Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 2 February 2024

Case Number: T 1662/22 - 3.2.04

Application Number: 16728322.5

Publication Number: 3307073

IPC: A22B5/00, A22B5/20, A22C17/00

Language of the proceedings: EN

Title of invention:
REMOVING THE SPINAL COLUMN FROM A HALF-CARCASS OF A SLAUGHTERED ANIMAL

Patent Proprietor:
IHFood A/S
SFK Leblanc A/S

Opponent:
Marel Red Meat B.V.

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 83, 123(3)
RPBA 2020 Art. 13(2)

Keyword:
Novelty - (yes)
Inventive step - (yes)
Sufficiency of disclosure - undue burden (no)
Amendment after summons - exceptional circumstances (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 1662/22 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 2 February 2024

Appellant: (Opponent)	Marel Red Meat B.V. Albert Schweitzerstraat 33 7131 PG Lichtenvoorde (NL)
Representative:	Inspicos P/S Agern Allé 24 2970 Hørsholm (DK)
Respondent: (Patent Proprietor 1)	IHFood A/S Titangade 9C, 1. 2200 Copenhagen N (DK)
Respondent: (Patent Proprietor 2)	SFK Leblanc A/S Albuen 37 6000 Kolding (DK)
Representative:	Plougmann Vingtoft a/s Strandvejen 70 2900 Hellerup (DK)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 28 April 2022 concerning maintenance of the European Patent No. 3307073 in amended form.**

Composition of the Board:

Chairman	A. de Vries
Members:	J. Wright
	C. Heath

Summary of Facts and Submissions

I. The appeal was filed by the appellant (opponent) against the interlocutory decision of the opposition division finding that, on the basis of the auxiliary request 1, the patent in suit met the requirements of the EPC.

II. Amongst other things, the opposition division decided that claim 1 of the patent according to the auxiliary request 1 was new and involved an inventive step and that the invention was disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

III. In preparation for oral proceedings before the Board, the Board issued a communication setting out its provisional opinion on the relevant matters. The oral proceedings were duly held on 2 February 2024.

IV. The appellant-opponent requests that the decision under appeal be set aside and that the patent be revoked. The respondent-proprietors request that the patent be upheld on the basis of the *New Main* request filed during the oral proceedings before the Board, in the alternative maintenance of the patent on the basis of one of auxiliary requests 1 to 4, filed with letter dated 1 December 2023.

V. The independent claim 1 of the *New Main* request (claim 1 being the same as for the version upheld by the opposition division) reads as follows - with feature references in bold added by the Board:

F1 "A method of removing, at least partly, the spinal column from a half carcass (1A, 1B) of a slaughtered animal

F1.1 that has been cut substantially along the median plane (2) of the slaughtered animal

F1.2 thereby providing a median cut surface (6) of the half-carcass (1A, 1B),

F2 the method comprising

F2.1 - locating, on the ventral side of the half-carcass (1A, 1B), an anatomical structure (7, 17)

F2.1.1 defined in relation to joints between rib heads and the spinal column (3) of the half-carcass (1A, 1B) and/or in relation to the concavity between the spinal column and the transverse process (18), [F2.1.2] wherein the step of locating the anatomical structure is done using optical locator providing data on a zone of the half-carcass, preferably including at least the concavity (7, 17);

F2.2 - determining a characteristic geometrical feature (15)

F2.2.1 of the median cut surface (6) and/or of the ventral side of the half-carcass (1A, 1B),

F2.2.2 wherein the characteristic geometrical feature (15) is determined using optical locator;

F2.2.3 the characteristic geometrical feature (15) comprising:

a position on and/or a spatial orientation of at least a part of the exposed rib (4) or spinal column (3) or transverse process (18), and

F2.3 - cutting along a cutting path (13),

F2.3.1 the cutting path being defined in relation to said anatomical structure (7, 17) and said characteristic geometrical feature (15) of the median cut surface (6) and/or of the ventral side of the 25 half-carcass, so as to remove, at least

partly, the spinal column from the half-carcass (1A, 1B),

F2.3.2 wherein the cutting path (13) passes through a position being offset a predetermined first offset to the located anatomical feature (7, 17) and a position in the half-carcass (1A, 1B) being offset a predetermined second offset from the characteristic geometrical feature 30 (15),

F3 wherein the characteristic geometrical feature is a position and wherein the second offset is a predetermined orientated distance from the characteristic geometrical feature (15),

F4 and wherein the anatomical structure (7, 17) is a concavity defined in relation to the joint between rib heads and thoracic vertebrae, top of rib heads, or a concavity below the rib head (17); and

F5 wherein the characteristic geometrical feature (15) is:

- spinous process,
- the spatial orientation of the median cut surface (6),
- spinal canal (5),
- the upper most position of the spinal column (16), or
- the tangent to the surface between the upper most position of the spinal column (16) and the anatomical structure (7, 17)".

VI. In the present decision, reference is made to the following documents:

D1: US 8915773 B2
D6: WO 03/032739 A1
D7: US 7404759 B2

VII. The appellant-opponent's arguments can be summarised as follows:

The subject matter of claim 1 of the *New Main* request lacks novelty over D1 or D7 and lacks inventive step starting from D1 with the skilled person's general knowledge, or starting from D7 with D6, D1 or the skilled person's general knowledge.

The invention is insufficiently disclosed, in particular the skilled person cannot find appropriate offsets without undue burden. The invention also extends the protection conferred beyond what was granted.

VIII. The respondent-proprietors' arguments can be summarised as follows:

The *New Main* request is filed in response to an objection of lack of clarity first raised at the oral proceedings before the Board, and this constitutes exceptional circumstances that justify its being admitted into the proceedings. The subject matter of claim 1 of this request is new and involves an inventive step. The invention is sufficiently disclosed.

Reasons for the Decision

1. The appeal is admissible.

2. Introduction

In the slaughtering industry, it is known to cut a carcass along the median plane to provide a pair of

half-carcasses. The invention is concerned with removing the spinal column, also referred to as the vertebral column, from a half-carcass (see published patent specification, paragraph [0001] and all versions of claim 1).

3. *New Main* request, admissibility

3.1 The *New Main* request filed at the oral proceedings before the Board is directed at the claims as upheld in the decision under appeal but for the deletion of dependent claims 2 and 3.

3.2 At the oral proceedings before the Board, the matter of added subject matter of dependent claims 2 and 3 of the main request on file at the start of the oral proceedings (as upheld) was discussed. Whereas in its written submissions the appellant-opponent had principally argued that these claims introduced embodiments which were not originally disclosed, at the oral proceedings, it became clear that this was so because it saw that these claims introduced an unresolvable contradiction with claim 1, from which they depended. After its deliberation, the Board concluded that no subject matter was added by these claims but that, rather, the amendments introduced a lack of clarity. The respondent-proprietors responded to this by filing a *New Main* request which differed from the previous main request only in that dependent claims 2 and 3 were deleted and the remaining dependent claims renumbered.

3.3 In the fact that the true nature (lack of clarity) of the orignal added subject matter objection only became apparent to the Board for the first time during the oral proceedings , and that moreover, this lack of

clarity was manifestly overcome by deletion of the relevant claims, the Board saw exceptional circumstances justifying admittance of the *New Main* request, Article 13(2) RPBA 2020. The Board therefore decided to admit the *New Main* request into the proceedings.

4. *New Main* request (claim 1 as maintained), claim 1, novelty with respect to D1

4.1 D1 discloses a method of removing the spinal column of the half carcass of a slaughtered animal, the half carcass being cut along the median plane (see abstract, column 1, lines 5 to 10 and figure 6). It is not in dispute that D1 (see column 2, lines 10 to 46) discloses to optically locate a *geometrical feature*, namely the spinal canal, as defined in claim feature F5. Moreover, the geometrical feature is used to define a cutting path, with a suitable predetermined [second] offset (d) from this geometrical feature (see also column 7, lines 15 to 43 with figures 5 to 7). As explained in column 7, lines 34 to 43, in reference to figure 7, the entry point of the cut is determined at a distance d from the spinal column or canal, with the inclination angle of the cut used to determine its direction. The cut overall should be such that its depth is such that the cut is as close as possible to the spinal column.

4.2 The question of novelty turns on whether D1 discloses to identify *an anatomical structure*, as defined in feature F4, and to define the cutting path as passing through a position having a predetermined [first] offset to the *anatomical structure* (or *anatomical feature* as it is also called in the claim).

4.3 The Board notes that the claim feature F2.1 makes mandatory the *locating* of the anatomical structure. Moreover, reading the features F2.3.1 (the cutting path being defined *in relation* to said anatomical structure) and F2.3.2 (the cutting path passes through ... a position having a certain offset to the anatomical structure) with a mind willing to understand, and giving terms their normal meaning, the skilled person would consider that the location of the anatomical structure *determines* the cutting path (with an offset). If this were not so, the cutting path would not be *defined in relation to* the anatomical structure.

4.3.1 In this regard, the Board is not convinced by the appellant-opponent's argument that an alternative reading of the feature could be that the cutting path could be determined in any way and then, viewed retrospectively, would always pass through a point which could be said to relate (with an offset) to the anatomical structure. Apart from this reading contradicting the normal reading of the claim for the reasons already explained, the skilled person would reject the latter interpretation as making no technical sense, since it would state no more than what is inevitably and trivially always true: That any given point in a half carcass has a certain offset to another point in the same half carcass.

4.3.2 Moreover, the general description of the invention (see the published patent specification, paragraphs [0009] and [0010]) confirms the Board's interpretation (anatomical structure determines the cutting path) to be the correct one: The anatomical structure *forms a waypoint* for the cutting path and the cutting path is *based on* the structure.

4.4 Therefore, the skilled person reads the claim as requiring the location of the anatomical structure according to feature F4 to determine (with a predetermined offset) a position through which the cutting path must pass (feature F2.3.2), and it is with this in mind that novelty and inventive step are to be examined.

4.5 D1 indisputably discloses locating certain anatomical structures (see column 3, lines 40 to 57), for example: The spinal column, the shapes of the middle [carcass] part etc.). However, these are not any of the ones specified in feature F4 (top of rib heads and concavity related to the joint between rib heads and vertebrae or below the rib head). Nor is the Board convinced that D1's embodiment described in column 7, lines 15 to 33 with reference to figure 6 discloses determining a concavity below the rib head and defining the cutting path that passes through a position at a predetermined offset from this, as the appellant-opponent has argued.

4.5.1 According to D1's method (see column 5, lines 28 to 38 with figure 4), a camera looks from above. Whether or not the camera can view the top of the rib heads or a concavity related to the joint between rib heads and thoracic vertebrae, the Board agrees with the appellant-opponent that it would be able to gather visual data on a concavity below the rib head, as the ribs extend laterally beyond what is obscured by the overlying median cut surface, that is the camera would be able to view everything laterally extending beyond the edge 16 when viewed from above (see figure 6).

4.5.2 As explained in column 7, lines 15 to 33, the system registers a [first] height difference near the edge 16 and identifies the [first] edge 16 as being the part

with the greatest edge strength - the black line 18 in figure 6. Once identified, the edge 16 is used to generate a cut-out of the original image, and this more targeted image is subjected to a further image [processing] procedure to identify a further [second] edge. Identifying a height difference between adjacent parts of an image is thus merely to measure the vertical distance between two points, but does not imply *locating* a particular *anatomical structure* at the lower point, let alone a particular concavity. Moreover, this first height difference is merely used to cut out a more targeted image, in which to search for and identify what can only be the spinal [chord] line 19, somewhere inside of the edge 16. It is this line 19 which is actually used to generate the cutting path. Put another way, whilst assessing the first height difference plays a role in identifying the edge 16, the latter plays no role in defining the cutting path. It is merely the boundary of the more targeted image.

4.5.3 Thus, even if D1's system were to locate a concavity below the ribs in part of the image (the Board considers it does not), neither this area of the image nor the edge 16 derived therefrom define the cutting path, with or without an offset. Therefore, this part of D1 does not disclose defining a cutting path as claimed, namely as passing through a position having a certain offset to the location of an anatomical structure according to feature F4.

4.6 The appellant-opponent has also argued, with reference to figure 2 and column 5, lines 20 to 24, that D1 discloses a cutting path with two predetermined offsets to both a geometric feature and anatomical structure as claimed. This citation discloses two possible cuts for

separating the spinal column (rib top and spinal chord cuts, Lc and Ls respectively in figure 2), but gives no information as to how these are achieved, other than saying that they are to be accomplished by the methods of D1's invention. In the Board's view, at most the skilled person would understand from this that, applying the method already discussed in relation to figure 6, two possible offsets from the optically located spinal chord are possible. However, as already explained, this is not derived from determining a anatomical structure according to feature F4. Therefore, the argument is moot.

4.7 Finally, the Board notes that D1 gives no information as to how the inclination angle of the knife or its height is set. At most it discloses (see column 3, lines 40 to 57) that three dimensional contours and shapes of the middle part of the carcass are derived and that the angle is controlled on the basis of optically derived data, but D1 is silent as to whether the angle or height might be based on determining an anatomical structure as listed in claim feature F4.

4.8 For these reasons, the Board holds that D1 does not disclose determining an anatomical structure as listed in feature F4 and using this to derive a cutting path as claimed (features F2.3.1 and F2.3.2). Therefore, D1 does not take away novelty of claim 1.

5. *New Main* request, claim 1, novelty with respect to D7

5.1 In its communication in preparation for the oral proceedings (see section 4.3), the Board gave a preliminary opinion that D7 did not take away novelty of claim 1 as maintained (identical to claim 1 of the *New Main* request). The Board wrote as follows:

4.3 Main request (as maintained), claim 1, novelty with respect to D7

The Board is of the provisional opinion that D7 does not take away novelty of claim 1.

D7 discloses a method of removing the spinal column by optical detection (see abstract and paragraph bridging columns 1 and 2). The opposition division found (see impugned decision, reasons point 3.4.2) that D7 disclosed the features of claim 1 as granted but that for the present main request, it did not disclose features F4 and F5 (particular anatomical structure and geometrical features). The Board agrees.

D7 appears only to detect the position and shape of the spinal column (see for example column 1, last 5 lines, column 2, lines 14 to 20, column 4, lines 5 to 9, column 5, lines 5 to 9). Since the generic does not take away novelty of the specific, the Board considers that detecting the position and shape of the spinal column is not a disclosure of the specific elements listed in features F4 and F5, such as the top of the rib heads, the spatial orientation of the median cut surface and the spinal canal, whether or not D7's detection would imply detecting the upper-most position of the spinal column and whether or not the skilled person is completely familiar with how the position and shape of the spinal column might anatomically relate to the elements listed in features F4 and F5, including the spinal canal. For these reasons, D7 appears not to deprive claim 1 of novelty.

5.2 Neither in written proceedings nor at the oral proceedings did the appellant-opponent comment on this aspect of the communication. In the absence of any such comments, the Board sees no reason to deviate from its preliminary opinion on this matter and so it confirms that D7 does not take away novelty of claim 1 of the *New Main* request.

6. *New Main* request, claim 1, inventive step starting from D1 with the skilled person's general knowledge

6.1 As has already been explained, D1 discloses to locate an anatomical structure, such as the spinal column, but not one of the structures listed in feature F4, let alone to use one of these to define a cutting path. The appellant-opponent has argued that the problem to be solved is that of finding an alternative anatomical structure, and argued that it would be obvious to use the available data on a concavity below the rib head as such an alternative and define the cutting path based on this.

6.2 Whether finding an alternative anatomical structure for carrying out the invention is an appropriate objective technical problem or whether a different technical problem, such as improving accuracy should be formulated, the Board holds that it would not be obvious to arrive at the subject matter of claim 1 starting from D1 in combination with the skilled person's general knowledge.

6.3 At most, D1's arrangement may only measure the *height displacement* between the ribs and the median cut surface. In the Board's view, this height displacement would vary from animal to animal, depending on its fatness. However, the Board is not aware of any

relationship between such a height displacement and an appropriate cutting path for cutting the spinal column from a half carcass, either in terms of where to start a cut in the lateral direction along the median plane or at what angle. Nor has the appellant-opponent explained that such a relationship exists. Therefore, even if this height displacement data might be available, the skilled person would not use it as an alternative or improved way to determine a a cutting path for removing the animal's spinal column.

The appellant-opponent has also argued in its appeal grounds (see section 6.5), that it would be a matter of routine for the skilled person to alter the position of the camera in D1 (see column 5, lines 28 to 30 with figure 4, reference 11). Whether or not this would be routine, doing so would merely generate a different set of relative displacement data between the median cut plane and part of the inside of the carcass. Whilst this data *could* perhaps be obtained, this leaves open the same question as discussed above, namely as to how such relative displacement data could be used to define a cutting path. Therefore, the argument is moot.

For these reasons, the Board considers that the combination of D1 and the skilled person's general knowledge does not take away the inventive step of claim 1.

7. *New Main* request, inventive step starting from D7 with D6

7.1 D7 (see paragraph bridging columns 1 and 2) discloses an optical detecting system which images the spinal column in order to determine a cutting path. D6 (see abstract), on the other hand, discloses a purely

mechanical measuring system for generating signals that control a cutting device that cuts the spinal column of a half carcass. On the face of it, the two systems, one optical, the other mechanical, appear to be so different if not incompatible that their integration as a new measuring system wholly based on optical imaging would appear to demand more than routine skills of the skilled person. Nor can the patent itself be invoked to prove any interchangeability of mechanical and optical systems as the appellant-opponent has argued, as such an approach is manifestly the application of hindsight.

7.2 Furthermore, the Board has shown that D7 does not disclose determining an anatomical feature according to claim feature F4. It follows that D7 also does not disclose to define a cutting path passing through a position a predetermined offset from such an anatomical feature. In the Board's view, D6 also does not disclose this step, even in a mechanical way.

7.3 As explained in D6, page 4, lines 4 to 6 and lines 21 to 33 with figure 1, a half carcass is held against a block of a conveyor unit 15 so that its upper facing median surface is pressed against the lower surface 6 of the clamping block and the curved inner side of the spinal column can rest on an oblique surface 8. The arrangement comprises a measurement arrangement to compensate depth variations along the median cut surface that uses a measuring shoe 21 which, as shown in figure 1, is pressed against a concavity near the rib heads. By means of a sensor 29 the horizontal position of the shoe 21 is measured and this is used to adjust the height of the rib-top saw 32 (see page 5, line 11 to page 6, line 3) as it moves along the length of the carcass half (in the direction of the spine).

The measuring shoe 21 has a fixed vertical displacement from the lower surface 6 of the block (see page 4, lines 26 to 27). Therefore, whilst, in an ideal world, the shoe 21 may well be arranged to probe into a an anatomical structure according to feature F4 (a concavity related to the joint of rib heads/vertebrae or below the rib heads or the rib heads themselves), this is not to say it is locating such an anatomical structure as the claim requires. By way of example, if the median plane cut is not ideal, the probe might not even lie in any concavity or be at the height of a rib head. In other words, the measuring shoe does not actively *locate* a particular anatomical structure according to feature F4 as claim 1 requires but does no more than measure the horizontal extent of whatever lies at a fixed depth below the surface 6 of the clamping block.

7.4 Therefore, even if D6's measuring shoe device could be implemented optically, however obvious the combination of D7 and D6 might be, it would not result in a method having the step of *locating* an anatomical structure according to feature F4, and using this to define the cutting path.

7.5 For all these reasons, the combination of D7 and D6 does not take away inventive step of claim 1.

8. *New Main* request, claim 1 (as maintained), inventive step starting from D7 with the skilled person's general knowledge

8.1 In its appeal grounds (see points 6.8 and 6.9), the appellant-opponent argued that, starting from D7 with its general teaching to optically detect the spinal column (paragraph bridging columns 1 and 2), it would

be obvious for the skilled person to, amongst other things, locate an anatomical structure as defined in claim feature F4 and to use this to define the cutting path because any anatomical structure can be chosen. The argument is predicated on the idea that the patent does not explain any particular advantage in using the structures listed in feature F4 to define a cutting path, so they amount to an arbitrary choice devoid of any technical effect and so cannot be taken into account when assessing inventive step. The Board disagrees.

The patent (see published specification, paragraphs [0002] to [0003]) explains a problem encountered when [only] the spinal canal is used to define a cutting path, in particular where an imperfect splitting along the median plane results in the spinal canal not being detectable. Paragraphs [0006] and [0007] set out the aim of providing an alternative solution that solves these problems.

The summary of the invention (see paragraphs [0009], [0010] and [0014]) emphasises that the anatomical structure used to define the cutting path is one located on the *ventral side* of the half carcass. In the Board's view, whilst not explicitly stated in the patent, following on from its analysis of the prior art, it is implicit that this choice is deliberately made to overcome inaccuracies introduced by defining a cutting path solely on the basis of features within the median cut surface. It follows that the features listed in feature F4, all being on the ventral side of the half carcass, are not arbitrarily chosen. Therefore, the argument of the appellant-opponent (lack of inventive step starting from D7 and the skilled person's general knowledge) is moot.

8.2 *New Main Request*, claim 1 (as maintained), inventive step starting from D7 combined with D1

As has already been explained, neither D1 nor D7 disclose the feature F2.3.2 of defining a cutting path to pass - with an offset - through the position of a located *anatomical structure* as listed in feature F4. Therefore, however obvious it might be to combine the teachings of D1 and D7, the combination would not result in these features. Therefore, D7 with D1 does not take away inventive step of claim 1.

9. *New Main* request, added subject matter and clarity

The *New Main* request deletes those claims of the previous main request against which objections of these categories had been raised. Therefore, the Board concludes that the request neither adds subject matter extending beyond the application as filed, nor lacks clarity. Indeed this was acknowledged by the appellant opponent.

10. *New Main* request, extension of protection conferred, Article 123(3) EPC

In its grounds of appeal, the appellant-opponent raised an objection that claim 1 as maintained extended the protection conferred. In its communication (see section 7) the Board set out its preliminary opinion that this was not the case. The Board wrote as follows:

"*7. Extension of protection conferred, Article 123(3) EPC*

The appellant-opponent contends that the list of alternative geometrical features of feature F5, including the spinous process and spinal canal are neither features of the median cut process nor of the ventral side of the half-carcass, as feature F.2.2.1 requires. This, so the argument goes, means that the extent of protection has been extended. The Board disagrees. The combination of features F2.2.1 and F5 was already present in the combination of granted claims 1 and 7. Therefore, the skilled person would have read granted claim 1 with the understanding that the geometrical feature includes, that is can be limited to, any item of the specific list in granted claim 7, whether or not some of these may have appeared contradictory with granted claim 1's broader statement about the geometrical feature. Therefore, the Board does not consider that present claim 1 constitutes an extension of protection conferred".

Neither in written proceedings nor at the oral proceedings did the appellant-opponent comment on this aspect of the communication, which likewise applies to the *New Main* request because it has the same claim 1. In the absence of any such comments, the Board sees no reason to deviate from its preliminary opinion on this matter. Therefore, it confirms that claim 1 does not extend the protection conferred.

11. *New Main* request, sufficiency of disclosure, Article 83 EPC

11.1 In its written submissions (grounds of appeal and letter of 2 June 2023), the appellant-opponent raised a number of objections of insufficiency of disclosure against claims 1 to 3 of the patent as upheld (the main request on file at the start of the oral proceedings

before the Board). In the *New Main* request, claims 2 and 3 of the previous main request are deleted, so only the objections raised against claim 1 are relevant for this decision.

11.2 In its communication in preparation for the oral proceedings (see section 8, points 8.1 to 8.4), the Board gave its preliminary opinion that the invention according to claim 1 as maintained, which is the same as claim 1 of the *New Main* request, was sufficiently disclosed. The Board wrote as follows:

"8. Sufficiency of disclosure

In the Board's view, the invention is sufficiently disclosed.

8.1 Determining the anatomical structure and characteristic geometrical feature

In the Board's view, the skilled person will be able to identify the particular anatomical structures and geometrical features listed in the claim, either from the patent itself or from their general knowledge of anatomy together with their general knowledge of optical sensors for three dimensional objects. In this respect, although it is true that the claim is not limited to a particular animal, the skilled person will know what animal they are dealing with, and be familiar with its specific anatomy when carrying out the invention. Therefore, they will be able to adapt the method both in terms of geometry and scale as appropriate, for example by choosing an appropriate anatomical structure and offsets, without undue burden. By the same token they will know what part of the spinal column they are removing. The Board notes that

this can include training by an operator (see published patent specification, [0011]) which seems to provide at least one way of generating such data. Therefore, the Board considers that the skilled person, supported by their general knowledge, is given adequate information in the patent as to how to remove the spinal column in accordance with the invention.

8.2 Alleged ambiguity preventing the skilled person from achieving the promise of the invention

The appellant-opponent has also argued that the claimed subject matter does not solve the problem mentioned in paragraphs [0003] and [0007] of the published patent specification, and thus raises an ambiguity as to whether the invention as claimed achieves this goal. In the present case, first and foremost the claim is to a method of removing a spinal column, and the claim defines in broad terms how to achieve this, whether or not it is superior to prior art arrangements. Therefore, the Board does not see this as preventing the skilled person from carrying out the invention.

8.3 Alleged non-working embodiment

As the opposition division pointed out (cf. impugned decision, reasons 3.3 point 3), the invention as claimed relates to removing, at least partly, the spinal column from an animal's half carcass. Such a half carcass will always have ribs, whatever the animal (see for example D3, page 4 and figure 6.5). In the Board's view, the anatomical structures listed in feature F4 all refer to ribs, and therefore the skilled person will be able to carry out the invention as claimed. Moreover, at least some of the structures (concavities for example) extend beyond the region of

the spinal column where the ribs are located, for example those defined in relation to the transverse process (cf. features F2.1.1). Therefore, the skilled person, with their knowledge of the particular animal concerned, will be able to carry out the invention for parts of the spinal column beyond the thoracic vertebrae (cf. published patent specification, paragraph [0054]), however accurate or inaccurate this may be.

8.4 Alleged contradictions and large number of combinations to consider when carrying out the invention.

Furthermore, although the claim may have contradictions and several different alternative combinations of anatomical structure and geometrical feature, the Board considers that these appear more to be a matter of clarity than sufficiency of disclosure. Moreover, when reading the claim with the aim in mind of removing the spinal column from a half carcass (or at least part of it), the skilled person, with their general knowledge of anatomy, will be able to select suitable ones of the anatomical feature and geometrical feature to define a cutting path, without undue burden."

11.3 Neither in written proceedings nor at the oral proceedings did the appellant-opponent comment on sections 8.2 to 8.4 of the communication, nor does the Board see any reason to deviate from these aspects of its preliminary opinion, which apply equally to the *New Main* request.

11.4 At the oral proceedings before the Board, the appellant-opponent only commented on one aspect of the Board's communication (cf. section section 8.1), namely

that the patent gives no information as to how the skilled person should derive *suitable offsets* from the located anatomical structure and geometric feature and for them to do so would put an undue burden on them, rendering the invention insufficiently disclosed. The Board does not find this convincing, and rather stands by its conclusion in the last sentence of section 8.1. The reasons being as follows:

11.4.1 The patent explains (see published specification, paragraph [0003]) what constitutes a good cut when removing the spinal column, namely one that successfully removes enough bone yet without cutting away too much meat. The patent goes on to explain (see published specification, paragraphs [0011] and [0040]) one way of providing the offsets. In summary, an operator defines the first and second offsets from the anatomical structure and geometrical feature, evaluates the resulting cut and if necessary adjusts the offsets until they are satisfied with the cut. In the Board's view, the skilled person - an engineer working in the meat processing industry - would also be privy to the butchering knowledge of such an operator and be familiar with the anatomy of the relevant animals.

11.4.2 The skilled person would thus be able to conceive where a good cut would enter and exit the bone and what angles it would have to bone features of the carcass (cf. published patent specification, paragraphs [0042] and [0044] with figures 3 and 4). Deriving offsets to two positions along this conceptualised path relative to the geometric feature and anatomical structure boils down to a matter of routine measurement and arithmetic, rather than an overly burdensome task as the appellant has argued.

11.4.3 By iteratively repeating the process in a process of routine trial and error, the skilled person would be able to quickly improve on the initial offsets were they to prove unsatisfactory. Having derived suitable offsets for a particular animal, the Board holds that the skilled person would know how to store these values in a storage from their general knowledge, for later retrieval as *predetermined* offsets for making subsequent cuts. Therefore, from the information given in the patent and their general knowledge, the skilled person would be able to carry out this aspect of the invention without undue burden.

11.5 For all these reasons, the Board concludes that the skilled person would be able to carry out the invention according to claim 1 of the *New Main* request.

12. As the respondent proprietor no longer pursues the patent in the form upheld, the decision must be set aside. Taking into account the amendments made to the patent according to the respondent-proprietors' *New Main Request*, including amendments made to the description during the oral proceedings before the Board, the Board finds that the patent and the invention to which it relates meet the requirements of the European Patent Convention, Article 101(3)(a) EPC. Therefore the patent can be maintained according to the *New Main* request.

Order

For these reasons it is decided that:

1. **The decision under appeal is set aside.**
2. **The case is remitted to the department of first instance with the order to uphold the patent in the following version:**

Claims:
1 - 6 of the New Main Request filed during oral proceedings Before the Board;
Description:
Paragraphs 1-7, 9, 10, 18-23, 25-30, 32-36, 38, 40-42, 44, 48-65 of the patent specification,
Paragraphs 8, 11, 13, 14, 16, 17, 24, 37, 39, 43, 45-47 as filed during oral proceedings before the Opposition Division,
Paragraph 31 as filed during oral proceedings before the Board,
Drawings:
Figures : 1 - 8 of the patent specification.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated