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**Datasheet for the decision
of 9 March 2023**

Case Number: T 0822/21 - 3.4.02

Application Number: 10011970.0

Publication Number: 2278284

IPC: G01G19/393, G01G13/24,
G01G13/02

Language of the proceedings: EN

Title of invention:
Weighing arrangement

Patent Proprietor:
CABINPLANT INTERNATIONAL A/S

Opponent:
MAREL A/S

Relevant legal provisions:
EPC Art. 56, 111(1), 114(2)
RPBA 2020 Art. 11

Keyword:
Inventive step (main request - no)
Remittal for further prosecution (yes)

Decisions cited:
T 1040/93, T 2201/10, T 2057/12, T 2224/17



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 0822/21 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 9 March 2023

Appellant: MAREL A/S
(Opponent) P.O. Pedersens Vej 18
Skejby
8200 Århus N (DK)

Representative: Inspicos P/S
Agern Allé 24
2970 Hørsholm (DK)

Respondent: CABINPLANT INTERNATIONAL A/S
(Patent Proprietor) Roesbjergvej 9
5683 Hårby (DK)

Representative: Budde Schou A/S
Dronningens Tvaergade 30
1302 Copenhagen K (DK)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 14 April 2021
rejecting the opposition filed against European
patent No. 2278284 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman R. Bekkering
Members: F. J. Narganes-Quijano
B. Müller

Summary of Facts and Submissions

I. The opponent (in the following: the appellant) lodged an appeal against the decision of the opposition division rejecting the opposition filed against European patent No. 2 278 284.

The opposition filed by the appellant against the patent as a whole was based, among other grounds for opposition, on the ground for opposition of lack of inventive step (Article 100(a), together with Articles 52(1) and 56 EPC).

II. The parties referred during the appeal proceedings, among other documents, to the following documents already considered during the first-instance proceedings:

E9: US 5 340 949 A

E16: EP 0 853 756 B1.

III. In the decision under appeal the opposition division held that none of the grounds for opposition raised by the appellant prejudiced the maintenance of the patent as granted. In particular, the opposition division concluded that the subject-matter of claim 1 was new and involved an inventive step over document E9.

IV. With the statement of grounds of appeal the appellant filed, among other documents, documents labelled E30a to E30e.

V. By letter dated 26 January 2023 filed in reply to a communication of the board annexed to the summons to

oral proceedings the patent proprietor (in the following: the respondent) filed claims according to auxiliary requests 1 to 3 and according to further alternative and conditional auxiliary requests.

VI. Oral proceedings before the board were held on 9 March 2023.

The appellant requested that

- the decision under appeal be set aside and the patent be revoked and
- the case be remitted to the opposition division pursuant to Article 111 (1) EPC and Article 11 RPBA, if the Board of Appeal considers the evidence filed with the notice of opposition non-prejudicial to the maintenance of the opposed patent and decides to admit documents E30a - E30e and/or the appellant's objections under Article 56 EPC based on document E16 as the closest prior art into the proceedings.

The respondent requested that the appeal be dismissed (main request) or that the patent be maintained in amended form on the basis of the claims of

- one of auxiliary requests 1 to 3 filed with the letter dated 26 January 2023 or
- a number of further alternative and conditional auxiliary requests.

At the end of the oral proceedings the chairman announced the decision of the board.

VII. Claim 1 of the patent as granted (main request) reads as follows:

"Weighing arrangement for weighing sticky and/or flexible product material, such as fresh meat,

marinated meat, poultry, fish and corresponding lumpy and/or sticky materials, comprising

- an infeed (1) for product material to be weighed,
- at least one dosing mechanism (3) for controlled conveying of product material portions from said infeed (1) to a weighing system,

- said dosing mechanism (3) comprising a motor-driven (7) transport screw (5) formed as a helically shaped rod positioned in an open trough (4), for conveying the product material from the infeed (1) to the weighing system and a control unit for controlling the motor in order to deliver a desired portion of product material to the weighing system,

characterised in that

said infeed (1) comprises a conically formed central bottom part (2) leading the product material radially outwards to several dosing mechanisms (3) positioned in a circular pattern around the conical bottom (2), wherein the motors (7) for driving the transport screws are positioned under the conical bottom part (2) of the infeed (1)."

Reasons for the Decision

1. The appeal is admissible.
2. *Main request (patent as granted) - Inventive step - Document E9*
 - 2.1 Document E9 discloses by reference to Fig. 24 to 27 (see the corresponding description, in particular column 1, lines 8 to 13; column 4, lines 21 to 25 and 42 to 51; column 22, lines 17 to 29; and column 23,

lines 4 to 23 and 52 to 56) a weighing machine for weighing sticky product material (material W) comprising an infeed (introduction hopper 412) for the material to be weighed and a dosing mechanism for controlled conveying of product material portions to a weighing system. The dosing mechanism comprises a linear arrangement of transport screws (screws 414), each of the screws being formed as a helically shaped rod and being positioned in an open trough (trough 414b) for conveying the product material. In addition, the screws are driven by a respective motor (motor 414a) positioned under the infeed and controlled by a control unit.

2.1.1 It was undisputed by the parties that, as held by the opposition division in its decision, the weighing arrangement defined in claim 1 as granted differs from the weighing machine of Fig. 24 to 27 of document E9 in that the infeed, instead of being linearly formed (linear introduction hopper 412 in Fig. 24), "comprises a conically formed central bottom part (2) leading the product material radially outwards to several dosing mechanisms (3) positioned in a circular pattern around the conical bottom". This distinguishing feature implies that the claimed arrangement, and in particular the claimed screws and the respective open troughs, instead of being linearly arranged as in document E9, is arranged in a circular configuration.

2.1.2 In the decision under appeal the opposition division noted that document E9 also disclosed circular weighing machines with a circular feeder 141 having a conical form (Fig. 14, together with column 14, lines 56 to 68) and expressed the view that this disclosure would incite the skilled person to modify the linear arrangement of the weighing machine of Fig. 24 into a

circular arrangement when searching for an alternative way of distributing the product material, and that this modification would result in the claimed arrangement, but that the skilled person could, but would not have considered the mentioned modification in view of the problems disclosed in document E9 when cleaning a circular arrangement of hoppers (column 2, lines 9 to 15: "a cleaner must make a round of the side portion of the metering machine as he or she cleans all the hoppers").

- 2.1.3 The board first notes that document E9 discloses weighing machines arranged in a linear configuration such as that disclosed by reference to Fig. 24 and also weighing machines arranged in a circular configuration (Fig. 14, and Fig. 30 and 31, together with the corresponding description), that these circular and linear weighing machines share a number of common structural and functional features (the presence of feeders, conveyors, etc.) each adapted to the respective circular and linear arrangement, and that the skilled person is - as submitted by the appellant - aware of the different advantages and drawbacks of circular and linear weighing machines with respect to each other.

For these reasons, in the board's view the objective technical problem solved by the distinguishing feature of the claimed subject-matter over the arrangement of Fig. 24 of document E9 resides in finding an alternative to the linear configuration of the weighing machine of Fig. 24 of document E9.

- 2.1.4 The appellant argued during the appeal proceedings that, as acknowledged by the opposition division, document E9 itself already incited the skilled person

to modify the machine of Fig. 24 into a circular one, that the cleaning issues referred in document E9 would not deter the skilled person from this modification, and that the skilled person not only could, but also would have considered the mentioned modification. In addition, the skilled person was familiar with the advantages and disadvantages of the linear and circular weighing machines and the patent mentioned no unexpected technical advantage of the claimed distinguishing feature.

The respondent submitted in reply to the statement of grounds of appeal that the maintenance drawbacks such as cleaning discouraged the skilled person to modify the linear arrangement of the machine of Fig. 24 into a circular arrangement. In addition, the skilled person would, when considering this modification, encounter several design challenges such as where to locate the motors 414a without them colliding with each other, and how to transform the collecting plate 422 and the scrapers 423 of the machine of Fig. 24.

The board notes that document E9 mentions that weighing machines having a circular arrangement are conventional in this art (column 2, lines 9 to 15, together with Fig. 30 and 31 and the corresponding description) and the document discloses, in addition to the linear weighing machine of Fig. 24, the circular weighing machine of Fig. 14 as an alternative embodiment of a weighing machine. In view of these considerations and those set forth in point 2.1.3 above, first paragraph, the board concurs with the appellant that the skilled person confronted with the objective technical problem not only could, but also would, have considered modifying the linear arrangement of the weighing machine of Fig. 24 of document E9 into a circular

arrangement. In particular, the skilled person is - as already mentioned above - aware of the advantages and drawbacks of the linear and the circular weighing machines, and the mere fact that document E9 mentions a disadvantage of the circular arrangement in respect of predetermined cleaning operations (column 2, lines 9 to 15) and a maintenance advantage of the linear arrangement of Fig. 24 (column 14, lines 45 to 49) would - contrary to the view expressed by the opposition division in its decision - not dissuade the skilled person from considering and actually re-arranging the linear arrangement of the weighing machine of Fig. 24 of document E9 into a circular weighing arrangement. More particularly - and contrary to other situations involving, for instance, an established technical prejudice (see "Case Law of the Boards of Appeal" EPA, 10th edition 2022, section I.D.10.2) -, a foreseeable disadvantageous modification of the prior art does - as also noted by the appellant - generally not involve an inventive step ("Case Law of the Boards of Appeal", *supra*, section I.D.9.21.1).

In addition, and as submitted by the appellant, the motors (motors 414a in Fig. 24) of the linear weighing machine are located under the inclined linear infeed (introduction hopper 412) and a circular re-arrangement of the machine with a resulting conical infeed will offer sufficient space to accommodate the motors in a circular configuration below the conical infeed without risk of colliding with each other. Furthermore, the collecting chute 422a (labelled 402a in Fig. 24) of the circular weighing machine will, in the resulting circular re-arrangement, circumferentially span all the hoppers as illustrated for instance by the collecting chute 145 of the circular weighing machine of Fig. 14, and the collecting plate 422 and the scrapers 423 could

be maintained after being straightforwardly re-configured in a circular arrangement or even be dispensed with - it being noted that the claimed invention does not exclude any of these possibilities.

- 2.2 In its letter of 26 January 2023 filed in reply to the provisional assessment of the case presented by the board in the notification annexed to the summons to oral proceedings and, subsequently, during the oral proceedings before the board the respondent made further submissions in support of its view that the approach followed in point 2.1 was based on hindsight.

As regards the selection of the linear arrangement of Fig. 24 of document E9 as closest prior art, the respondent submitted that the patent was directed to a circular weighing machine and that, as exemplified in document E9, the skilled person was aware of both circular and linear weighing machines. In this context, a realistic assessment of inventive step without hindsight required starting with a machine having the same purpose and effect as that of the claimed invention, i.e. with a weighing machine of the circular type, and it was inappropriate to start with a linear weighing machine and to then compare it with the claimed circular machine for the purpose of determining the objective technical problem as this resulted in an artificial approach.

As regards the objective technical problem solved by the claimed invention, the respondent submitted that the circular and linear weighing machines under consideration did not represent alternative machines and that, while a circular weighing machine was more efficient and had a higher production capacity than a linear weighing machine, a linear machine was generally

smaller. In particular, the claimed circular machine allowed for a controlled feeding of the material (paragraph [0017] of the patent specification) and a rotating conical infeed resulted in an improved feeding process. In addition, the batching process was longer for a linear machine than that of Fig. 24 of document E9 because it required the additional step of scraping by the scrapers 423 on the collection table, and the batching process of a circular arrangement of hoppers resulted in a steeper circular collecting chute and faster processing when compared with a linear arrangement such as that of the metering hoppers 7 of the collecting chute 50a disclosed in document E9 by reference to Fig. 13 which involved different fall times for the material from the different hoppers. Therefore, the objective technical problem was to be formulated in terms of rendering the batching more efficient.

The respondent also submitted that it was artificial to consider the transformation of a machine from one (linear) to another (circular) type of machine when circular machines were already available. More particularly, the established case law precluded any analysis based on the skilled person considering a "change of type during the further development of the consciously chosen type, to another type, which was previously known but had not been chosen" ("Case Law of the Boards of Appeal", *supra*, section I.D.3.6) and also precluded a modification of the closest prior art in a manner contrary to its very purpose (decisions T 1040/93 (point 5.2 of the reasons), T 2201/10 (point 5.1.3 of the reasons), T 2057/12 (point 3.1.4 of the reasons), T 2224/17 (point 4.5 of the reasons), etc.) and therefore a modification of the linear

configuration of the linear machine of Fig. 24 into a circular machine.

Furthermore, the respondent submitted that Fig. 24 of document E9 was specifically directed to the provision in a linear weighing machine of a specific type of pool hoppers 415 and metering hoppers 417 including the corresponding actuators 416 and 419 all linearly arranged in the machine for the specific purpose of avoiding adhesion of the sticky material to the surfaces of the components of the machine (column 1, lines 57 to 63, column 3, line 54 to 62, column 4, line 21 *et seq.*, and column 25, lines 34 to 38, together with Fig. 11, 14 to 17, 20A, 20B, 23, 31 and 32 and the corresponding description), and that the pool and metering hoppers of Fig. 24 could not be dispensed with as this would amount to disregarding the essence of the embodiment of Fig. 24. Moreover, the circular machine of Fig. 14 was only an example of a machine equipped with a specific discharge mechanism and with hoppers that were not those incorporated in the linear machine of Fig. 24, but those already known from the prior art (Fig. 31, and column 8, lines 49 to 52, together with column 14, line 56, to column 15, line 16). In this context, the skilled person would, according to the respondent, be confronted with the question of how to integrate the hoppers 415 and 417 of Fig. 24 in a circular machine, especially as the corresponding actuators 416 and 419 extending into the housing would risk colliding with each other.

In addition, according to the respondent the skilled person would be confronted with additional questions and design challenges when transforming the linear weighing machine of Fig. 24 of document E9 into a circular machine, and in particular:

- where to place the motors 414a below the conical bottom part without the motors colliding with each other,

- what to do with the collecting plate 422, the scrapers 423, and also with the collection chute 422a (labelled 402a in Fig. 24) which would, as a consequence of the hoppers being disposed in a circular arrangement, require a reduction of its slope which would hamper the collection of sticky material (document E9, column 3, lines 54 to 62),

- how to redesign the infeed into a conical form in view of the fact that maintaining the infeed slope would result in a long path which would slow down the speed of the machine, and decreasing it for the purpose of reducing the infeed path and/or receiving the hoppers and the actuators in a circular configuration would reduce the sliding speed of the material to be weighed (document E9, column 3, lines 54 to 62),

- why to retain the open troughs and the transport screws rather than to rely on the vibration plates normally used in circular weighing machines, and

- how to cope with the triangular openings between troughs that would result from a re-arrangement of the troughs of Fig. 24 into a circular configuration (*cf.* figure on page 16/18 of the letter dated 26 January 2023).

2.2.1 The appellant submitted during the oral proceedings that the respondent's submissions in the letter dated 26 January 2023 and during the oral proceedings were directed to challenging numerous issues (selection of the closest prior art, formulation of the objective technical problem, could-would approach, etc.), that the mentioned submissions could have been filed earlier during the proceedings and filing them at a late stage constituted an abuse of procedure, and that these late

submissions represented an amendment to the respondent's case that should not be admitted pursuant to Article 13 (2) RPBA 2020.

The respondent disputed that the submissions represented more than only arguments or that they constituted an amendment of the appeal case within the meaning of Article 13 RPBA 2020.

The board notes that, while admittance of late facts or evidence is subject to the board's discretion (Article 114 (2) EPC), the mentioned respondent's submissions do not include any new allegation of fact, but only arguments in support of the respondent's view on issues of fact or law that it already addressed in writing or on issues raised in the board's communication annexed to the summons to oral proceedings, and in particular on issues relating to the way the problem-solution approach is applied. In addition, the board is unable to see that the scope and complexity of the respondent's submissions reached the high threshold of abuse of procedure. In these circumstances, the board sees no reason that would justify not taking into consideration the respondent's submissions mentioned in point 2.2.

2.2.2 In the board's view, however, the mentioned respondent's submissions are not persuasive for the following reasons:

As regards the selection of the linear weighing machine of Fig. 24 of document E9 as closest prior art, the board notes that the mentioned machine serves the same purpose and effect as the claimed weighing machine, i.e. weighing sticky materials such as foodstuff (E9, column 1, first paragraph) and shares with it a number

of functional and structural features. In addition, and as confirmed, for instance, in decision T 2224/17 cited by the respondent (point 4.5 of the reasons), the skilled person is free in the selection of the starting point. In particular, the issue of inventive step depends on the question of whether the claimed arrangement is obvious having regard to the state of the art (*cf.* Article 56 EPC) and therefore having regard to any starting point of the state of the art, and in particular having regard to the machine of Fig. 24 of document E9. Therefore, the board sees no reason that would justify disregarding the weighing machine of Fig. 24 of document E9 as closest prior the art.

As regards the determination of the objective technical problem, the board notes that the efficiency of the circular and the linear weighing machines depends on the specific features of each individual machine, and that claim 1 is - as submitted by appellant - silent as to the provision of a conical infeed of the rotating type and also silent as to the features mentioned by the respondent as being involved in a more efficient batching process. Therefore, the technical effects alleged by the respondent are not supported by the subject-matter actually claimed, and the board sees no reason to depart from the objective technical problem formulated in point 2.1.3 above.

As regards the respondent's references to the case law and the argument that the skilled person would not consider transforming the linear weighing machine of Fig. 24 into a circular weighing machine, the board notes that, as submitted by the appellant and already noted above, the circular and the linear weighing machines differ from each other in their spatial arrangement but they serve the same purpose and effect

and, in addition, share a number of common functional and structural features. In this context, the linear and the circular weighing machines under consideration are - as submitted by the appellant - not comparable to the different "types" of devices referred to in the decisions cited by the respondent and involving fundamentally different and/or incompatible features (reversible and non-reversible ploughs in decision T 1040/93 (point 5.2 of the reasons), corn headers with a chopping unit either combined with or separated from a snapping roller in decision T 2224/17 (point 4.5 of the reasons), and a compressor piston and an internal combustion engine piston in the case considered in the first paragraph of section I.D.3.6 of "Case Law of the Boards of Appeal", *supra*, cited by the respondent), and in the board's view they do not constitute two different "types" of machines in the sense of the cited case law, but two variants or sub-types of machines of a same type of weighing machines differing from each other in their spatial (linear or circular) arrangement.

In addition, the different technical design challenges that the skilled person would, according to the respondent, encounter when re-arranging the components of the linear weighing machine of Fig. 24 to 27 of document E9 into a circular weighing machine such as that represented in Fig. 14 of document E9, would, in the board's view, not dissuade the skilled person from considering a circular arrangement of the linear machine of Fig. 24. In particular:

- As to the pool and metering hoppers 415 and 417, the skilled person would - as submitted by the respondent - consider maintaining and replicating them in a circular arrangement, this re-arrangement being straightforward as represented in the figure on page

14/18 of the respondent's letter dated 26 January 2023. Alternatively, as also submitted by the appellant, the skilled person would recognise the circular arrangement of Fig. 14, including the circular feeder 141, the circularly arranged intermediate and metering hoppers 143 and 144 and the circular collecting chute 145, as a suitable alternative to the hoppers 415 and 417 and the collecting chute 422a of Fig. 24. In addition, depending on the adoption of one or another of these options, the skilled person would consider dispensing with the scrapers and/or the collecting plate 422 as in Fig. 13 of document E9 and/or using a circular collecting chute spanning all the hoppers as does the collecting chute 145 of Fig. 14 of document E9, see also point 2.1.4 above, last paragraph.

- As to the infeed, it would be readily apparent to a person skilled in the art that a transformation of the linear arrangement of Fig. 24 of document E9 into a circular arrangement would result in the infeed being arranged in the form of a conical infeed as claimed (see, for instance, the figure on page 14/18 of the respondent's letter dated 26 January 2023). In addition, the skilled person would consider readjusting, if necessary, the angle of the slope of the infeed, and therefore the length of the infeed path and the travel time of the items to be weighed, to the specific characteristics of the sticky material to be weighed.

- As to the troughs and the transport screws, these are features of the machine of Fig. 24 of document E9 and, while they may present - as submitted by the respondent by reference to column 22, line 58, to column 23, line 26, of document E9 - some disadvantages, document E9 discloses how to compensate them (column 23, line 30, to column 24, line 37).

- As to the motors 414a and, if required, the actuators 416 and 419, the conical infeed will, as already set forth in point 2.1.4 above, last paragraph, offer sufficient space to accommodate these components in a circular configuration below the conical infeed without risk of collision (see for instance the figure on page 14/18 of the letter dated 26 January 2023).

- As to the triangular openings between troughs resulting from the re-arrangement of the troughs in a circular configuration, the skilled person would consider the provision of means to prevent that part of the material to be weight falls through any gap between troughs.

- As to the different geometrical parameters (dimensions of the whole machine, slope of the different means such as the conical infeed and the collection chute, etc.) that would be required for an appropriate operation of the machine after being re-arranged in a circular configuration, the skilled person would, as submitted by the appellant, be in a position to select the appropriate values of the parameters depending on the specific characteristics of the sticky material and the features of the machine (number of screws and troughs, provision of collecting means, etc.).

It is finally noted that none of the considerations mentioned above is at variance with the claimed weighing arrangement and that none of them surpass in the board's view the routine capacities of the skilled person. It is also noted that, as also submitted by the appellant, the claimed invention is silent as to any feature or limitation (collecting means, slope of the infeed, number and relative arrangement of the screws and troughs, dimensions of the machine, specific characteristics of the sticky material, etc.) that

would specifically alleviate, let alone compensate for the design challenges mentioned by the respondent and addressed above.

2.3 The board concludes that - contrary to the opposition division's view - the skilled person not only could, but also would have considered re-arranging the components of the linear weighing arrangement of Fig. 24 to 27 into a circular arrangement and that this re-arrangement would - as submitted by the opponent and as shown in the figure represented on page 14/18 of the respondent's letter dated 26 January 2023 - result in the claimed circular weighing arrangement, and in particular in the distinguishing feature identified in point 2.1.1 above.

2.4 In view of the above considerations, the board concludes that the subject-matter of claim 1 as granted does not involve an inventive step over document E9 alone (Article 56 EPC) and that for this reason the ground for opposition of lack of inventive step prejudices the maintenance of the patent as granted.

3. *Further prosecution*

The respondent, as an alternative to the main request, requested maintenance of the patent as amended on the basis of the claims according to auxiliary requests 1 to 3 or according to further alternative auxiliary requests and other conditional requests formulated in the letter dated 26 January 2023.

In this regard, the board notes that the examination as to the allowability of the appeal carried out pursuant to Article 111(1), first sentence, EPC has revealed that the appeal is allowable, because the decision

under appeal cannot be upheld. The board, which, under the same provision, now has to decide on the appeal, "may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution."; see Article 111(1), second sentence, EPC. Pursuant to Article 11, first sentence, RPBA 2020, "[t]he Board shall not remit a case to the department whose decision was appealed for further prosecution, unless special reasons present themselves for doing so."

In this respect, the board notes that the decision under appeal was only based on the main request and that, in respect of the auxiliary requests, the parties' cases raise numerous issues concerning the admissibility and the allowability of the respective claims. In the board's view, this is a special reason within the meaning of Article 11 RPBA 2020 that justifies the remittal of the case for further prosecution.

In these circumstances, the board exercises its discretion in remitting the case to the opposition division for further prosecution (Article 111(1) EPC, together with Article 11 RPBA 2020).

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 for further prosecution.

The Registrar:

The Chairman:



L. Gabor

R. Bekkering

Decision electronically authenticated