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54 **Method and device for processing a carcass-part of slaughtered poultry.**

57 Device for processing a carcass-part of slaughtered poultry in a processing line, which carcass-part is supported on a carrier that moves in said processing line and comprises wing-joints, coracoids, a wishbone embodied with two legs that merge into each other at an acute angle, a keelbone, a membrana and/or ligament that connects at least to the wishbone and the keelbone, and naturally present meat including inner and outer fillets, which device comprises means for cutting and/or removing of said wishbone from the carcass-part. The device is arranged such that said means for cutting and/or removing of the wishbone is a knife equipped to cut the wishbone and disconnect it from the membrana and/or ligament with an increased yield of meat that is retained on the carcass-part. Preferably the knife is arranged with cutting side-edges and is further shaped with an S-shaped contour to arrange that when same is introduced between the legs of the wishbone up to its eventual position wherein the arrow's point of the knife approaches the part where the legs of the wishbone merge into each other, the cutting side-edges of the knife cut the legs of the wishbone at a position immediately adjacent to the wing-joints to which the wishbone connects.

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Dit octrooi is verleend ongeacht het bijgevoegde resultaat van het onderzoek naar de stand van de techniek en schriftelijke opinie. Het octrooischrift komt overeen met de oorspronkelijk ingediende stukken.

Method and device for processing a carcass-part of slaughtered poultry

The invention relates to a device for processing a carcass-part of slaughtered poultry in a processing line, which carcass-part is supported on a carrier that is movable in said processing line and comprises wing-joints, coracoids, a wishbone embodied with two legs that merge into each other at an acute angle, a keelbone, at least one membrana and/or ligament that connects to the wishbone and the remainder of the carcass-part, and naturally present meat including inner and outer fillets, which device comprises means for cutting and/or removing of said wishbone from the carcass-part.

Such a device is disclosed in EP-B- 1,430,780. In this known device a first straight wishbone blade is introduced into the carcass-part via a neck opening, whereby this first wishbone blade has a cutting edge, the contour of which substantially corresponds to the outer contour of the complete wishbone so that as it is introduced it cuts loose the side of the wishbone which faces the backside of the carcass-part. The first wishbone blade is substantially in the shape of an arrow. Further there are two second wishbone blades that are substantially perpendicular to the first wishbone blade and follow the outer contour of the wishbone and cut the wishbone of the carcass-part. To remove the wishbone from the carcass-part the first wishbone blade and the two second wishbone blades are together pulled back out of the carcass-part with a block forming part of the known device, whilst the wishbone remains enclosed between the block, the first wishbone blade and the two second wishbone blades.

The known device as disclosed in EP-B- 1,430,780 is disadvantageous in several respects, notably:

-the first wishbone blade leaves part of the legs of the wishbone attached to the wing-joints, and usually also cuts part of the wishbone at the position where the legs of the wishbone merge into each other. This results frequently in bone splinters remaining in the meat of the slaughtered poultry which deteriorates its commercial value;

-the parts of the legs of the wishbone that remain attached to the wing-joints also causes that meat remains connected to these parts which is not available for harvesting;

-the first wishbone blade may occasionally damage the

fillets of the carcass-part;

-removal of the wishbone from the carcass-part is occasionally cumbersome or even impossible without damaging the wishbone during its removal due to the tough structure of one of  
5 the membranas and/or ligaments that connects to the wishbone. It may also happen that valuable meat remains attached to the removed wishbone.

It is an object of the invention to reduce or remove one or more of the above mentioned problems, and to provide an  
10 alternative for the known device for processing a carcass-part, having advantages that will become apparent from the following disclosure.

The device for processing a carcass-part of slaughtered poultry in accordance with the invention is characterized by one  
15 or more of the appended claims.

Basically the device of the invention is characterized in that said means for cutting and/or removing of the wishbone are arranged to cut the wishbone and disconnect it from the at  
20 least one attaching membrana and/or ligament with an increased yield of meat that is retained on the carcass-part.

In a first aspect of the invention the device which has means for cutting and/or removing of said wishbone comprising a knife shaped in the form of an arrow, has the feature that the  
25 knife is arranged with cutting side-edges and is further provided with an S-shaped contour to arrange that when same is introduced between the legs of the wishbone up to a position wherein the arrow's point of the knife approaches the part where the legs of the wishbone merge into each other, the cutting  
30 side-edges of the knife are arranged to cut the legs of the wishbone at a position immediately adjacent to the wing-joints to which the wishbone connects. This avoids that part of the legs of the wishbone remain attached to the wing-joints, and also avoids cutting part of the wishbone at the position where  
35 its legs merge into each other. As a consequence bone splinters are avoided and the yield of meat that remains on the carcass-part is improved. Furthermore due to the S-shaped contour of the knife damage to the fillets on the carcass-part is also effectively prevented.

Commonly the device which is embodied with means for cutting  
40 and/or removing of said wishbone comprises not only an arrow-shaped knife that initially detaches a first membrana that

connects the wishbone to the remainder of the carcass, but also comprises two blades arranged on opposite sides of said knife, which blades are independently movable with respect to the knife and are arranged with forward edges for cutting the membrana  
5 and/or ligament that connects the wishbone to the keelbone. These blades can further act as an anvil for the knife, when said knife is operated for cutting the legs of the wishbone.

The invention is also embodied in a method for processing a carcass-part of slaughtered poultry in a processing line,  
10 wherein the carcass-part is supported on a carrier that is movable in said processing line, employing means for cutting and/or removing of said wishbone from the carcass-part, having the feature that the wishbone is first disconnected from a first membrana and/or ligament with which it attaches to the remainder of  
15 the carcass by introducing said means into the carcass and cut said membrana and/or ligament, and that thereafter said means are operated for cutting the legs of the wishbone, and eventually penetrating and/or cutting a further membrana that connects the wishbone to the keelbone.

In the embodiment wherein the said means are provided with an arrow-shaped knife that initially detaches the first membrana that connects the wishbone to the remainder of the carcass, and further comprises two blades arranged on opposite sides of said knife, it is preferred then that the blades are used to act as  
20 an anvil for the knife, when said knife is operated for cutting the legs of the wishbone.  
25

It is further desirable that the blades are eventually independently moved with respect to the knife and are embodied with forward edges for cutting the membrana and/or ligament that  
30 connects the wishbone to the keelbone.

In a second aspect of the invention which can be applied independently or together with the features according to the above-mentioned first aspect of the invention, the device has the feature that said forward cutting edges of the two blades  
35 are provided with forwardly projecting teeth. This tremendously improves the ease at which the two blades can cut through any membrana and/or ligament that in its natural connects to the wishbone, which makes it easy to remove the wishbone and avoids that valuable meat remains attached to said wishbone during its  
40 removal.

According to the invention it is preferable that the teeth

of the two blades that are arranged on opposite sides of the knife, intermesh when the blades are in a position wherein their cutting edges contact each other. This greatly improves the effectivity of the two cutting blades.

5           In still another aspect of the invention there are features that may be applied separate or together with the above-mentioned features and that relate to the usually present positioning unit for the wing-joints. In accordance with this aspect the positioning unit is arranged as a plate with receptacles for receiving therein the coracoids of the carcass-part whilst supporting said coracoids. This proves to be a very effective means of positioning the wing-joints which is beneficial for the process of removing the wishbone without leaving bone splinters in the meat on the carcass-part, and without undesirably removing  
10           meat together with the wishbone from the carcass-part.  
15

          In order to promote its proper functioning without compromising the versatility of the device of the invention said plate is preferably movable to and from the path that the carcass-part follows in the processing line.

20           The invention will hereinafter be further elucidated with reference to a preferred embodiment of the device of the invention and with reference to the drawing showing the features of the device as discussed hereinabove.

          Wherever in the figures of the drawing the same reference  
25           numerals are applied these numerals refer to the same parts.

          In the drawing:

          -figure 1 schematically shows the bones of a carcass-part of slaughtered poultry;

          -figure 2 shows schematically the operation of a device for  
30           processing the carcass-part of slaughtered poultry in accordance with the prior art;

          -figure 3 shows schematically the operation of a device for processing the carcass-part of slaughtered poultry in accordance with the invention;

35           -figure 4 shows a detailed view of the device of the invention pertaining to its knife and the two blades arranged on opposite sides of said knife;

          -figures 5A and 5B shows a side and frontal view of the positioning unit for the coracoids forming part of the device of  
40           the invention.

          Taking first reference to figure 1 the bone structure of a

carcass-part 1 is shown. Apart from the (not shown) meat that naturally is present, the carcass-part 1 has ribs 2 connected to the vertebral column 3. At the breast side the carcass-part 1 is provided with the breastbone crest 4 and the breastbone plate 5. Together they are referred to as the breastbone or keelbone 6. Further figure 1 shows that the carcass-part 1 is provided with the shoulder blade or scapula 10, and that there are wing-joints 8 on one side connected to the coracoids 7, and at the other side connected to the wishbone 9 having legs 9' and 9" that merge into each other at the point provided with reference 11.

The device of the invention is arranged for processing a carcass-part 1 of slaughtered poultry in a processing line, whereby the carcass-part 1 is supported on a carrier that moves in the processing line. Such an arrangement is in use in the poultry industry for decades now, so that the showing thereof in the drawing can be dispensed with. Any person with ordinary skill in the art is knowledgeable with the arrangement of carriers that move in a processing line for the purpose of processing carcass-parts that are supported by such carriers through the processing line, whilst said carcass-parts are being processed by devices arranged in or next to the processing line.

Figure 2 shows part of a device according to the prior art, which has cutting means 12 in the form of an arrow shaped as a straight blade that is used for cutting the legs 9', 9" of the wishbone 9. As the figure clearly shows, when the cutting means 12 is operated then the legs 9', 9" of the wishbone 9 are cut at some distance from the wing-joints 8, and furthermore the part 11 at which the legs 9', 9" merge into each other, is also cut by the blade 12. Both effects give rise to the possibility that bone splinters may remain in the meat of the carcass-part 1, and that unintentionally meat will connect to the parts of the wishbone 9 that remain attached to the wing-joints 8 and which parts will hinder the said harvesting of meat. The prior art device also gives rise to damage to the fillets that are supported by the carcass-part 1.

Figure 3 shows part of a device according to the invention, in particular it shows the knife 12 that is arranged to cut the legs 9', 9" of the wishbone 9 and disconnect the wishbone 9 from a first membrana and/or ligament 13 that is naturally attached to the wishbone, and which is further used in a manner that provides an increased yield of meat that is retained on the car-

carcass-part 1. Figure 3 shows that the knife 12 which is -  
consistent with the prior art- shaped in the form of an arrow  
(see also figure 4), is further provided with a S-shaped contour  
that is novel in the art. Due to this S-shaped contour it is  
5 possible to simultaneously attain a high yield of meat whilst  
avoiding damage to the fillets, whilst also preventing that any  
remainder of legs (and meat attaching thereto!) is left on the  
so-called wing-knuckle, and whilst further preventing that any  
bone splinters are caused to remain in the meat of the carcass,  
10 specifically in the fillets.

The knife 12 is provided with cutting side edges 12', 12"  
(see figure 4) which cause that when the knife 12 is introduced  
between the legs 9', 9" of the wishbone 9 and moved up to a po-  
sition wherein eventually the arrow's point 14 of the knife 12  
15 approaches the part 11 where the legs 9', 9" of the wishbone 9  
merge into each other, the said cutting side edges 12', 12" of  
the knife 12 cut the legs 9', 9" of the wishbone 9 at a position  
immediately adjacent to the wing-joints 8 to which the wishbone  
9 connects. The construction of the knife 12 of the device of  
20 the invention is thus beneficial to optimize the efficiency of  
the subsequent harvesting of meat from the carcass-part 1 with-  
out damaging the inner fillets, and further for avoiding that  
any bone splinters will remain in said meat after the removal of  
the wishbone 9 from the carcass-part 1.

25 With reference to figure 4 a detailed view is offered to  
knife 12 clearly showing its arrow shape with an arrow point 14.  
Further figure 4 shows that two blades 15, 16 are arranged on  
opposite sides of the knife 12. As a first function the blades  
15, 16 that are arranged on opposite sides of said knife 12, can  
30 be used to act as an anvil for the knife 12, when said knife is  
operated for cutting the legs 9', 9" of the wishbone 9. These  
blades 15, 16 are preferably further arranged to be independ-  
ently movable with respect to the knife 12, and are provided  
with forward edges 17, 18 that are intended for cutting any mem-  
brana and/or ligament that connects to the wishbone, in particu-  
35 lar the membrana 13 that connects the wishbone to the keelbone  
in order to completely release the wishbone 9 from the remainder  
of the carcass-part 1.

In accordance to what is shown in figure 4, the said for-  
40 ward edges 17, 18 of the blades 15, 16 are provided with for-  
wardly projecting teeth 20, 21. These teeth 20, 21 are very ef-

fective for initiating the cutting of any tough membrana and/or ligament 13, particularly the membrana connecting the wishbone to the keelbone. Preferably said teeth 20, 21 of the two blades 15, 16 intermesh when the blades 15, 16 are in a position  
5 wherein their cutting edges 17, 18 contact each other. This is entirely clear for the person skilled in the art; further showing thereof in the figures can therefore be dispensed with.

In figure 5A and figure 5B a positioning unit 22 for the wing-joints 8 is shown in a side view and frontal view respectively. This positioning unit 22 is arranged as a plate with re-  
10 ceptacles 23 that are best shown in figure 5B, for receiving therein the coracoids 7 of the carcass-part 1 whilst supporting said coracoids 7. The positioning unit 22 is usable for both breastcaps and fronthalves. In case fronthalves are processed,  
15 the unit 22 has a central receptacle 24 for receiving the poultry's neck therein. Figure 5A shows that the plate 22 is movable to and from the path (indicated with arrow A) that the carcass-part 1 follows in the processing line. The direction of movability of the plate 22 is indicated with the arrow B.

### CONCLUSIES

1. Inrichting voor het verwerken van een karkasdeel (1) van geslacht gevogelte in een bewerkingslijn, welk karkasdeel (1) gedragen wordt door een drager die beweegbaar is in genoemde bewerkingslijn, en vleugelgewrichten (8), ravenbeksbenen (7),  
5 een wensbeentje (9) voorzien van twee benen (9', 9'') die in elkaar onder een scherpe hoek (11) overgaan, een borstbeen (6), ten minste één membraan en/of pees (13) die ten minste met het wensbeentje is verbonden, en natuurlijk aanwezig vlees daaronder begrepen binnen- en buitenfilets omvat, welke inrichting midde-  
10 len (12, 15, 16) heeft voor het snijden en/of verwijderen van genoemd wensbeentje (9) van het karkasdeel (1), **met het kenmerk**, dat genoemde middelen (12, 15, 16) voor het snijden en/of verwijderen van het wensbeentje (9) ingericht zijn voor het snijden van het wensbeentje (9) en het losnemen van de ten minste ene  
15 membraan en/of pees (13) met een verhoogde opbrengst van vlees die achterblijft op het karkasdeel (1).

2. Inrichting volgens de aanhef van conclusie 1, waarin genoemde middelen (12, 15, 16) voor het snijden en/of verwijderen van genoemd wensbeentje (9) een mes (12) gevormd als een  
20 pijl omvatten, **met het kenmerk**, dat het mes (12) is uitgevoerd met snijdende zijranden (12', 12'') en verder gevormd is met een S-vormige contour voor het bewerkstelligen dat wanneer deze geïntroduceerd wordt tussen de benen (9', 9'') van het wensbeentje (9) tot aan een positie waarin de pijlpunt (14) van het mes (12)  
25 het deel benadert waar de benen (9', 9'') van het wensbeentje (9) in elkaar overgaan, de snijdende zijranden (12', 12'') van het mes (12) zodanig zijn ingericht dat deze de benen (9', 9'') van het wensbeentje (9) snijden op een positie die onmiddellijk naast de vleugelgewrichten (8) ligt waarmee het wensbeentje (9)  
30 verbonden is.

3. Inrichting volgens de aanhef van conclusie 1 of volgens conclusie 2, waarin genoemde middelen (12, 15, 16) voor het snijden en/of verwijderen van genoemd wensbeentje (9) een pijlvormig mes (12) omvatten en twee bladen (15, 16) die op tegenovergestelde zijden van genoemd mes (12) zijn opgesteld, welke  
35 bladen (15, 16) onafhankelijk beweegbaar zijn ten opzichte van het mes (12) en zijn ingericht met voorwaartse randen (17, 18) voor een snijbewerking, **met het kenmerk**, dat genoemde voorwaart-

se snijranden (17, 18) van de twee bladen (15, 16) voorzien zijn van voorwaarts uitstekende tanden (20, 21).

4. Inrichting volgens conclusie 3, **met het kenmerk**, dat de tanden (20, 21) van de twee bladen (15, 16) in elkaar grijpen  
5 wanneer de bladen (15, 16) in een positie zijn waarin hun snijranden (17, 18) met elkaar in contact staan.

5. Inrichting volgens een der conclusies 1-4, omvattende een positioneereenheid (22) voor de vleugelgewrichten (8),  
**met het kenmerk**, dat de positioneereenheid (22) is ingericht als  
10 een plaat met opnemers (23) voor het daarin ontvangen van de ravenbeksbenen (7) van het karkasdeel (1) bij het ondersteunen van genoemde ravenbeksbenen (7).

6. Inrichting volgens conclusie 5, **met het kenmerk**, dat genoemde plaat (22) beweegbaar is naar en van het pad (A) dat  
15 het karkasdeel (1) in de bewerkingslijn volgt.

7. Werkwijze voor het bewerken van een karkasdeel (1) van geslacht gevogelte in een bewerkingslijn, welk karkasdeel (1) gedragen wordt door een drager die beweegbaar is in genoemde bewerkingslijn, en vleugelgewrichten (8), ravenbeksbeenderen  
20 (7), een wensbeentje (9) uitgevoerd met twee benen (9', 9'') die in elkaar onder een scherpe hoek (11) overgaan, een borstbeen (6), ten minste één membraan en/of pees (13) die ten minste verbonden is met het wensbeentje (9), en natuurlijk aanwezig vlees waaronder begrepen binnen- en buitenfilets omvat, onder gebruik-  
25 making van middelen (12, 15, 16) voor het snijden en/of verwijderen van genoemd wensbeentje (9) van het karkasdeel (1), **met het kenmerk**, dat het wensbeentje (9) eerst losgenomen wordt van een eerste membraan en/of pees (13) met welke deze verbonden is met de rest van het karkas, door het inbrengen van genoemde mid-  
30 delen (12, 15, 16) in het karkas en het snijden van een eerste membraan en/of pees en dat daarna genoemde middelen (12, 15, 16) werkzaam zijn voor het snijden van de benen van het wensbeentje, en het penetreren en/of snijden van een verder membraan dat het wensbeen met het borstbeen verbindt.

35 8. Werkwijze volgens conclusie 7, **met het kenmerk**, dat genoemde middelen (12, 15, 16) uitgevoerd zijn met een pijlvormig mes (12) dat aanvankelijk het eerste membraan losneemt die het wensbeentje met de rest van het karkas verbindt, en verder twee bladen (15, 16) omvat die opgesteld zijn aan tegenoverliggende zijden van genoemd mes (12), welke bladen gebruikt worden  
40 als een aambeeld voor het mes (12) wanneer genoemd mes werkzaam

is voor het snijden van de benen (9', 9'') van het wensbeentje (9).

5           9. Werkwijze volgens conclusie 7 of 8, **met het kenmerk**, dat de bladen (15, 16) onafhankelijk bewogen worden met betrekking tot het mes (12) en uitgevoerd zijn met voorwaartse randen voor het snijden van het membraan en/of pees die het wensbeentje met het borstbeen verbindt.

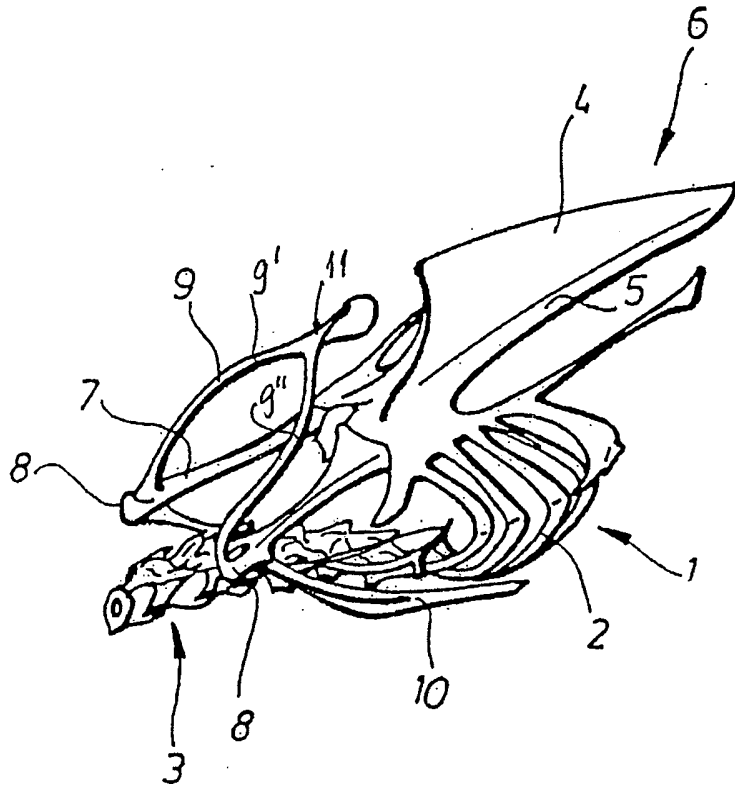


Fig. 1

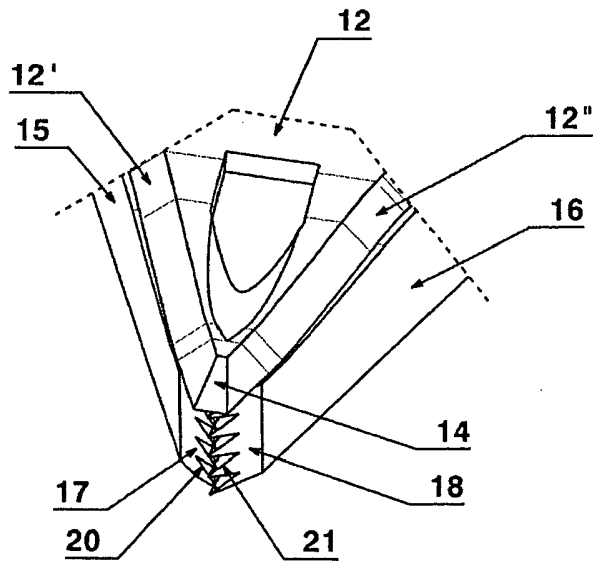


Fig. 4

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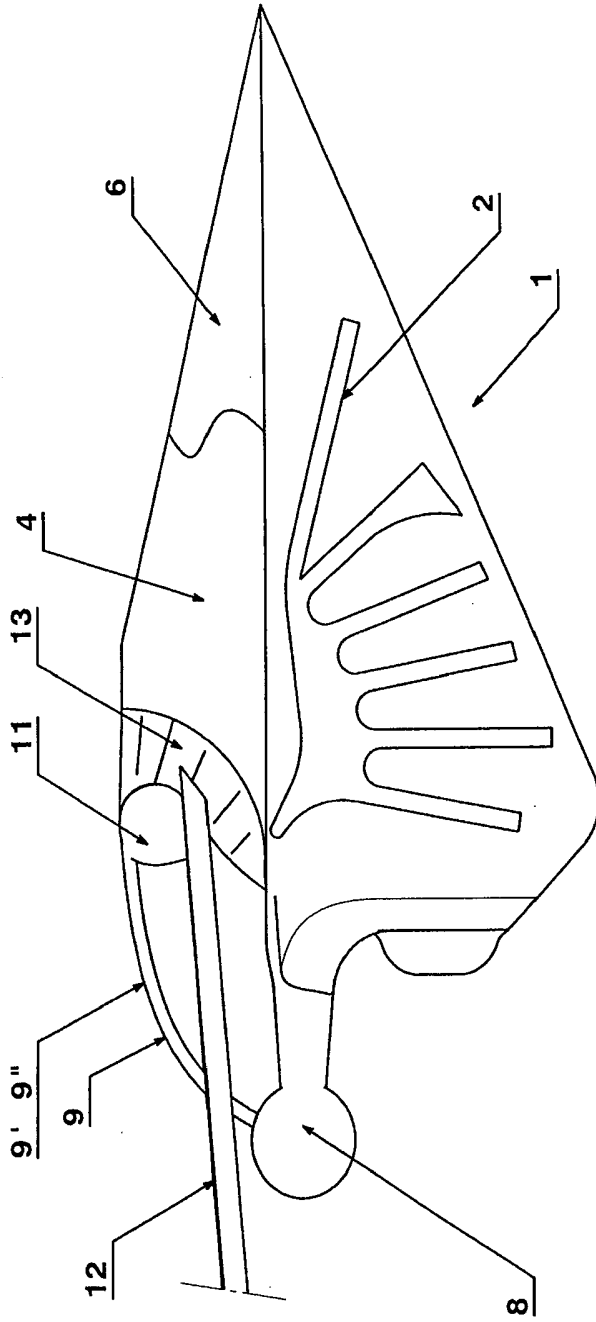


Fig. 2

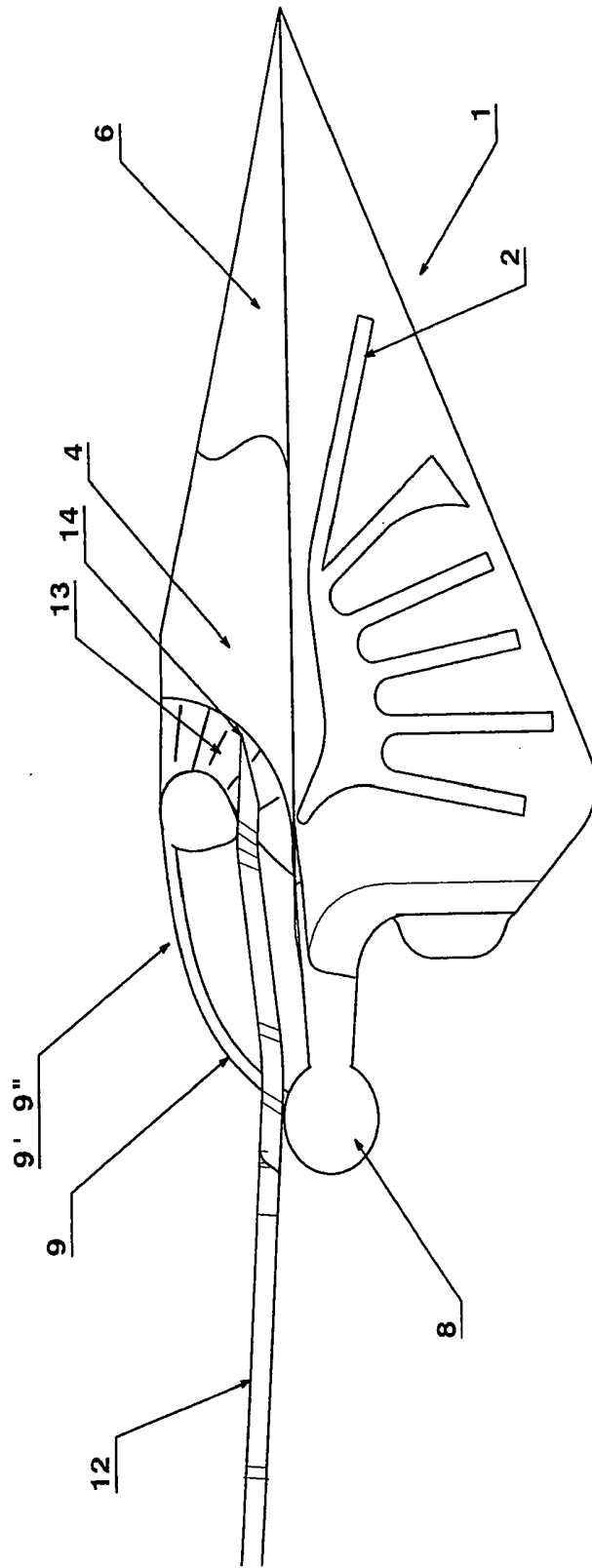


Fig. 3

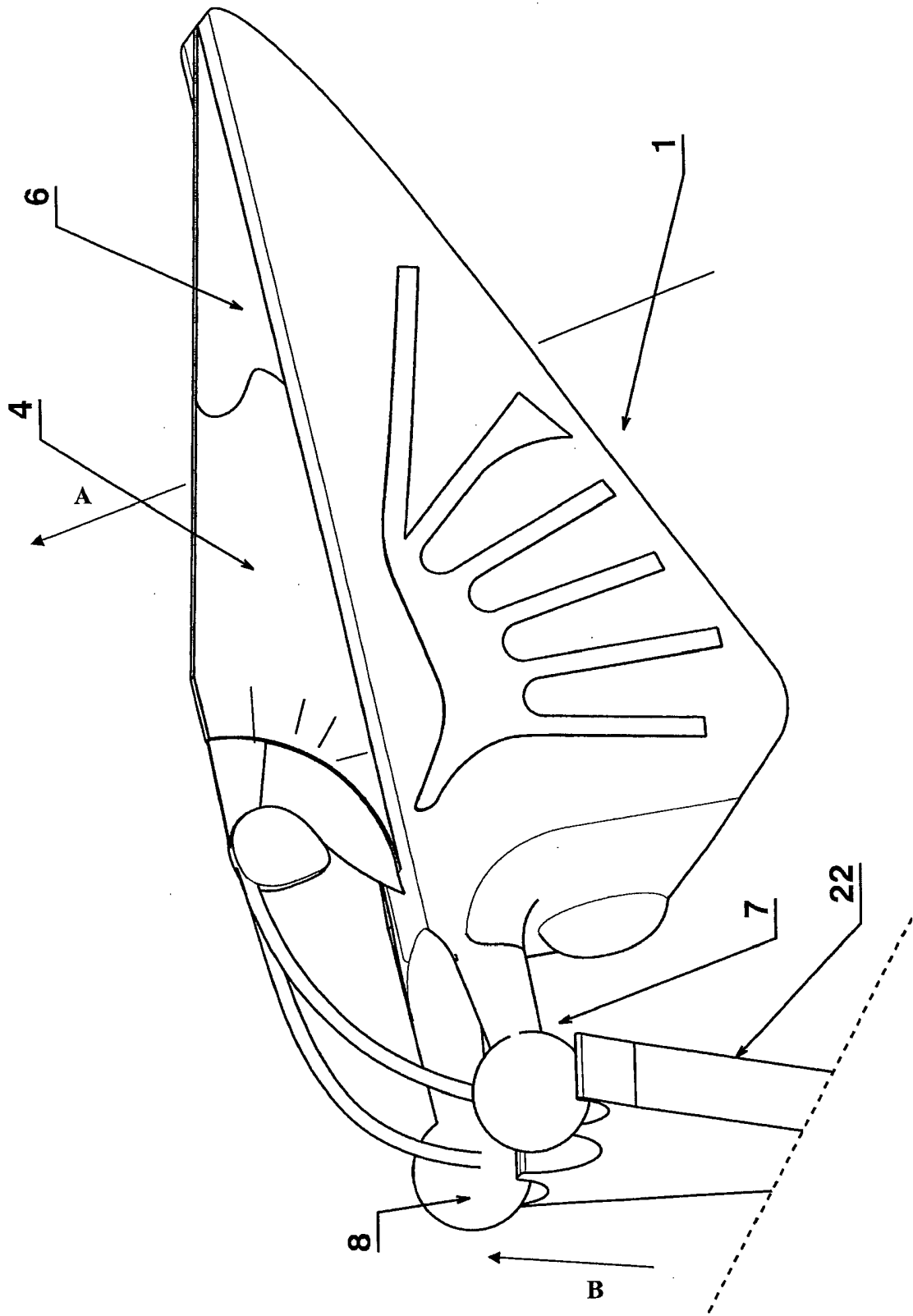


Fig 5a

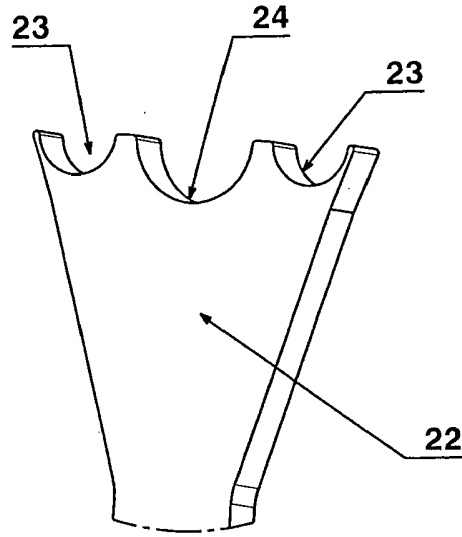


Fig. 5b

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# SAMENWERKINGSVERDRAG (PCT)

## RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE  <b>NL 48083-VB</b>
Nederlands aanvraag nr.  <b>2003384</b>	Indieningsdatum  <b>24-08-2009</b>
	Ingeroepen voorrangsdatum
Aanvrager (Naam)  <b>Meijn Food Processing Technology B.V.</b>	
Datum van het verzoek voor een onderzoek van internationaal type  <b>26-11-2009</b>	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr.  <b>SN 53302</b>
<b>I. CLASSIFICATIE VAN HET ONDERWERP</b> (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)	
Volgens de internationale classificatie (IPC) <b>A22C21/00</b>	
<b>II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK</b>	
Onderzochte minimumdocumentatie	
Classificatiesysteem	Classificatiesymbolen
<b>IPC8</b>	<b>A22C</b>
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen	
III. <input type="checkbox"/>	<b>GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES</b> (opmerkingen op aanvullingsblad)
IV. <input checked="" type="checkbox"/>	<b>GEBREK AAN EENHEID VAN UITVINDING</b> (opmerkingen op aanvullingsblad)

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek  
**NL 2003384**

<p><b>A. CLASSIFICATIE VAN HET ONDERWERP</b> INV. A22C21/00 ADD.</p> <p>Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.</p>											
<p><b>B. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK</b></p> <p>Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen) A22C</p> <p>Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen</p> <p>Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden) EPO-Internal</p>											
<p><b>C. VAN BELANG GEACHTE DOCUMENTEN</b></p> <table border="1"> <thead> <tr> <th>Categorie °</th> <th>Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages</th> <th>Van belang voor conclusie nr.</th> </tr> </thead> <tbody> <tr> <td>X,D</td> <td> <p>EENHEID VAN UITVINDING ONTBREEKT zie aanvullingsblad B ----- EP 1 430 780 A1 (STORK PMT [NL]) 23 juni 2004 (2004-06-23) in de aanvraag genoemd * samenvatting; conclusies 1-23; figuren 1-26 * * alinea's [0001] - [0207] *</p> </td> <td>1,7-9</td> </tr> <tr> <td>X</td> <td> <p>EP 1 454 531 A2 (MEYN FOOD PROC TECHNOLOGY BV [NL]) 8 september 2004 (2004-09-08) * samenvatting; conclusies 1-21; figuren 1-10 * * alinea's [0001] - [0063] *</p> <p style="text-align: center;">----- -/--</p> </td> <td>1</td> </tr> </tbody> </table>			Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.	X,D	<p>EENHEID VAN UITVINDING ONTBREEKT zie aanvullingsblad B ----- EP 1 430 780 A1 (STORK PMT [NL]) 23 juni 2004 (2004-06-23) in de aanvraag genoemd * samenvatting; conclusies 1-23; figuren 1-26 * * alinea's [0001] - [0207] *</p>	1,7-9	X	<p>EP 1 454 531 A2 (MEYN FOOD PROC TECHNOLOGY BV [NL]) 8 september 2004 (2004-09-08) * samenvatting; conclusies 1-21; figuren 1-10 * * alinea's [0001] - [0063] *</p> <p style="text-align: center;">----- -/--</p>	1
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<p><input checked="" type="checkbox"/> Verdere documenten worden vermeld in het vervolg van vak C.      <input checked="" type="checkbox"/> Leden van dezelfde octrooifamilie zijn vermeld in een bijlage</p>											
<p>° Speciale categorieën van aangehaalde documenten</p> <p>*A* niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft</p> <p>*D* in de octrooiaanvraag vermeld</p> <p>*E* eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven</p> <p>*L* om andere redenen vermelde literatuur</p> <p>*O* niet-schriftelijke stand van de techniek</p> <p>*P* tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur</p> <p>*T* na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwend is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding</p> <p>*X* de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur</p> <p>*Y* de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht</p> <p>*Z* lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie</p>											
<p>Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid</p> <p style="text-align: center;"><b>22 april 2010</b></p>		<p>Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type</p>									
<p>Naam en adres van de instantie</p> <p>European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016</p>		<p>De bevoegde ambtenaar</p> <p style="text-align: center;"><b>Rojo Galindo, Ángel</b></p>									

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek  
NL 2003384

C.(Vervolg). VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	US 4 827 570 A (SCHEIER DONALD J [US] ET AL) 9 mei 1989 (1989-05-09) * samenvatting; conclusies 1-14; figuren 1-26 * * kolom 1, regel 6 - kolom 12, regel 42 * -----	1
X	US 5 833 527 A (HAZENBROEK JACOBUS E [NL] ET AL) 10 november 1998 (1998-11-10) * samenvatting; conclusies 1-10; figuren 1-8 * * kolom 1, regel 12 - kolom 23, regel 64 * -----	1
X	EP 0 695 506 A2 (STORK PMT [NL]) 7 februari 1996 (1996-02-07) * samenvatting; conclusies 1-35; figuren 1-13c * * kolom 1, regel 3 - kolom 13, regel 4 * -----	1

## GEBREK AAN EENHEID VAN UITVINDING

Octrooiaanvraag Nr.:

SN 53302  
NL 2003384

### AANVULLINGSBLAD B

De Instantie belast met het uitvoeren van het onderzoek naar de stand van de techniek heeft vastgesteld dat deze aanvraag meerdere uitvindingen bevat, te weten:

1. conclusies: 1, 2, 4-9

Device and method for cutting the wishbone from a poultry carcass comprising an arrow-shaped knife further shaped with an S-shaped contour

---

2. conclusie: 3

Device for cutting the wishbone from a poultry carcass comprising an arrow-shaped knife with blades provided with forwardly projecting teeth

---

Het vooronderzoek werd tot het eerste onderwerp beperkt.

This Authority considers that there are two inventions covered by the claims above indicated. The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Article 82 EPC, are as follows:

1. Claims: 1, 2, 4-9

Device and method for cutting the wishbone from a poultry carcass comprising an arrow-shaped knife further shaped with an S-shaped contour

2. Claims: 3

Device for cutting the wishbone from a poultry carcass comprising an arrow-shaped knife with blades provided with forwardly projecting teeth  
The prior art has been identified as document EP 1 430 780 A1 (hereinafter referred to as D1) and discloses a device for processing a carcass-part comprising means for cutting and/or removing the wishbone from the carcass-part and disconnect it from at least one membrane or ligament, said cutting means comprising an arrow-shaped knife.

The special technical features as defined in Rule 44 EPC of the first group of claims, which are intended to be a contribution over the prior art as embodied in document D1, relate to the knife being further shaped with an S-shaped contour.

The problem solved by these special technical features can therefore be construed as avoiding parts of the legs of the wishbone remaining attached to the wing-joints and cutting part of the wishbone at the position where its legs merge into each other.

The special technical features of the second group of claims, which are intended to be a contribution over the prior art as embodied in document D1, relate to two blades arranged on opposite sides of the arrow-shaped knife, said blades being provided with forwardly projecting teeth in their cutting edges.

The problem solved by these special technical features can therefore be construed as improving the ease at which the two blades can cut any membrane or ligament connecting the wishbone.

No same or similar technical features as in the subject matter of the first group of claims can be determined and a different underlying problem is solved in each of the other group of claims. Moreover, it is clear that the two claimed inventions can be applied independently of

**GEBREK AAN EENHEID VAN UITVINDING**

Octrooiaanvraag Nr.:

SN 53302

NL 2003384

**AANVULLINGSBLAD B**

De Instantie belast met het uitvoeren van het onderzoek naar de stand van de techniek heeft vastgesteld dat deze aanvraag meerdere uitvindingen bevat, te weten:

each other. It appears therefore that no technical relationship between the two groups of claims exists involving one or more of the same or corresponding special technical features and the groups are not so linked as to form a single inventive concept.

**ONDERZOEKSRAPPORT BETREFFENDE HET  
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND  
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar  
de stand van de techniek

NL 2003384

In het rapport genoemd octrooigescrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
EP 1430780	A1	23-06-2004	AT 321456 T 15-04-2006
			AT 404063 T 15-08-2008
			BR 0305962 A 31-08-2004
			DE 60304280 T2 30-11-2006
			DK 1430780 T3 12-06-2006
			DK 1627567 T3 08-12-2008
			EP 1627567 A2 22-02-2006
			EP 1917859 A2 07-05-2008
			ES 2261875 T3 16-11-2006
			ES 2311926 T3 16-02-2009
			JP 2004201685 A 22-07-2004
			JP 2009232859 A 15-10-2009
			US 2006099900 A1 11-05-2006
			US 2010048114 A1 25-02-2010
			US 2004132395 A1 08-07-2004
US 2008254728 A1 16-10-2008			
EP 1454531	A2	08-09-2004	DE 602004006451 T2 17-01-2008
			DK 1454531 T3 24-09-2007
			DK 1787518 T3 22-03-2010
			EP 1787518 A2 23-05-2007
			NL 1022858 C2 16-09-2004
			US 2004235409 A1 25-11-2004
US 4827570	A	09-05-1989	AU 3039089 A 11-08-1989
			WO 8906494 A1 27-07-1989
US 5833527	A	10-11-1998	GEEN
EP 0695506	A2	07-02-1996	DE 69533683 D1 02-12-2004
			DE 69533683 T2 27-10-2005
			ES 2227537 T3 01-04-2005
			JP 8168334 A 02-07-1996
			NL 9401198 A 01-03-1996
			US 6007416 A 28-12-1999



WRITTEN OPINION

File No. SN53302	Filing date ( <i>day/month/year</i> ) 24.08.2009	Priority date ( <i>day/month/year</i> )	Application No. NL2003384
International Patent Classification (IPC) INV. A22C21/00			
Applicant Meijn Food Processing Technology B.V. te Oostzaan			

This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the application
- Box No. VIII Certain observations on the application

	Examiner Rojo Galindo, Ángel
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## WRITTEN OPINION

Application number  
NL2003384

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### Box No. 1 Basis of this opinion

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1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material:
    - on paper
    - in electronic form
  - c. time of filing/furnishing:
    - contained in the application as filed.
    - filed together with the application in electronic form.
    - furnished subsequently for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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The questions whether the claimed invention appears to be novel, to involve an inventive step, or to be industrially applicable have not been examined in respect of

the entire application

claims Nos. 3

because:

the said application, or the said claims Nos. relate to the following subject matter which does not require a search (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

no search report has been established for the whole application or for said claims Nos. 3

a meaningful opinion could not be formed as the sequence listing was either not available, or was not furnished in the international format (WIPO ST25).

a meaningful opinion could not be formed without the tables related to the sequence listings; or such tables were not available in electronic form.

See Supplemental Box for further details.

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**Box No. IV Lack of unity of invention**

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1. The requirement of unity of invention is not complied with for the following reasons:

**see separate sheet**

2. This report has been established in respect of the following parts of the application:

all parts.

the parts relating to claims Nos. (see Search Report)

## WRITTEN OPINION

Application number

NL2003384

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**Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty	Yes: Claims	2, 4-6
	No: Claims	1, 7-9
Inventive step	Yes: Claims	2, 4-6
	No: Claims	1, 7-9
Industrial applicability	Yes: Claims	1, 2, 4-9
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item III**

**Non- establishment of opinion with regard to novelty, inventive step and industrial applicability**

See Item IV: Lack of unity of invention

**Re Item IV**

**Lack of unity of invention**

This Authority considers that there are two inventions covered by the claims above indicated. The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Article 82 EPC, are as follows:

1. Claims: 1, 2, 4-9

Device and method for cutting the wishbone from a poultry carcass comprising an arrow-shaped knife further shaped with an S-shaped contour

2. Claims: 3

Device for cutting the wishbone from a poultry carcass comprising an arrow-shaped knife with blades provided with forwardly projecting teeth

The prior art has been identified as document EP 1 430 780 A1 (hereinafter referred to as D1) and discloses a device for processing a carcass-part comprising means for cutting and/or removing the wishbone from the carcass-part and disconnect it from at least one membrane or ligament, said cutting means comprising an arrow-shaped knife.

The special technical features as defined in Rule 44 EPC of the first group of claims, which are intended to be a contribution over the prior art as embodied in document D1, relate to the knife being further shaped with an S-shaped contour.

The problem solved by these special technical features can therefore be construed as avoiding parts of the legs of the wishbone remaining attached to the wing-joints and cutting part of the wishbone at the position where its legs merge into each other.

The special technical features of the second group of claims, which are intended to be a contribution over the prior art as embodied in document D1, relate to two blades arranged on opposite sides of the arrow-shaped knife, said blades being provided with forwardly projecting teeth in their cutting edges.

The problem solved by these special technical features can therefore be construed as improving the ease at which the two blades can cut any membrane or ligament connecting the wishbone.

No same or similar technical features as in the subject matter of the first group of claims can be determined and a different underlying problem is solved in each of the other group of claims. Moreover, it is clear that the two claimed inventions can be applied independently of each other. It appears therefore that no technical relationship between the two groups of claims exists involving one or more of the same or corresponding special technical features and the groups are not so linked as to form a single inventive concept.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

- 1 Reference is made to the following document:
  - D1 EP 1 430 780 A1 (STORK PMT [NL]) 23 June 2004 (2004-06-23) cited in the application
  
- 2 Claim 1 does not meet the requirement of clarity because the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved (increasing the yield of meat that is retained on the carcass-part), which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.
  
- 3 Furthermore, the above-mentioned lack of clarity notwithstanding, the subject-matter of claims 1, 7, 8 and 9 is not new, and the criteria of patentability are therefore not met.
  - 3.1 D1 discloses (the references in parenthesis apply to this document) a device for processing a carcass part of slaughtered poultry comprising means (21,31) for cutting and/or removing the wishbone and disconnect it from at least one membrane and/or ligament (par. [0105] to [0108]).  
The subject - matter of claim 1 is therefore not new.
  - 3.2 D1 is further discloses a method for processing a carcass-part in which means are employed for cutting and/or removing the wishbone from said carcass-part, first disconnecting it from a first membrane and/ or ligament and

thereafter cutting the legs of the wishbone and penetrating and/or cutting a further membrane connecting the wishbone to the keelbone (par. [0105] to [0108]).

The subject-matter of claim 7 is therefore not new.

3.3 Dependent claims 8 and 9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty and/or inventive step.

4 The combination of the features of dependent claim 2 is neither known from, nor rendered obvious by, the available prior art. The S-shaped contour avoids parts of the legs of the wishbone remaining attached to the wing-joints and cutting part of the wishbone at the position where its legs merge into each other. Such contour is not disclosed combined with an arrow-shaped cutting tool in any other device for removing the wishbone from a poultry carcass.