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(54) **WINE BOTTLE AND METHOD**

WEINFLASCHE UND VERFAHREN

BOUTEILLE DE VIN ET PROCÉDÉ

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Description

[0001] The present invention relates to an elongate wine bottle with an internal space for holding wine therein, comprising a hollow and cylindrical body with a closed bottom and a cylindrical neck extending to an open outer end of the wine bottle remote from the bottom, wherein a thickness of a material from which the wine bottle is manufactured is the same over at least substantially the whole length of the wine bottle and wherein the neck is provided along its outer surface with an external screw thread and only a single annular edge situated below the screw thread relative to the open outer end. Document WO 2011/162436 discloses an elongated bottle according to the preamble of claim 1.

[0002] The invention also relates to a method for serving wine in an aircraft, comprising of storing the wine in a catering trolley configured for use in an aircraft and taking the wine out of the trolley in order to serve it to persons present in the aircraft.

[0003] With the rapidly increasing world population efficient use of space and means by business enterprises is of increasingly greater importance in our society today - on the one hand for the smallest possible environmental impact and on the other to be able to continue participating in highly competitive markets. This is particularly the case for airlines, which must always be looking for solutions which are more cost-effective. An important limitation here is the restricted physical space available on board aircraft. Solutions are continuously being sought for more efficient use of this space so that more passengers can be carried per flight. It is however not only the transport of the passengers which is important. On long flights the passengers also have to be provided with service, for which purpose aircraft are generally equipped with galleys, toilets and other facilities, as well as being loaded with food, beverages and other necessities. Such facilities and necessities require space, and this reduces the remaining space available on board an aircraft.

[0004] It is an object of the present invention to make more efficient use of the space on board an aircraft.

[0005] The present invention provides for this purpose a wine bottle of the type stated in the preamble of claim 1 with a diameter of the circular cross-section of the body that is a maximum of 10% larger than the diameter of the circular cross-section of the neck. A particular advantage of such a wine bottle is that a plurality of these bottles can be stacked or bunched together in compact manner for transport thereof. In other words, with the wine bottle according to the invention the number of bottles per unit volume can be increased and more efficient use can therefore be made of the limited space in an aircraft. The bottle according to the invention has a great advantage relative to known packagings for beverages, which are usually relatively unsuitable for efficient storage and serving thereof. Conventional beverages therefore generally stand on the top of a catering trolley configured for aircraft, since the upper part of this trolley is not enclosed

by walls of the trolley and there is therefore more space and freedom to arrange said beverages on the upper part of the trolley. The bottles according to the present invention can conversely be placed stacked closely against each other standing upright or lying on each other in a holder in and/or on the trolley. Efficient use is hereby made of the space available on board an aircraft. It is noted that the wine bottle according to the present invention can also be used to hold other beverages or food products therein, such as alcoholic drinks, oils, spices or tea and the like.

[0006] A slightly narrowing neck diameter has the advantage of enhancing controlled pouring of wine (or other beverages) from the bottle. It also provides space for arranging a cap on the neck of the bottle such that an outer surface of the cap is at least substantially coplanar with the outer surface of the body of the bottle. This particularly ensures simple and stable stacking of a plurality of wine bottles according to the present preferred embodiment, since each wine bottle can in this way rest along its whole length on an underlying wine bottle.

[0007] The elongate wine bottle also comprises a cap which is provided along an inner surface with an internal screw thread corresponding to the external screw thread of the neck such that the cap is attached to the neck by means of a screwing movement and closes the open outer end of the wine bottle in optionally airtight manner, wherein the outer surface of the cap is at least substantially coplanar with the outer surface of the body of the wine bottle. A particular advantage of such a cap, also referred to as capsule, is that the entirety of the wine bottle with cap arranged thereon has an at least substantially perfectly cylindrical shape, whereby the wine bottle can rest along its whole length on another underlying wine bottle and can therefore be easily stacked in a stable manner on and with other wine bottles according to the present preferred embodiment. The cap is preferably a standard wine bottle screw cap, i.e. a wine bottle screw cap with an external diameter of about 28 to 29 mm. The wine bottle screw cap comprises along its periphery, directly below the external screw thread and directly above the single annular edge, a punched tear line along which the upper part of the cap can be separated from the lower part of the cap by means of tearing as a result of a rotating movement of the cap relative to the neck in order to leave the opening of the wine bottle clear.

[0008] According to a preferred embodiment, the bottom is formed such that it forms a punt in the body, wherein a height of the punt is a maximum of 10%, preferably a maximum of 5% of the diameter of the cylindrical cross-section of the body close to the bottom. Such a punt, also referred to as a kick, has the advantage that the bottom can hereby provide sufficient resistance to the liquid pressure of the wine (or other beverage) against the inner side of the bottom of the bottle. Furthermore, the contact surface of the bottom with a support surface such as table is hereby reduced, this increasing the stability of the wine bottle when it is placed on its bottom on the support sur-

face. A particular advantage of the relatively low punt height relative to the bottom diameter is that substantially no space is lost due to the kick, this increasing the efficiency of use of space in an aircraft.

[0009] The bottle diameter preferably lies between 25 mm and 35 mm. This diameter more preferably lies between 27 mm and 31 mm. Such bottle diameters allow lengths, and therefore volumes, of bottles which are typical for one unit of consumption of wine and other beverages. The length of the wine bottle preferably lies between 10 cm and 25 cm and the volume of the internal space of the wine bottle amounts to between 20 ml and 200 ml. The volume more preferably amounts to 20 ml, 50 ml, 100 ml or 187.5 ml. Each of these latter mentioned volumes corresponds to a standard volume of one unit of consumption of a specific beverage. Spirits are thus offered for the purpose of consumption in volumes of 20 and 50 ml, and different types of wine in volumes of 100 ml and 187.5 ml. The bottle diameter is preferably substantially equal to the diameter of a standard wine bottle screw cap, viz. about 28 to 29 mm in diameter. Such a standard cap can therefore be purchased in simple and relatively advantageous manner and a cap designed specially for the wine bottle is not required.

[0010] According to a preferred embodiment, the wine bottle is manufactured from glass. A particular advantage of a wine bottle manufactured from glass is that glass is non-porous and impermeable, so that there is no interaction between the wine (or other food product) and the glass of the bottle.

[0011] According to a preferred embodiment, the wine bottle is manufactured from plastic. An important advantage of plastic is that it has a lower specific weight than glass. Plastic is also less likely to break than glass, whereby the material of the bottle can be thinner and the bottle thereby also lighter. Lighter bottles have the subsequent advantage that transport thereof saves energy. Bottles manufactured from plastic are also safer than glass bottles because of their higher impact resistance. Plastic bottles hereby do not break, or are less likely to do so, whereby the bottles according to the present preferred embodiment are safer for the passengers on board. The wine bottle is preferably manufactured from polyethylene terephthalate (PET). Inherent advantages associated with PET are that PET forms a strong barrier to the migration of gases such as oxygen and carbon dioxide, and has substantially no interaction with diverse beverages and solid food. The product in the wine bottle hereby remains well preserved and does not form a hazard to the health of the passengers. PET is moreover very easily recyclable, thereby reducing the environmental impact. PET is also colourless, which facilitates identification of the content of the wine bottle and therefore results in time-saving during rapid distribution of such wine bottles to consumers, such as passengers in an aircraft, when wine bottles with different content are for instance being distributed from the same holder, as is the case in an aircraft where a steward or stewardess is

for instance serving red and white wine from the same trolley to a large number of passengers.

[0012] The wine bottle may be manufactured by means of injection moulding.

[0013] The wine bottle may be manufactured by means of blow moulding.

[0014] The wine bottle may be manufactured by means of injection stretch blow moulding, and more preferably by single stage injection stretch blow moulding. A particular advantage of injection stretch blow moulding is that, because of the biaxial stretching of the wall of the bottle during this process, the molecules connect more closely to each other whereby the wine bottle is less porous and less permeable to fluids. Another particular advantage of injection stretch blow moulding is that the strength of the material increases, whereby the wine bottle is highly suitable for filling with carbonated beverage such as champagne or other sparkling wines and the like.

[0015] The present invention further provides a method of the type stated in the preamble of claim 8, with the special feature that use is made of the elongate wine bottle according to any of the preferred embodiments of the present invention. A particular advantage of such a method is that a plurality of these bottles can be stacked or bunched together in compact manner for transport thereof. In other words, with the method according to the invention the number of bottles per unit volume can be increased, and more efficient use can therefore be made of the limited space in an aircraft. The bottles have a great advantage compared to known packagings for beverages, which are usually relatively unsuitable for efficient storage and serving thereof. Conventional beverages therefore generally stand on top of a catering trolley configured for aircraft, since the upper part of this trolley is not enclosed by walls of the trolley and there is therefore more space and freedom to arrange said beverages on the upper part of the trolley. With the method according to the present invention of the wine bottles can be placed stacked closely against each other standing upright or lying on each other in a holder in and/or on the trolley. Efficient use is hereby made of the space available on board an aircraft.

[0016] The present invention is further elucidated with reference to the following figures which show preferred embodiments of the elongate wine bottle according to the present invention and are not intended to limit the scope of protection of the invention in any way, wherein:

- figure 1 shows different views of an embodiment of the elongate wine bottle according to the present invention;
- figure 2 shows different views of an embodiment of the elongate wine bottle with screw cap;
- figure 3 shows a cross-section of the side view of figure 1;
- figures 4A and 4B show respectively an embodiment of a PET variant of an elongate wine bottle and an associated standard wine bottle screw cap;

- figure 5 shows an apparatus not forming part of the invention, for filling an elongate wine bottle according to the invention with wine;
- figure 6 shows a closing device not forming part of the invention, for closing an elongate wine bottle according to the invention;
- figure 7 is a top view of an apparatus not forming part of the invention, for filling an elongate wine bottle with wine; and
- figure 8 shows a packaging not forming part of the invention, for distributing an elongate wine bottle.

[0017] Figure 1 shows a preferred embodiment of an elongate wine bottle 10 with an internal space 11 for holding for instance beverages such as wine therein. Wine bottle 10 consists of a hollow and cylindrical body 12 with a closed bottom 13 and a cylindrical neck 15 extending to an open outer end or opening 14 of wine bottle 10 remote from the bottom. The thickness of the material 16 from which wine bottle 10 is manufactured is the same over at least substantially the whole length of wine bottle 10, and neck 15 is provided along its outer surface with an external screw thread 17. A single annular edge 18 situated below the screw thread relative to the open outer end is further provided on neck 15.

[0018] Elongate wine bottle 10 also comprises a cap 19 (see figure 2) which is provided along an inner surface with an internal screw thread corresponding to the external screw thread 17 of neck 15. The internal screw thread of cap 19 is arranged such that cap 19 can be fastened by means of a screwing movement onto neck 15 for airtight closure of opening 14 of wine bottle 10. The wine in bottle 10 hereby does not acidify and the wine therefore remains drinkable for a longer period. The outer surface of cap 19 coincides with the outer surface of body 12 of wine bottle 10, whereby the wine bottle 10 with cap 19 arranged thereon has a wholly cylindrical form. Wine bottle 10 can hereby rest along its whole length on another underlying wine bottle 10 and therefore be easily stacked in stable manner on and with other wine bottles 10. Cap 19 also has along its periphery, directly below the exterior screw thread 17 and directly above the single annular edge 18, a punched tear line 22 along which upper part 23 of cap 19 can be separated from lower part 24 of cap 19 by means of tearing as a result of a rotating movement of the cap relative to the neck in order to leave opening 14 of wine bottle 10 clear.

[0019] Bottom 13 is further shaped such that it forms a punt or kick 21 in body 12. Kick 12 has the advantage that bottom 13 can hereby provide sufficient resistance to the liquid pressure of the wine (or other beverage) against the inner side of bottom 13 of bottle 10.

[0020] A particular advantage of wine bottle 10 is that a plurality of these bottles 10 can be stacked or bunched together in compact manner for transport thereof. In other words, with wine bottle 10 the number of bottles 10 per unit volume can be increased and more efficient use can therefore be made of the possibly limited space in for

instance an aircraft. Wine bottle 10 has a great advantage relative to known packagings for beverages, which are usually relatively unsuitable for efficient storage and serving thereof. Wine bottles 10 can, as stated, be placed stacked closely against each other standing upright or lying on each other in a holder. Efficient use is hereby made of space. It is noted that wine bottle 10 can also be used to hold other beverages or food products therein, such as alcoholic drinks, oils, spices or tea and the like.

[0021] Wine bottles 10 shown in figures 1 to 3 have a diameter of 29 mm, a length of 198 mm and a volume of 100 ml. The wine bottle can however be manufactured equally well in other sizes, this depending on the intended application.

[0022] Figures 4A and 4B show respectively a variant of elongate wine bottle 10 manufactured from PET and an associated standard wine bottle screw cap 190, wherein substantially the same features are indicated in figure 4A as in figure 1.

[0023] Figure 4B shows a standard wine bottle screw cap 190. Standard cap 190 also has along its periphery, directly below the exterior screw thread 17 of bottle 10 and directly above the single annular edge 18 of bottle 10, a punched tear line 220 along which upper part 230 of standard cap 190 can be separated from lower part 240 of standard cap 190 by means of tearing as a result of a rotating movement of cap 190 relative to neck 15 of the bottle in order to leave clear the opening 14 of wine bottle 10. A standard wine bottle screw cap 190 generally comprises a diameter of about 28 mm to 29 mm, in particular about 28.35 mm to 28.95 mm. Upper part 230 of standard cap 190 generally has a length in longitudinal direction of bottle 10 of about 13 mm to 14 mm, in particular about 13.2 mm to 13.6 mm. The overall length of the standard cap, in longitudinal direction of bottle 10, is generally about 43 mm to 45 mm, in particular 43.7 mm to 44.1 mm.

[0024] Figure 5 shows an apparatus 30 for filling an elongate wine bottle 10 according to the invention with wine. Such an apparatus comprises a gas feed device 40 for introducing an inert gas such as argon into wine bottle 10 before it is filled with wine. The gas is supplied from a gas tank 43 via a gas conduit 41 to various gas feed nozzles 42. Once bottle 10 has been substantially filled with the inert gas, it is moved to an elongate dosing device 50. Dosing device 50 has an elongate dosing nozzle 51 which can extend substantially as far as the bottom of bottle 10 in order to fill bottle 10 from the bottom thereof with wine. The wine is supplied from a wine tank 53 to dosing nozzle 51 via a wine conduit 54. Dosing device 50 is disposed on an actuator 52 which can move the dosing device substantially in vertical direction, i.e. in longitudinal direction of bottle 10. The bottle 10 is received during filling thereof in a transport holder 62 which, using a conveyor belt 61, can transport bottle 10 to, among others, dosing device 50, gas feed device 40 and closing device 70. Transport device 60 comprising conveyor belt 61 and transport holder 62 is further elucidated below.

[0025] Figure 6 shows a closing device 70 which comprises a crimping element 71 and a cap feed element 72 and a second gas feed device 73. Before cap 19 is placed on wine bottle 10, an inert gas such as argon is once again supplied substantially into the upper part of bottle 10 by means of the second gas feed device 73 in order to displace oxygen which has possibly entered the bottle during transport thereof to closing device 70. Cap feed element 72 supplies wine bottle screw caps 19, such as standard wine bottle screw caps 190, and places them on the wine-filled bottles 10. Caps 19 are then crimped firmly onto bottles 10 by crimping element 71. When bottle 10 is situated at closing device 70, it is carried in its transport holder 62 by means of a transport carousel 63. Following crimping of caps 19 onto bottles 10, these latter are made ready for distribution.

[0026] Figure 7 shows a top view of an apparatus 30 for filling an elongate wine bottle 10 with wine.

[0027] Transport device 60 ensures by means of conveyor belt 61 that bottles 10 are carried to, among others, gas feed device 40, dosing device 50 for introducing the wine into wine bottle 10, and closing device 70 for arranging cap 19 on wine bottle 10. Conveyor belt 61 is preferably a driven conveyor belt 61 so as to transport the bottles in semiautomatic or fully automatic manner. Apparatus 30 preferably comprises a plurality of gas feed devices 40 and the same number of dosing devices 50 in order to simultaneously fill a plurality of bottles 10 with gas and wine successively.

[0028] Figure 8 shows a packaging 80 for distributing an elongate wine bottle 10. Packaging 80, preferably a box manufactured from cardboard, comprises a bottom 81 and four side walls 82 extending substantially perpendicularly from bottom 81. Packaging 80 further comprises a cover 83 which is connected to at least one of the side walls 82 or bottom 81. Bottom 81, side walls 82 and cover 83 together form an interior space 85 in which wine bottles 10 can be accommodated.

[0029] The packaging 80 as shown in figure 8 comprises a cover 83 connected to a side wall 82 extending in length direction. The main part 830 of cover 83 has substantially the same length and width as bottom 81 so that its free longitudinal edges lie substantially against the four side walls 82 in the closed state of the packaging. Cover 83 further comprises three sealing flanges 831 which extend from its free longitudinal edges and which are mounted hingedly on the longitudinal edges. During closing of cover 83 the two mutually opposite flanges 831 are rotated into a position substantially perpendicularly of main part 830 of cover 83 in the direction of the inner side of cover 83 such that, when cover 83 is closed, these two mutually opposite flanges 831 are situated substantially parallel to side walls 82 in the interior of packaging 80. The third flange 831, which lies opposite side wall 82 to which cover 83 is attached, also comprises two sub-flanges 832 extending from its two short sides. When the cover is closed, third flange 831 is rotated into a position substantially perpendicularly of the main part 830 of cov-

er 83 in the direction of the inner side of cover 83 and sub-flanges 832 are rotated into a position substantially perpendicularly of third flange 831 in length direction of the two mutually opposite flanges 831. In closed state of cover 83 the two sub-flanges 832 are situated substantially in cavities 86 in side walls 82, which side walls lie parallel to the two mutually opposite flanges 831 in order to firmly close packaging 80.

[0030] Further received in packaging 80 is a holder 84 which is situated in the internal space 85 of packaging 80. Holder 84 is configured to receive therein the wine bottles 10 to be distributed. Provided for this purpose are a plurality of, in this case six, recesses 840 with a contour which, as seen from a position perpendicularly of bottom 81, substantially corresponds to a contour of wine bottle 10 such that wine bottle 10 can be partially accommodated therein. Recess 840 is shaped in the present embodiment such that the edges thereof fit closely onto bottle 10. Bottle 10 can nevertheless be easily removed by a user by means of gripping bottle 10 at the punt or kick 21. In another embodiment recess 84 can comprise a portion which is shaped such that a finger of a person can be received therein in order to facilitate removal of wine bottle 10 from recess 840 by this person. It is noted that the packaging comprises dimensions such that it can be delivered through a standard letterbox, viz. a height of substantially 32 mm or less, a width of substantially 265 mm or less and a length of substantially 380 mm or less. Packaging 80, including the six filled wine bottles 10, also weighs two kilograms or less so as to be suitable for letterbox delivery.

[0031] The present invention is not limited to the shown embodiments, but also extends to other embodiments falling within the scope of protection of the appended claims.

Claims

1. Elongate wine bottle (10) with an internal space (11) for holding wine therein, comprising
 - a hollow and cylindrical body (12) with a closed bottom (13), and
 - a cylindrical neck (15) extending to an open outer end (14) of the wine bottle remote from the bottom,
 - wherein a thickness of a material from which the wine bottle is manufactured is the same over substantially the whole length of the wine bottle, and
 - wherein the neck is provided along its outer surface with an external screw thread (17) and only a single annular edge (18) situated below the screw thread relative to the open outer end, and wherein a diameter of the circular cross-section of the body is a maximum of 10% larger than the diameter of the circular cross-section of the

neck,
 wherein the elongated wine bottle further comprises a cap (19) which is provided along an inner surface thereof with an internal screw thread corresponding to the external screw thread of the neck such that the cap is attached to the neck by means of a screwing movement and closes the open outer end of the wine bottle in optionally airtight manner, wherein the outer surface of the cap is substantially coplanar with the outer surface of the body of the wine bottle,

characterized in that

the cap also comprises along its periphery, directly below the external screw thread and directly above the single annular edge, a punched tear line (22) along which an upper part (23) of the cap can be separated from a lower part (24) of the cap by means of tearing as a result of a rotating movement of the cap relative to the neck in order to the leave the open outer end of the wine bottle clear.

2. Elongate wine bottle (10) as claimed in claim 1, wherein the bottom (13) is formed such that it forms a punt (21) in the body (12), wherein a height of the punt is a maximum of 10%, preferably a maximum of 5% of the diameter of the cylindrical cross-section of the body close to the bottom.
3. Elongate wine bottle (10) as claimed in any of the claims 1-2, wherein the bottle diameter lies between 25 mm and 35 mm, preferably between 27 mm and 31 mm.
4. Elongate wine bottle (10) as claimed in any of the claims 1-3, wherein the length of the wine bottle lies between 10 cm and 25 cm and the volume of the internal space (11) of the wine bottle amounts to between 20 ml and 200 ml.
5. Elongate wine bottle (10) as claimed in any of the claims 1-4, wherein the wine bottle is manufactured from glass.
6. Elongate wine bottle (10) as claimed in any of the claims 1-4, wherein the wine bottle is manufactured from plastic.
7. Elongate wine bottle (10) as claimed in claim 6, wherein the wine bottle is manufactured from polyethylene terephthalate (PET).
8. Method for serving wine in an aircraft, comprising of storing the wine in a catering trolley configured for use in an aircraft and taking the wine out of the trolley in order to serve it to persons present in the aircraft, **characterized in that** use is made of the elongate wine bottle (10) as

claimed in any of the claims 1-7.

Patentansprüche

1. Langgestreckte Weinflasche (10) mit einem Innenraum (11) zur Aufnahme von Wein, aufweisend

einen hohlen und zylindrischen Körper (12) mit einem geschlossenen Boden (13), und einen zylindrischen Hals (15), der sich zu einem vom Boden entfernten offenen äußeren Ende (14) der Weinflasche erstreckt,

wobei die Dicke des Materials, aus dem die Weinflasche gefertigt ist, im Wesentlichen über die gesamte Länge der Weinflasche gleich ist, und

wobei der Hals entlang seiner Außenfläche mit einem äußeren Schraubgewinde (17) versehen ist, sowie mit nur einer einzigen, sich relativ zum offenen äußeren Ende unterhalb des Schraubgewindes befindlichen ringförmigen Kante (18), und

wobei ein Durchmesser des kreisförmigen Querschnitts des Körpers maximal 10% größer ist als der Durchmesser des kreisförmigen Querschnitts des Halses,

wobei die langgestreckte Weinflasche ferner eine Kappe (19) aufweist, welche entlang ihrer Innenfläche mit einem inneren Schraubgewinde versehen ist, das mit dem äußeren Schraubgewinde des Halses korrespondiert, so dass die Kappe mittels einer Schraubbewegung an dem Hals angebracht und das offene äußere Ende der Weinflasche in optional luftdichter Weise verschlossen werden kann, wobei die Außenfläche der Kappe im Wesentlichen koplanar mit der Außenfläche des Körpers der Weinflasche ist,

dadurch gekennzeichnet, dass

die Kappe außerdem entlang ihres Umfangs direkt unterhalb des äußeren Gewindes und direkt über dem einzelnen ringförmigen Rand eine gestanzte Aufreißlinie (22) aufweist, entlang der durch Aufreißen infolge einer Drehbewegung der Kappe relativ zum Hals ein oberer Teil (23) der Kappe von einem unteren Teil (24) der Kappe getrennt werden kann, um das offene äußere Ende der Weinflasche freizugeben.

2. Langgestreckte Weinflasche (10) nach Anspruch 1, wobei der Boden (13) so geformt ist, dass er im Körper (12) einen Zapfen (21) bildet, wobei eine Höhe des Zapfens maximal 10 %, vorzugsweise maximal 5 % des Durchmessers des zylindrischen Querschnitts des Körpers in Bodennähe beträgt.

3. Langgestreckte Weinflasche (10) nach einem der Ansprüche 1 bis 2, wobei der Flaschendurchmesser zwischen 25 mm und 35 mm, vorzugsweise zwischen 27 mm und 31 mm beträgt. 5
4. Langgestreckte Weinflasche (10) nach einem der Ansprüche 1 bis 3, wobei die Länge der Weinflasche zwischen 10 cm und 25 cm und das Volumen des Innenraums (11) der Weinflasche zwischen 20 ml und 200 ml beträgt. 10
5. Langgestreckte Weinflasche (10) nach einem der Ansprüche 1 bis 4, wobei die Weinflasche aus Glas gefertigt ist. 15
6. Langgestreckte Weinflasche (10) nach einem der Ansprüche 1 bis 4, wobei die Weinflasche aus Kunststoff gefertigt ist. 20
7. Langgestreckte Weinflasche (10) nach Anspruch 6, wobei die Weinflasche aus Polyethylenterephthalat (PET) gefertigt ist.
8. Verfahren zum Servieren von Wein in einem Flugzeug, das darin besteht, den Wein in einem für die Verwendung in einem Flugzeug ausgebildeten Catering-Wagen zu lagern, und dem Wagen den Wein zu entnehmen, um diesen den im Flugzeug anwesenden Personen zu servieren, **dadurch gekennzeichnet, dass** die langgestreckte Weinflasche (10) nach einem der Ansprüche 1 bis 7 verwendet wird. 25 30

Revendications

1. Bouteille de vin allongée (10) comportant un espace interne (11) destiné à contenir du vin à l'intérieur, comprenant :
- un corps creux et cylindrique (12) avec un fond fermé (13), et un col cylindrique (15) s'étendant vers une extrémité externe ouverte (14) de la bouteille de vin distante par rapport au fond, dans laquelle une épaisseur d'un matériau à partir duquel la bouteille de vin est réalisée est identique sensiblement sur la totalité de la longueur de la bouteille de vin, et dans laquelle le col comporte, sur sa surface externe, un filetage externe (17) et seulement un bord annulaire unique (18) situé au-dessous du filetage par rapport à l'extrémité externe ouverte, et dans laquelle un diamètre de la section transversale circulaire du corps est au maximum de 10% supérieur au diamètre de la section trans-

versale circulaire du col, dans laquelle la bouteille de vin allongée comprend, en outre, un bouchon (19) qui comporte sur sa surface interne un filetage interne correspondant au filetage externe du col de telle sorte que le bouchon est fixé sur le col par un mouvement de vissage et obture l'extrémité externe ouverte de la bouteille de vin, en variante de manière hermétique, dans laquelle la surface externe du bouchon est sensiblement coplanaire avec la surface externe du corps de la bouteille de vin,

caractérisée en ce que

le bouchon comprend aussi, le long de sa périphérie, directement au-dessous du filetage externe et directement au-dessus du bord annulaire unique, une ligne de rupture perforée (22) suivant laquelle une partie supérieure (23) du bouchon peut être séparée d'une partie inférieure (24) du bouchon par rupture en résultat d'un mouvement tournant du bouchon par rapport au col dans le but de libérer l'extrémité externe ouverte de la bouteille de vin.

2. Bouteille de vin allongée (10) selon la revendication 1, dans laquelle le fond (13) est formé de telle sorte qu'il présente une piqûre (21) sur le corps (12), dans laquelle une hauteur de la piqûre est d'un maximum de 10%, de préférence, d'un maximum de 5% du diamètre de la section transversale cylindrique du corps à proximité du fond. 35
3. Bouteille de vin allongée (10) selon l'une quelconque des revendications 1 à 2, dans laquelle le diamètre de bouteille est compris entre 25 mm et 35 mm, de préférence, entre 27 mm et 31 mm. 40
4. Bouteille de vin allongée (10) selon l'une quelconque des revendications 1 à 3, dans laquelle la longueur de la bouteille de vin est comprise entre 10 cm et 25 cm et le volume de l'espace interne (11) de la bouteille de vin est compris entre 20 ml et 200 ml. 45
5. Bouteille de vin allongée (10) selon l'une quelconque des revendications 1 à 4, dans laquelle la bouteille de vin est fabriquée en verre. 50
6. Bouteille de vin allongée (10) selon l'une quelconque des revendications 1 à 4, dans laquelle la bouteille de vin est fabriquée en matière plastique. 55
7. Bouteille de vin allongée (10) selon la revendication 6, dans laquelle la bouteille de vin est fabriquée à partir de polyéthylène téréphthalate (PET).
8. Procédé destiné à servir du vin dans un avion, comprenant le stockage du vin dans un chariot de restauration configuré de manière à être utilisé dans un

avion et la saisie du vin dans le chariot afin de le servir aux personnes présentes dans l'avion,

caractérisé en ce que

la bouteille de vin allongée (10) selon l'une quelconque des revendications 1 à 7 est utilisée.

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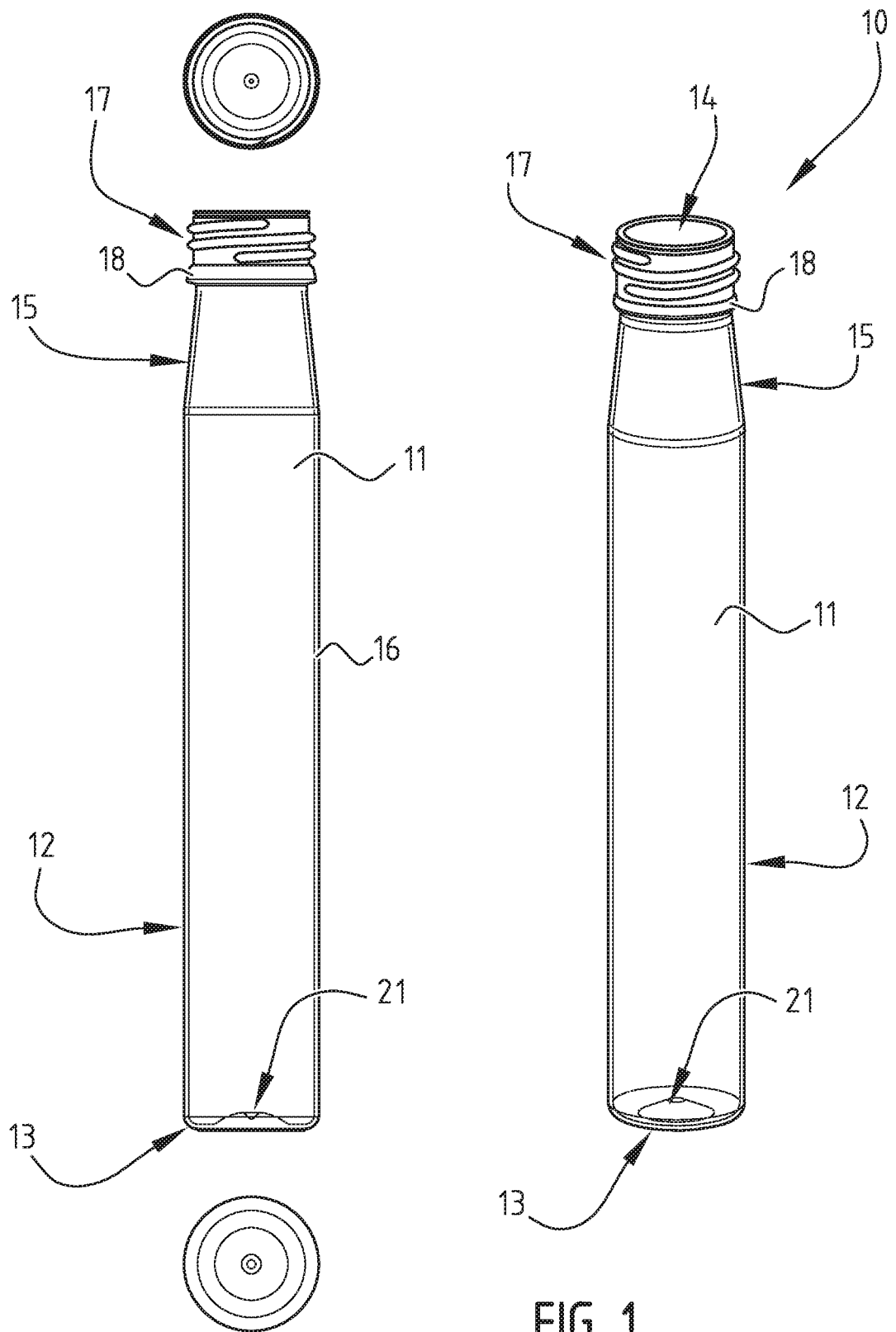
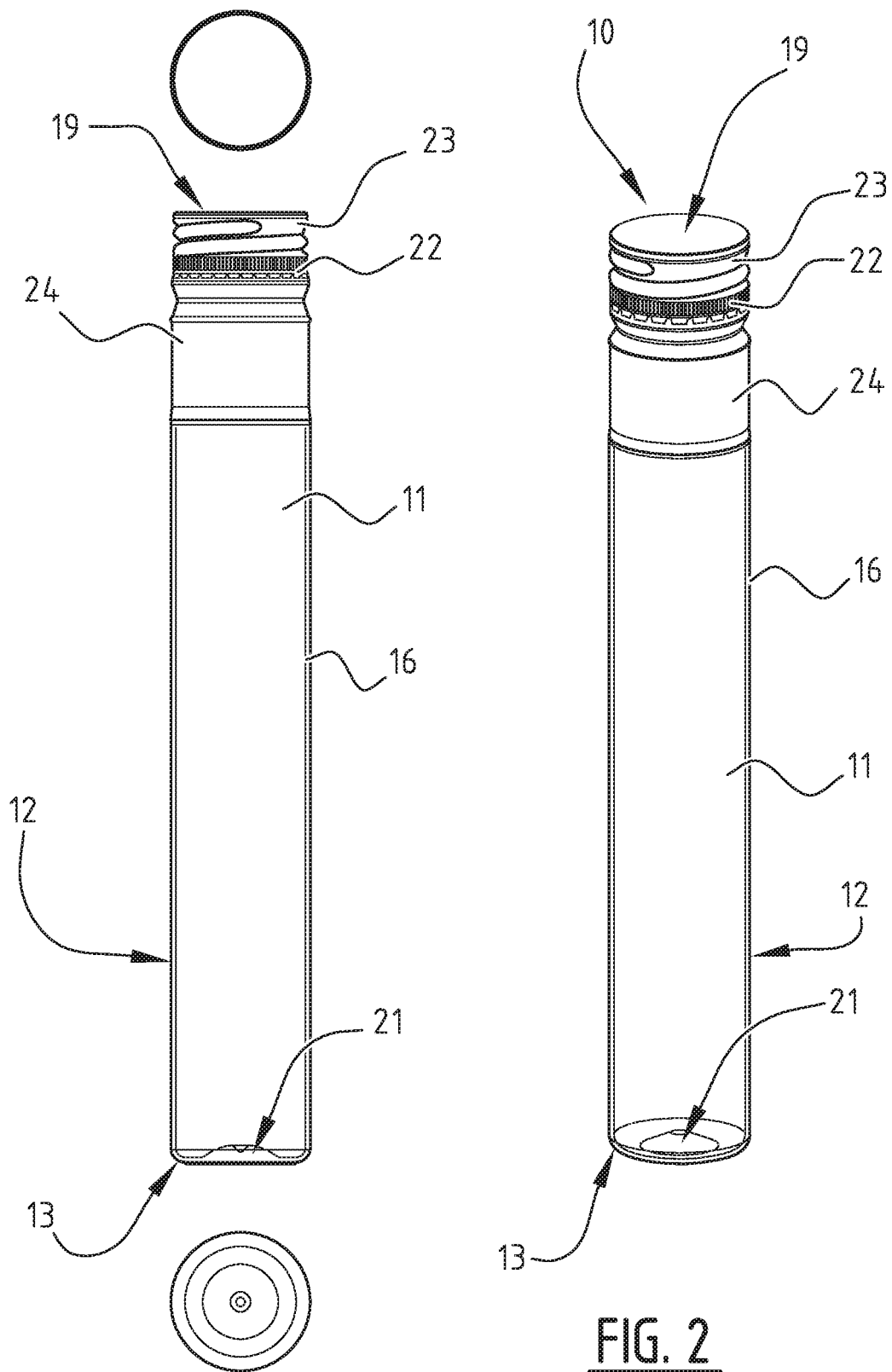


FIG. 1



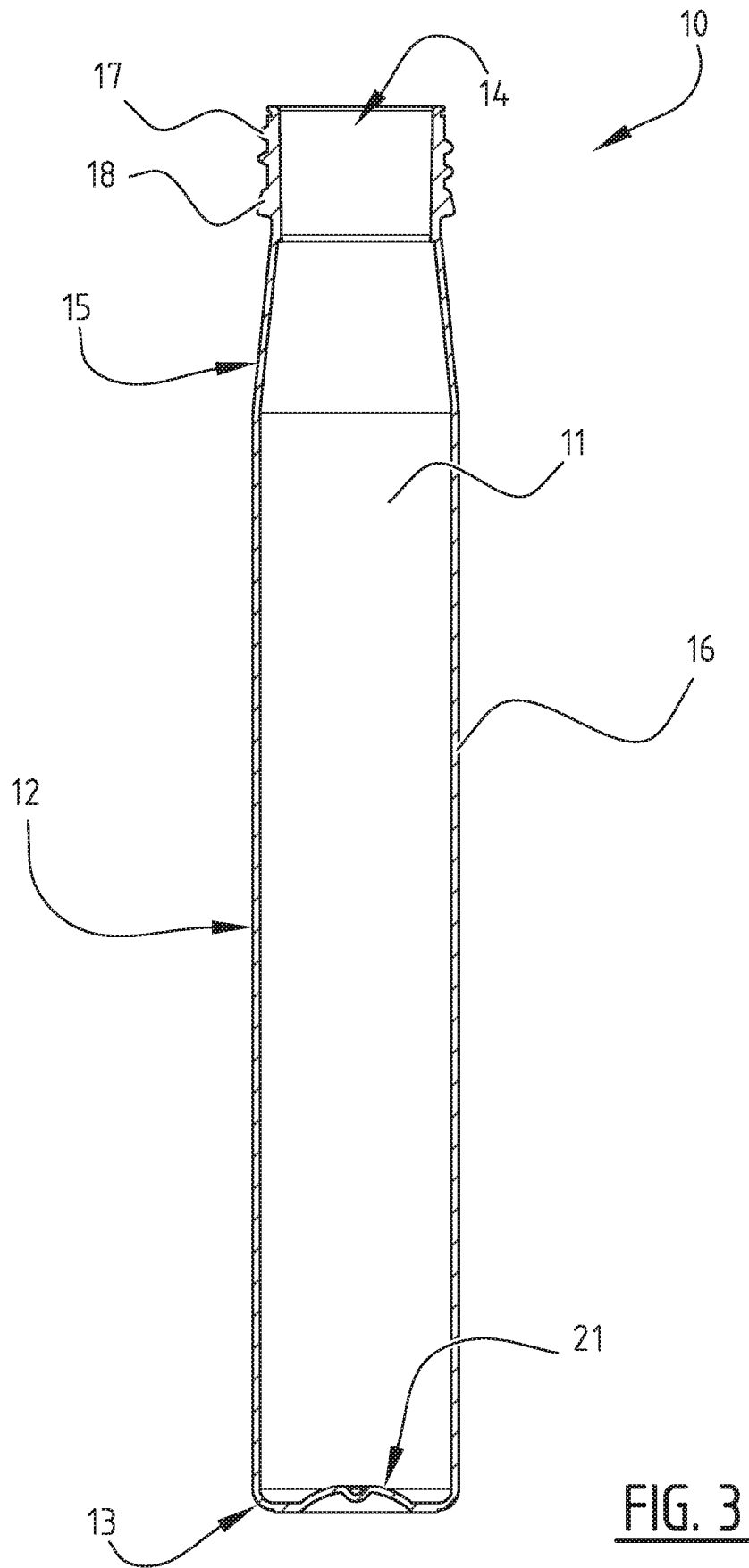
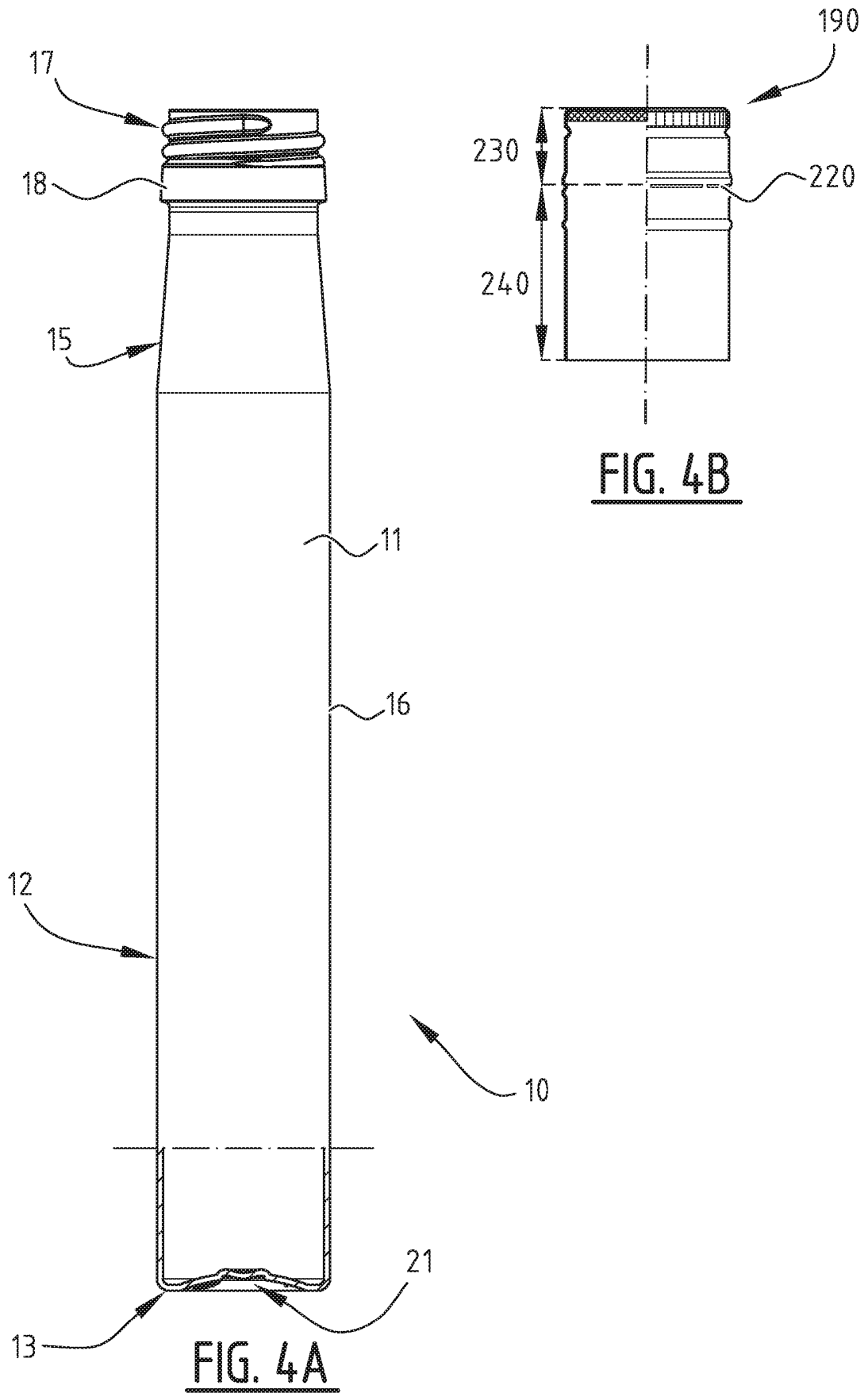


FIG. 3



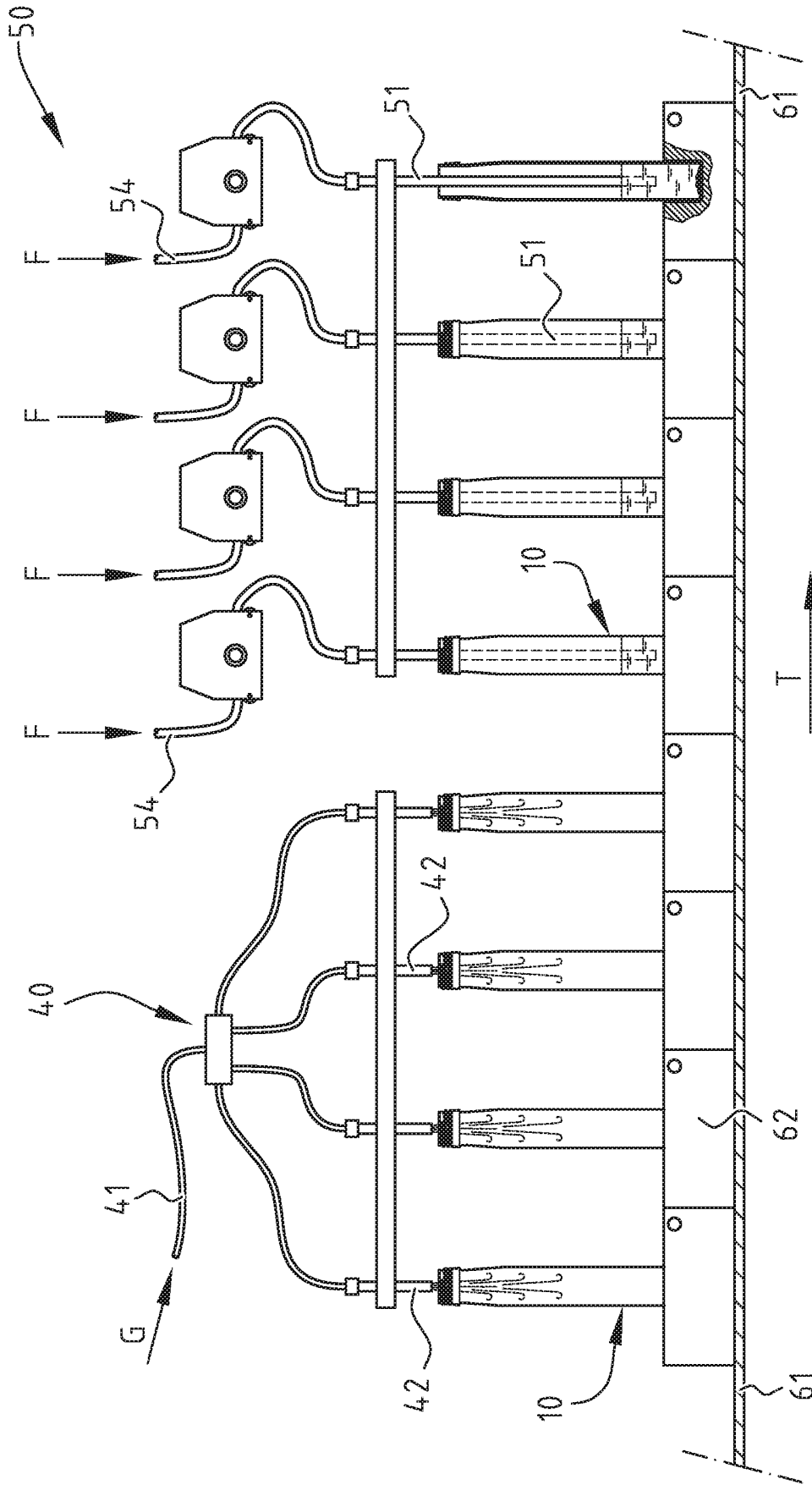


FIG. 5

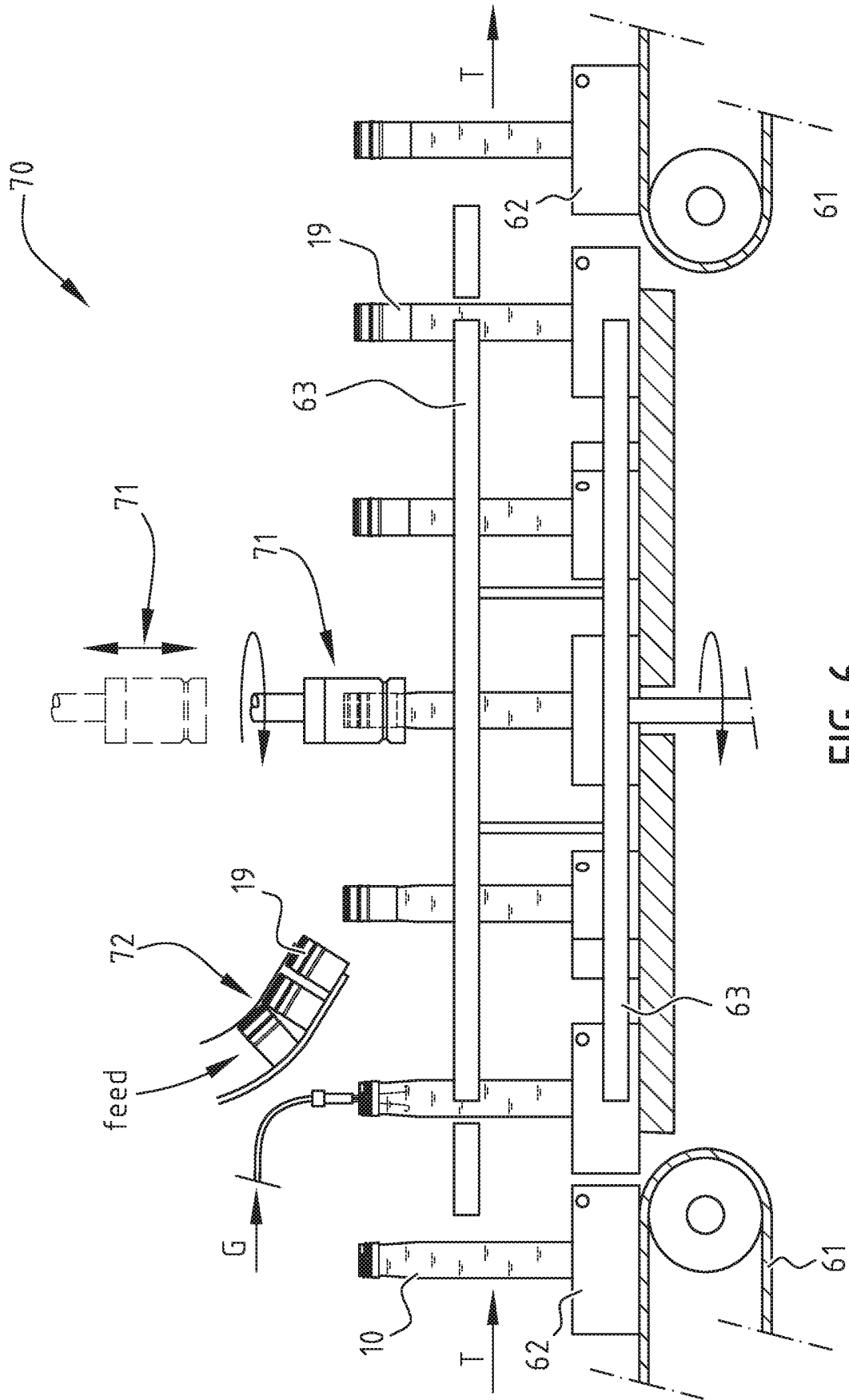


FIG. 6

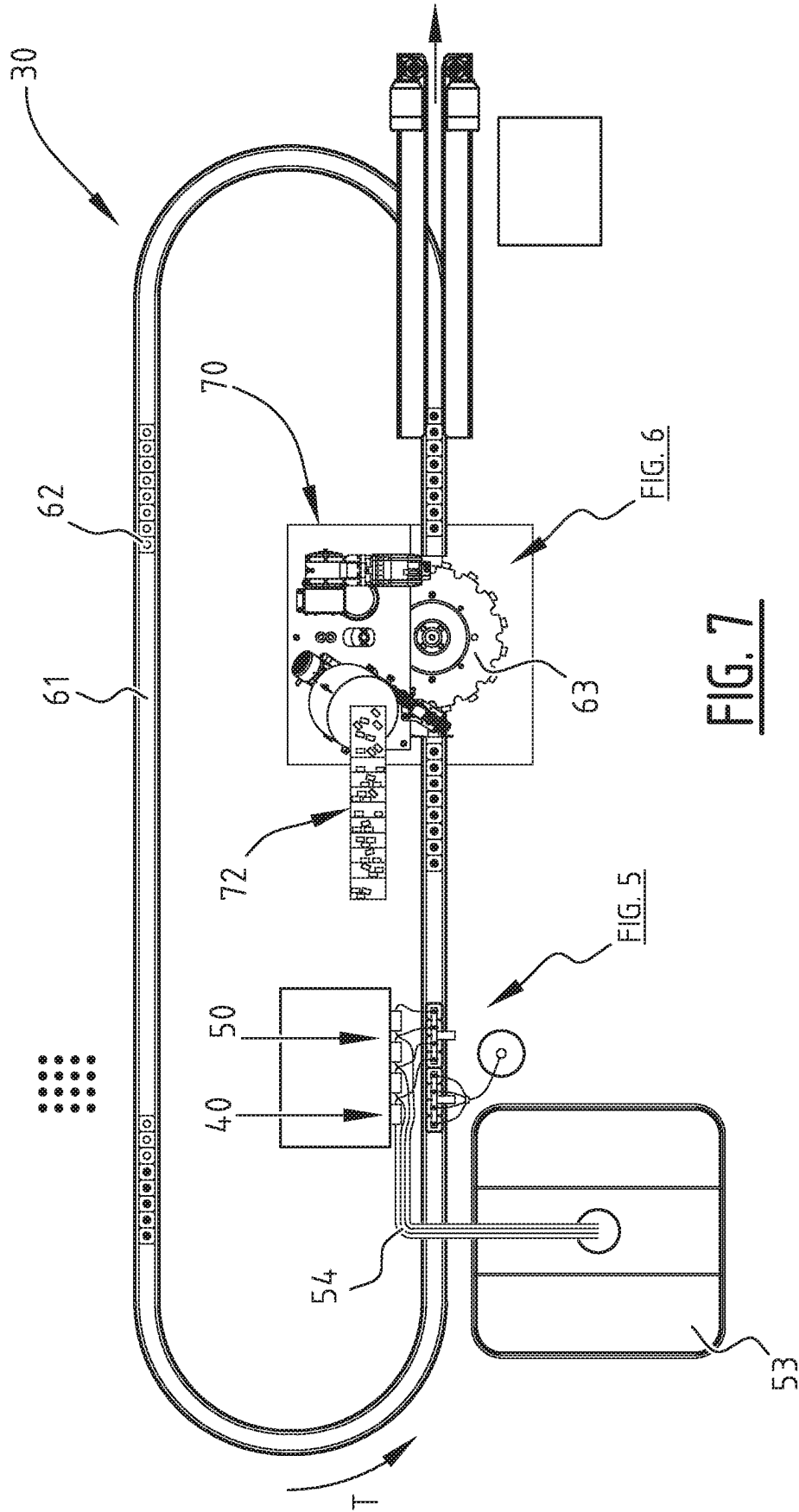
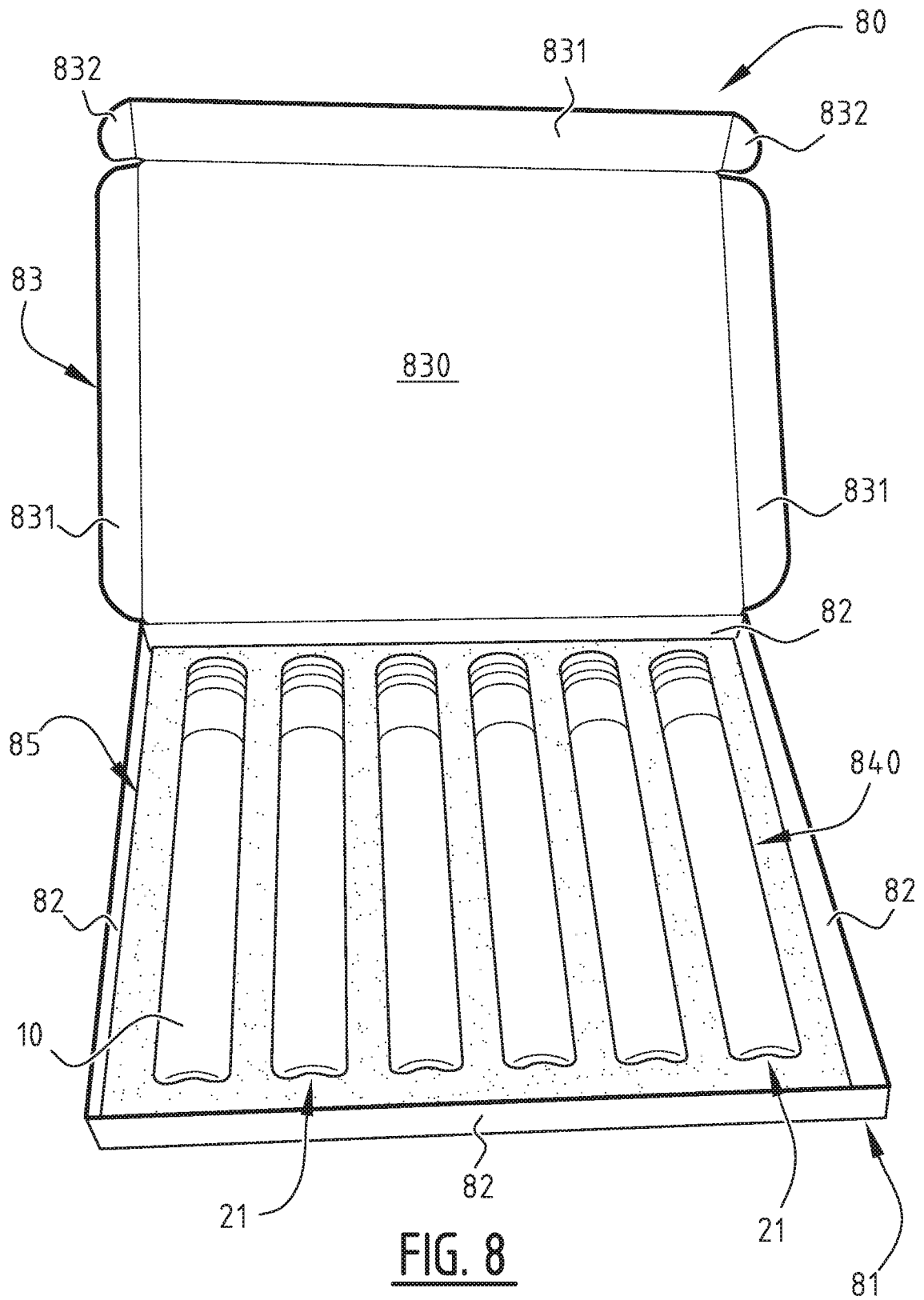


FIG. 7



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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