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(54) **A MODULAR CUTLERY BASKET**

EIN MODULARER BESTECKKORB

PANIER A COUVERTS MODULABLE

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**Description**

**[0001]** This invention is related to a modular cutlery basket for dishwashers.

**[0002]** In domestic dishwashers, cutlery baskets are used to ensure effective cleaning of the small items like cutlery during the washing operation.

**[0003]** Fixed cutlery baskets with predetermined capacity do not allow the user to load various amounts of items for washing. In order to eliminate this problem, cutlery baskets with multiple compartments are provided however separating, re-joining, carrying the separated compartments are not easy for the user.

**[0004]** In the state of the art, in US 543 1294 releasably joined components of a modular cutlery basket assembly and its functions are described.

**[0005]** The object of this invention is to provide a modular cutlery basket to provide flexible use in holding the items like cutlery in a dishwasher.

**[0006]** The cutlery basket to attain the object of this invention is shown in the attached drawings wherein:

Figure 1 is a perspective view of a modular cutlery basket

Figure 2 is an exploded top view of a modular cutlery basket

Figure 3 is an exploded detail view of a locking mechanism

Figure 4 is a partially detailed perspective view of a locking mechanism

Figure 5 is a partially detailed perspective view of a locking mechanism in open position,

Figure 6 is a partially detailed perspective view of a locking mechanism in closed position,

Figure 7 is a perspective view of a handle,

Figure 8 is a cross-sectional detailed view showing how to attach the handle to the main basket compartment

Figure 9 is an exploded bottom view of a modular cutlery basket

Figure 10 is a perspective view of a dish rack into which a cutlery basket compartment is located.

**[0007]** The parts in the drawings are numbered as follows:

1. Dish rack for dishwasher
2. Modular cutlery basket
3. Main basket
4. Supplementary baskets
5. Handle
6. Locking mechanism

7. Key

8. Handgrip

5 9. Shaft

10. Ratchet

11. Key holder

10 12. Upper hold

13. Finger

15 14. Lower hold

15. Main basket hanger

16. Main basket hanger hold

20 17. Supplementary basket hanger

18. Supplementary basket hanger hold

25 19. Locking projection

20. Detent

30 21. Separator duct

22. Detent hold

23. Separator

35 24. Key plug

25. Projection

26. Projection hold

40 27. Handle duct

28. Handle rail

45 **[0008]** Dishwashers comprise one or more dish racks (1) to hold items to be washed and one or more modular cutlery baskets (2) to hold cutlery or several other small utensils to allow an efficient washing operation.

50 **[0009]** Modular cutlery basket (2) comprises a main basket (3), one or more supplementary baskets (4), a handle (5) dividing the main basket (3) into compartments used to carry the parts it is attached to, one or more locking mechanism (6) to join and hold the main basket (3) and supplementary baskets (4) together.

55 **[0010]** The locking mechanism (6) comprises one or more keys (7) to provide locking by rotating the same, one or more key holders (11) located on the handle (5) embedding the key (7), one or more key plugs (24) lo-

cated on the main basket (3) and corresponding to the shape of the key (7), one or more locking projections (19) with a projection hold (26) and placed on the said supplementary baskets (4) to ensure locking by pressure.

**[0011]** The key (1) comprises a handgrip (8) to turn the key (7), a partially rounded angular shaft (9) to be embedded into the key holder (11) and to hold fix when the locking mechanism (6) is in open or closed position, a ratchet (10) to provide locking by pressing the locking projection (19) and a projection (25) to make sure that the locking mechanism (6) is fixed in closed position by resting on the projection hold (26).

**[0012]** The key holder (11) comprises an upper hold (12) which grips the shaft (9) from top and having a corresponding shape of the shaft (9), one or more fingers (13) to support the key (7) from its sides and to prevent the key (7) to fall down when attached to the handle (5) in open position and a lower hold (14) bearing the shaft (9) from below.

**[0013]** The main basket (3) is provided with one or more basket hangers (15) on its side walls to be joined with the supplementary baskets (4) and one or more main basket hanger holds (16), one or more separators (23) to divide the space into compartments, one or more C-shaped handle ducts (27) to secure the handle, one or more detent holds (22) to secure the handle (5) to the basket (3).

**[0014]** The handle (5) comprises a separator duct (21) to be secured to the separator (23), one or more handle rails (28) fixed to the handle duct (27) and one or more detents (20) to secure the handle (5) to the main basket (3).

**[0015]** Supplementary baskets (4) comprise one or more supplementary basket hangers (17) attached from their side walls to the main basket hanger holds (16) to be secured to the main basket (3), one or more supplementary basket hanger holds (18) to which the main basket hangers (15) are secured and one or more separators (23) dividing the main basket (3) into compartments.

**[0016]** To connect the parts of the modular cutlery basket (2) to each other, keys (7) are placed into the key holder (11) existing on the handle (5). Keys (7) placed in this way into their holders by turning either side after holding from handgrip (8) are brought onto the finger (13) and in this way, the locking mechanism (6) is brought to its open position. After separator duct (21) is secured to the separator (23), and handle rails (28) are secured to the handle duct (27), the handle (5) is pushed inside the main basket (3) until detents (20) are fastened to detent holds (22). After main basket hangers (15) are fastened to the supplementary hanger holds (18) and supplementary basket hangers (17) to main basket hanger holds (16), in this way the supplementary baskets (4) are secured to the main basket (3), keys (7) are turned by holding from handgrip (8) until the projections (25) rest on the projection holds (26) to bring the locking mechanism (6) to the closed positions, thus ensuring the locking. As all the components of the modular cutlery basket (2) are

locked by the locking mechanism (6), it is easily and safely handled as a single basket.

**[0017]** By releasing the locking mechanism (6) and separating the baskets from each other, each basket may be used in any desired location on the dish rack (1) and thus this assembly provides easy and flexible use of the basket.

## 10 Claims

1. A modular cutlery basket (2) used in a dishwasher comprising a main basket (3), one or more supplementary baskets (4), a handle (5) dividing the main basket (3) into smaller compartments and to carry the basket assembly **characterized in that** it comprises one or more locking mechanisms (6) having one or more keys (7) which ensures locking and releasing by turning either side, one or more key holders (11) bearing the key (7) located on the handle (5), one or more key plugs (24) placed on the main basket (3) provided with a shape to conform the key (7) and one or more locking projections (19) located on the supplementary baskets (4) which ensure locking by pressure.
2. A modular cutlery basket (2) as described in claim 1, **characterized by** its having a locking projection (19) comprising a projection hold (26).
3. A modular cutlery basket (2) as described in claim 1 and 2 **characterized by** its having a key (7) that comprises a handgrip (8) to turn it, a shaft (9) having partially rounded angular shape to be born in the key plug (11), a ratchet (10) which ensures locking by pressing the locking projection (19) and a projection (25) making sure that the locking mechanism (6) is held fix in its closed position by resting on the projection hold (26).
4. A modular cutlery basket (2) as described in claim 1 to 3 **characterized in that** a key holder (11) comprises an upper hold (12) which grips shaft (9) from top corresponding the shape of the shaft (9), one or more fingers (13) to support the keys from sides (7) and a lower hold (14) to bear the shaft (9) from bottom shaft.
5. A modular cutlery basket (2) as described in any of the claims mentioned above **characterized in that** the main basket (3) comprises one or more main basket hangers (15) to be secured to the supplementary baskets (4), one or more main basket hanger holds (16), supplementary baskets (4) having one or more supplementary basket hangers (17) attached from their side walls to the main basket hanger holds (16) to be secured to the main basket (3), one or more supplementary basket hanger holds (18) to

which the main basket hangers (15) are secured.

6. A modular cutlery basket (2) as described in any of the claims mentioned above **characterized in that** the main basket (3) comprises one or more separators (23) to divide the basket into compartments, one or more handle ducts (27) to facilitate the handle (5) attachment, one or more detent holds (22) to secure the handle (5) to the main basket (3).
7. A modular cutlery basket (2) as described in any one of the claims above **characterized in that** the handle (5) comprises a separator duct (21) to be secured to the separator (23), one or more handle rails (28) fixed onto the handle duct (27), one or more detents (20) to secure the handle (5) to the main basket (3).
8. A modular cutlery basket (2) as described in any of the claims above **characterized in that** supplementary baskets (4) comprise one or more separators (33) to divide the basket into compartments separate volume of usage into compartments.

#### Patentansprüche

1. Modularer Besteckkasten (2) zur Benutzung in einer Spülmaschine, der Folgendes aufweist: Einen Hauptkorb (3), einen oder mehrere Zusatzkörbe (4), einen Griff (5) zum Teilen des Hauptkorbs (3) in kleinere Abteilungen und zum Tragen des Korbaufbaus, **dadurch gekennzeichnet, dass** er einen oder mehrere Schließmechanismen (6) mit einem oder mehreren Schlüsseln (7) aufweist, der ein Schließen oder Freigeben durch Drehen zu einer Seite sicherstellt, einen oder mehrere Schlüsselhalter (11), die den Schlüssel (7) tragen, der an dem Griff (5) angeordnet ist, einen oder mehrere Schlüsselstifte (24), die an dem Hauptkorb (3) angeordnet sind, und die mit einer Form zur Passung an den Schlüssel (7) versehen sind, und ein oder mehrere Schließvorsprünge (19), die an den Zusatzkörben (4) angeordnet sind, und die ein Schließen durch Druck sicherstellen.
2. Modularer Besteckkasten (2) nach Anspruch 1, **dadurch gekennzeichnet, dass** er einen Schließvorsprung (19) aufweist, der ein Vorsprunghalteelement (26) umfasst.
3. Modularer Besteckkasten (2) nach Anspruch 1 und 2, **dadurch gekennzeichnet, dass** er einen Schlüssel (7) aufweist, der einen Handgriff (8) umfasst, um ihn zu drehen, einen Schaft (9), der eine teilweise abgerundete Winkelform aufweist, um von dem Schlüsselhalter (11) gehalten zu werden, eine Sperrvorrichtung (10), die ein Schließen durch Drücken des Schließvorsprungs (19) sicherstellt, und einen

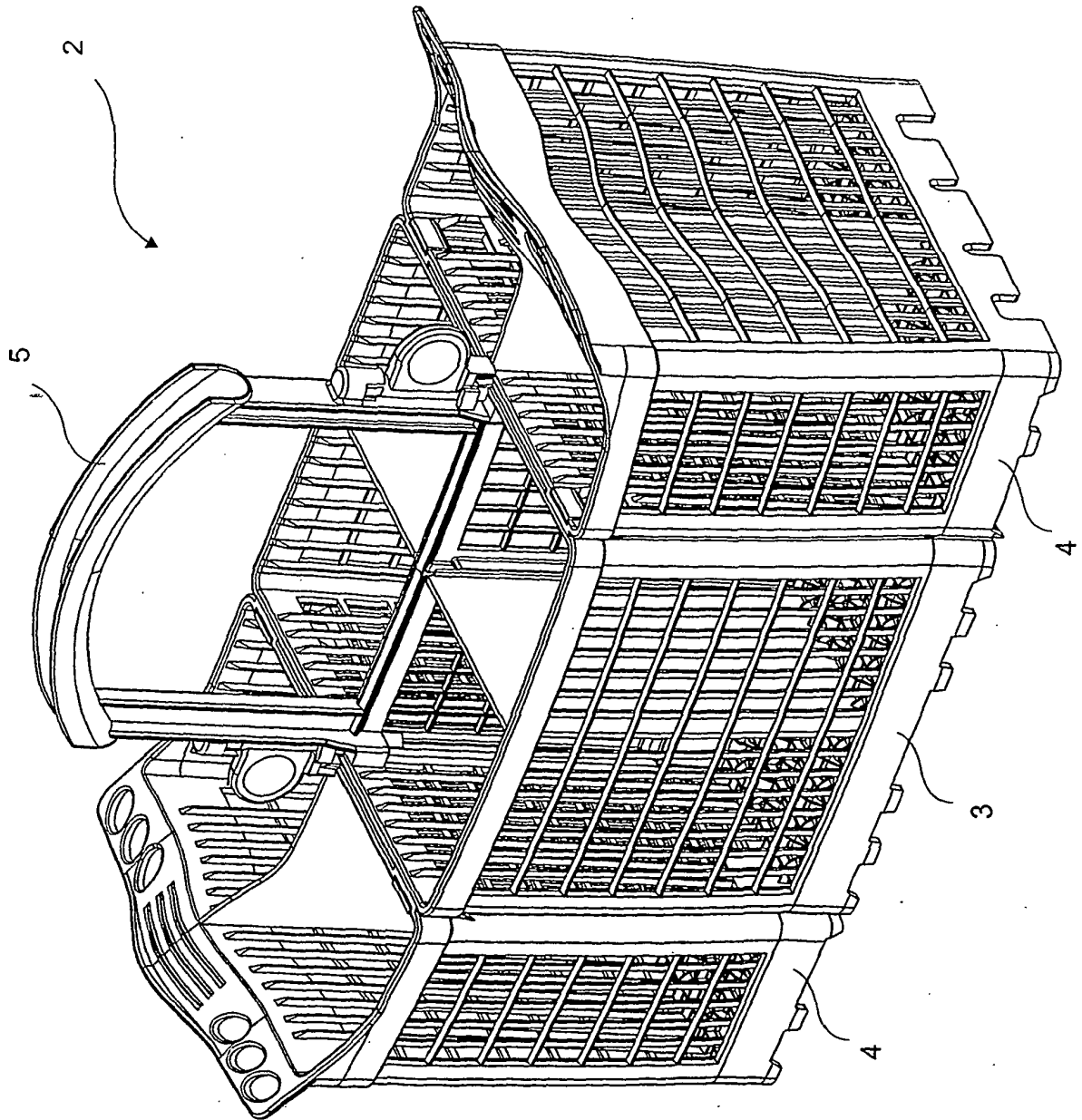
Vorsprung (25), der sicherstellt, dass der Schließmechanismus (6) durch Ruhen auf dem Haltevorsprung (26) fest in seiner geschlossenen Position gehalten wird.

4. Modularer Besteckkasten (2) nach Anspruch 1 bis 3, **dadurch gekennzeichnet, dass** ein Schlüsselhalter (11) einen oberen Halter (12) umfasst, der den Schaft (9) von oben greift, und der der Form des Schafts entspricht, sowie ein oder mehrere Zapfen (13) zum Stützen des Schlüssels von Seiten (7), sowie einen unteren Halter (14) zum Tragen des Schafts (9) vom Schaftboden.
5. Modularer Besteckkasten (2) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Hauptkorb (3) einen oder mehrere Korbaufhänger (15) zum Sichern an den Zusatzkörben (4) umfasst, sowie einen oder mehrere Korbaufhängerhalter (16), Zusatzkörbe (4) mit einem oder mehreren Zusatzkorbaufhängerhaltern (17), die von ihren Seitenwänden an den Hauptkorbaufhängerhaltern (16) befestigt sind, um an dem Hauptkorb (3) gesichert zu werden, und einen oder mehrere Zusatzkorbaufhängerhalter (18), an denen die Hauptkorbaufhängerhalter (15) gesichert sind.
6. Modularer Besteckkasten (2) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Hauptkorb (3) einen oder mehrere Separatoren (23) umfasst, um den Korb in Abteilungen zu teilen, sowie eine oder mehrere Griffführungen (27), um das Befestigen des Griffs (5) zu erleichtern, und einen oder mehr Arretierhalter (22), um den Griff (5) an dem Hauptkorb (3) zu sichern.
7. Modularer Besteckkasten (2) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Griff (5) eine Separatorführung (21) zum Sichern an dem Separator (23) aufweist, sowie eine oder mehrere Griffschienen (28), die an der Griffführung arretiert sind, und ein oder mehrere Arretiermittel (20), um den Griff (5) an dem Hauptkorb zu sichern.
8. Modularer Besteckkasten (2) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Zusatzkörbe (4) einen oder mehrere Separatoren (33) aufweisen, um den Korb in Abteilungen mit separatem Nutzungsvolumen der Abteilungen zu teilen.

#### Revendications

1. Panier modulaire de fourchettes et de cuillères (2) utilisé dans des lave-vaisselles, **caractérisé en ce qu'il** comporte un panier principal (3), un ou plu-

- sieurs paniers supplémentaires (4), une anse (5) divisant le volume du panier principal (3) en plusieurs compartiments et utilisée pour porter les pièces auxquelles ce dernier est lié, une ou plusieurs clés (7) assurant le verrouillage du système en tournant, une ou plusieurs bases de clé (11) soutenant la ou les clés (7) et situées sur l'anse (5), un ou plusieurs vides de clé (24) réalisés en fonction de la forme de la ou des clés (7) et situés sur le panier principal (3), et un ou plusieurs mécanismes de verrouillage (6) assurant le verrouillage en étant serrés, placés sur les paniers supplémentaires (4) et contenant un ou plusieurs bras de verrouillage (19).
- 5
2. Panier modulaire de fourchettes et de cuillères (2) selon la revendication précédente **caractérisé en ce qu'il** comporte un appui saillant (26) contre lequel le bras de verrouillage (19) puisse s'appuyer.
- 10
3. Panier modulaire de fourchettes et de cuillères (2) selon les revendications précédentes **caractérisé en ce qu'il** comporte une clé (7) contenant une poignée de main (8) qui la fait bouger, un arbre (9) qui la place sur la base de clé (11), un cliquet (10) assurant le verrouillage du bras de verrouillage (19) en le serrant et une partie saillante (25) entraînant la fixation du mécanisme de verrouillage (6) dans sa position fermée en se plaçant sur l'appui saillant (26).
- 15
4. Panier modulaire de fourchettes et de cuillères (2) selon les revendications de 1 à 3 **caractérisé en ce que** ladite base de clé (11) comporte une base supérieure (12) conforme à la forme de l'arbre (9) pour former un appui du haut à ce dernier, un ou plusieurs panneaux en grille (13) soutenant la clé (7) des deux côtés et empêchant qu'elle tombe lorsqu'elle est placée sur l'anse (5) et une base inférieure (14) pour former un appui du bas à la clé (7).
- 20
5. Panier modulaire de fourchettes et de cuillères (2) selon l'une des revendications précédentes **caractérisé en ce que** ledit panier principal (3) contient un ou plusieurs cintres de panier principal (15) et bases de cintre (16) sur ses côtés pour assurer la mise des paniers supplémentaires (4) sur le panier principal (3) et **en ce que** lesdits paniers supplémentaires (4) contiennent un ou plusieurs cintres de panier supplémentaire (17) qui pourraient être montés aux bases de cintre de panier principal (16) et une ou plusieurs bases de cintre de panier supplémentaire (18) où les cintres de panier principal (15) pourraient être montés.
- 25
6. Panier modulaire de fourchettes et de cuillères (2) selon l'une des revendications précédentes **caractérisé en ce que** le panier principal (3) comporte un ou plusieurs canaux de l'anse (27) pour le montage de l'anse (5) au panier principal (3), un ou plusieurs
- 30
- base de cliquet (22) pour assurer la fixation de l'anse (5) et un ou plusieurs séparateurs (23) utilisés afin de diviser le volume du panier en plusieurs compartiments.
- 35
7. Panier modulaire de fourchettes et de cuillères (2) selon l'une des revendications précédentes **caractérisé en ce que** ladite anse (5) contient un canal de séparateur (21) pour le montage de celle-ci au séparateur (23), un ou plusieurs rails d'anse (28) placés sur les canaux d'anse (27) et un ou plusieurs cliquets (20) pour assurer la fixation de l'anse (5) sur le panier principal (3).
- 40
8. Panier modulaire de fourchettes et de cuillères (2) selon l'une des revendications précédentes **caractérisé en ce que** lesdits paniers supplémentaires comportent un ou plusieurs séparateurs (33) utilisés afin de diviser le volume du panier en plusieurs compartiments.
- 45
- 50
- 55



**Figure 1**

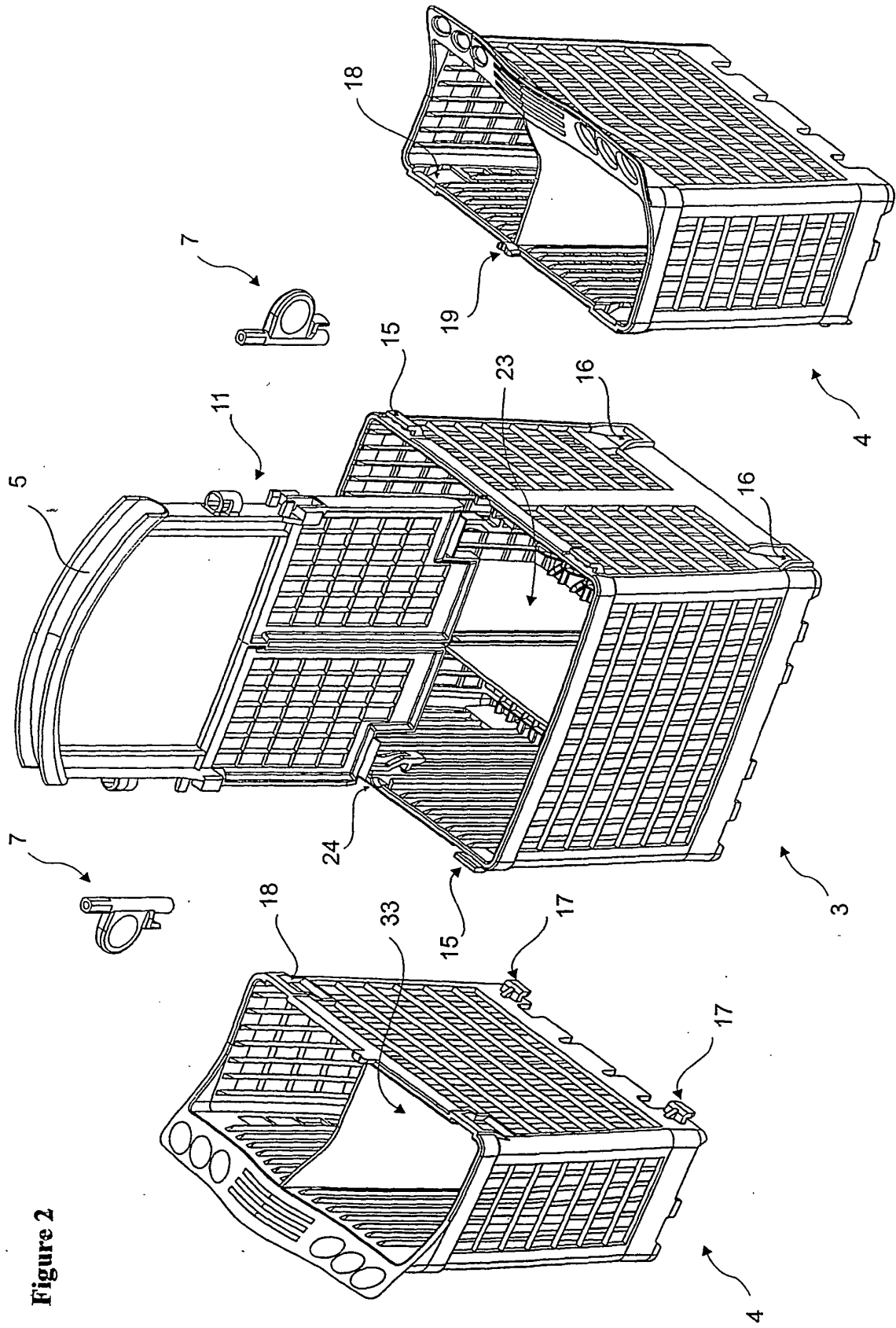


Figure 2

Figure 3

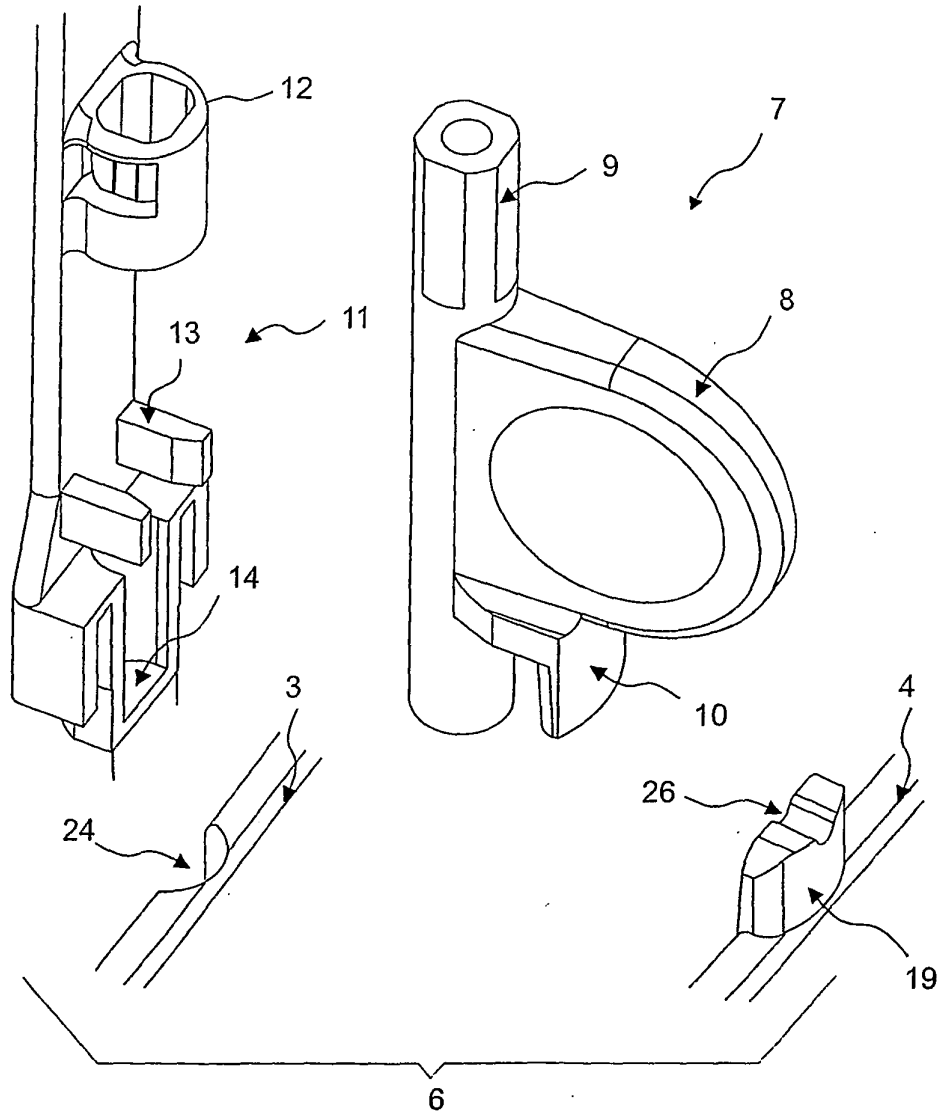


Figure 4

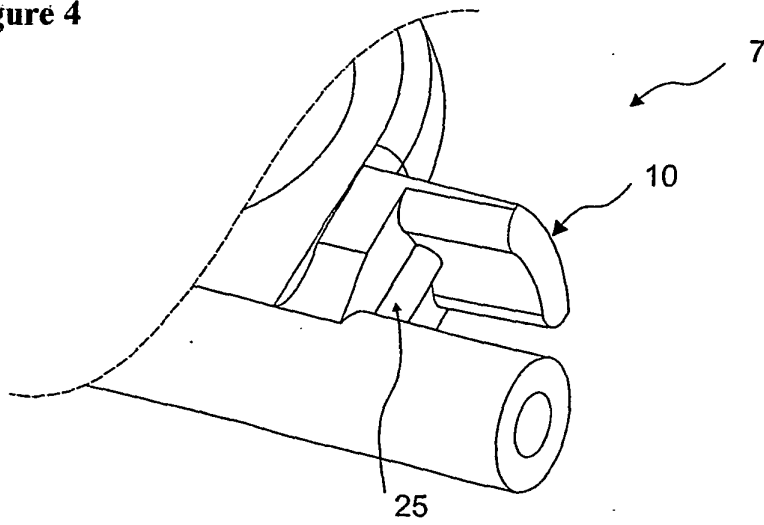


Figure 5

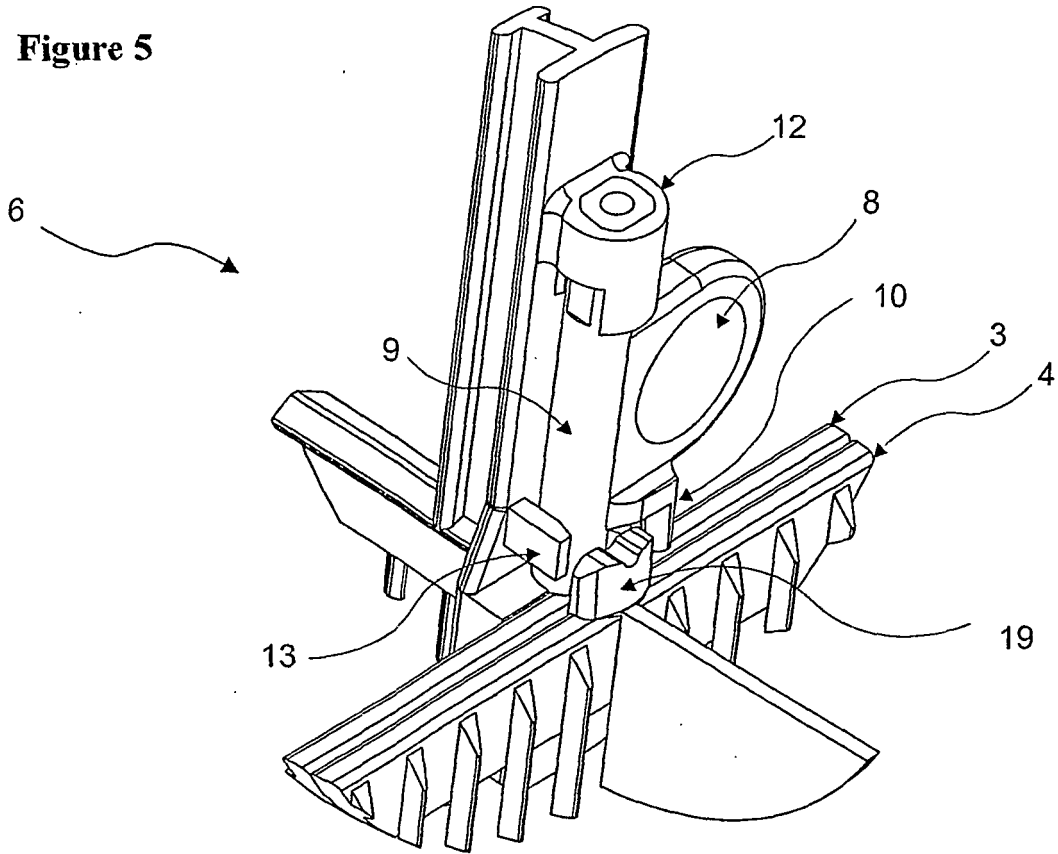


Figure 6

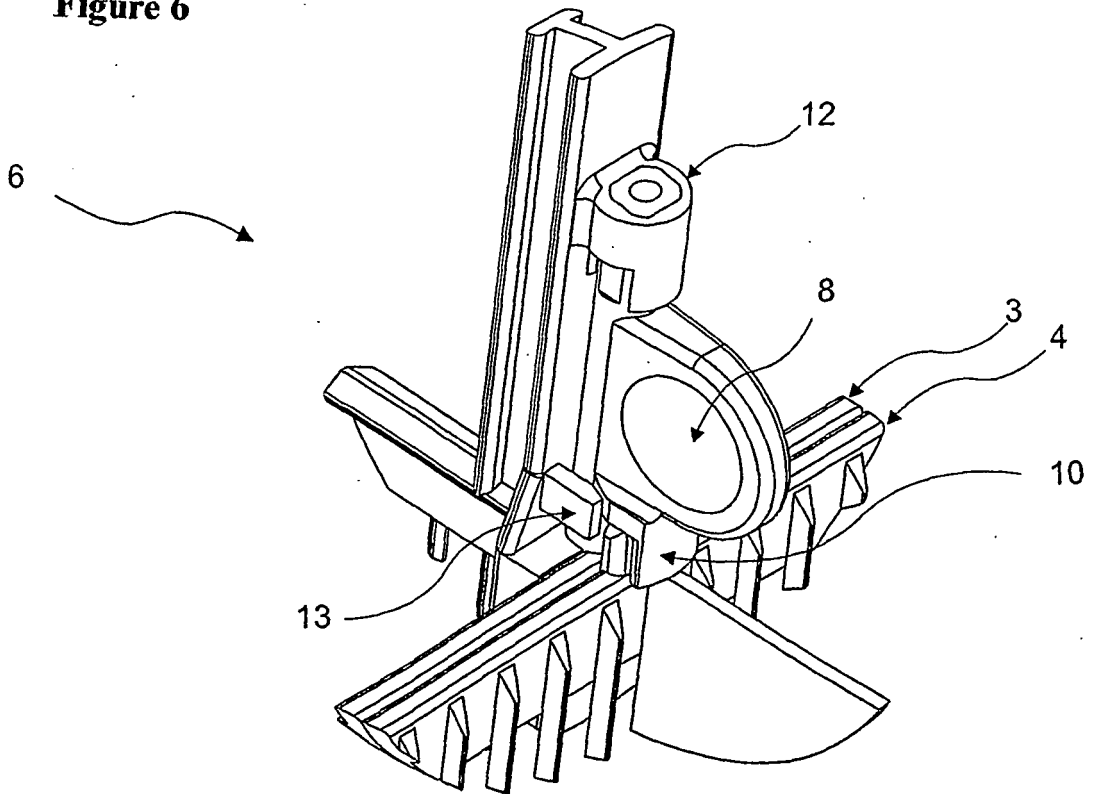


Figure 7

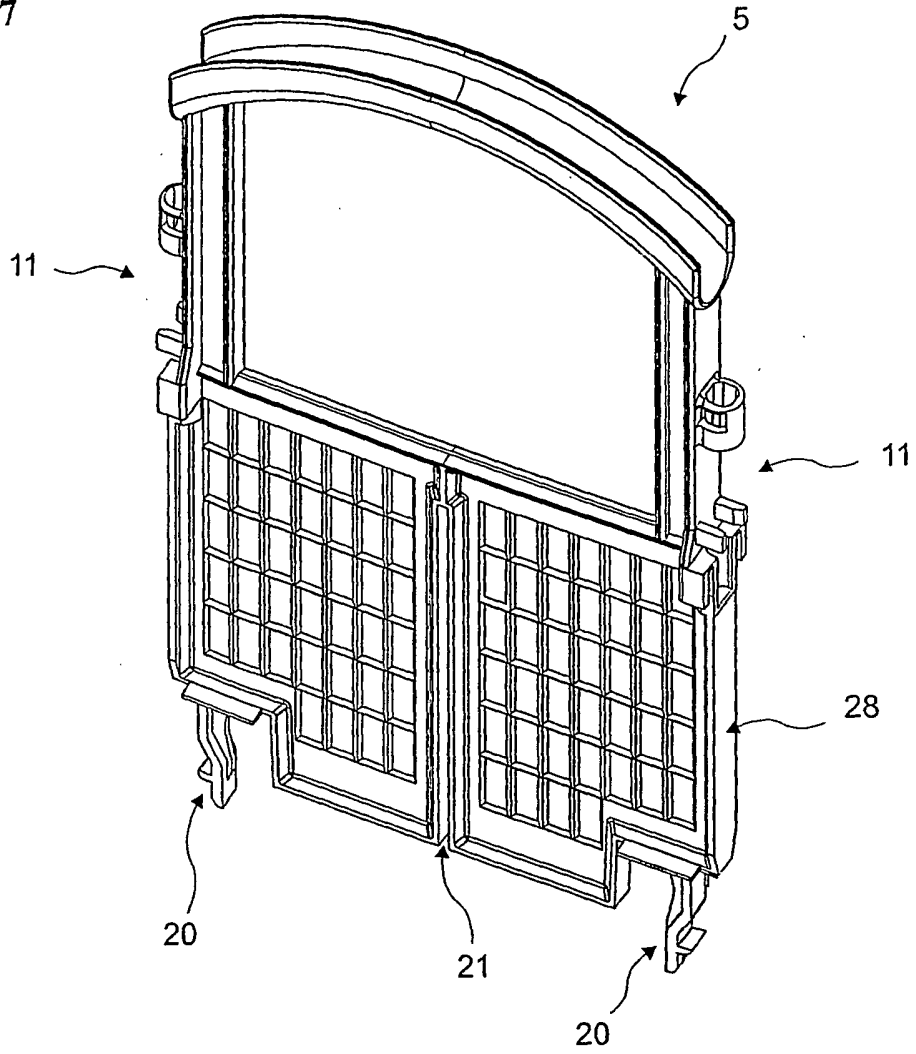


Figure 8

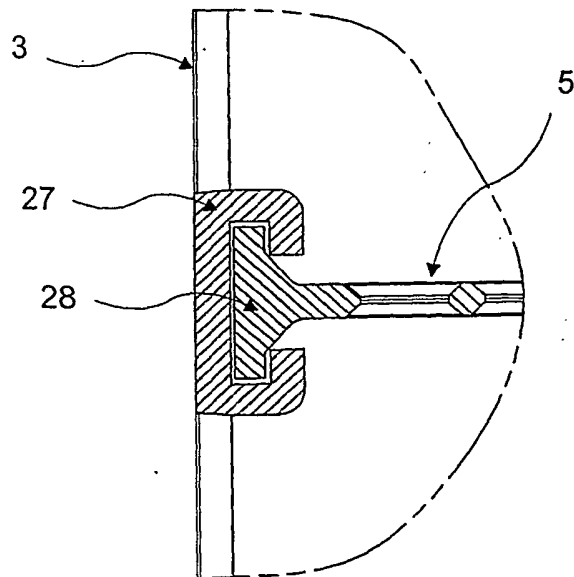


Figure 9

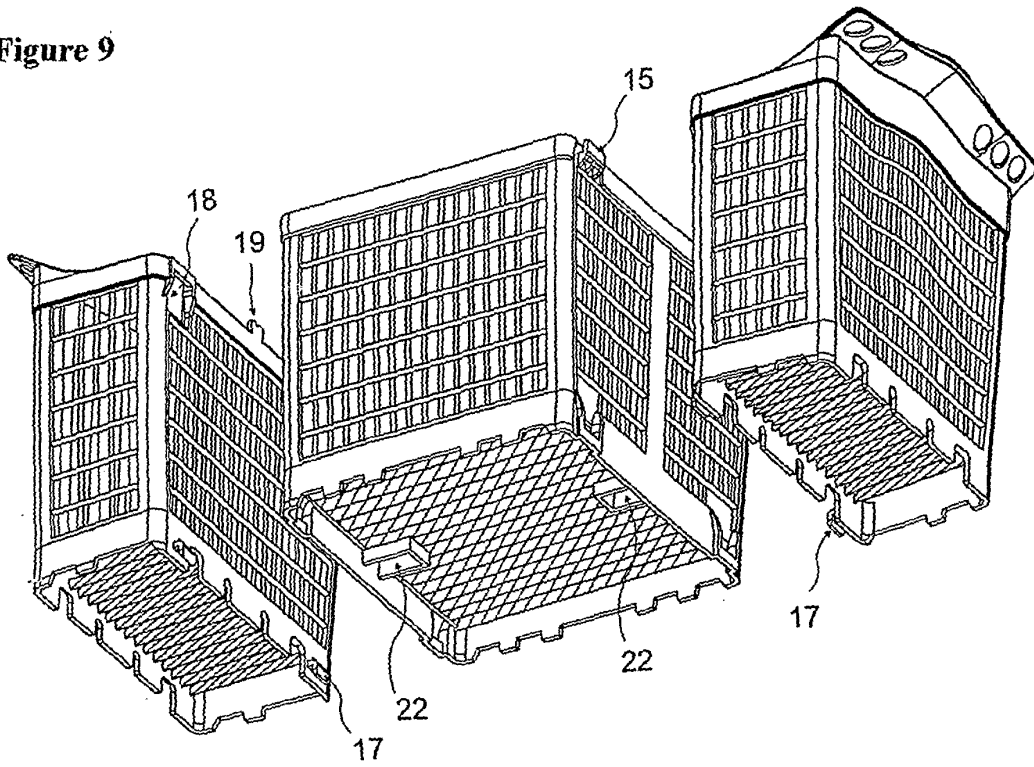


Figure 10

