(19) NL Octrooicentrum (11) **2002840**

(12)C **OCTROOI**

(21) Aanvraagnummer: **2002840**

(22) Aanvraag ingediend: **05.05.2009**

(51) Int.Cl.:
A22C 21/00 (2006.01) ***A22C 21/06*** (2006.01)

(43) Aanvraag gepubliceerd:
-

(47) Octrooi verleend:
08.11.2010

(45) Octrooischrift uitgegeven:
17.11.2010

(73) Octrooihouder(s):
Meyn Food Processing Technology B.V.
te Oostzaan.

(72) Uitvinder(s):
Remco Spijker te Oostzaan.
Tom Cornelis Jansen te Oostzaan.
Aloysius Christianus Maria van Steijn
te Oostzaan.

(74) Gemachtigde:
Drs. A. Kupecz c.s. te Amsterdam.

(54) **Apparatus for conveying organ packages to a processing station.**

(57) The invention relates to an apparatus for conveying organ packages to a processing station or stations, comprising a tray-conveyor having a series of trays movable in the conveying-direction, each tray arranged to receive an organ package, wherein the tray-conveyor has at least one discharge-station for the organ packages that are to be moved to the processing station or stations.

NL C 2002840

Apparatus for conveying organ packages to a processing station

The invention relates to an apparatus for conveying organ packages to a processing station or stations, comprising a tray-conveyor having a series of trays movable in the conveying-direction, each tray arranged to receive an organ package, wherein the tray-conveyor has at least one discharge-station for the organ packages that are to be moved to the processing station or stations.

Such an apparatus is known from the European patent specification EP-B-0 564 025 in the name of the applicant.

In the known apparatus organ packages, in particular entrails-packages, are conveyed in a tray conveyor to a processing station where the entrails-packages are separated into separate parts such as the intestines, the liver and heart with lungs.

The apparatus according to the preamble is used for conveying organ-packages in the trays from an inspection station where the organ packages are inspected for conformity with health regulations, to a processing station at which the organs of the organ-packages are harvested. The harvesting is carried out by harvesting machines that are usually placed in parallel to each other and perpendicular to the conveying direction of the apparatus in which the organ packages are conveyed.

It is desired that in the transfer of the organ packages at the discharge station for moving the packages to the processing station or stations, the orientation of the organ packages is maintained such that the organs which are to be harvested are lying at the top part of the organ packages. This promotes that the performance of the harvesting machine is optimal. It is therefore an object of the apparatus and method of the invention for conveying organ packages to a processing station or stations, and that the orientation of the organ packages is maintained during the transfer of the packages from the tray or trays to the processing station or stations.

In order to meet the objective of the invention and to realise further advantages as will become apparent from the following description, the apparatus and method of the invention is characterized by one or more of the appended claims.

In a first aspect of the invention the apparatus for conveying organ packages to a processing station or stations is

embodied with the feature that each discharge-station is provided with a sweeper-device for wiping an organ package out of the tray that passes the discharge-station.

The operation of the apparatus of the invention can thus be arranged such that at the at least one discharge station the organ package or packages are moved out of their tray or trays in a direction essentially transverse or perpendicular to the conveying direction. In this movement the orientation of the organ packages can easily be maintained and the optimal operation of the subsequent processing station or stations is thus effectively facilitated.

The method of the invention can be effectively carried out by embodying the apparatus such that the sweeper-device comprises a pusher-plate that in use moves at least in part transversely to the conveying direction and over or above the tray's supporting surface for the organ package supported by that tray. This secures the maintenance of the orientation of the organ packages and combines this objective with a reliable way of moving the organ packages in the discharge stations to the respective processing stations.

An appropriate manner of embodying the sweeper-device of the invention is by arranging it with a pusher-plate conveyor that is placed above the tray-conveyor and is arranged to cause that in use the pusher-plate moves along with the tray in its conveying direction in a predefined part of the conveying path of the tray. The predefined part of the conveying path of the tray lies approximately in the area occupied by the discharge station.

In order to secure that the apparatus of the invention is suitable for automated and continued use allowing that the apparatus can be applied to discharge a train of organ packages arriving at said discharge station, it is preferred that the pusher-plate conveyor is arranged to have the pusher-plate follow an endless path that is closed in itself, causing that the pusher-plate, while moving along with the tray in the predefined part of the tray's conveying path, initially comes down to the tray, makes a wiping movement over or above the tray transversely to the tray's conveying direction and eventually moves away from the tray upwardly to return to a position from which it can come down to a next tray.

In order to promote an effective operation on such a

train of continuously supplied organ packages it is further desirable that the sweeper-device of each discharge-station is synchronously driven with the tray-conveyor.

Still a further preferred embodiment of the apparatus of the invention is that the tray-conveyor is provided with a driving gear wheel having circumferential teeth that cooperate with rollers mounted circumferentially on a driven gear wheel that drives at least one sweeper-device. This provides an uncomplicated mechanical means for securing synchronism between the tray conveyor and the concerning discharge station which is reliable and cost effective. Alternatively the synchronised driving of the tray conveyor and the sweeper devices of the discharge stations can be secured by an electrical coupling between the two drive trains. This can be embodied in a manner which is obvious for the man skilled in the art. A further disclosure of such an electrical coupling can therefore be dispensed with.

In order to arrange that the sweeper-device can effect a transverse movement of the pusher-plate with respect to the conveying direction of the series of trays, it is preferable that the driving gear wheel of the tray-conveyor and the driven gear wheel of at the least one sweeper-device have shafts that are obliquely oriented with respect to each other.

A further preferred feature is that the sweeper-device of each discharge-station is movable up-and-down. In this manner it is easy to individually put a sweeper-device into operation by moving it down to the tray-conveyer or to put such a sweeper-device individually out of operation by moving it up and away from the tray-conveyor. This facilitates by-passing of the sweeper-device in case of rejected organ packages for instance stemming from rejected birds.

Another aspect of the invention which is applicable independent from any of the afore-mentioned features is that the trays are substantially identical and each tray has in the conveying direction of the tray-conveyor a leading upper edge and a trailing upper edge whereby the leading upper edge and the trailing upper edge of subsequent trays have different heights and are in an overlay arrangement so as to allow that the trailing edge of a first tray can move unhindered by the leading edge of a second tray that is adjacent to and following the first tray in the conveying direction. In this manner the tray-conveyor can easily be designed with left and right bends or

with altitude variations without being limited by the particular design of the trays. A further advantageous aspect of this arrangement is that it effectively prevents the clogging of dirt from the organ packages to remain stuck between neighbouring trays.

The invention will hereinafter be further elucidated with reference to a drawing of an exemplary embodiment of an apparatus for conveying organ packages in accordance with the invention.

In the drawing:

- Fig. 1 shows a perspective view of the most important parts of the apparatus of the invention;
- Fig. 2 shows two consecutive trays of a tray-conveyor forming part of the apparatus of the invention in a side-view; and
- Fig. 3 shows a top view of two consecutive trays of a tray conveyor forming part of the apparatus of the invention.

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

It is remarked that the figures are very schematic representations of respective parts of the apparatus of the invention showing only those parts that are essential for the understanding of the operation and construction of this apparatus, and leaving away those parts that are not deemed essential therefore.

With reference first to Fig. 1, the apparatus for conveying organ packages to a processing station or stations is generally denoted with reference numeral 1.

This apparatus 1 for conveying organ packages 5 to a processing station or stations comprises a tray-conveyor 2 having a series of trays 3 that are movable in the conveying direction 4. Each tray 3 is arranged to receive one organ package 5.

Further the tray conveyor 2 has in the shown embodiment a first discharge station 6 and a second discharge station 7. Each discharge station 6, 7 embodied with a chute 8, 9 for discharging organ packages 5 in the direction of (not shown) processing stations. The discharge of the organ packages 5 to the (not shown) processing stations is symbolised by the arrows 10.

In accordance with the invention each discharge station 6, 7 is provided with a sweeper-device 11 for wiping an organ

package 5 out of the tray 3 that passes the concerning discharge station 6, 7.

For this purpose each sweeper-device 11 comprises a pusher plate 12 that in use moves at least in part transversally to the conveying direction 4 and over or above a supporting surface 13 of the concerning tray 3 for the organ package 5.

The said pusher-plate 12 is supported by a pusher-plate conveyor 14 that is arranged above the tray-conveyor 2 and that is further arranged to cause that in use the pusher-plate 12 moves partly along with the tray 3 from which it will remove the organ package 5. The movement of the pusher-plate 12 along with the tray 3 occurs in the conveying direction 4 of the tray 3 over a limited but predefined part of the conveying path of the tray 3.

To this end the pusher-plate conveyor 14 is clearly shown in Fig. 1 to be arranged such that the pusher-plate 12 follows an endless path (part of which is symbolised by the arrow 15) that is closed in itself therewith effecting that the pusher-plate 12, while moving along with the tray 3 in the earlier mentioned predefined part of the tray's conveying path, initially comes down to the tray 3 approximately in the area indicated with reference numeral 16, then makes a wiping movement over or above the tray 3 which wiping movement is transverse to the conveying direction 4 of the tray 3, and which movement approximately ends when the pusher-plate 12 is near to the centre of the chute 8, 9. Thereafter the pusher-plate 12 moves away from the tray 3 in a sharp upward bend at numeral 17 to return eventually to a position from which it can come down again to a next tray 3.

Appropriately the sweeper-device 11 of each discharge station 6, 7 is synchronously driven with the tray conveyor 2. For this purpose the tray-conveyor 2 is provided with a driving gear wheel 18 having circumferential teeth 19 that cooperate with rollers 20 that are mounted circumferentially on a driven gear wheel 21 that in turn drives at least one sweeper-device 7. Rotation of the driven gear wheel 18 in accordance with the conveying direction 4 of the tray-conveyor 2 takes place in the direction of arrow 21, and consistent with its construction the rollers 20 that are mounted on the driven gear wheel 21 correspondingly effect rotation of said gear wheel 22 in the direction of arrow 23. Schematically it is shown that said gear wheel

22 is linked to the sweeper-device 7 to cause movement of the pusher-plate conveyor 14 in the direction of arrow 15. Due to this movement of the pusher-plate conveyor 14, the pusher-plate 12 follows an endless path that is closed in itself due to which the organ package 5 that arrives at the discharge station 7 supported by its tray 3, is moved out of said tray 3 in a direction essentially transverse or perpendicular to the conveying direction 4 of the tray-conveyor 2.

Fig. 1 further shows that the driving gear wheel 18 of the tray-conveyor 2 and the driven gear wheel 22 of the sweeper-device 7 have shafts 24 and 25 respectively, that are obliquely oriented with respect to each other. This makes an oblique placement of the pusher-plate conveyor 14 with respect to the tray conveyor 2 possible, wherein the continuous movement of the pusher-plate conveyor 14 causes the pusher-plate 12 to initially come down to the tray 3, makes then a wiping movement over or above the tray 3 transversely to the tray's conveying direction 4, and eventually moves away from the tray 3 in an upward motion to return to a position from which it can come down again to a next tray 3.

The shown sweeper-devices 11 of the discharge stations 6, 7 are preferably arranged to be movable up and down in order to allow that they can selectively be placed into operation or out of operation depending on whether the organ packages are from accepted or rejected birds.

With reference to both Fig. 2 and Fig. 3 a further aspect of the invention is shown concerning that the trays 3 are substantially identical and are arranged such that each tray 3 has in the conveying direction 4 of the tray-conveyor a leading upper edge 3′ and a trailing upper edge 3′′. Hereby the leading upper edge 3′ and the trailing upper edge 3′′ of subsequent trays 3 are embodied with different heights and are placed in an overlay arrangement as is shown in Fig. 2 and Fig. 3 so as to allow that the trailing edge 3′′ of a first tray can move unhindered by the leading edge 3′ of a second tray that is adjacent to and follows the first tray in the conveying direction 4.

CONCLUSIES

1. Inrichting (1) voor het verplaatsen van orgaanpakketten (5) naar een bewerkingsstation of -stations, omvattende een schotelband (2) met een serie schotels (3) die beweegbaar zijn in de bewegingsrichting (4), waarbij iedere schotel (3) is ingericht voor opname van een orgaanpakket (5), en waarin de schotelband (2) ten minste één afvoerstation (6, 7) voor de orgaanpakketten (5) heeft die gebracht dienen te worden naar het bewerkingsstation of -stations, **met het kenmerk**, dat ieder afvoerstation (6, 7) voorzien is van een veeginrichting (11) voor het uit de schotel (3) die het afvoerstation (6, 7) passeert, vegen van een orgaanpakket (5).

2. Inrichting volgens conclusie 1, **met het kenmerk**, dat de veeginrichting (11) een drukplaat (12) omvat welke in gebruik ten minste ten dele dwars op de bewegingsrichting (4) beweegt over of boven het schotelsteunoppervlak (13) voor het orgaanpakket (5).

3. Inrichting volgens conclusie 1 of 2, **met het kenmerk**, dat de veeginrichting (11) een drukplaatverplaatser (14) heeft die is geplaatst boven de schotelband (2), en ingericht is om te veroorzaken dat tijdens gebruik de drukplaat (12) met de schotel (3) in haar bewegingsrichting (4) meebeweegt over een vooraf bepaald deel van het bewegingspad van de schotel (3).

4. Inrichting volgens conclusie 3, **met het kenmerk**, dat de drukplaatverplaatser (14) ingericht is teneinde dat de drukplaat (12) een eindloos pad volgt die in zichzelf gesloten is en welke veroorzaakt dat de drukplaat (12) terwijl deze met de schotel (3) in het voorafbepaalde deel van het verplaatsingspad van de schotel meebeweegt, aanvankelijk afdaalt naar de schotel (3), vervolgens een veegbeweging boven of over de schotel (3) uitvoert dwars op de verplaatsingsrichting (4) van de schotel en uiteindelijk wegbeweegt van de schotel (3) in een opwaartse beweging teneinde terug te keren naar een positie vanuit welke deze kan neerdalen naar een volgende schotel (3).

5. Inrichting volgens een der conclusies 1-4, **met het kenmerk**, dat de veeginrichting (11) van ieder afvoerstation (6, 7) synchroon aangedreven is met de schotelband (2).

6. Inrichting volgens een der conclusies 1-5, **met het kenmerk**, dat de schotelband (2) voorzien is van een aandrijvend

tandwiel (18) voorzien van omtrekstanden (19) die samenwerken met rollen (20) die in de omtreksrichting van een aangedreven tandwiel (21) zijn aangebracht die ten minste één veeginrichting (11) aandrijft.

7. Inrichting volgens conclusie 6, **met het kenmerk**, dat het aandrijvende tandwiel (18) van de schotelband (2) en het aangedreven tandwiel (22) van de ten minste ene veeginrichting (11) schachten (24, 25) bezitten die schuin zijn opgesteld ten opzichte van elkaar.

8. Inrichting volgens een der conclusies 1-7, **met het kenmerk**, dat de veeginrichting (11) van het afvoerstation (6, 7) op en neer beweegbaar is.

9. Inrichting volgens een der conclusies 1-8, **met het kenmerk**, dat de schotels (3) in hoofdzaak identiek zijn en dat iedere schotel (3) in de bewegingsrichting (4) van de schotelband een leidende bovenrand (3') en een volgende bovenrand (3'') heeft, waarbij de leidende bovenrand (3') en de volgende bovenrand (3'') van navolgende schotels (3) verschillende hoogten bezitten en elkaar overlappen teneinde mogelijk te maken dat de volgende bovenrand (3'') van een eerst schotel vrij kan bewegen ten opzichte van de leidende bovenrand (3') van een tweede schotel die geplaatst is naast de eerste schotel en deze in de bewegingsrichting (4) volgt.

10. Werkwijze voor het verplaatsen van orgaanpakketten (5) naar een bewerkingsstation of -stations in een serie schotels (3) die in hun bewegingsrichting (4) voorbij ten minste één afvoerstation (6, 7) bewegen, waarbij iedere schotel (3) een orgaanpakket (5) houdt, en waarbij ter plaatse van het ten minste ene afvoerstation (6, 7) het orgaanpakket of -pakketten (5) vrijgegeven worden naar het bewerkingsstation of -stations, **met het kenmerk**, dat ter plaatse van het ten minste ene afvoerstation (6, 7) het orgaanpakket of -pakketten (5) uit hun schotel of schotels (3) worden bewogen in een richting die in hoofdzaak dwars of loodrecht is op de bewegingsrichting (4).

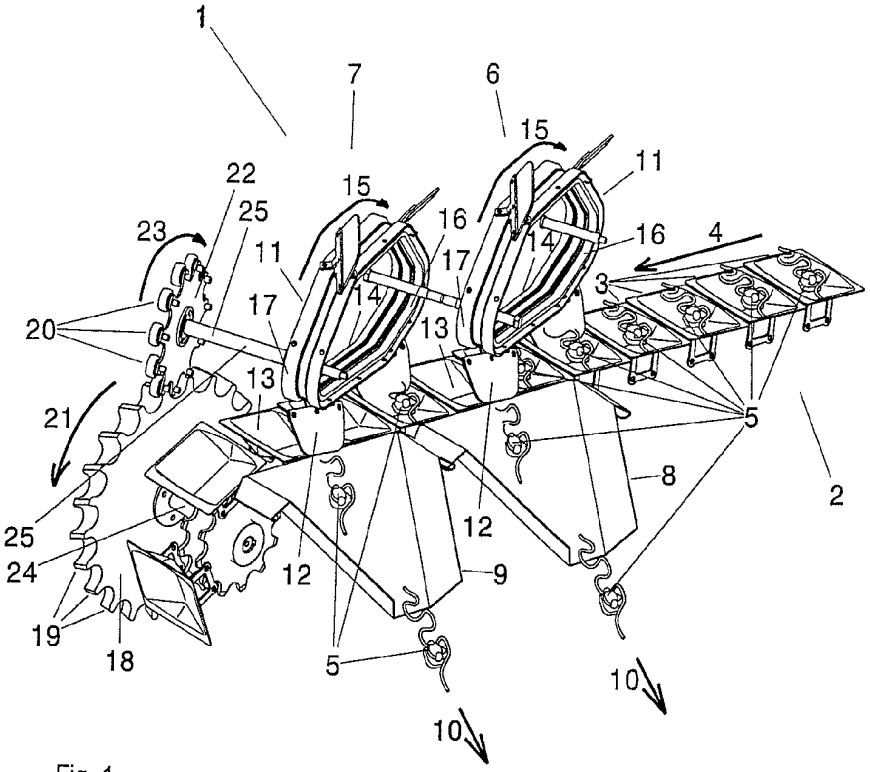

Fig. 1

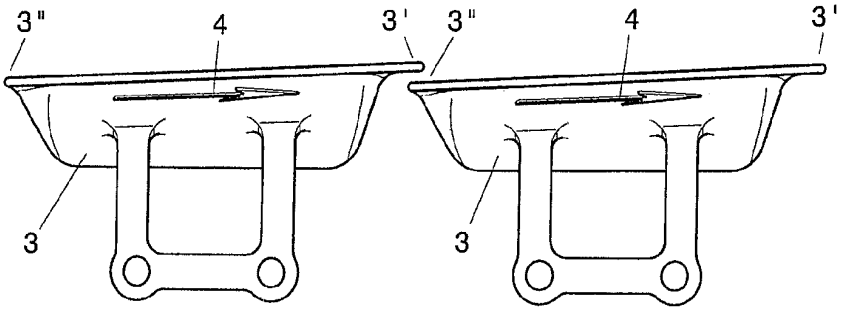

Fig.2

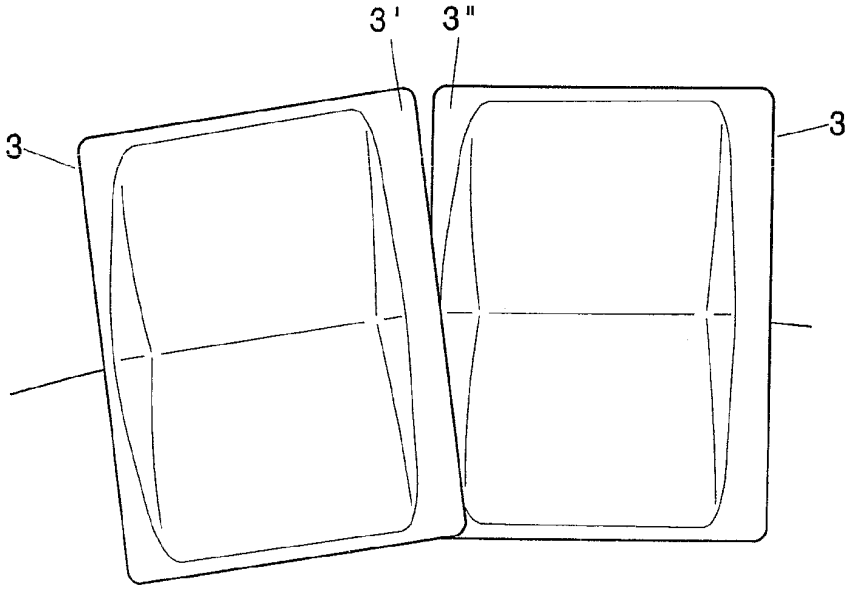

Fig. 3

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE
	NL47982-VB
Nederlands aanvraag nr. **2002840**	Indieningsdatum **05-05-2009**
	Ingeroepen voorrangsdatum

Aanvrager (Naam)

Meijn Food Processing Technologie

Datum van het verzoek voor een onderzoek van internationaal type	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr.
25-06-2009	**SN 52479**

I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)

Volgens de internationale classificatie (IPC)

A22C21/00 **A22C21/06**

II. ONDERZOCHTE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimumdocumentatie

Classificatiesysteem	Classificatiesymbolen
IPC8	**A22C**

Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

III.	☐ **GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES**	(opmerkingen op aanvullingsblad)
IV.	☐ **GEBREK AAN EENHEID VAN UITVINDING**	(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 2002840

A. CLASSIFICATIE VAN HET ONDERWERP
INV. A22C21/00 A22C21/06

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHTE GEBIEDEN VAN DE TECHNIEK

Onderzochte miminum documentatie (classificatie gevolgd door classificatiesymbolen)
A22C

Onderzochte andere documentatie dan de mimimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)
EPO-Internal

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	US 2006/183413 A1 (FLORINDO FRANK [ES] ET AL) 17 augustus 2006 (2006-08-17) * samenvatting; conclusies 1-7; figuren 1-4 * * alineas [0001] - [0033] *	1-2,5-6
X	WO 2008/094033 A1 (VANDERLANDE IND NEDERLAND [NL]; VAN DEN GOOR JACOBUS MARIE [NL]; VERTO) 7 augustus 2008 (2008-08-07) * samenvatting; conclusies 1-28; figuren 1-6 * * bladzijden 1-16 *	1,6
X	US 2 516 499 A (ALBRIGHT EDWARD J) 25 juli 1950 (1950-07-25) * kolom 1, regel 1 - kolom 6, regel 41; conclusies 1-6; figuren 1-7 *	10

-/--

[X] Verdere documenten worden vermeld in het vervolg van vak C.

[X] Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

° Speciale categorieën van aangehaalde documenten

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvrage vermeld

"E" eerdere octrooi(aanvrage), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvrage, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"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

"&" lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid	Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type
25 november 2009	

Naam en adres van de instantie	De bevoegde ambtenaar
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Rojo Galindo, Ángel

2

Formulier PCT/ISA/201 (tweede blad) (Januari 2004)

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 2002840

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 2 738 547 A (ZEBARTH RALPH S) 20 maart 1956 (1956-03-20) * kolom 1, regel 15 - kolom 5, regel 25; conclusie 1; figuren 1-5 * -----	10
A	DE 12 02 722 B (OTTO HAENSEL GES MIT BESCHRAEN) 7 oktober 1965 (1965-10-07) * kolom 1, regel 1 - kolom 5, regel 4; conclusies 1-11; figuren 1-7 * -----	1-10

Formulier PCT/ISA/201 (vervolg tweede blad) (Januari 2004)

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 2002840

In het rapport genoemd octrooigeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)		Datum van publicatie
US 2006183413	A1 17-08-2006	GEEN		
WO 2008094033	A1 07-08-2008	CA	2676571 A1	07-08-2008
		EP	2107993 A1	14-10-2009
		NL	1033313 C2	01-08-2008
US 2516499	A 25-07-1950	GEEN		
US 2738547	A 20-03-1956	GEEN		
DE 1202722	B 07-10-1965	GEEN		

OCTROOICENTRUM NEDERLAND

WRITTEN OPINION

File No.	Filing date *(day/month/year)*	Priority date *(day/month/year)*	Application No.
SN52479	05.05.2009		NL2002840

International Patent Classification (IPC)
INV. A22C21/00 A22C21/06

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

Application number

WRITTEN OPINION

NL2002840

Box No. I Basis of this opinion

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:

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

1. Statement

Novelty	Yes:	Claims	2-4, 6-9
	No:	Claims	1, 5, 10
Inventive step	Yes:	Claims	3-4, 7-9
	No:	Claims	1-2, 5-6, 10
Industrial applicability	Yes:	Claims	1-10
	No:	Claims	

2. Citations and explanations

see separate sheet

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 documents:

D1 US 2006/183413 A1 (FLORINDO FRANK [ES] ET AL) 17 augustus 2006 (2006-08-17)

D2 WO 2008/094033 A1 (VANDERLANDE IND NEDERLAND [NL]; VAN DEN GOOR JACOBUS MARIE [NL]; VERTO) 7 augustus 2008 (2008-08-07)

D3 US 2 516 499 A (ALBRIGHT EDWARD J) 25 juli 1950 (1950-07-25)

D4 US 2 738 547 A (ZEBARTH RALPH S) 20 maart 1956 (1956-03-20)

2 The present application does not meet the criteria of patentability, because the subject-matter of claims 1 and 10 is not new.

2.1 D1 discloses an apparatus comprising a tray-conveyor having a series of trays (3) movable in the conveying direction and at least one discharge-station (2), wherein each discharge station is provided with a sweeper device (1) for wiping packages out of the tray passing by the discharge station (par. [0019] and [0029]; claim 1; fig. 1).

Attention is also drawn to the teaching of document D2, which describes an apparatus also including a similar tray conveyor, and therefore also being considered to be pertinent to the novelty of claim 1.

The subject - matter of claim 1 is therefore not new.

2.2 D3 discloses a method for conveying organ packages to a processing station in a series of trays (32) that move in their conveying direction past at least one discharge station (47), wherein each tray holds an organ package (col. 4, l. 18-21), wherein at the discharge station the organ packages are released to the processing station, and wherein at the discharge station the organ packages are moved out of their trays in a direction essentially transverse or perpendicular to the conveying direction (col. 4, l. 21-28 and col. 5, l. 8-13; figs. 1 and 2).

Document D4 also discloses a similar conveying method.

The subject - matter of claim 10 is therefore not new.

3 Dependent claims 2, 5 and 6 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 3 is neither known from, nor rendered obvious by, the available prior art. The sweeper disclosed in the available documents does not correspond to the pusher-plate conveyor of claim 3. The movement of the sweepers disclosed in the prior art is not compatible with the movement accompanying the tray in its conveying direction.