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Datasheet for the decision of 18 November 2021

Case Number: T 2973/18 - 3.4.03

Application Number: 06124313.5

Publication Number: 1793244

IPC: G01V8/20, G01V15/00, F16P3/14

Language of the proceedings: EN

Title of invention:
System and method of automatically controlling temporary deactivation of a photoelectric barrier

Patent Proprietor:
Datalogic IP Tech S.r.l.

Opponent:
SICK AG

Headword:

Relevant legal provisions:
EPC Art. 54(1), 54(2), 56, 100(a), 101(3)(a), 123(2), 123(3)

Keyword:
Novelty - (yes)
Inventive step - (yes)
Amendments - allowable (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2973/18 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 18 November 2021

Appellant: (Opponent)	SICK AG Erwin-Sick-Strasse 1 79183 Waldkirch (DE)
Respondent: (Patent Proprietor)	Datalogic IP Tech S.r.l. Via San Vitalino 13 Calderara di Reno (BO) (IT)
Representative:	Schohe, Stefan Boehmert & Boehmert Anwaltspartnerschaft mbB Pettenkoferstrasse 22 80336 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 29 November 2018 rejecting the opposition filed against European patent No. 1793244 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	M. Stenger
Members:	J. Thomas
	T. Bokor

Summary of Facts and Submissions

I. This is an appeal by the appellant-opponent (hereinafter, "the opponent") against the decision of the opposition division to reject the opposition against European patent EP 1 793 244.

II. The opposition had been filed against the patent as a whole. Grounds for the opposition were lack of novelty and lack of inventive step (Articles 100(a) EPC 1973 in combination with Articles 54 and 56 EPC 1973 and Article 52(1) EPC).

III. At the end of the oral proceedings held before the Board the opponent confirmed the request for revocation of the patent in its entirety.

IV. At the end of the oral proceedings held before the Board the respondent-patent proprietor (hereinafter, "the proprietor") requested as sole request the maintenance of the patent as amended in the following version:

Description:
Columns 1 to 5, 7 and 8 as granted,
Column 6 received during the oral proceedings before the Board.

Claims:
No. 1 to 18 as granted,

Drawings:
Figs. 1 to 4 as granted.

V. The following documents are referred to in this decision:
D2: DE 10026305 A1
D11: WO 91/13286 A1

VI. Claim 1 of the main request reads as follows (the numbering of the features with bold characters was added by the Board following the numbering already used in the decision of the Opposition Division):

*"**1.1** A system (1)(25) for automatically controlling temporary deactivation of a photoelectric safety barrier (2) located at an entrance (3) to a given risk area (4)*
***1.1.1** to determine passage of an object (11) or a person through the entrance (3),*
***1.1.2** so as to activate a number of predetermined safety functions;*
***1.2** the system (1)(25) being **characterized by** comprising:*

- an identification device (10)(26),
***1.2.1** which is affixed to an object (11) or a person authorized to enter said risk area (4),*
***1.2.2** and contains an identification code associated with said object (11) or said person to which it is affixed;*

*- **1.3** reading means (12)(27) located at said entrance (3) to read the identification code in said identification device (10),*
***1.3.1** when said object (11) or said person to which said identification device (10) is affixed, is located a predetermined distance from the entrance (3) of the photoelectric barrier (2),*
***1.3.2** prior to passing through the entrance (3);*

*- **1.4** processing means (13)*
***1.4.1** which, when the identification code reading satisfies a predetermined condition,*
***1.4.2** deactivate for a predetermined time interval the safety functions implemented by said photoelectric barrier (2);*
***1.4.3** said predetermined condition authorizing passage of said object (11) or said person through said entrance (3)."*

Claim 12 of the main request reads as follows:

*"A method of automatically controlling temporary deactivation of a photoelectric safety barrier (2) located at an entrance (3) to a given risk area (4) to determine passage of an object (11) or a person through the entrance (3), and to activate a number of predetermined safety functions upon determining said passage; said method being **characterized by** comprising the steps of:*

- fixing an identification device (10)(26) to an object (11) or person authorized to enter sais [sic] *risk area (4); said identification device (10)(26) containing an identification code associated with the object (11) or the person to which it is attached;*
- determining (100, 110)(200, 210) the identification code in said identification device (10)(26) by means of reading means (12)(27), when said object (11) or person to which said identification device (10) is affixed, is located a predetermined distance from the entrance (3) of the photoelectric barrier (2), prior to passing through said entrance (3);

- deactivating (130)(230) said safety functions, implemented by said photoelectric barrier (2), for a predetermined time interval when the identification code reading satisfies a predetermined condition; said predetermined condition authorizing passage of said object (11) or said person through said entrance (3)."

VII. The findings of the Opposition Division, insofar as they are relevant to the present decision, may be summarised as follows:

Novelty

Document D11 did not disclose features 1.3, 1.3.1, 1.3.2, 1.4, 1.4.1 and 1.4.2.
The set-up of the light barrier was such that the detection of the safety equipment was carried out at the entrance. Any spreading of the light beam was not intended and not controlled. Document D11 did therefore not disclose the feature of a "predetermined distance from the entrance ... prior to passing through the entrance". Features 1.3, 1.3.1 and 1.3.2 were consequently not disclosed in D11.
Document D11 also disclosed that the alarm was deactivated during the time the person passed through the entrance. Since this time varied and was not predetermined in document D11, features 1.4, 1.4.1 and 1.4.2 were missing.

Inventive step

The combination of documents D11 and D2 was considered not obvious, since they related to different technical applications. Further, neither document D11 nor D2 disclosed the feature "deactivate for a predetermined

time interval the safety functions" which was part of all features 1.4, 1.4.1 and 1.4.2.

VIII. The arguments of the opponent, insofar as they are relevant to the present decision, may be summarised as follows:

Novelty

Document D11 anticipated the novelty of the claimed subject-matter, as all features and in particular features 1.3.1, 1.3.2 and 1.4.2 were disclosed in D11. D11 showed that the infrared device could be replaced by a bar code reader which provided the claimed identification code. The identification/authorization had to be carried out before the person or object entered the entrance which even might have occurred shortly before, because initiation of the alarm had to be avoided. The suppression of the alarm was only possible if the authorization and thereto linked interruption of the safety function was applied before the person or object entered the entrance. The detection of the identification code at a predetermined distance was therefore necessary. Also, the embodiment using a teleloop device showed the detection at a predetermined distance, since the radiation characteristic of a teleloop was necessarily three-dimensional and its operating range fixed the predetermined distance. Finally, figure 4 of document D11 showed that the light reflected back from the reflector 22 triggered the interruption of the alarm 38 and thus occurred earlier than the interruption of the light barrier by the person passing, i.e. prior to passing through the entrance. Therefore, features 1.3, 1.3.1 and 1.3.2 were disclosed in document D11.

The predetermined time interval (features 1.4, 1.4.1 and 1.4.2) was also disclosed in D11, because D11 showed a temporary interruption of the alarm and thus disclosed the deactivation during a fixed time interval in order to allow a person or object to pass.

Inventive step

Starting from document D11 which already disclosed a temporary interruption of the alarm function, it was obvious to the skilled person based on its common general knowledge to interrupt the alarm function for a predetermined time. However, in case feature 1.4.2 was considered not disclosed in D11, it was rendered obvious by the teaching of D2, wherein the temporary deactivation of the alarm predefined by the time the object needed to pass was disclosed. Therefore, the combination of documents D11 and D2 led directly to the claimed subject-matter

IX. The arguments of the proprietor, insofar as they are relevant to the present decision, may be summarised as follows:

Novelty

Features 1.3, 1.3.1, 1.3.2 and 1.4, 1.4.1, 1.4.2 were not disclosed in document D11. Document D11 showed the installation of the infrared detector at the entrance, so that the presence of the infrared reflector could only be detected when the person was in the entrance. The detection of the identification device happened not "prior to passing" but "when passing". As for the alternatives to the infrared detector, i.e. barcode readers or a teleloop device, document D11 did not specify how these alternatives should be integrated or

where the respective detectors should be placed. Therefore, no conclusions could be drawn from D11 about the spatial arrangement of the sensors of the alternative embodiments in relation to the entrance. Furthermore, individual features of different embodiments could not be mixed in the argumentation. The references to the first embodiment with the infrared sensor were not likely to be combined with the features of the bar code reader or the teleloop device. Therefore, the only embodiment that gave an indication of the spatial arrangement was the one with an infrared detector that could not read an identification code. Features 1.3, 1.3.1 and 1.3.2 were consequently missing.
Features 1.4, 1.4.1 and 1.4.2 were also missing, since document D11 did not show the interruption of the safety functions during a predetermined time interval, but the time interval depended on the duration the person or object needed for passing.

Inventive step

The subject-matter defined in claims 1 and 12 involved an inventive step. The differences were due to a completely different approach compared to the state of the art and especially compared to documents D11 and D2. The differences were not only technical ones but also conceptual ones. Since in the prior art the skilled person tried to interrupt the safety functions (e.g. the alarm) for the shortest time possible, the deactivation of the alarm was linked to the interruption of the light barrier by the passing object or person. In the patent, this was completely different, because in order to detect abnormal passages, the deactivation of the safety functions was completely independent of the interruption of the light

barrier. The alarm function was deactivated during a predefined time interval, namely during the time interval that the respective person or object needed to pass under normal circumstances regardless of the interruption of the light barrier itself. This allowed the passage of authorised persons or objects under normal circumstances without triggering an alarm and the indication of abnormal situations (with increased interruption of the light barrier), because if the allowed time for passing was over, the safety functions, i.e. the alarm, would be activated if the light barrier was still interrupted. Neither the problem nor the solution by the distinguishing features was indicated, stated or shown in the state of the art. Hence, the subject-matter defined in claims 1 and 12 involved an inventive step.

Reasons for the Decision

1. The appeal is admissible.

2. The invention

The patent concerns a photoelectric safety barrier which controls access to a risk area. In addition to the well-known light barrier, the claimed device comprises a reading device which enables the reading of an identification code affixed to the passing item (object or person) before it passes the light barrier. Depending on the identification code read, a processing device switches off the safety functions (i.e. the alarm) of the photoelectric barrier for a predetermined time interval to allow the authorised object to pass without activating an alarm. Therefore, the time during which the safety function (i.e. the alarm) is deactivated is fixed to a predetermined time interval

and is completely independent of the length of the interruption of the light barrier. After an interruption of the safety functions during the predetermined time interval, the safety function is reactivated, regardless of the status of the light barrier.

3. Main request

3.1 Amendments

3.1.1 The Board concludes that the final amendments submitted during the oral proceedings before the Board satisfy the requirements of Article 123(2) and (3) EPC and are motivated by a ground of opposition. They are consequently allowable. The reasons therefor are the following.

3.1.2 Paragraph [0038] of the description of the patent was amended by clarifying that the embodiment described in this paragraph is not part of the claimed invention. Hence, the claimed invention and the matter for which protection is sought are, with respect to the meaning of the "predetermined time interval", now represented in the description only by the embodiment described in paragraph [0037].

3.1.3 This amendment represents a limitation and thereby neither extends the content of the application as filed (Article 123(2) EPC) nor the protection the patent confers (Article 123(3) EPC).

3.1.4 The amendment avoids that the wording "predetermined time interval" as used in claims 1 and 12 can be construed such that the embodiment described in paragraph [0038] falls within the wording of these

claims. Consequently, the feature "predetermined time interval" can no longer be considered to be disclosed in document D11 (see point 3.2 below). Therefore, the final amendments are also motivated by a ground of opposition (novelty over document D11).

3.2 Claim 1 - Novelty in view of document D11

3.2.1 The subject-matter defined in claim 1 (which applies *mutatis mutandis* to claim 12) is new over the teaching of document D11, because feature 1.4.2 is not disclosed. The reasons therefor are the following.

3.2.2 Document D11 discloses (the references in parentheses in this paragraph refer to document D11) a system (10) for automatically controlling temporary deactivation of a photoelectric safety barrier (title and abstract) located at an entrance (figure 1) to a given risk area (page 1, first paragraph) to determine passage of an object or a person through the entrance (12), so as to activate a number of predetermined safety functions (page 9, second paragraph to page 10 first paragraph); the system comprises

- an identification device (22), which is affixed to an object (figure 1) or a person authorized to enter said risk area ("designated area"), and contains an identification code associated with said object (page 17, lines 26 to 32) or said person to which it is affixed;
- reading means (page 17, lines 32 to 35) located at said entrance to read the identification code in said identification device (page 17, lines 32 to 35 and page 16, line 22 to page 19 line 32), when said object (11) or said person to which said identification device (10) is affixed, is located a predetermined distance from the entrance (12) of the photoelectric barrier (14, 15,

16, 18), prior to passing through the entrance (page 18, lines 3 to 7; page 19, lines 21 to 32);
- processing means (page 17, line 35 to page 18, line 3) which, when the identification code reading satisfies a predetermined condition (page 18, lines 3 to 7), deactivate ~~for a predetermined time interval~~ the safety functions implemented by said photoelectric barrier (page 17, line 35 to page 18, line 7) as long as the photoelectric barrier is interrupted;
said predetermined condition authorizing passage of said object or said person through said entrance (page 17, line 35 to page 18, line 7).

3.2.3 Concerning the deactivation of the safety functions, document D11 discloses a deactivation as long as the light barrier is interrupted. This presents a predetermined condition, but not a predetermined time interval. A "predetermined time interval" is a fixed value known in advance, or in other words, the duration of interruption is fixed in advance. A time interval, the length of which is determined variably by a predetermined condition, cannot be understood as falling under the meaning of the wording "predetermined time interval" as presently claimed.

3.2.4 Concerning features 1.3.1 and 1.3.2 relating to the predetermined distance, the following is noted. The embodiment shown in Figure 1 of D11 discloses the use of an infrared light reflector. In addition, however, document D11 (page 16, line 22 to page 19, line 32) explicitly discloses well-known alternatives to such infrared detection, e.g. bar code detection (page 17, line 23 to page 18, lines 1 to 7) or a teleloop detection system (page 18, line 10 to page 19, line 32, figure 14 to 16). It is explicitly indicated in document D11 that these alternatives can be used

instead of the infrared detector (D11: page 16, line 22 to page 19, line 32). The appropriate detectors (either a bar code reader or the teleloop detector) are consequently to be installed at the entrance replacing the infrared light detector. If teleloop technology is used, the identification device affixed to the object or person will be detected and identified within a predetermined distance from the entrance (page 19, lines 21 to 32) due to the (three-dimensional) physics on which it is based. This is true even in case that the reading means are located at the entrance; it is thus not necessary that they are located ahead of the entrance. The predetermined distance is the operating range of the teleloop detector which is predetermined by its set-up according to document D11 (page 19, lines 21 to 32). Therefore, features 1.3.1 and 1.3.2 as defined in claim 1 are disclosed in document D11.

3.2.5 The opponent's argument relating to the "predetermined time interval" could not convince the Board since a predefined condition should not be confused with a "predetermined time interval" (see also above point 3.2.3).

3.2.6 The Board does not accept the proprietor's argument that in the present case, features disclosed in different embodiments of document D11 were not allowed to be combined. Instead, document D11 explicitly suggests to replace infrared technology by well-known alternative technologies (D11: page 16, lines 31 to 34). The overall set-up of the safety system using infrared technology for controlling the presence of the authorising object can consequently be replaced by any of the cited alternative technologies without changing the overall set-up of the system. Replacing the infrared sensor with a teleloop device, the presence of

an authorising information will be detected at a predetermined distance from the entrance prior to passing through the entrance as explained above under point 3.2.4 (see also *Case Law of the Boards of Appeal*, 9th Edition, 2019, I.C.4.2).

3.3 Claim 1 - Inventive step

3.3.1 The subject-matter defined in claim 1 involves an inventive step over the prior art within the meaning of Article 56 EPC 1973 for the following reasons.

3.3.2 Closest prior art

Document D11 represents the closest prior art. It discloses a light barrier as referenced above under point 3.2.2.

3.3.3 Distinguishing features

As already set out above under points 3.2.2 and 3.2.3, document D11 does not disclose feature 1.4.2, namely that the safety functions are deactivated for a predetermined time interval, when the identification code reading satisfies a predetermined condition.

3.3.4 Objective technical problem - technical effect

The objective technical problem which is solved by the distinguishing feature is seen in an improved protection of the risk area providing a better protection in abnormal situations. This is obtained by implementing the deactivation of the safety functions as defined in claims 1 and 12. The deactivation of the safety functions occurs for a predetermined time

interval instead of linking it to the interruption of the light barrier as disclosed in D11.
The de-/reactivation of the safety functions for/after a predetermined time interval, in other words a time interval the duration of which is fixed in advance, allows to detect abnormal situations in which an object or person has not completely passed the light barrier as it normally should. If the object or person does not completely pass the light barrier during the predetermined time interval, the alarm starts and the abnormal situation (e.g. blockage of the passage, accident, fraud etc.) is detected.

3.3.5 Obviousness

Neither the problem to be solved (adapting a light barrier safety system to enable it to cope with abnormal situations) nor the solution thereto (linking the interruption of the safety functions to a fixed time duration or predetermined time interval independent of the duration of the interruption of the light barrier) are indicated in any of the available prior art documents and in particular not in documents D11 or D2.

Thus, starting from document D11, the skilled person would have no apparent reason to deactivate the safety functions for a predetermined time interval in the event of authorised objects or persons passing. The solution defined in feature 1.4.2 is thus not obvious starting from D11 in combination with common general knowledge.

The combination of documents D11 and D2 does also not lead to the solution either, since according to document D2 ([0029] to [0031]), similar to document

D11, the safety functions are deactivated during a previously undefined period of time necessary for the object to pass the light barrier.

Hence, feature 1.4.2 is not obvious to the skilled person when starting from document D11 as closest prior art and combining it either with the common general knowledge or with the teaching of document D2.

3.3.6 The following should be noted with regard to the opponent's arguments. They are based on the temporary deactivation of the alarm function in documents D11 and D2 being predetermined in the sense that the deactivation ended when a predetermined condition was met (e.g., when an object has passed). However, according to the Board's understanding, the term "predetermined time interval" has to be understood as meaning that the duration of the interval is precisely defined and fixed in advance of any condition being detected. According to the Board's understanding, this was not taken into account by the opponent in his argumentation.

4. The subject-matter of claim 12 corresponds to the subject-matter of claim 1. In view of the above, the Board therefore concludes that, taking into account the amendments submitted during the oral proceedings before the Board, all arguments discussed in relation with the subject-matter of claim 1 apply *mutatis mutandis* also for that of claim 12. Therefore, the system and method as defined in claims 1 and 12 and the invention to which they relate are, in view of the available prior art, new and involve an inventive step within the meaning of Article 100(a) EPC 1973 in conjunction with Articles 54(1) and (2) and 56 EPC 1973.

5. The dependent claims 2 to 11 and 13 to 18 also fulfil the requirements of Article 100(a) EPC 1973 in conjunction with Articles 54(1) and (2) and 56 EPC 1973 due to their dependencies.

6. Hence, the Board comes to the final conclusion that taking into consideration the amendments made by the respondent-patent proprietor of the European patent during the oral proceedings before the Board, the patent and the invention to which it relates meet the requirements of the EPC (Article 101(3)(a) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent as amended in the following version:

Description:

Columns 1 to 5, 7 and 8 of the patent specification,
Column 6 received during the oral proceedings before the Board.

Claims :

No. 1 to 18 of the patent specification.

Drawings:

Figs. 1 to 4 of the patent specification.

The Registrar: The Chairman:

S. Sánchez Chiquero M. Stenger

Decision electronically authenticated