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Szerkezet tárolóedények fogadására és igazítására

Az európai szabadalom ellen, megadásának az Európai Szabadalmi Közlönyben való meghirdetésétől számított kilenc hónapon belül, felszólalást lehet benyújtani az Európai Szabadalmi Hivatalnál. (Európai Szabadalmi Egyezmény 99. cikk(1))

A fordítást a szabadalmas az 1995. évi XXXIII. törvény 84/H. §-a szerint nyújtotta be. A fordítás tartalmi helyességét a Szellemi Tulajdon Nemzeti Hivatala nem vizsgálta.

TRAY FOR HOLDING AND ORIENTING CONTAINERSDescription

The present invention relates to a receiving system having a first and a second device with a plurality of containers received therein according to claim 1, which are known from WO 97/41044 A1.

Containers are devices in which different materials may be held. In particular, liquids are mostly held in closable cans or bottles. Containers may be open or closed. Vessels such as glasses or cups are also containers, vessels also being closable, e.g., with aluminum foil.

Generally, several single containers are combined into a trading unit. Particularly in the beverage industry, simple cardboard boxes with a bottom and circumferential side walls have become established, the height of the side walls being lower than the height of the containers located therein. On the other hand, larger bottles are mostly received in beverage cases, the height of the side walls of the beverage case being greater than the height of the bottles located therein.

Besides beverage cases, there is also a plurality of further different types of trading units which are mostly made of cardboard or paper and generally combine units of four, six, eight or ten containers. An example for this is the known so-called six-pack.

Several trading units are mostly collected on pallets, with both cardboard boxes and beverage cases generally placed, or rather stacked, on top of each other. The trading units may be stacked if full and/or closed containers are located therein. They may also be stacked if empty and/or opened containers are located therein. Trading units such as cardboard boxes and beverage cases may also be stacked without having containers located therein.

In particular, cardboard boxes with a low side wall height may be stacked in a space efficient manner if there are no containers located therein. If there are containers located therein, the low side wall height provides the advantage that the containers are clearly visible from the outside. However, the containers often tend to turn and/or to tilt and to fall over the low side wall.

Beverage cases are stable so that turning and/or tilting of the containers located therein may be avoided. However, due to the high side walls, the containers located therein are often not clearly visible from the outside. Also, beverage cases may not be stacked in a space-efficient manner, no matter if containers are located therein or not.

With trading units such as six-packs, turning and/or tilting of the containers located therein may be avoided for the most part. On the other hand, several such trading units may be collected on pallets, as mentioned above. They may also be received in suitable cardboard boxes or beverage cases. However, the above-mentioned problems still exist in this case; in particular, if the trading unit material is removed and the containers are present as single containers. The above-mentioned problems particularly occur during receiving of single empty containers.

In order to solve these problems, EP 0 362 091 A1 proposes a receiving system in the form of a plate with two differently shaped bottle holding elements. Empty bottles are arranged on the plate such that their bottle bottoms are respectively arranged above the first bottle holding elements whose bottom side is provided with a projection for engaging openings of empty bottles onto which the plate is set. In this case, the second bottle holding elements arranged next to the first surround the lower part of the bottle bottom in order to keep the bottle at a distance to other bottles. In the same orientation, a further plate is placed onto

the bottle necks of empty bottles, the bottom side projections of the same engaging with the openings of the empty bottles.

WO 97/41044 A1 mentioned above describes a similar device. In this case, a bottle closed with a crown cork may be arranged in the lower protruding part of the form element. An opened bottle may be arranged in the same form element, however, the bottle neck slides into the upper protruding part and a projection engages with a bottle opening. Both above-described protruding parts of the form element are particularly designed such that both opened and closed bottles may be received in the same form element.

DE 200 80 289 U1 describes a transport plate for bottles combined in trading units. In particular, DE 200 80 289 U1 describes a beer tray for six-packs. The transport plate comprises particularly shaped recesses corresponding to the outer contour of a six-pack. Both opened and closed bottles may be held. However, in order to solve this problem, DE 200 80 289 U1 proposes a particular collar-shape in the recesses in which the bottle necks are arranged. Opened bottles slide into the recess all the way to the stop. On the other hand, closed bottles abut with their caps against an inclined surface of the recess earlier. Thus, it is an object of the present invention to improve devices for receiving containers such that they solve the above-mentioned problems.

According to the invention, this object is solved by a receiving system with the features according to claim 1. In this way, the respective container may be received in the device of the receiving system and may simultaneously be aligned. Moreover, the container is stabilized inside of the device in this way. The device counteracts tilting, turning and a combined turn-tilt movement of the container. Moreover, the alignment device ensures that the containers are advantageously aligned to each other such that a particularly space efficient arrangement of the containers is enabled and/or such that the containers may lean against each other inside of the device in order to stabilize each other. Moreover, with the receiving system according to the invention, a good visibility from the outside may be enabled since there is no need for circumferential side walls.

The contact portion may be in contact with the side of the container comprising the opening, in particular, with the top side of the container. This allows for easy handling of the device since a user may easily place the device onto the opening of the containers in order to align the containers.

The alignment device may be arranged approximately in the center within the contact portion. In this way, particularly containers of the same or similar structure may be space-efficiently aligned in the device and may be centered at the same time.

The outer dimensions of the alignment device may at least approximately correspond to the dimensions of the opening of the respective associated container in portions. In this way, a fit with little clearance is achieved such that a good contact exists between the alignment device and the container.

The contact portion may comprise an annular portion having inner dimensions approximately corresponding to the outer dimensions of the side of the container comprising the opening. In this way, the contact portion may be advantageously adapted to the outer contours of the container in order to provide a good contact between the device and the container.

The contact portion may comprise an annular portion and the alignment device may be arranged within the annular portion. In this way, a further advantageous support of the outer side of the container may

be provided additionally to the support of the inner side of the container, i.e. between the alignment device and the container opening.

Between the annular portion and the alignment device, an abutting area may be provided, against which a predominant part of the side of the container comprising the opening abuts. Due to this fact, the container may be safely and advantageously contacted between the inner and the outer support. Moreover, during placement of the device, a guidance of the container may be realized such that the container is advantageously aligned.

The alignment device may extend in a direction running approximately perpendicular to the ground. This allows for an easy handling of the device since the device may be easily mounted on the container, or rather placed on the container, in this way. Moreover, this arrangement allows for a deep penetrating of the alignment device into the container openings such that an advantageous support of the container may be provided.

The contact portion may comprise an annular portion extending in a direction running approximately perpendicular to the ground. In this way, the annular portion may be advantageously attached around the container. In other words, the annular portion forms a type of collar that may be advantageously used for supporting the container.

The contact portion may comprise an annular portion, wherein the annular portion and the alignment portion extend in the approximately same direction. In this way, an inner support via the alignment device may be advantageously provided with an outer support via the collar-like annular portion.

The alignment portion and the annular portion may each comprise a vertical extension, wherein the vertical extension of the alignment portion and the vertical extension of the annular portion comprise approximately the same measurement. Thus, an inner support via the alignment device and an outer support via the annular portion may be provided approximately equally well.

The alignment device and the annular portion may each comprise a vertical extension, wherein the vertical extension of the alignment portion is smaller than the vertical extension of the annular portion, preferably smaller by approximately $3/4$, more preferably smaller by approximately $1/2$, and even more preferably smaller by approximately $1/4$. In this way, the inner and outer support and alignment function of the device may be adapted to given container shapes. It is further possible to contact a container mainly with the annular portion, for example, when the container does not comprise an opening in the section of the alignment device. This is particularly advantageous regarding a reversal function of the device when the container with its bottom side contacts the annular portion.

The alignment device and the annular portion may each comprise a vertical extension, wherein the vertical extension of the alignment device is larger than the vertical extension of the annular portion, preferably larger by approximately $1/4$, more preferably larger by $1/2$, and even more preferably larger by $3/4$. In this way, an inner support of the container may be advantageously provided by the alignment device. This may be advantageous for particular containers such as bottles in order to reach as deep as possible into the bottle neck with the alignment device in order to provide a good alignment of the bottle.

The contact portion may comprise an annular portion, wherein the annular portion comprises one of several discontinuations. For example, this is advantageous when the container comprises portions radially

extending above its opening, which, in this way, are accommodated in the discontinuations of the annular portion.

In the receiving system according to the invention, on the one hand, with an opened container, the first side of the bottom of the first device may contact the side of the container comprising the opening, and the second side of the bottom of the second device may contact the side of the container facing away from the opening. On the other hand, with a closed container, the second side of the bottom of the first device may contact the side of the container comprising the opening and the first side of the bottom of the second device may contact the side of the container facing away from the opening. Thus, a reversal function of the receiving system is proposed, wherein the first and second device are reversed depending on if the container opening is closed or opened. In this way, the receiving system may receive and align both opened and closed containers, wherein only the two single devices of the receiving system are reversed.

Advantageously, the containers may be bottles.

Embodiments of the invention are shown in the drawings and will be explained below, wherein:

- Fig. 1 shows a perspective view of a device pertaining to the receiving system according to the invention,
- Fig. 2 shows a top view of a first side of the bottom of the device,
- Fig. 3 shows the device with containers in a sectional view along the sectional line III-III shown in Fig. 2,
- Fig. 4 shows an enlarged representation of the section of the device shown in Fig. 3 with a container,
- Fig. 5 shows the illustration of Fig. 4 without a container,
- Fig. 6 shows an annular portion with discontinuations in a perspective view,
- Fig. 7 shows an annular portion with discontinuations in a top view,
- Fig. 8 shows a receiving system according to the invention with two devices and opened containers arranged between the same, and
- Fig. 9 shows a receiving system according to the invention with two devices and closed containers arranged between the same.

Fig. 1 shows a perspective view of a device 1 suitable for receiving several containers 2 (see Figs. 3, 4, 8 and 9). As can be recognized both in Fig. 1 and Fig. 2, the device 1 comprises a bottom 6. The bottom 6 comprises a first side 7 and a second side 8 opposite to the first side 7. The dashed lines in Fig. 1 represent the position of the bottom 6 within the device 1.

The first side 7 of the bottom 6 comprises a contact area 9. The contact area 9 is fundamentally the section of the bottom 9 in which the containers 2 contact the bottom 6 at least in portions.

The contact area 9 comprises contact portions 10. One contact portion 10 each is provided per container 2. In other words, each container 2 has a contact portion 10 associated therewith. Thus, the device 1 may receive at least as many containers 2 as contact portions 10 are provided.

A contact portion 10 comprises an alignment device 11 for aligning the respective container 2. The alignment device 11 is configured to at least engage with an opening 5 of the container 2 in portions. In Fig. 1, the alignment device 11 comprises the shape of a thorn and a protrusion.

The device 1 further comprises side walls 15, 16 that are arranged around the bottom 6.

As can be seen in Fig. 2, an alignment device 11 is arranged in the center within the contact portion

10.

Fig. 3 shows a sectional view of the device along the sectional line III-III of Fig. 2. Here, the containers 2 are exemplarily illustrated as bottles. The containers 2 comprise a top side 3, a bottom side 4 and an opening 5. Here, the opening 5 is configured at the top side 3 of the container 2. The contact portion 10 of the device 1 contacts the top side 3 of the container 2.

It can be seen that the alignment device 11 engages with the opening 5 of the container 2 at least in portions.

Fig. 4 shows an enlarged representation of the contact portion 10 with a part of the container 2, wherein this part is depicted in the form of a bottle neck. The opening 5 of the container 2 comprises a dimension, or rather a diameter d_5 . The alignment device 11 comprises outer dimensions, or rather an outer diameter D_{11} . The outer diameter D_{11} approximately corresponds to the diameter d_5 of the opening 5, i.e., both dimensions are of approximately equal size.

In the example depicted in Fig. 4, the alignment device 11 tapers in the direction of the container 2. At least the portion of the alignment device 11 facing the bottom 6 is of equal size as the diameter d_5 of the opening 5. Thus, the outer dimensions D_{11} of the alignment device 11 approximately correspond to the dimensions D_5 of the opening 5 of the container 2 at least in portions.

In the present example, the outer diameter D_{11} of the alignment device 11 is slightly smaller than the diameter d_5 of the opening 5. Thus, the alignment device 11 may fully engage with the opening 5 of the container 2. In case the outer diameter D_{11} of the alignment device 11 was slightly larger than the diameter d_5 of the opening 5, the alignment device 11 would not be able to fully engage with the opening 5. However, the device 1 according to the invention may still fulfill its purpose as long as the outer dimensions D_{11} approximately correspond to the dimensions d_5 of the opening 5 of the container 2 at least in portions.

With reference to Fig. 4, it can further be seen that the contact portion 10 comprises an annular portion 12. The annular portion 12 comprises an inner dimension d_{12} approximately corresponding to the outer dimensions D_2 of the top side 3 of the container 2. Thus, the annular portion 12 surrounds the upper part 3 of the container 2 at least in portions. The annular portion 12 may abut against a part of the container 2 at least in portions.

The alignment device 11 is arranged within the annular portion 12. Thus, the annular portion 12 surrounds the alignment device 11.

The alignment device 11 forms an inner bearing area at which the container 2 may support itself on the inside. The annular portion 12 forms an outer support area, at which the container 2 may support itself on the outside. Thus, the container 2 is received and aligned in the device 1.

It can be seen in Figs. 4 and 5 that an abutting area 13 is provided in a section between the annular portion 12 and the alignment device 11. The abutting area 13 abuts against a predominant part of the top side 3 of the container 3. In the example shown in Fig. 4, the container 2 is a bottle in which an upper edge of the bottle neck forms the predominant part of the top side 3. This upper edge of the bottle neck approximately fully abuts against the abutting area 13.

It can be seen in Fig. 5 that the bottom extends in a plane E. The alignment device 11 extends in a direction h running approximately perpendicular to the bottom 6. Also, the annular portion 12 extends in a direction h running approximately perpendicular to the bottom 6.

The alignment device 11 is embodied conically and comprises a substantially frustoconical-like shape. The alignment device 11 and the annular portion 12 extend in approximately the same direction. It is also conceivable that the alignment device 11 comprises a different shape, for example, a substantially cylindrical shape or a substantially conical shape. Regardless of the shape, it would be conceivable that the alignment device 11 extends in a different direction than the annular portion 12. For example, this would be advantageous when the container 2 comprises an inclined opening 5.

The alignment device 11 extends in an approximately vertical direction and comprises a vertical extension h_{11} . The annular portion 12 also extends in an approximately vertical direction and comprises a vertical extension h_{12} . Both vertical extensions h_{11} , h_{12} approximately comprise the same measurement, i.e., the alignment device 11 extends from the bottom 6 in the direction of the container 2 with approximately the same distance as the annular portion 12.

In Fig. 4, the bottle neck of a bottle 2 is illustrated. The alignment device 12 engages with the opening of the bottle 2 at least in portions. The vertical extension h_{11} of the alignment device 11 is slightly smaller than the vertical extension h_{12} of the annular portion 12. Particularly with bottles, it is advantageous when the vertical extension h_{11} of the alignment device 11 is larger than the vertical extension h_{12} of the annular portion 12. The alignment device 11 may then reach far into the container, i.e., the bottle 2.

In other containers such as cups or glasses, but also in particular shapes of bottles, it is advantageous when the vertical extension h_{12} of the annular portion is larger than the vertical extension h_{11} of the alignment device 11.

Figs. 6 and 7 show an annular portion 12. The annular portion 12 comprises a discontinuation 17. The discontinuation 17 fully extends through the annular portion 12. However, the discontinuation 17 may also only partially extend through the annular portion 12.

Fig. 8 shows an inventive receiving system 13 for receiving containers 2. The receiving system 13 comprises a first device 1a and a second device 1b as well as a plurality of containers 2.

The first device 1a comprises a contact portion 10a. The second device 1b comprises a contact portion 10b. The contact portion 10a of the first device contacts the side comprising the opening 5, i.e., the top side 3 of the container 2. The contact portion 10b of the second device 1b contacts the side facing away from the opening 5, i.e., the bottom side 4 of the container 2.

The contact portions 10a, 10b of the first and second device 1a, 1b, respectively, are arranged opposite each other.

The first device 1a and the second device 1b are equal in structure. It can be seen that the first side 7a of the bottom 6a of the first device 1a as well as the second side 7b of the bottom 6b of the second device 1b point downwards in the orientation shown in Fig. 8.

On the other hand, the second side 8a of the bottom 6a of the first device 1a as well as the second side 8b of the bottom 6b of the second device 1b point upwards in the orientation shown in Fig. 8.

The container 2 contacts with its bottom side 4 the contact portion 10b on the second side 8b of the bottom 6b of the second device 1b. The container 2 contacts with its top side 3 the contact portion 10a on the first side 7a of the bottom 6a of the first device 1a.

In this way, the containers 2 are received and aligned by the receiving system 13. At least as many containers 2 may be received as contact portions 10a, 10b are provided.

The alignment device 11 of the first device 1a engages with the opening 5 of the respective container 2 at least in portions and aligns the container 2 within the receiving system 13. Additionally, the alignment device 11 engaging with the opening 5 stabilizes the container 2 regarding turning, tilting or a combined turn-tilt movement.

5 The second device 1b comprises a compartment arrangement 18 protruding on the side of the container. This compartment arrangement 18 also stabilizes the container 2 within the receiving system 13, in particular regarding tilting.

Thus, it is an advantage of the receiving system 13 according to the invention that both the first device 1a and the second device 1b guard the container 2 against turning and/or tilting. For example, this
10 allows a collective transport of empty containers, wherein the empty containers in the receiving system 12 are guarded against tilting or falling out.

The height of the side walls 15a, 15b of the first and the second device 1a, 1b, respectively, may be much lower compared to known receiving systems such as beverage cases. The side walls 15a, 15b may also be left out entirely.

15 Fig. 9 shows the receiving system 13 according to the invention during receiving of closed containers 2. In this example, the containers 2 are bottles closed with a locking device 14 such as a crown cork.

In this case, the contact portion 10a on the second side 8a of the bottom 6a of the first device 1a contacts the top side 3 of the container 2. At the same time, the contact portion 10b on the first side 7b of the
20 bottom 6b of the second device 1b contacts the bottom side 4 of the container 2.

As can be seen when comparing Figs. 8 and 9, a reversal functionality of the receiving system 13 is proposed, wherein the first device 1a and the second device 1b are reversed depending on if the containers 2 to be received are opened (Fig. 8) or closed (Fig. 9).

With the receiving system 13 according to the invention, for example, bottles, in particular in the
25 form of transporting units, packed in cardboard packing units of four, six, eight or ten bottles each may be received. So-called "six-packs" are known which are transporting units of 6 bottles each.

These transporting units may be received by the transporting unit 13 in the arrangement shown in Fig. 9. Also, closed single bottles may be received by the receiving system 13 in the arrangement shown in Fig. 9.

30 As already mentioned, it is an advantage of the device 1a, 1b according to the invention, that the height of the side walls 15, 16 may be substantially reduced as compared to known devices, while the container 2 remains sufficiently secured. In turn, this also affects the receiving system 13 for receiving closed containers positively.

The low height of the side walls 15, 16, or omitting the side walls 15, 16, leads to a good visibility
35 and accessibility from the outside. For example, a buyer intending to purchase a container 2 or a transporting unit with several containers 2 may simply take out the container 2 or the transporting unit. For example, a vendor has the advantage that a container 2 or the transporting unit may be left in the receiving system 13 as the customer always has a clear view of the containers 2 located therein from the outside.

Furthermore, the devices 1a, 1b are stackable. This is positively affected by the low height of the side walls 15, 16 insofar that the height of the stack of the devices 1a, 1b is lower when compared to known receiving devices.

In part, the invention has been exemplarily described with containers embodied as bottles. However, it can be seen that the device according to the invention is also suitable to receive other containers such as cans, cups, glasses and so on.

The term “annular” is meant to be understood in the sense of a contour “closed in itself” as has become customary in the current language. Therefore, an annular structure does not necessarily have to be round or uniformly round or circular.

The terms “top side” and “bottom side” solely serve for illustration and the sake of clarity as well so as to better understand the invention, in particular, with reference to the figures. It can be understood that the device and the containers may be turned around or be brought into any other orientation as long as the inventive orientation of the device and the containers relative to each other remains. In other words, a “top side” of the container is a first side of the container facing the inventive device. A “bottom side” of the container is a second side of the container facing away from the inventive device. Respectively, in an inventive receiving system comprising two inventive devices, a “top side” of the container is a side of the container facing the first device and facing away from the second device and a “bottom side” is a side of the container facing away from the first device and facing the second device.

SZERKEZET TÁROLÓEDÉNYEK FOGADÁSÁRA ÉS IGAZÍTÁSÁRA

Szabadalmi igénypontok

1. Fogadórendszer (13) első és második szerkezettel (1a, 1b), valamint a két szerkezet között elhelyezett tárolóedényekkel (2), amelyek mindegyikének felsőoldala (3), alsóoldala (4) és zárható nyílása (5) van, ahol a két szerkezet (1a, 1b) mindegyike tartalmaz

aljat (6a, 6b) első oldallal (7a, 7b) és egy az első oldallal (7a, 7b) szemközti második oldallal (8a, 8b), ahol az első oldal (7a, 7b) a tárolóedényekhez (2) érintkezőfelülettel (9) rendelkezik,

ahol az érintkezőfelület (9) érintkezőrészekkel (10a, 10b) rendelkezik és egy-egy érintkezőrész (10a, 10b) mindig egy-egy tárolóedényhez (2) van társítva,

ahol az egy-egy érintkezőrésszel (10a, 10b) társított tárolóedény (2) igazításához az érintkezőrész (10a, 10b) a szerkezet megfelelő első oldalán igazítóeszközzel (11) rendelkezik, ahol az igazítóeszköz (11) megfelelő nyitott tárolóedény (2) nyílásába (5) legalább részlegesen belekapaszkodón van kiképezve,

azzal jellemezve, hogy felnyitott tárolóedények (2) fogadása esetén az első szerkezet (1a) aljának (6a) első oldalán (7a) lévő érintkezőrészek (10a, 10b) a tárolóedény (2) nyílást (5) tartalmazó oldalával érintkeznek és a megfelelő igazítóeszköz (11) legalább részlegesen a tárolóedény (2) nyílásába (5) kapaszkodik bele, továbbá a második szerkezet (1b) aljának (6b) második oldalán (8b) lévő érintkezőrészek (10a, 10b) a tárolóedény (2) nyílással (5) szemközti oldalával érintkeznek, valamint

zárt tárolóedények (2) fogadása esetén az első szerkezet (1a) aljának (6a) második oldalán (8b) lévő érintkezőrészek (10a, 10b) a tárolóedény (2) lezárt nyílást (5) tartalmazó oldalával érintkeznek,

továbbá a második szerkezet (1b) aljának (6b) első oldalán (7a) lévő érintkezőrészek (10a, 10b) a tárolóedény (2) nyílással (5) szemközti oldalával érintkeznek.

2. Az 1. igénypont szerinti fogadórendszer (13), ahol az igazítóeszköz (11) az érintkezőrészben (10a, 10b) körülbelül középen van elrendezve.

5 3. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az igazítóeszköz (11) külső méretei (D_{11}) legalább részben körülbelül a megfelelő társított tárolóedény (2) nyílása (5) méreteinek (d_5) felelnek meg.

4. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az érintkezőrésznek (10a, 10b) gyűrű alakú része (12) van, melynek belső mérete (d_{12}) körülbelül a tárolóedény (2) nyílást (5) tartalmazó oldala
10 (3) külső méretének (D_2) felel meg.

5. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az érintkezőrésznek (10a, 10b) gyűrű alakú része (12) van és az igazítóeszköz (11) a gyűrű alakú részben (12) van elrendezve.

6. Az 5. igénypont szerinti fogadórendszer (13), ahol a gyűrű alakú rész (12) és az igazítóeszköz (11) között felfekvési felület (13) található, melyre a nyitott tárolóedény (2) nyílást (5) tartalmazó oldalának jelentős
15 része fekszik fel.

7. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az igazítóeszköz (11) egy az aljra (6a, 6b) körülbelül merőlegesen futó irányban (h) terjed.

8. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az érintkezőrésznek (10a, 10b) egy az aljra (6a, 6b) körülbelül merőlegesen futó irányban (h) terjedő gyűrű alakú része (12) van.

20 9. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az érintkezőrésznek (10a, 10b) gyűrű alakú része (12) van, ahol a gyűrű alakú rész (12) és az igazítóeszköz (11) körülbelül azonos irányban terjednek.

10. A 8. vagy a 9. igénypont szerinti fogadórendszer (13), ahol az igazítóeszköz (11) és a gyűrű alakú rész (12) mindegyike függőleges kiterjedéssel (h_{11} , h_{12}) rendelkezik, ahol az igazítóeszköz (11) függőleges
25 kiterjedése (h_{11}) és a gyűrű alakú rész (12) függőleges kiterjedése (h_{12}) körülbelül azonos méretű.

11. A 8. vagy a 9. igénypont szerinti fogadórendszer (13), ahol az igazítóeszköz (11) és a gyűrű alakú rész (12) mindegyike függőleges kiterjedéssel (h_{11} , h_{12}) rendelkezik, ahol az igazítóeszköz (11) függőleges kiterjedése (h_{11}) a gyűrű alakú rész (12) függőleges kiterjedésénél (h_{12}) kisebb, előnyösen körülbelül
háromnegyed résszel kisebb, ennél előnyösebben körülbelül felerésszel kisebb, különösen előnyösen
30 körülbelül egynegyed résszel kisebb.

12. A 8. vagy a 9. igénypont szerinti fogadórendszer (13), ahol az igazítóeszköz (11) és a gyűrű alakú rész (12) mindegyike függőleges kiterjedéssel (h_{11} , h_{12}) rendelkezik, ahol az igazítóeszköz (11) függőleges kiterjedése (h_{11}) a gyűrű alakú rész (12) függőleges kiterjedésénél (h_{12}) nagyobb, előnyösen körülbelül
egy negyed résszel nagyobb, ennél előnyösebben körülbelül felerésszel nagyobb, különösen előnyösen
35 körülbelül háromnegyed résszel nagyobb.

13. Az előző igénypontok bármelyike szerinti fogadórendszer (13), ahol az érintkezőrésznek (10a, 10b) gyűrű alakú része (12) van, ahol a gyűrű alakú rész (12) egy vagy több megszakítással (17) rendelkezik.

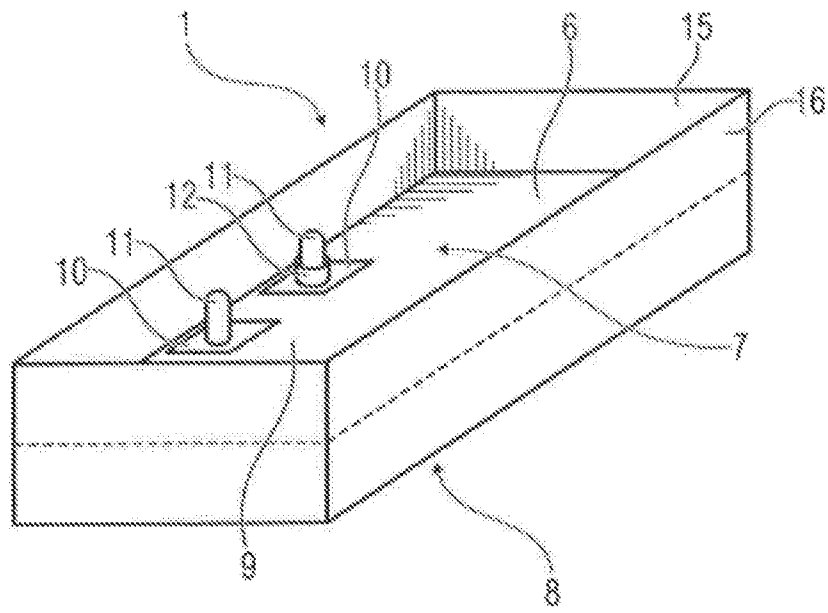
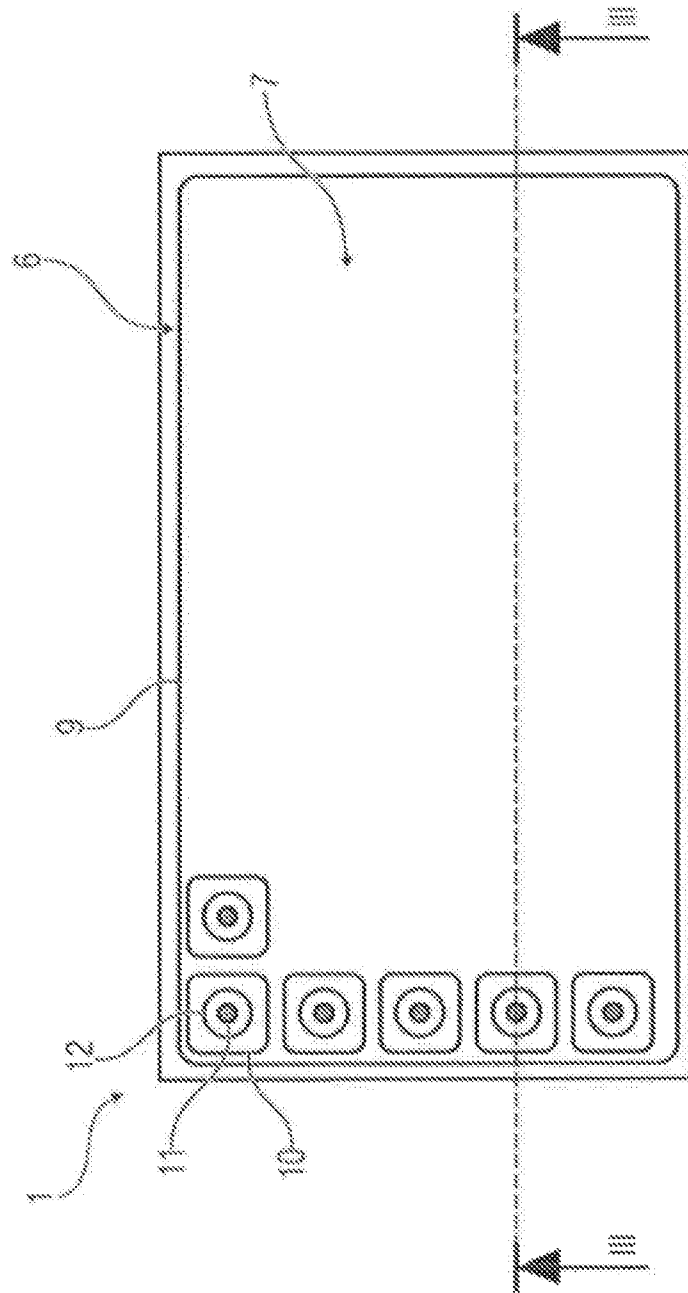


FIG 1



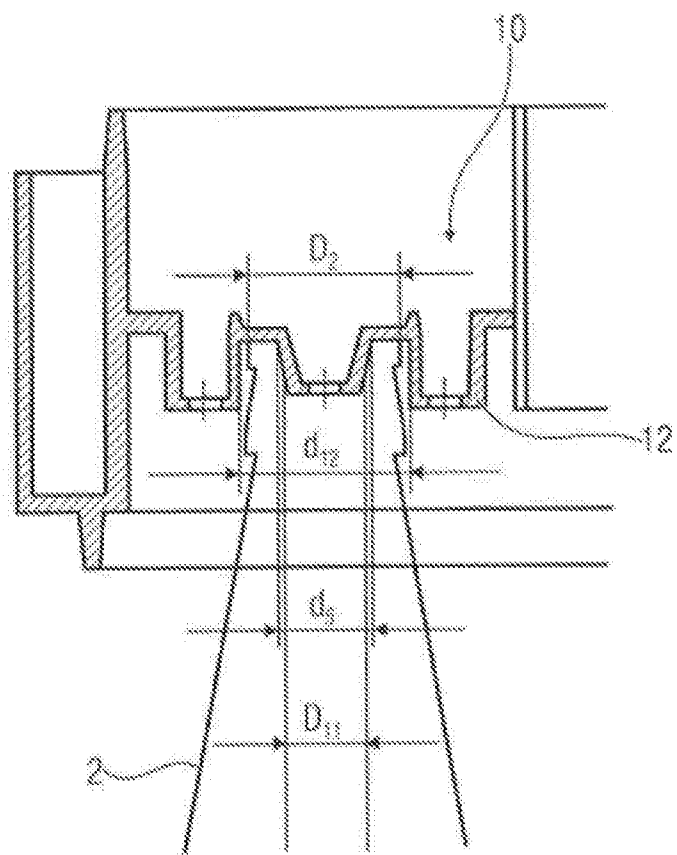


FIG 4

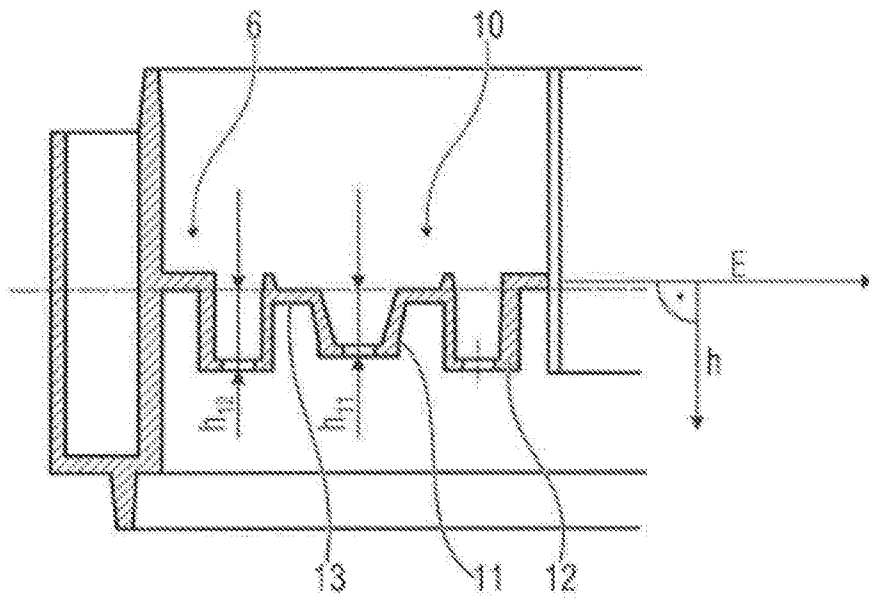


FIG 5

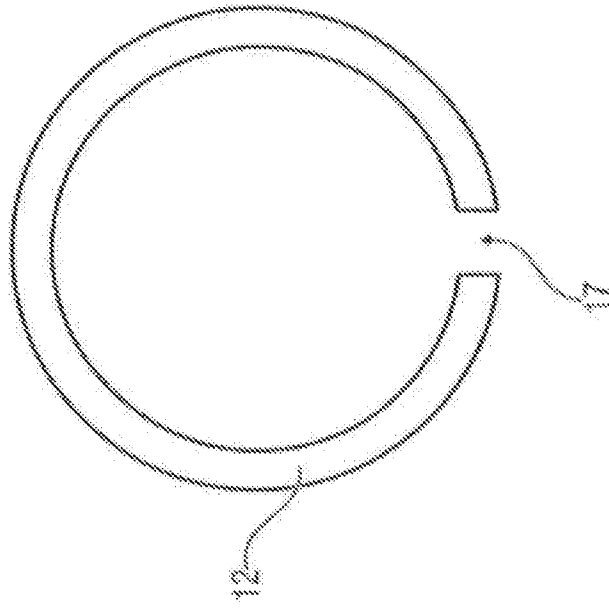


FIG 7

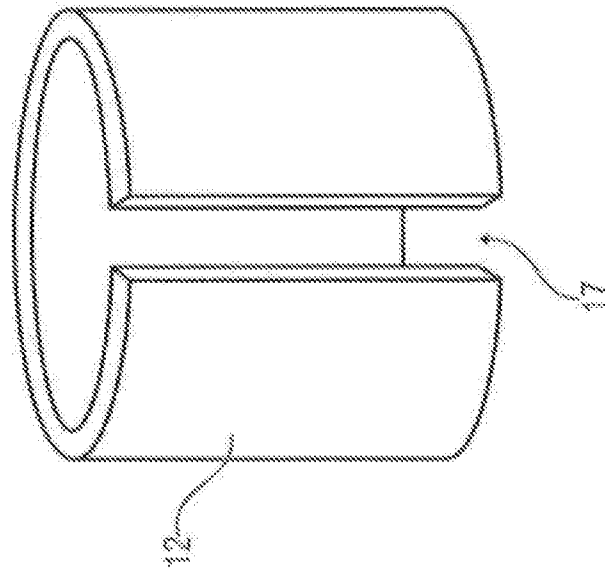


FIG 6

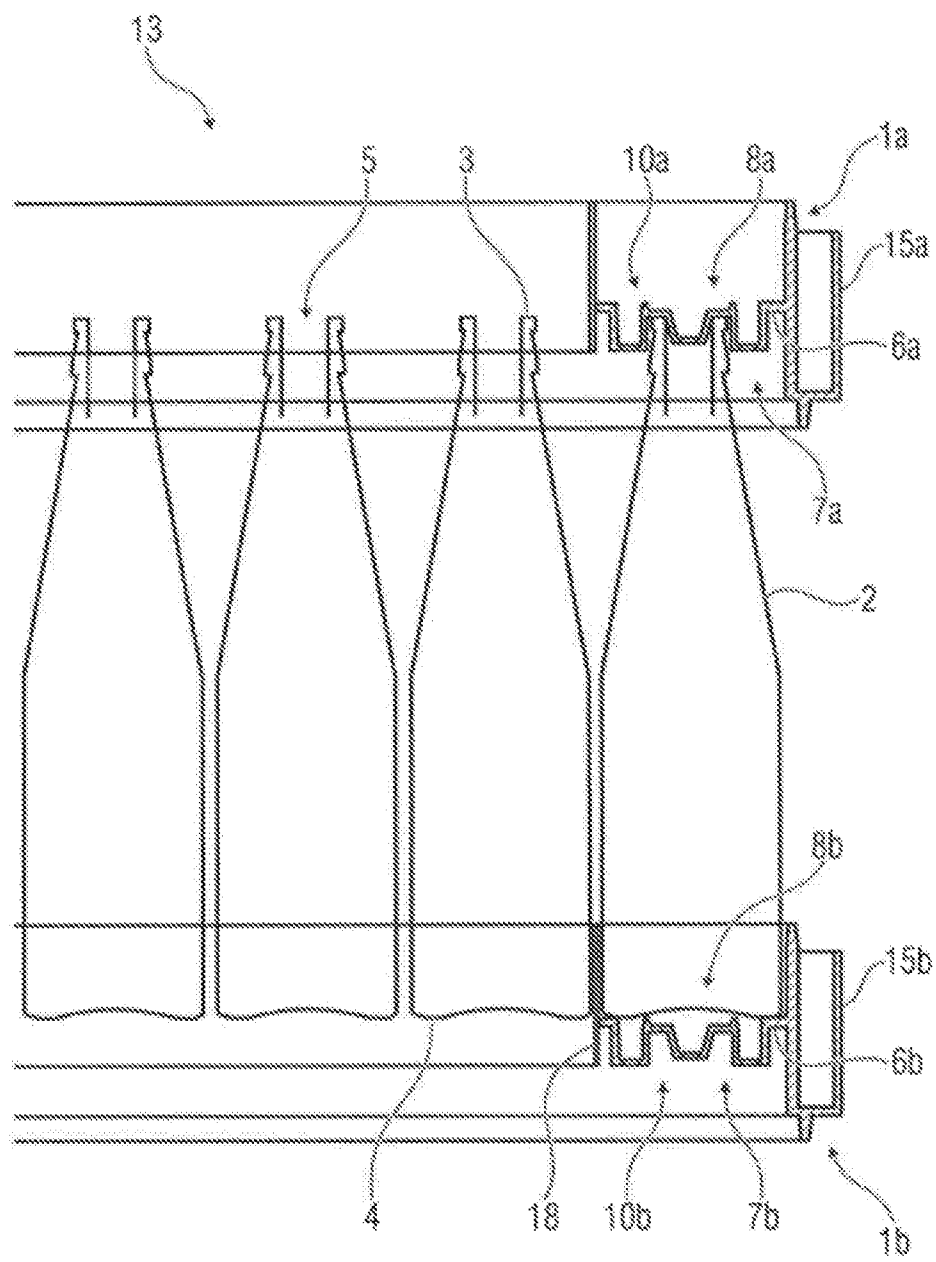


FIG 8

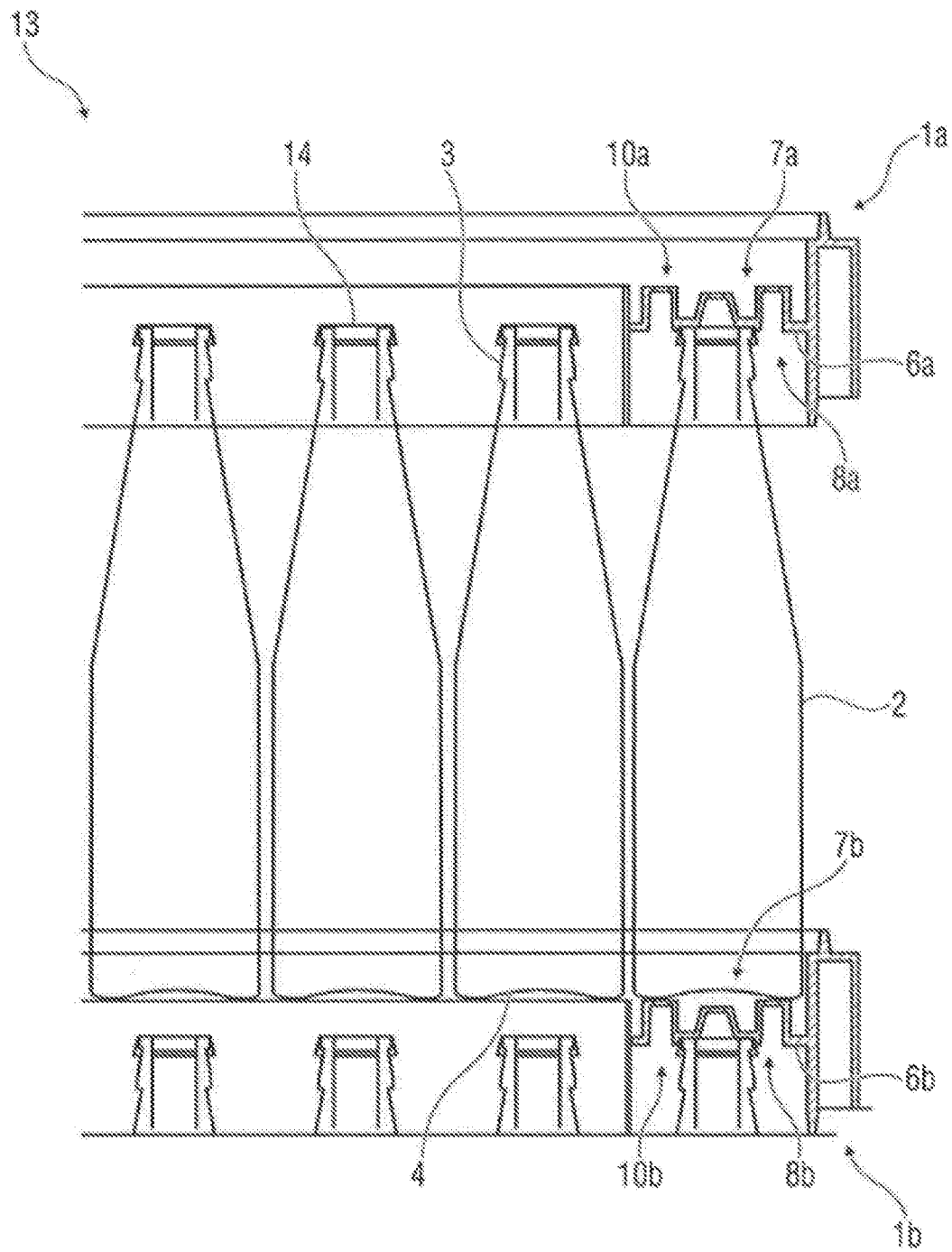


FIG 9