27], [35], [36].

Although D2 does not relate to a food bar or, generally, to a catering context, the Board considers that the skilled person, facing the problem of providing an alternative hardware setup, would have considered its disclosure as a possible option and replaced the central control system of D8 with an embedded one.

- 4.8 However, in view of D2, the skilled person would still not have used a mobile device with scanning functionality to update the inventory of food products maintained in the embedded control system.

Like the arrangement of D8, the fridge of D2 detects inserted and removed food products using a scanner device incorporated into its door frame ([24] and Figure 1, item 20), which reads labels placed on them, see [34] and [35]. While the fridge is connected to mobile devices, these are only used to access the fridge's embedded inventory, but not to update it, see [35], [36] and [52].

- 4.9 The Board agrees with the examining division that mobile devices, such as smartphones, with scanning functionality, were widespread at the priority date, see decision, point 6.6. However, while this is

certainly a factor to consider, the Board concurs with the appellant that the mere availability of such devices is not sufficient to conclude that it would have been obvious to use them to scan labels on food products in order to update the arrangement's embedded inventory.

Applying the "could-would approach" again, it must also be examined whether the skilled person would have been incited to do so by the underlying technical problem or in the expectation of some improvement or advantages.

The Board judges that the skilled person would not have been incited to do so.

- 4.10 The Board considers that the aforementioned technical problem of providing an alternative hardware setup would not have motivated the skilled person, who had already combined D8 and D2, to further modify the arrangement of D8 by enabling the scanning of food product labels using a mobile device.
- 4.11 Applying the Comvik approach (see decision T 641/00 - *Two identities/COMVIK*), the examining division argued that a motivation for this modification was the administrative requirement that a staff member should be able to move the stationary bar code scanner of D8, see decision, point 6.6.

However, the Board disagrees and judges that replacing the stationary bar code scanner of D8 with a mobile device is a technical modification, rather than an administrative matter which would be given to the skilled person to implement for non-technical reasons. The Board therefore agrees with the appellant that the examining division's reasoning involves an

impermissible hindsight.

- 4.12 Furthermore, the Board cannot see that the modification in question would have provided any predictable advantage. On the contrary, it appears to be rather disadvantageous.

Firstly, compared to the sensors and scanner integrated into the food self-service arrangement, which detect food products without any human action, this modification would have burdened customers and staff with the additional task of manually scanning food product labels. Secondly, it would introduce the risk of human error due to incorrect scans and possibly invite fraud by customers. If anything, these disadvantages would have discouraged, rather than incited, the skilled person from considering the modification.

- 4.13 Although not discussed in the decision, the use of mobile devices with scanning capabilities to read food product labels, in order to register them in an electronic inventory, is disclosed in D5 (WO2008/140212 A1, see pages 25 and 26) and D6 (paragraphs [34] to [38]) cited in the international search report. However, firstly, the Board sees no reason why the skilled person facing the above technical problem would have combined D8 and D2 with yet further documents. Secondly, unlike claim 1, D8, and D2, the updated inventory systems in those documents are neither embedded in the food-storing appliances nor in communication with them, which constitutes a further reason to disregard them.

4.14 Hence, starting from D8, the Board judges that claim 1 is not obvious.

4.15 Furthermore, the Board cannot see that any of the other documents cited in the international search report and supplementary European search report is a promising starting point for assessing the inventive step of claim 1.

D2 discloses a conventional, cabinet-like fridge with vertical doors which is not intended for use in the catering trade. Thus, D2 is not a realistic starting point for arriving at the claimed food self-service arrangement, where cabinets holding pans and canteens are covered from above. This would entail not only employing the fridge for catering purposes, which could perhaps be regarded as a non-technical business requirement, but also, and more crucially, altering its construction in a manner unusual for home fridges, with no such modification suggested.

D5 and D6 do not disclose food-holding appliances, let alone self-service food appliances, that comprise the claimed covering elements and communicate with an inventory indicating the food products they store. The other documents are even further away.

4.16 For these reasons, the Board judges that the subject-matter of claim 1 involves an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division with the order to grant a patent with the claims 1 to 15 received during oral proceedings of 12 July 2024 and a description and drawings to be adapted thereto.

The Registrar:

The Chairman:



T. Buschek

E. Mille

Decision electronically authenticated