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Datasheet for the decision of 27 May 2026

Case Number: T 0567/23 - 3.4.03

Application Number: 07009449.5

Publication Number: 1862783

IPC: G01G11/00, G01G19/03

Language of the proceedings: EN

Title of invention:
Multiple conveyor and weighing apparatus

Patent Proprietor:
Mettler-Toledo, LLC

Opponent:
WIPOTEC GmbH

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - main request (no) - auxiliary requests (no) - obvious solution - common general knowledge - could-would approach

Decisions cited:
G 0003/14

Catchword:

Europäisches Patentamt
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Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0567/23 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 27 May 2026

Appellant: (Opponent)	WIPOTEC GmbH Adam-Hoffmann-Straße 26 67657 Kaiserslautern (DE)
Representative:	Eder Schieschke & Partner mbB Patentanwälte Elisabethstraße 34 80796 München (DE)
Respondent: (Patent Proprietor)	Mettler-Toledo, LLC 1900 Polaris Parkway Columbus OH 43240-2020 (US)
Representative:	Leinweber & Zimmermann Patentanwalts-PartG mbB European Patent Attorneys Viktualienmarkt 8 80331 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted/ electronically transmitted on 17 January 2023 concerning maintenance of the European Patent No. 1862783 in amended fo rm.**

Composition of the Board:

Chairman	T. Häusser
Members:	M. Stenger
	E. Mille

Summary of Facts and Submissions

I. The appeal of the opponent (henceforth: the appellant) concerns the interlocutory decision of the opposition division to maintain European patent no. EP 1 862 783 B1 in amended form according to the then second auxiliary request.

II. The appellant requests that the contested decision be set aside and that the patent be revoked in its entirety. On an auxiliary basis, they request oral proceedings.

III. The proprietor (henceforth: the respondent) requests that the appeal be dismissed or, on an auxiliary basis, that the patent be maintained on the basis of auxiliary requests 1, 2 or 3 enclosed with the reply to the grounds of appeal, or on auxiliary requests 1a, 2a or 3a submitted with letter dated 4 June 2024.

IV. With the reply to the grounds of appeal, the respondent had further requested oral proceedings if a decision allowing the main request could not be rendered during the course of the written proceedings. This request for oral proceedings was however withdrawn with the letter dated 28 April 2026.

In view of the board's conclusion (see section 4. below), the conduct of oral proceedings was thus not necessary.

V. Documents

In the following, essentially US 5 990 422 (document D5) will be referred to. For the other prior art

documents D1 to D4 and D6 to D20 discussed in the contested decision and by the parties, some of which are briefly mentioned in this decision, the labelling set out in the consolidated list of the opposition proceedings will be used.

MAIN REQUEST

VI. Claim 1 according to the main request, i.e. as maintained and annexed to the contested decision has the following wording (labelling "1.", "1.1.", ... added by the board corresponding to the submissions of the appellant, which differs from the feature labelling in the contested decision):

1. *A weighing apparatus (100) comprising:*
1.1. *a plurality of at least three weigh modules (156, 158, 160, 162) having each*
1.1.1. *a conveyor belt (104; 108, 110, 112, 114) and*
1.1.2. *a physical scale (128; 130, 132, 134, 136; A, B, C, D) associated with the respective conveyor belt (104; 108, 110, 112, 114) and*
1.2. *a master processor (142) electronically connected to each of said physical scales (128; 130, 132, 134, 136; A, B, C, D),*
1.3. *said master processor (142) being configured to form a plurality of logical scales (A-B, B-C, C-D, A-B-C, B-C-D, A-B-C-D) by combining two or more physical scales (128; 130, 132, 134, 136; A, B, C, D),*
1.4. *the weighing apparatus control software being constructed in a master-slave configuration, wherein*
1.5. *a plurality of slave processors (140; 144, 146, 148, 150) is electronically connected to said plurality of physical scales and said master processor (142),*

1.6. *the master processor (142) is configured to determine the net weight of a package to be weighed based on the weight results sent by the slave processors (140) and*
1.7. *the weighing apparatus (100) is configured to repeat the weighing process by processing the package to another appropriate physical or logical scale large enough to accommodate the package.*

AUXILIARY REQUESTS

VII. Amendments of the independent claims

(a) Claim 1 of auxiliary request 1 differs from claim 1 of the main request (claim 1 as maintained) in that it comprises, at its end, the additional feature 1.8. as follows:

1.8. *and wherein the master processor is electronically connected to a photo eye (152), the weighing apparatus comprising said photo eye as one single photo eye.*

(b) Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 in that it comprises, nested within feature 1.8., the additional feature 1.9. as follows:

1.9. *and* [the master processor] *is configured to determine the length of a package to be weighed, and to track the package as it passes from conveyor belt to conveyor belt, using said determined length, wherein the determination of the length of the package is based on inputs of the photo eye (152) and the motor controller (126),*

(c) Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in that it comprises the additional features 1.8.1 (before feature 1.9.) and 1.10. (after feature 1.9.) as follows:

1.8.1 [the photo eye is] *located at the front of the apparatus*

1.10. [the motor controller is] *configured to control motors (116) each associated with each one conveyor belt, the photo eye being configured to detect when a package arrives at the first conveyor belt, the determined length being calculated using the speed of the conveyor belts and the duration of time the package is in front of the photo eye,*

In all auxiliary requests 1 to 3, the respective independent method claim has been amended to refer to respective independent apparatus claim 1.

(d) Auxiliary requests 1a, 2a and 3a

The wording of the independent apparatus claims of auxiliary requests 1a, 2a and 3a differs from the wording of the independent apparatus claims of auxiliary request 1 to 3, respectively, in that feature 1.8. is replaced by feature 1.8.a as follows:

1.8.a *and wherein a photo eye (152) is electronically connected to the master processor, the weighing apparatus comprising said photo eye as one single photo eye.*

Moreover, in respective claim 1 of auxiliary requests 2a and 3a "the master processor" is explicitly referred to in feature 1.9.

(e) To summarise, the amendments of claim 1 in the auxiliary requests pertain, in different levels of detail, essentially to the determination of the length of the packages using a single photo eye and a motor controller and the tracking of the package using the determined length.

MAIN SUBMISSIONS OF THE PARTIES

VIII. The appellant essentially submits objections relating to lack of inventive step starting from D5 and from D1. They further argue that all documents D1 to D20 with the exception of D2 to D4, D6 and D7 (which were not admitted by the opposition division, see point 14.2. of the Reasons of the contested decision) are in the proceedings.

IX. The respondent asserts that the appeal is effectively limited to documents D1, D5, D8 and D9. Nevertheless, they briefly comment on D10 and D17. With respect to lack of inventive step, they submit arguments why the submissions of the appellant do not apply. The amendments in relation to auxiliary requests 1a, 2a and 3a bring the claimed wording closer to the wording of original claim 4, which is apparently a response to the appellant's submission that the claimed subject-matter is not supported by the description over its whole breadth.

Reasons for the Decision

1. Main request - lack of inventive step

1.1 Interpretation of the terms "master processor", "slave processor" and "master-slave configuration"

1.1.1 The appellant submits that the contested patent does not indicate how the terms "master processor", "slave processor" and "master-slave configuration" are to be understood. The contested patent (see paragraphs [0006] and [0014] as well as Figure 6) only describes that the slave processors perform tasks of a lower level like weighing, filtering and transmitting results to the master processor, while the master processor performs higher level tasks like calculating a net weight on the basis of these results.

1.1.2 The respondent submits, concurring with the opposition division, that the interpretation of the appellant ignores the technical meaning of a master-slave configuration involving the hierarchy of communication between the master processor and the slave processors.

1.1.3 The board holds that a master-slave (software) configuration of a master processor and a plurality of slave processors would generally be understood as a relationship between these processors in which the master processor somehow controls the actions of and in particular the communication with the slave processors.

The board concurs with the appellant that the contested patent does not give any particular definition of the terms "master processor", "slave processor" and

"master-slave configuration". The contested patent is also silent on any technical effects, advantages and disadvantages of the use of a master-slave configuration in the context of the contested patent. However, the functions performed by the master and the slave processors are described in the contested patent, in particular in paragraphs [0013] to [0015]. The board notes that these functions are in line with the general understanding of a master-slave configuration as set out above.

The board further notes that the contested patent does not impose any restrictions with respect to the spatial arrangement of the various processors; it only suggests that they may all be part of a scale controller 154 (paragraph [0015], penultimate sentence).

1.2 Closest state of the art - disclosure of D5

1.2.1 The appellant submits that D5 discloses most of the features of the independent claims of the contested patent, but does not explicitly disclose a master processor, a plurality of slave processors for or integrated in the load cells and a master-slave configuration of the control software of the weighing apparatus.

1.2.2 The opposition division concluded that D5 did not disclose features 1.2. to 1.6..

1.2.3 The respondent concurs with the opposition division and, more particularly, submits that D5 does not implicitly disclose "intelligent weighing units" and that the calculation circuit 25 is not equivalent to a master processor. Instead, D5 does not provide any specific data communication architecture or protocol.

1.2.4 In the board's view, D5 discloses a calculation circuit 25 (that is, a processor) electronically connected to each of the physical scales (load cells 23, 24; see column 5, lines 26 to 33) which is configured to form a plurality of logical scales by combining two or more physical scales and to determine the net weight of a package to be weighed based on the weight results sent by the physical scales (column 6, lines 10 to 15 and 47 to 59). Further, the weighing may be repeated (column 6, lines 27 to 39).
However, D5 does not disclose any internal details of the calculation circuit 25. In view of the board's understanding of a master-slave (software) configuration of a master processor and a plurality of slave processors (see section 1.1.3 above), the board concludes that D5 does not disclose such a configuration.

Thus, the subject-matter of claim 1 differs from D5 only in that instead of the calculation circuit 25, a master processor and slave processors are used in a master-slave configuration to control the weighing apparatus.

The board notes that this difference concerns parts of a number of different features. Hence, it is difficult to express it by simply referring to the feature labels of claim 1.

1.3 Objective technical problem to be solved

1.3.1 The opposition division formulated the objective technical problem as to realise the data communication amongst the load cells with reduced cabling complexity

and increased reliability (see the Reasons, section 17.2.1.4). The respondent concurs therewith.

1.3.2 The appellant submits that the arrows in Figures 4 to 6 of D5 only indicate that signals created by the lower level units 20 to 24 are communicated somehow, in any suitable manner, to the higher level unit 25.

The objective technical problem can thus be formulated as implementing the communication between the lower level units 20 to 24 and the higher level unit 25 in a suitable manner.

1.3.3 As set out above (see section 1.1.3), the contested patent does not mention any technical effects, advantages (or disadvantages) of the use of a master-slave configuration in the context of the contested patent that could be used as a basis for the formulation of the objective technical problem.

Instead, generally known effects (or advantages) of the use of a master-slave configuration have to be used to formulate the objective technical problem.

In the view of the board, the main advantage of a master-slave configuration of a system is an improved coordination in the system. For instance, with respect to communication, network collisions are eliminated. This renders the communication within the system more reliable.

Thus, the objective technical problem starting from D5 can be formulated as how to realise the data communication within the weighing apparatus of D5 such that it is more reliable.

1.4 Obviousness

1.4.1 The opposition division held that the skilled person, starting from D5 *could* adopt a data communication bus, but that there was no specific pointer as to why they *would* do so (see the Reasons, section 17.2.1.8).

D9 included options that necessarily involved a master-slave architecture, such as the Profibus, but also options that did not, including RS422 and CAN-Bus, the latter being generally regarded as peer-to-peer.

Although the deployment of a master-slave data communication architecture/protocol in systems involving multiple scales was part of the ordinary knowledge of the skilled person at the filing date of the contested patent, none of the cited references convincingly demonstrated that the skilled person would necessarily select a master-slave configuration when faced with the objective technical problem.

1.4.2 The appellant submits that the communication configuration used does not have any particular interaction with the other features of claim 1. This applies to using a master-slave configuration or any other generally known communication configuration.

The skilled person would thus only need to choose one of a limited number of generally known options, including all configurations using a data communication bus, for instance the Profibus according to D8, in order to solve the objective technical problem.

The skilled person would therefore use a master-slave configuration, for instance in combination with intelligent load cells with a Profibus interface as

disclosed in D9, whenever appropriate. They would do so even without any particular pointer.

The use of a master-slave configuration, or more generally of any commonly known communication structure, in the system of D5 would not render the resulting system inventive.

1.4.3 The board's opinion

As set out above (see section 1.1.3), the contested patent does not mention any technical effects, advantages or disadvantages of the use of a master-slave configuration in the context of the contested patent. Furthermore, the deployment of a master-slave data communication architecture/protocol in systems involving multiple scales has been part of the ordinary knowledge of the skilled person at the filing date of the contested patent, as set out by the opposition division (Reasons, section 17.2.1.8) and supported by background documents D8 (see § 2.4.2) and D9 (page 11, "Universelle Schnittstellen"). The board notes that D1 discloses an example thereof (see section below). Hence, the skilled person would not need a pointer in the prior art to consider using such a communication architecture/protocol, contrary to the submission of the respondent.

Instead, starting from D5, a master-slave configuration corresponds to one of a plurality of options with known advantages and disadvantages the skilled person would choose from according to the circumstances, without the exercise of an inventive step, essentially as submitted by the appellant.

Therefore, the subject-matter of claim 1 is not inventive in view of D5 combined with the skilled person's common general knowledge (Articles 52(1) and 56 EPC).

2. Auxiliary requests - Article 84 EPC

The respondent submits that feature 1.8. in auxiliary requests 1, 2 and 3 was replaced by feature 1.8.a to bring the wording of that feature closer to the wording of original claim 4, in response to a comment of the appellant (letter dated 28 March 2024, page 4, last two paragraphs) that claim 1 of auxiliary request 1 is not supported in its whole breadth as required by Article 84 EPC.

The board does not see any difference in substance between the expressions used in features 1.8. and 1.8.a, respectively. Moreover, both expressions correspond in substance to the optional feature of claim 3 as granted. Thus, the compliance of this feature with the requirements of Article 84 EPC cannot be examined during these appeal proceedings anyway (see decision G3/14, headnote).

3. Auxiliary requests - inventive step

In view of what is set out above with respect to Article 84 EPC (see section 2.), auxiliary request pairs 1/1a, 2/2a and 3/3a, respectively, can be discussed together.

3.1 Auxiliary requests 1 and 1a

3.1.1 The appellant submits that the single photo eye in auxiliary requests 1/1a is merely mentioned as such,

without indicating its functionality. The claim thus covers also that the photo eye is used to read a barcode or similar, as disclosed in D1 in the last paragraph of page 17 relating to Figure 5, where the photo eye/sensor could also be used to determine the length of the package. The photo eye has no synergistic effect with the other features of claim 1.

3.1.2 The respondent submits that the skilled person readily recognizes from the description, in particular paragraph [0005] of the application as filed, the functionality of the photo eye.
They further submit that the teaching of D5 (column 5, line 22, column 7, lines 55 to 56 and Figures 4, 5) requires a plurality of optical sensors of photo-interrupter type, the number of which is linked to the number of conveyors. D5 thus teaches away from a single photo eye and a mere reference to the general knowledge is not sufficient to call inventive step into question.

D1 addresses on page 4, lines 33-35, to position detecting means at each end of a belt unit, see also page 5, lines 31 to 34. D1 thus gives no hint to deviate from the teaching of D5, either.

D10 is related to systems having only one weighing unit. The person skilled in the art, when taught by D5 to use 3 sensors for more complex systems working with logical scales, would thus disregard D10 or at least would not derive from D10 a teaching how only one sensor should be applied in the complex system under consideration.

3.1.3 The board notes that paragraph [0007] of the contested patent uses the expression that exemplary embodiments of the invention "preferably use only a single photo

eye" to calculate a length of the package. This expression excludes the presence of further photo eyes. The expressions used in features 1.8. and 1.8.a, on the other hand, do not exclude the use of additional photo eyes for that purpose, as long as one "single" photo eye is connected to the master processor.
In this respect, the board further notes that the description of the contested patent presents the use of only a single photo eye as optional (see paragraph [0007]).

Thus, features 1.8. and 1.8.a of auxiliary requests 1 and 1a. do not even add a further distinguishing feature with respect to document D5 (column 6, lines 15 to 20).

In addition, the intended functionality of a (single) photo eye being connected to the master processor is not defined by any of the features of claim 1, as submitted by the appellant. In that respect, it is irrelevant that the skilled person might recognize it from the description, as submitted by the respondent. Thus, in any case, features 1.8. and 1.8.a do not contribute to an inventive step, even without taking into account the teaching of D10.

Concerning the argument that D5 teaches away from a single photo eye, it is referred to section 3.2.3 below.

Therefore, the subject-matter of claim 1 of auxiliary request 1/1a is not inventive over document D5, either (Articles 52(1) and 56 EPC).

3.2 Auxiliary requests 2, 2a, 3 and 3a

3.2.1 The appellant submits that additional feature 1.9. of claim 1 of auxiliary requests 2/2a is generally known and in addition disclosed in D1 (page 3, second paragraph; page 5, fourth paragraph to page 6, first paragraph; page 17, last paragraph). D17 also describes the use of a single photo sensor for determining the length and the tracking of an object.

Furthermore, in document D5 photo sensors are also used for the determination of the length and the tracking of packages. The reason for using a plurality of photo sensors is to increase accuracy; however, D5 would incite the skilled person to use only one photo sensor, if the accuracy is considered to be sufficient.

The additional features 1.8.1. and 1.10. of claim 1 of auxiliary request 3/3a represent only commonly known specifications of the more general features according to auxiliary request 2/2a.
To control the speed of a conveyor by means of a motor controller is common practice. To place a photo sensor at the front of the apparatus is the simplest arrangement and necessary if the length and the position of a product are to be determined as early as possible. The same applies to the determination of the length using the speed of the conveyor belts and the duration of time the package is in front of the photo eye.
The additional features of claim 1 of auxiliary request 3/3a have no synergistic effect with the aspects of the "repeated weighing" and the "master-slave configuration" and should be assessed individually with respect to inventive step.

3.2.2 The respondent submits that the use of a plurality of optical sensors is the fundamental basis of the

teaching of D5 (column 5, line 22; column 7, lines 55-65) and that there is no incentive for the skilled person to reduce the number of photo sensors to a number lower than the number of weighing conveyors.

D1 discloses on page 4, lines 33-35, to position detecting means at each end of a belt unit, see also page 5, lines 31 to 34. Thus, D1 cannot give the person skilled in the art any hint to deviate from the fundamental teaching of D5 by removing positioning sensors.

3.2.3 The board's opinion

D5 generally determines the length of an article by counting the output pulses of rotary encoders while a photo detector detects the article (column 7, line 66 to column 8, line 23), that is in much the same way as disclosed in the contested patent and defined in the last part of feature 1.9. and in feature 1.10..

D5 moreover discloses that by combining lengths determined in that way using a number of different photo detectors increases the accuracy of the length measurement (column 8, lines 42 to 57), as submitted by the appellant. The board notes that D5 also suggests that the measurement of the length of the articles may be entirely dispensed with (column 8, lines 58 to 61).

Thus, D5 does not teach away from using only a single photo eye (for calculating the length of a package), contrary to the submissions of the respondent. Instead, using a plurality thereof is presented as providing the specific advantage of increasing accuracy. Hence, the skilled person reading D5 would be aware of the consequences of using only a single photo eye and would

consider doing so according to the circumstances, without exercising an inventive step, as submitted by the appellant.

In view of the above, the subject-matter of the independent apparatus claims of auxiliary requests 2/2a and 3/3a is not inventive in view of D5 combined with the common general knowledge (Articles 52(1) and 56 EPC).

The board notes that it seems that the skilled person would not need the teaching of D1, D10 or D17 for considering using only a single photo eye in the system of D5. Hence, the question of admittance of D17, which seems to have been raised by the respondent, need not be discussed here.

4. Conclusion

None of the requests of the respondent fulfils the requirements of Article 56 EPC in view of D5 combined with the common general knowledge. Hence, the contested patent is to be revoked in its entirety according to the main request of the appellant already for that reason alone.

Therefore, the submissions of the parties with respect to Article 56 EPC using D1 as a starting point need not be discussed.

The board notes that to reach the conclusion that the patent is to be revoked in its entirety, only documents D5, D1, D8 and D9 are referred to. That these documents are part of the appeal proceedings is not contested by any of the parties. The submissions of the parties with respect to admittance of any of the other documents

listed in the consolidated list of the opposition proceedings thus need not be discussed, either.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

S. Sánchez Chiquero T. Häusser

Decision electronically authenticated