



(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
03.04.2024 Bulletin 2024/14

(51) International Patent Classification (IPC):
B65D 30/00 ^(2006.01) **B65D 5/42** ^(2006.01)

(21) Application number: **21926399.3**

(52) Cooperative Patent Classification (CPC):
B65D 5/42; B65D 29/00

(22) Date of filing: **18.02.2021**

(86) International application number:
PCT/ES2021/070116

(87) International publication number:
WO 2022/175568 (25.08.2022 Gazette 2022/34)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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(54) **GROUPABLE BAG FOR PACKAGING FRESH PRODUCE**

(57) Disclosed is a bag that is produced continuously, forming a group of bags that occupy a minimum volume, the bags being individually detached from the group by means of precut lines, such that the bags are supported on dispensing means by means of upper and lateral sectors (10) delimited by precut lines (7), the tearing of which determines a handle (8) for the bag with the corresponding hole (9) thereof for inserting the fingers of a hand, the

bag being separated from the lateral sectors (10). The bags have a bottom determined by three parallel folding lines that allow a W shape to be obtained, such that the bag is flat when not in use, incorporating a double-wall reinforcement at the level of the handle. The bag could optionally be produced using three bands, two end paper bands and a transparent intermediate band, fastened parallel to one another.

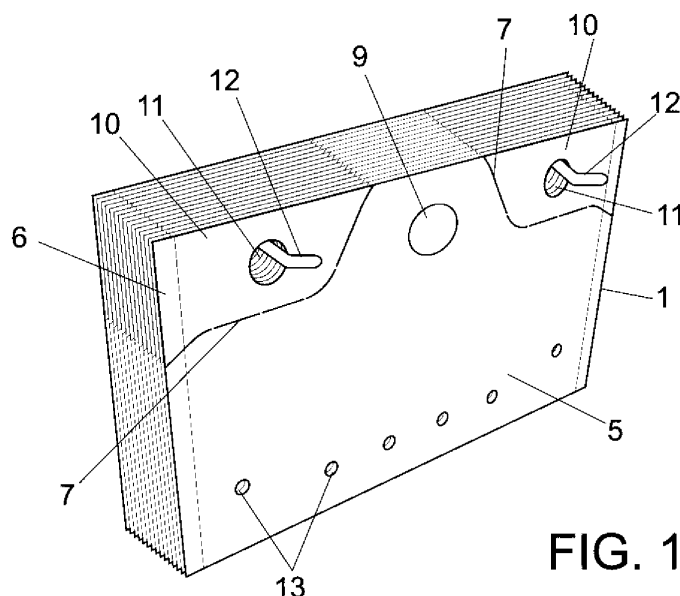


FIG. 1

Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a paper bag of the type used to pack fruit and vegetable produce, such as grapes, without excluding any other product, which are provided in supermarkets as well as in large retail stores.

[0002] The object of the invention is to provide a bag with a structure that makes it possible to supply said bag in single-block groups containing numerous bags that occupy a minimum volume, so that the bags are perfectly stabilised together, easy to remove, unfold and use, while featuring a simple structure that minimises manufacturing and handling costs.

BACKGROUND OF THE INVENTION

[0003] Although there are various types of paper bags for packing or transporting fruit and vegetable produce, these bags are "separate" from other bags of the same type, so when large volumes of bags are supplied, these tend to become separated from each other, occupying a larger space or causing one or more bags to accidentally fall when one of said bags is removed from the supporting mechanism used to supply them.

[0004] In order to address this drawback, there are known groupings of plastic bags joined together by thermal sealing, which include die-cut lines that make it possible to separate one bag from the single-piece block comprising all the bags, thus avoiding the aforementioned drawback.

[0005] However, the use of plastics entails a significant environmental problem, which is the reason the present invention aims to extrapolate this concept of a bag provision system to the field of paper bags, which does not have any systems of the kind.

DISCLOSURE OF THE INVENTION

[0006] The grouped bag for packing fruit and vegetable produce addresses the aforementioned drawback based on a simple but very effective solution.

[0007] In order to do so, the bag of the invention is created from a paper reel with continuous winding lines, folding lines and, lastly, die-cut lines applied on said paper reel, which produces the plurality of bags that is bound together on the same single-block stack from which the bags may be removed one at the time thanks to the pre-cut lines thereof.

[0008] More specifically, each bag is produced from a rectangular and transversal section of the reel that features three longitudinal folding lines, one intermediate line and two other lines on each side thereof, which define the side walls of the bag and a "W-shaped" foldable bottom, so that once the bottom has been folded into the "W-shape", an adhesive is applied on the borders of the

side walls, forming a body that is completely flat when it is not in use but that can be unfolded thanks to the "W-shaped" configuration of the bottom of the bag, so that the adhesive line featured on the side walls of the bag can be extended from both ends of the bag, or alternatively, the lines may extend on the lower section of the bag along converging folding lines that correspond with the upper and lower ends of the two longitudinal folding lines that define the side walls of the bag, so that the side walls of the bag feature a rectangular configuration with a lower section in the shape of an inverted isosceles trapezoid when the bag is not in use.

[0009] The upper borders of the mouth of the bag prolong into a rectangular section of the same height as the handle, with said borders folding over said mouth and glued using adhesive, thus defining a double wall handle, which increases the resistance of the bag.

[0010] In either of the two cases and in accordance with the essence of the invention, the side walls of the bags that correspond to the free border defining the mouth of the bag feature cutting and pre-cut lines in correspondence with the upper borders on the sides of the bag, so that tearing said lines defines a handle for the bag, which features an orifice for inserting the fingers of the hand, while the torn lateral sections define means for holding and dispensing the set of bags when they are not in use, featuring orifices for hanging the grouping of bags. This grouping of bags is possible thanks to the adhesive on the fixing areas, which makes it possible to join the bags together to form a grouping, both when the bags are being transported as well as when they are hanging to be dispensed.

[0011] At the same time, the bag comprises lines of small orifices for ventilation on the base and the lower border of the side walls thereof, with said lines of orifices coinciding with each other when the bag is folded.

[0012] Both the die-cut lines that define the handle, the orifices for hanging the stacked bags and the orifices for ventilation located on the lower section of the bag are created after the bag has already been formed and glued in order to reduce the number of cutting machines required.

[0013] Finally, it should be highlighted that according to a different embodiment of the invention, the bag could be produced by three reels placed in parallel, two paper reels on each side and a middle reel of a transparent material, which would be joined together longitudinally in order to keep the same structure of folding, gluing and die-cut lines to produce a bag comprising a transparent bottom and lower middle section of the side walls, while the upper middle section of the bag and the means for handling, grouping and separating the bag from the stack are made of paper.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] To complete the invention described below and in order to give a better understanding of the character-

istics of the invention, according to a preferred embodiment thereof, this description is accompanied by a set of drawings in which the figures described below have been represented, for purely illustrative purposes and should not be construed as limiting:

Figure 1.- Shows a perspective view of a grouping of bags for packing fruit and vegetable produce designed according to the object of the present invention.

Figure 2.- Shows a plan view of the machine of one of the bags that is the object of the invention.

Figure 3.- Shows a perspective view of the bag of figure 2 when it is in use.

Figure 3.- Shows an embodiment of the bag of the invention that comprises a transparent section.

Figure 5.- Shows, finally, a perspective view of the bag of figure 4 when it is in use.

PREFERRED EMBODIMENT OF THE INVENTION

[0015] In light of the drawings detailed above, and particularly figure 2, we can see that the bag of the invention is produced from a paper reel that comprises continuous transversal parallel die-cut lines (1) defining a rectangular section that gives form to the bag when said lines are cut, with the reel also comprising a longitudinal folding line (2) that has corresponding folding lines (3) on each side thereof, with said lines defining a "W-shaped" foldable bottom, as well as respective end longitudinal folding lines (4) defining rectangular sections that are glued and folded inwards over said lines in order to reinforce the mouth of the bag at the level of the handle.

[0016] In this way, the sections comprised between the folding lines (3 and 4) define the side walls (5) of the bag, with the side borders thereof bonding by means of glue lines (6) that can extend from one end of the bag to the other, as in the example of figure 1 comprising a rectangular configuration, or alternatively, comprising a converging change of direction (6') on the lower section thereof so that the side walls of the bag have a rectangular configuration with a lower section in the shape of an inverted isosceles trapezoid when the bag is not in use, as shown on figure 3.

[0017] In either of the two cases and once the mouth of the bag has been reinforced by means of gluing the section defined by the end longitudinal folding lines (4), said border will comprise pre-cut lines (7) in correspondence with the upper borders of the side of the bag, so that tearing said lines defines a handle (8) for the bag featuring an orifice (9) for inserting the fingers of the hand, while the torn lateral sections (10) define means for dispensing and grouping the set of bags when they are not in use, featuring orifices (11) for threading hanging ele-

ments (12) through the stack of bags. This grouping of bags is possible thanks to the adhesive on the lateral sections (10) for holding the bag, which makes it possible to join the bags together to form a grouping, both when the bags are being transported as well as when they are hanging from these orifices (11).

[0018] Finally, the bag comprises lines of small orifices for ventilation (13), both in correspondence with the base and the lower border of the side walls of the bag, which are ideal for preserving fruit and vegetable produce, so that said orifices are made with a single manoeuvre since they are lined up when the bag is folded, which is what also happens with the die-cut lines defining the double wall handle and the orifices for hanging the bag.

[0019] Lastly, according to the example embodiment of figures 4 and 5 and maintaining the same structure of the die-cut, folding and gluing lines described above, the continuous reel used to create the product could be formed by a triple reel, that is, three reels in parallel, with two end paper reels (P) and one middle reel made of a transparent material (C), which would be joined together longitudinally by means of adhesive, producing a bag comprising a transparent bottom and lower middle section of the side walls, while the upper middle section of the bag and the means for handling, grouping and separating the bag from the stack are made of paper.

[0020] It is worth clarifying that the set of bags designed according to figure 1 could be embodied without the lateral section (10), thus comprising a set of individual finished bags for immediate use.

Claims

1. Groupable bag for packing fresh produce, **characterised in that** it is comprised of a continuous sheet of paper with transversal die-cut lines (1) defining a rectangular section with a longitudinal folding line (2) that has corresponding folding lines (3) on each side thereof, with said lines defining a "W-shaped" foldable bottom, as well as respective end longitudinal folding lines (4) defining rectangular sections that are folded over said lines and glued using adhesive in order to define reinforcing elements, with the sections comprised between the folding lines (3 and 4) defining the side walls (5) of the bag and the side borders thereof bonding by means of glue lines (6), with the bag comprising pre-cut lines (7) in correspondence with the upper borders of the side walls of the bag, so that tearing said lines defines a handle (8) for the bag featuring an orifice (9) for inserting the fingers of the hand, with the lateral sections (10) featuring orifices (11) for threading through hanging elements (12) for distributing and separating the bags from a grouping of said bags.
2. Groupable bag for packing fresh produce according to claim 1, **characterised in that** the side borders

of the bag are bonded by means of glue lines (6) that can extend from one end of the side wall of the bag to the other.

3. Groupable bag for packing fresh produce according to claim 1, **characterised in that** the side borders of the bag are bonded by means of glue lines (6) that can extend from one end of the side wall of the bag to the other, comprising a converging change of direction (6') on the lower section thereof so that, when the bag is formed, the side walls thereof have a rectangular configuration with a lower section in the shape of an inverted isosceles trapezoid. 5
10
4. Groupable bag for packing fresh produce according to claim 1, **characterised in that** it comprises lines of small orifices for ventilation (13), both in correspondence with the base and the lower border of the side walls thereof. 15
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5. Groupable bag for packing fresh produce according to claim 1, **characterised in that** the continuous sheet used to create the product is a triple reel, with two end paper reels (P) and one middle reel made of a transparent material (C), which are joined together longitudinally by means of adhesive. 25
6. Groupable bag for packing fresh produce according to claim 1, **characterised in that** the bag is fixed to other bags of the same type using adhesive applied between the lateral sections (10) of each bag. 30

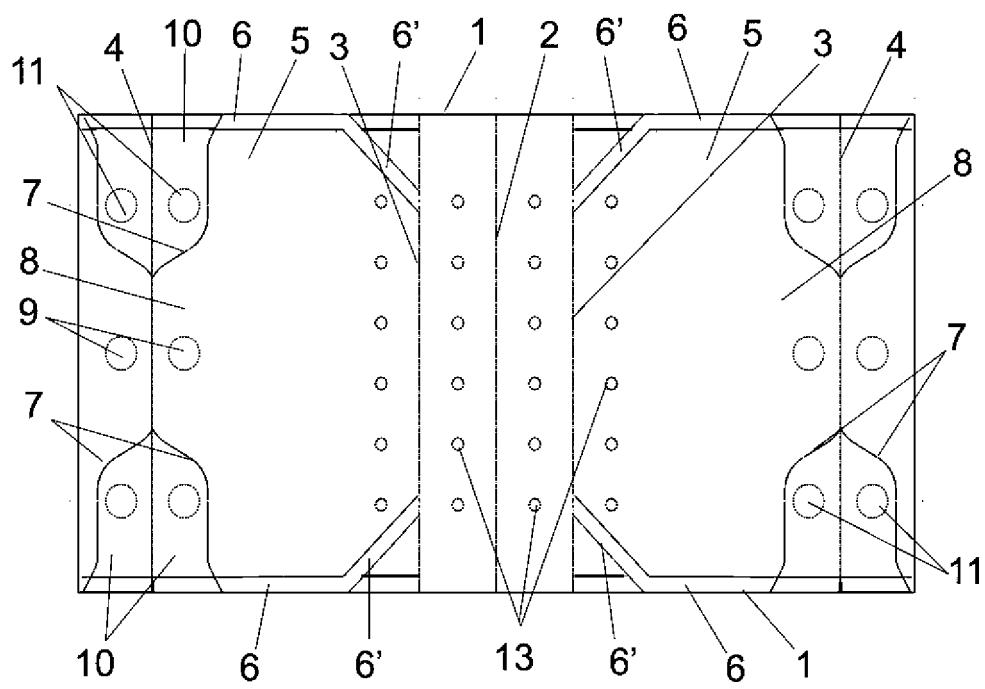
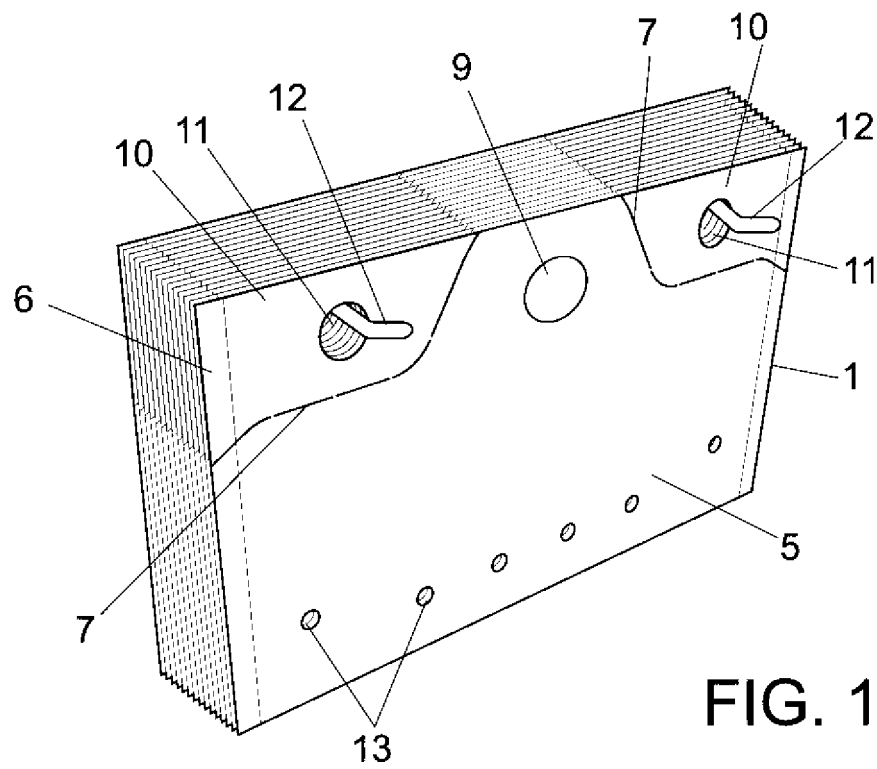
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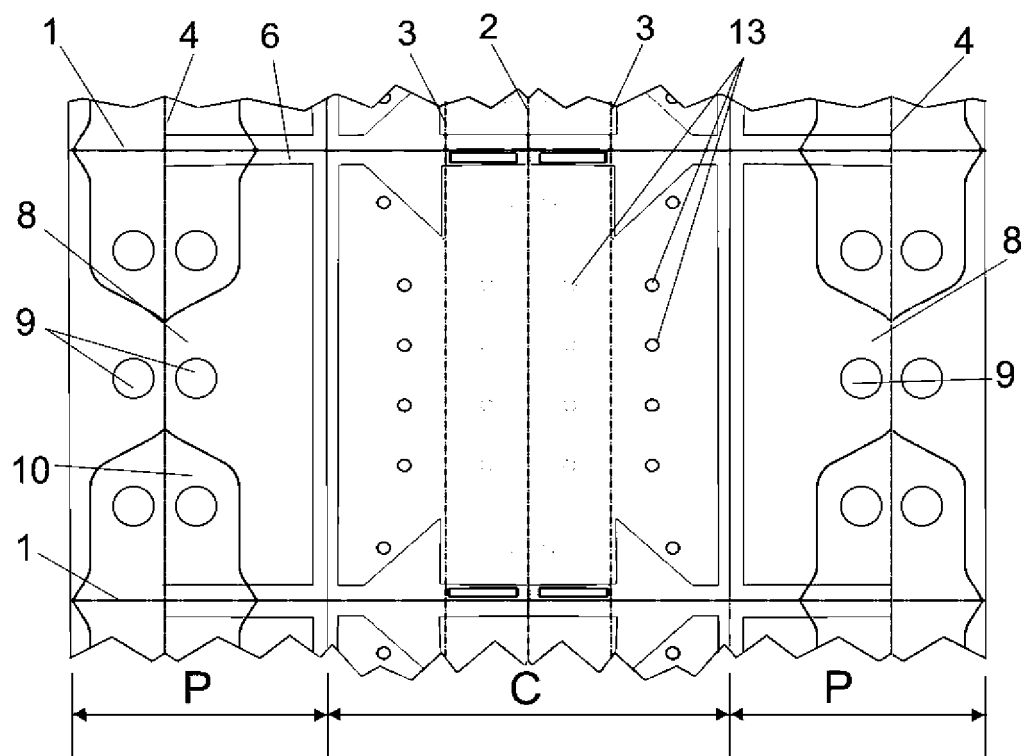
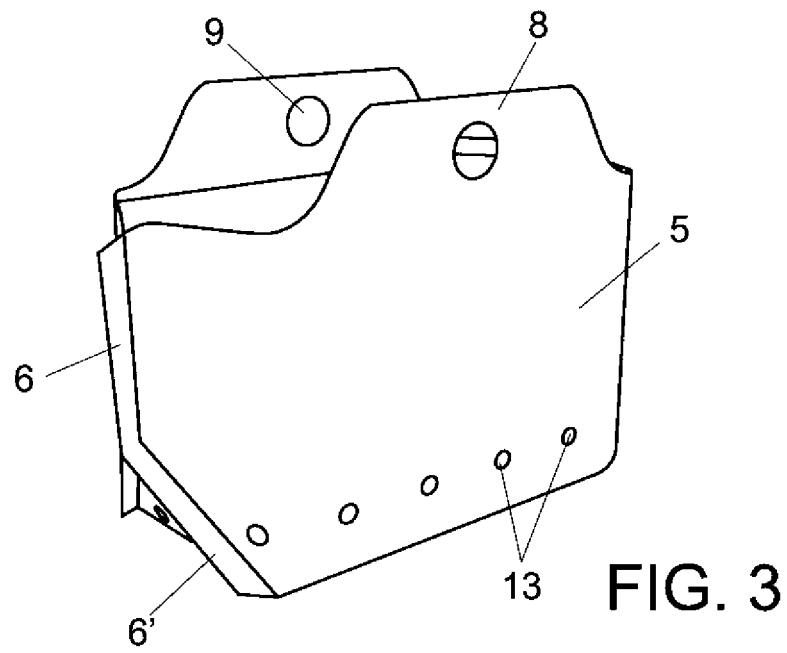
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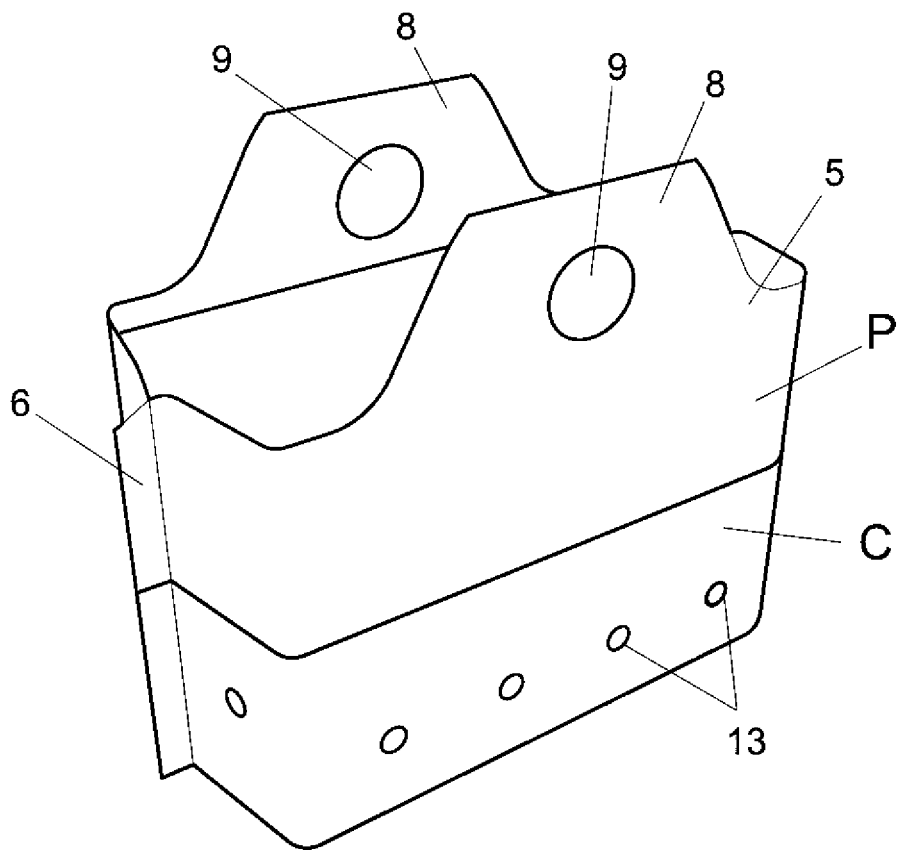


FIG. 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2021/070116

A. CLASSIFICATION OF SUBJECT MATTER

B65D30/00 (2006.01)**B65D5/42** (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, INVENES, WPI, INTERNET

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	US 4925438 A (WAGNER ROBERT) 15/05/1990, Description: col.5, lín. 24-col.11, lín.7 .Fig: 1-5, 10-12, 25-29	1-6
X	WO 2015147776 A1 (BEMIS CO INC) 01/10/2015, Description: párr.12-16.Fig: 2-3	1-6
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A	CH 647209 A5 (PAPYRIA AG) 15/01/1985, Abstract. Fig: 1-4	5

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance.	
"E" earlier document but published on or after the international filing date	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"O" document referring to an oral disclosure use, exhibition, or other means.	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents , such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search
03/11/2021Date of mailing of the international search report
(05/11/2021)

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INTERNATIONAL SEARCH REPORT

International application No.
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Form PCT/ISA/210 (continuation of second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

International application No.

Information on patent family members

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