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(54) Removable bakery tray insert

(57) A removable bakery tray insert (10) according to one embodiment of the present invention includes a first end portion (14) for supporting an upper bakery tray and a second end portion (18) that is adapted to engage a floor structure (34) of a bakery tray. An elongated body portion (22) extends between the first end portion (14) and second end portion (18). When installed in the bakery tray, the insert (10) is spaced apart from side walls (42) that extend upwardly from the lower bakery tray floor structure in order to support a floor structure of another bakery tray stacked thereon.

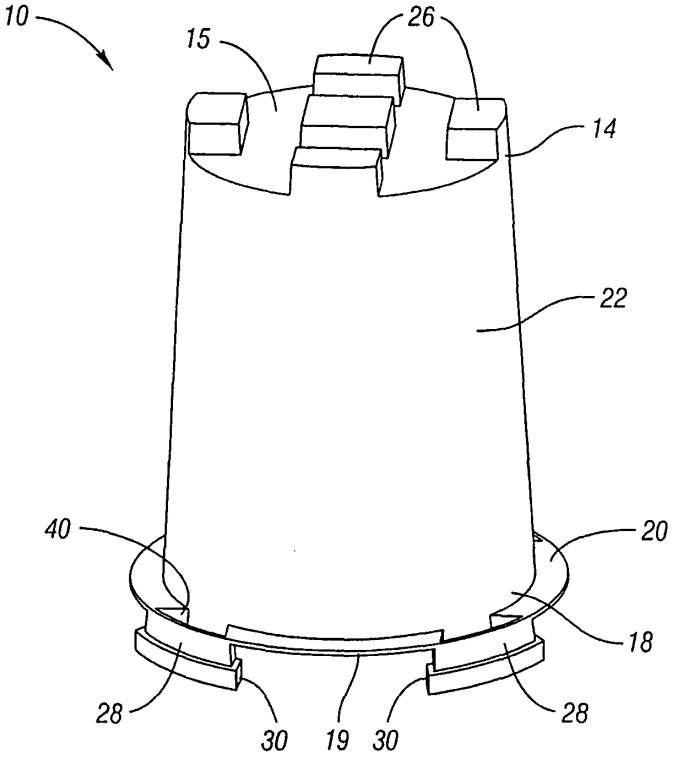

Fig. 1

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Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates generally to bakery trays and more particularly to a removable insert for supporting a stacked bakery tray.

[0002] Stackable plastic bakery trays are used for storing and transporting a variety of goods. Some bakery trays include a floor with upwardly extending side walls that define an interior of the bakery tray. Goods are transported within the interior of the bakery tray. Side walls of one bakery tray may support another bakery tray when stacked. The front and rear walls are substantially shorter than the side walls in order to facilitate access to the interior of the tray. The shorter front and rear walls reduce the stiffness of the bakery tray in that dimension.

SUMMARY OF THE INVENTION

[0003] A removable bakery tray insert according to one embodiment of the present invention includes a first end portion for supporting the floor of an upper bakery tray and a second end portion for engaging the floor of a lower bakery tray. An elongated body portion extends between the first end portion and second end portion. The insert is installed into the lower bakery tray such that the elongated portion is spaced apart from the side walls. With the insert, the bakery tray can be used to support heavier items, such as tortillas.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] These and other features of the present invention can be best understood from the following specification and drawings, the following of which is a brief description.

Figure 1 is a perspective view of an example insert.
Figure 2 is a side view of the Figure 1 insert.
Figure 3 is a perspective view of an example bakery tray.
Figure 4 is a perspective view of the insert of Figure 1 installed into the bakery tray of Figure 3.
Figure 5 is a top view of the Figure 4 bakery tray.
Figure 6 is a cutaway view through line A-A of Figure 5.
Figure 7 is a cutaway view through line B-B of Figure 5.
Figure 8 is a perspective view of the Figure 4 bakery tray with another bakery tray stacked thereon.
Figure 9 is a cutaway view of the Figure 8 bakery trays through line A-A of Figure 5.
Figure 10 is a cutaway view of the Figure 8 bakery trays through line B-B of Figure 5.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0005] Referring to Figures 1-2, an example removable insert 10 includes an elongated body portion 22 extending between a first end portion 14 and a second end portion 18. The portion 22 is hollow and has a generally cylindrical shape. The insert 10 tapers from a flange 20 at the wider second end portion 18 to the narrower first end portion 14. The flange 20 includes a plurality of circumferentially-spaced, axial protrusions 28. Snap-tabs or clips 30 may be formed on the protrusions to provide positive locking. Pockets 40 within the protrusions 28 facilitate molding the protrusions 28 on the second end portion 18 of the insert 10. The insert 10 is open at its second end 19, while the first end portion 14 includes an upper support surface 15 from which a plurality of protrusions 26 extend upwardly.

[0006] A bakery tray 38, such as is shown in Figure 3, includes a floor structure 34 generally comprising a grid of ribs 36. The bakery tray 38 further includes shorter front and rear walls 44 and taller side walls 42 extending upwardly from the perimeter of the floor structure 34 of the bakery tray 38. Many variations of bakery trays similar to the one shown in Figure 3 are known in the art. As they are generally designed for bread, they are not suitable for heavier items, such as tortillas. In particular, the floor structure 34 is not sufficiently rigid for supporting heavier items.

[0007] Referring to Figures 4-5, the insert 10 is installed onto the floor structure 34 of the bakery tray 38. When installed, the second end portion 18 of the removable insert 10 engages the floor structure 34 of the bakery tray 38 with the protrusions 28 extending through openings 46 between the ribs 36 within the floor structure 34, with the flange 20 of the insert resting on top of the ribs 36. When the insert 10 is installed on the floor structure 34 of the bakery tray 38, the insert 10 is spaced apart from the walls 42, 44 to provide room for carrying goods.

[0008] Referring to Figures 6-7, the protrusions 28 contact the ribs 36 to maintain the removable insert 10 in a laterally-engaged position with the floor structure 34. The engaged position limits relative movement between the bakery tray 38 and the insert 10. The optional clips 30 (Figure 1) may snap-fit below an upper portion of the T-shaped ribs 36 to positively engage the insert 10 with the floor structure 34. A person skilled in the art and having the benefit of this disclosure would be able to develop other clip designs or other mechanisms for suitable maintaining the insert 10 with the floor structure 34. A user wishing to remove the insert 10 from the floor structure 34 flexes the insert 10 to move the clips 30 past the ribs 36 to disengage the insert 10 from the floor structure 34.

[0009] As shown in Figures 8-10 the side walls 42 and the insert 10 support a similar bakery tray 38A in a stacked relationship. The protrusions 26 of the first end portion 14 interlock with the holes 46A between the ribs 36A of the upper bakery tray 38A for maintaining the po-

sition of the removable insert 10 relative the floor structure 34A of the upper bakery tray 38A. To support the floor structure 34A of the upper bakery tray 38A, the upper support surface 15 of the insert contacts the ribs 36A of the upper bakery tray 38A.

[0010] As shown, the removable insert 10 remains spaced from the side walls 42 to maintain a storage area for goods transported or stored within the bakery trays 38, 38A. The shorter side walls 42 provide access to goods within the bakery tray 38 when stacked. Although only two bakery trays 38A are shown, it should be understood that many bakery trays 38 would be stacked on one another in this manner, with the inserts 10 transferring the loads of each bakery tray 38 floor structure 34 to one another and finally to the floor structure 34 of the bottom bakery tray 38, which would be directly supported by the floor.

[0011] In one example, the inserts 10, 10A are added to the bakery trays 38, 38A when storing or transporting heavier goods like tortillas. If added support is no longer needed, such as when transporting or storing lighter goods like bread, the insert 10 may be removed from the bakery tray 38, as shown in Figure 10. Removing the insert 10 is also desirable when cleaning or replacing the insert 10, the bakery tray 38, or both, for example.

[0012] Although a preferred embodiment of this invention has been disclosed, a worker of ordinary skill in this art would recognize that certain modifications would come within the scope of this invention. For that reason, the following claims should be studied to determine the true scope and content of this invention.

Claims

1. A removable insert for supporting stackable trays comprising:

   a first end portion including an upper support surface having a plurality of upper protrusions therefrom;
   a second end portion having a flange from which a plurality of lower protrusions extend downwardly; and
   an elongated body portion between the first end portion and the second portion.

2. The removable insert of claim 1, wherein the first end portion is adapted to contact and interlock with an upper tray floor structure to support the upper tray.

3. The removable insert of claim 1, wherein the plurality of lower protrusions include clip for securing to a tray floor structure.

4. The removable insert of claim 1, where the elongated body portion is generally cylindrical.

5. The removable insert of claim 4, wherein the elongated body portion is tapered from the second end portion to the first end portion.

6. The removable insert of claim 5, wherein the second end portion of the insert includes an open axial end.

7. The removable insert of claim 6, further including a pocket formed in each of the plurality of lower protrusions.

8. The removable insert of claim 7, wherein the flange extends radially from an outer surface of the second end portion.

9. A configurable tray assembly comprising:

   a bottom floor structure;
   a plurality of side walls extending upwardly from the bottom floor structure; and
   an insert for supporting another tray in a stacked relationship, the insert removably mounted to the bottom floor structure and spaced from the plurality of side walls.

10. The configurable tray assembly of claim 9, wherein the insert includes a plurality of protrusions from a lower end for interlocking with the bottom floor structure.

11. The configurable tray assembly of claim 10, wherein the bottom floor structure includes a plurality of ribs, the protrusions interlocking the plurality of ribs when mounted to the bottom floor structure.

12. The configurable tray assembly of claim 11, wherein said plurality of side walls and said insert are arranged to support a second tray in a stacked relationship.

13. The configurable tray of claim 12, wherein the tray is a first tray and having a second tray stacked thereon, the insert supporting a floor structure of the second tray thereon.

14. The configurable tray of claim 12, wherein the tray further including a front wall and a rear wall extending upwardly from the bottom floor structure, wherein the side walls are taller than the front wall and the rear wall.

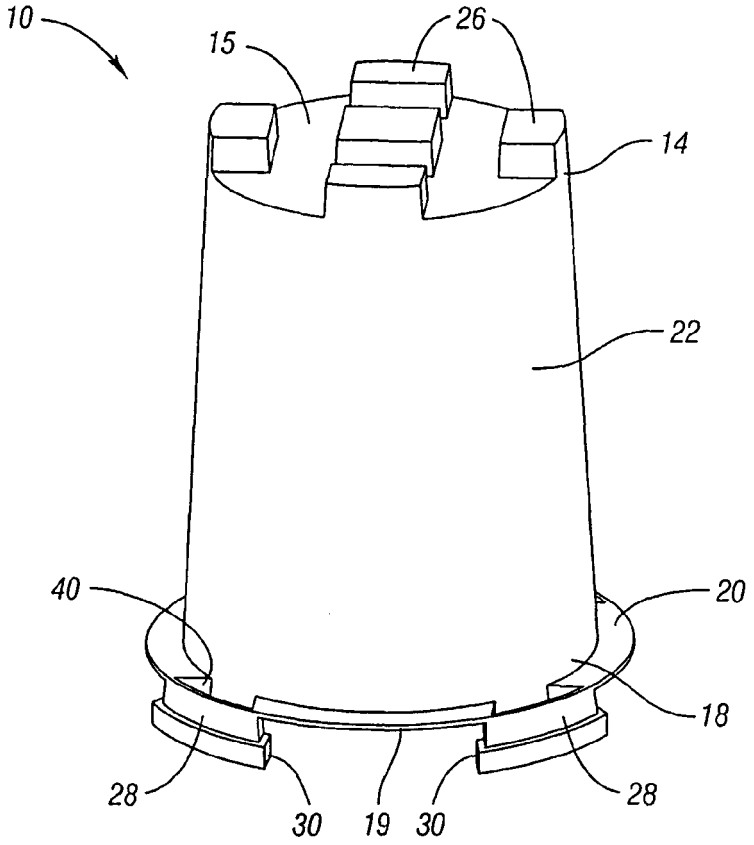

Fig. 1

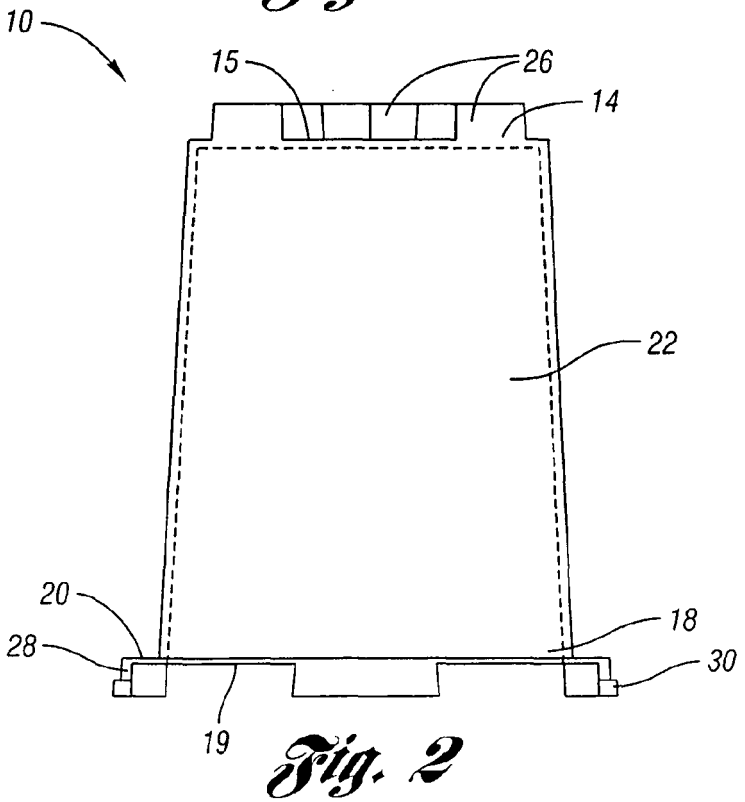

Fig. 2

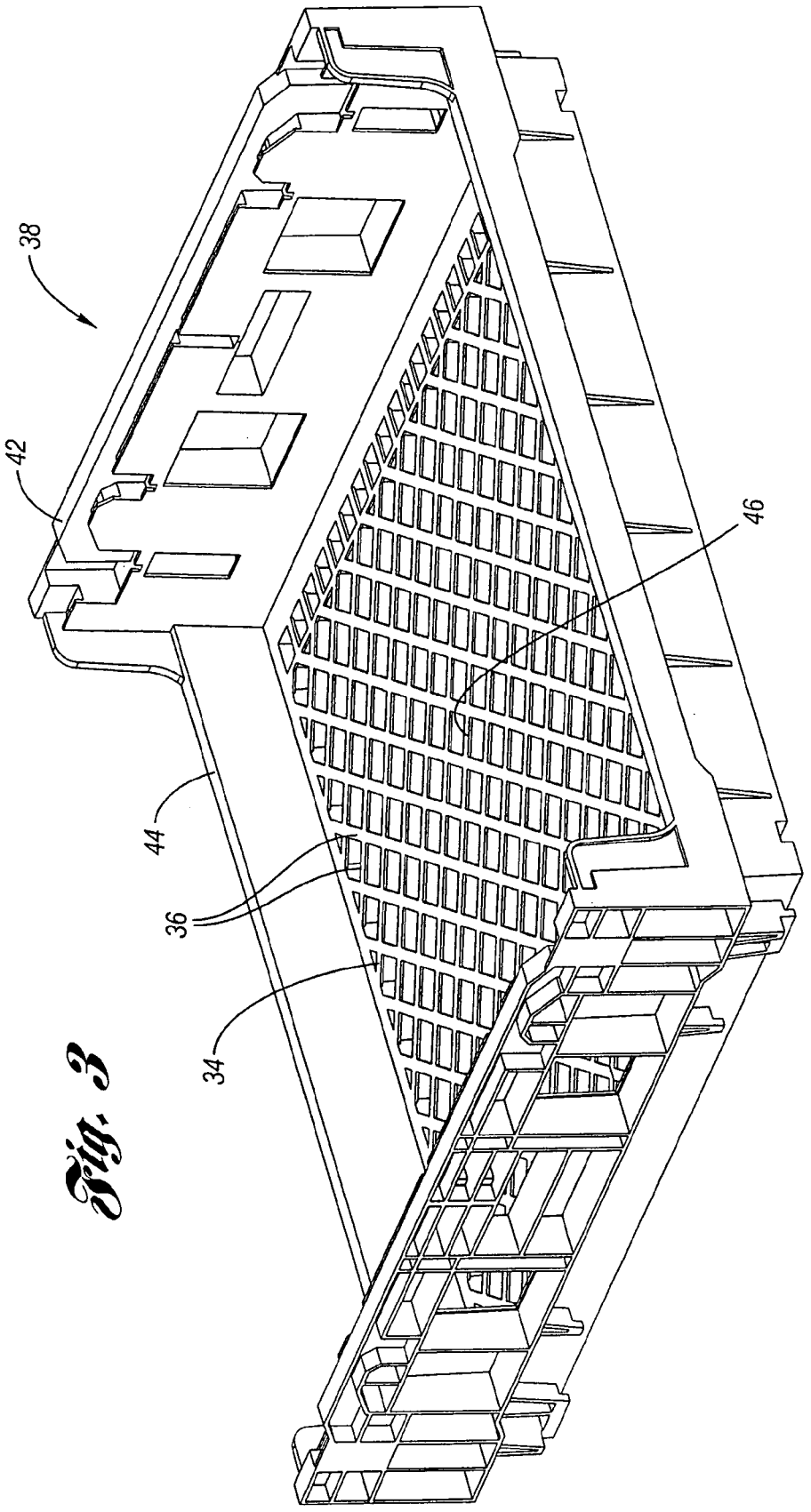

Fig. 3

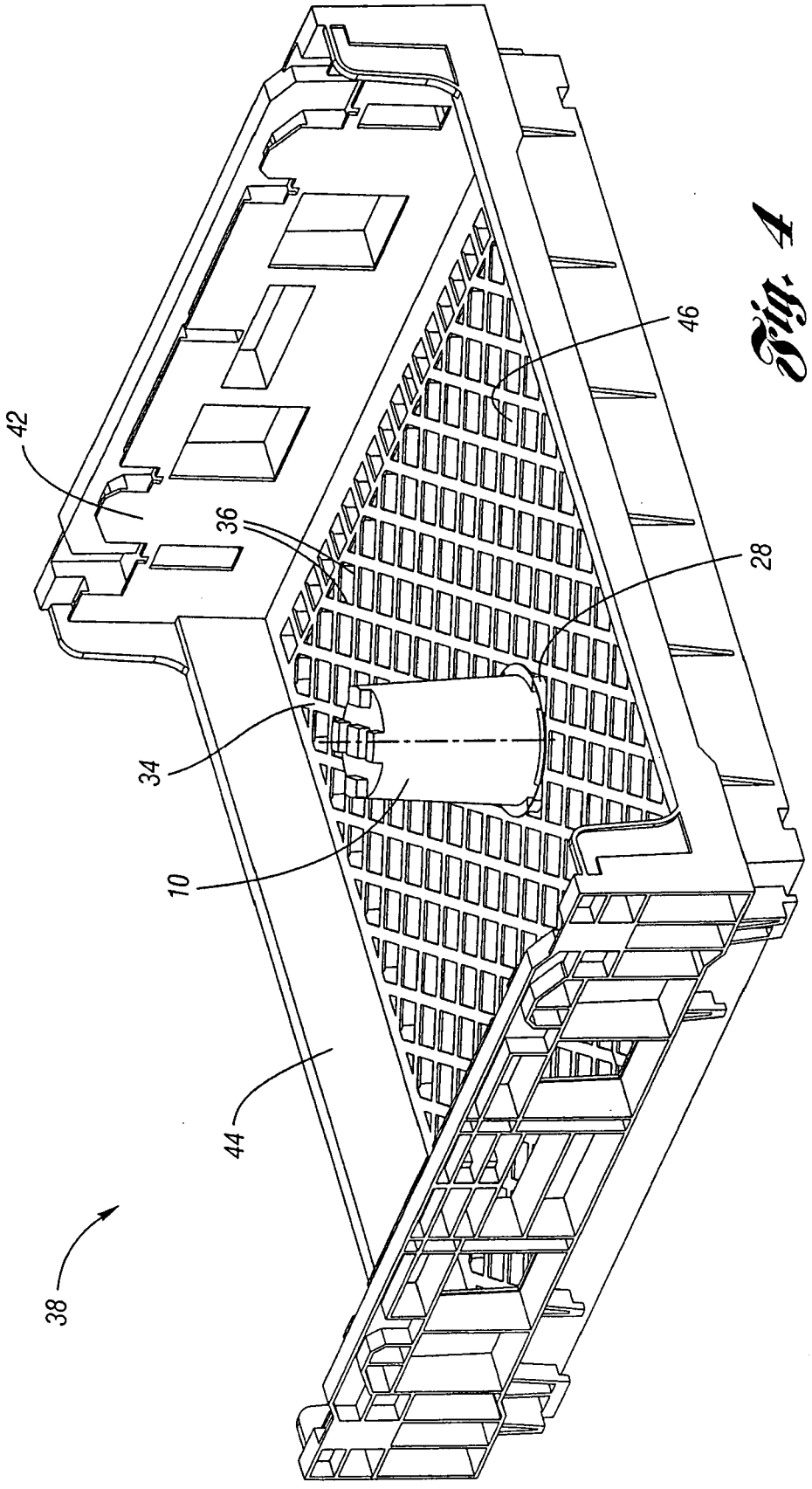

Fig. 4

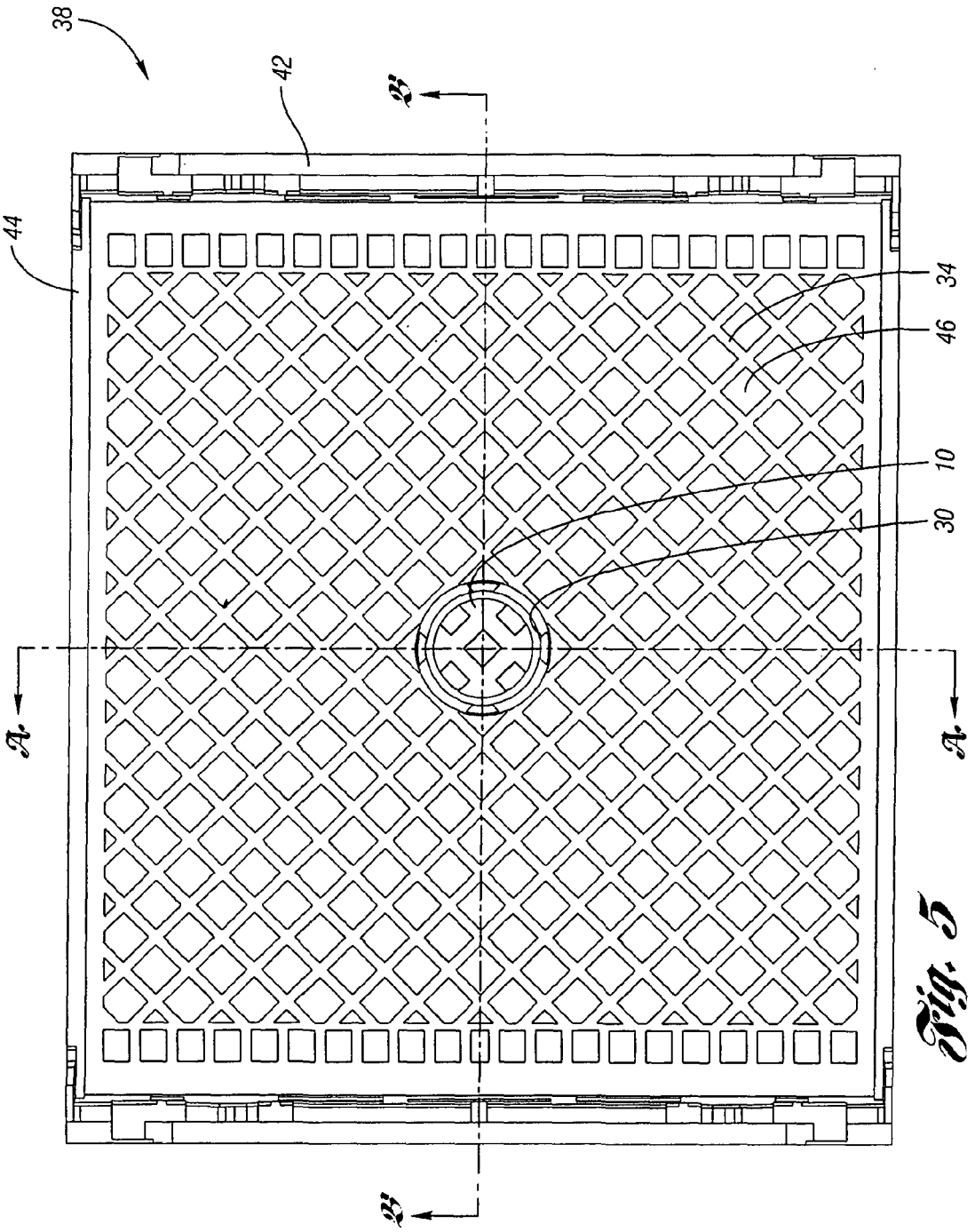

Fig. 5

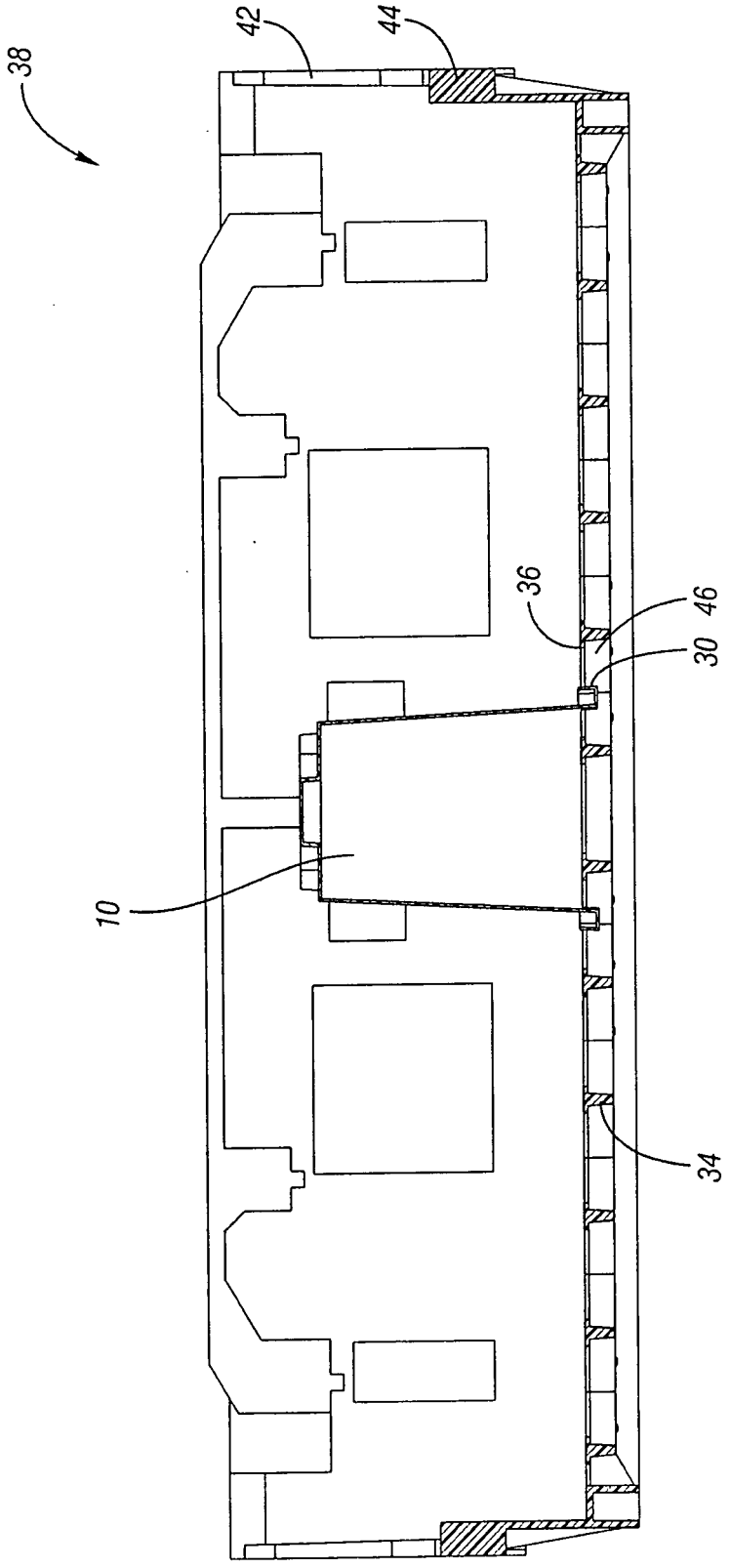

Fig. 6

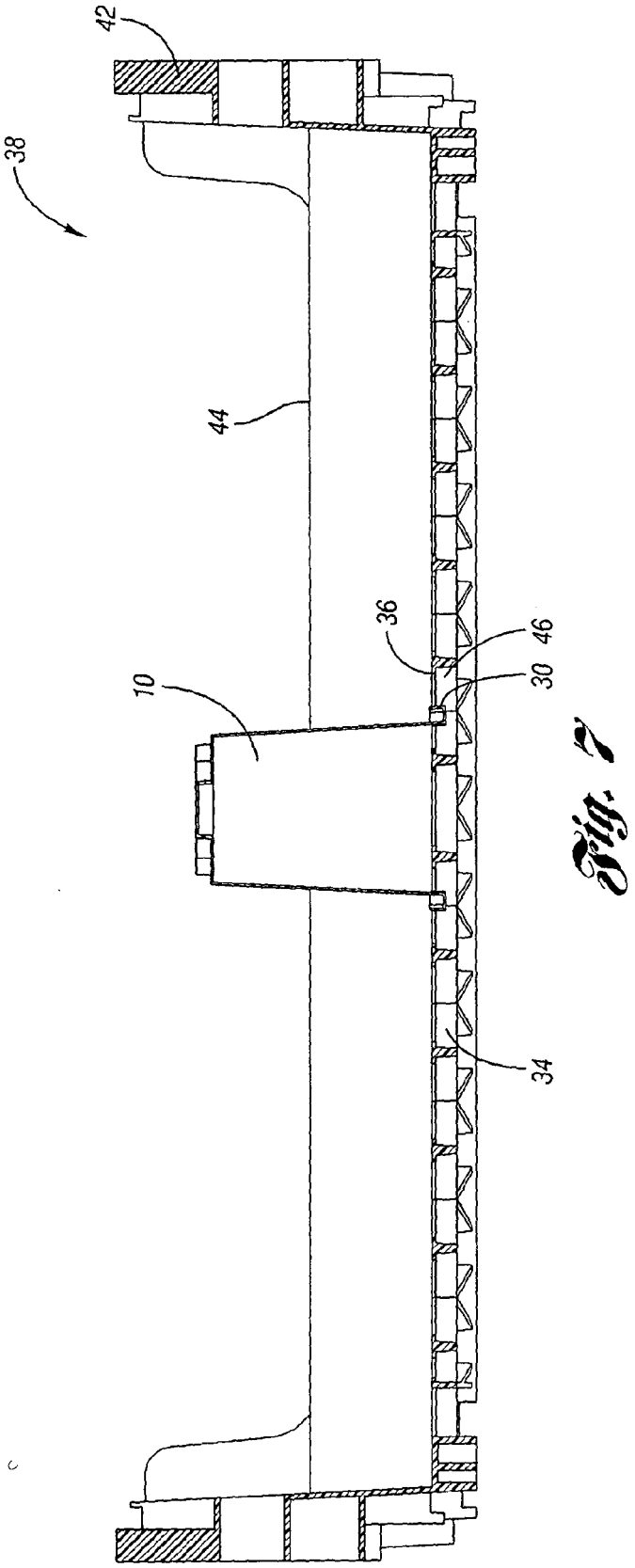

Fig. 2

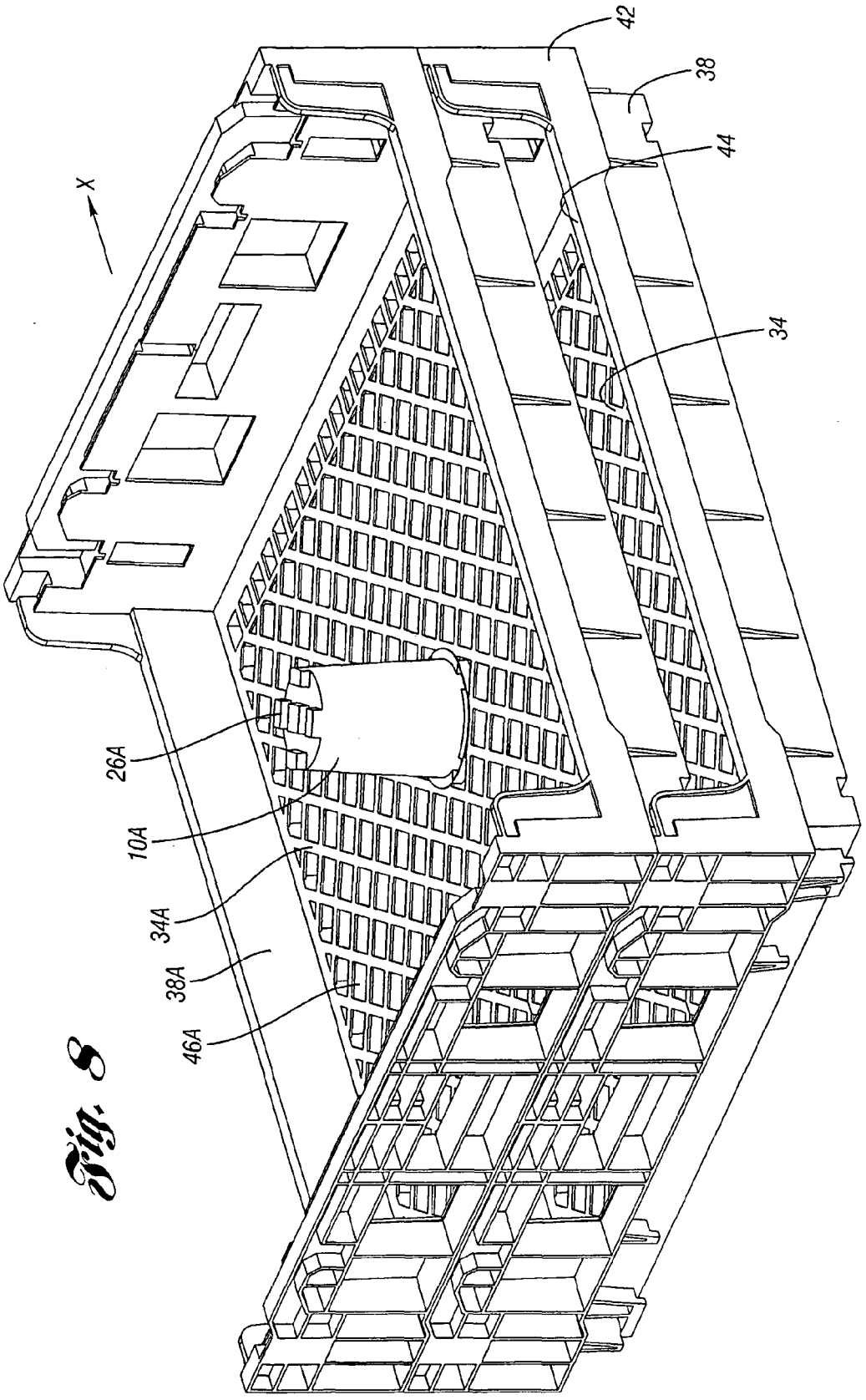

Fig. 8

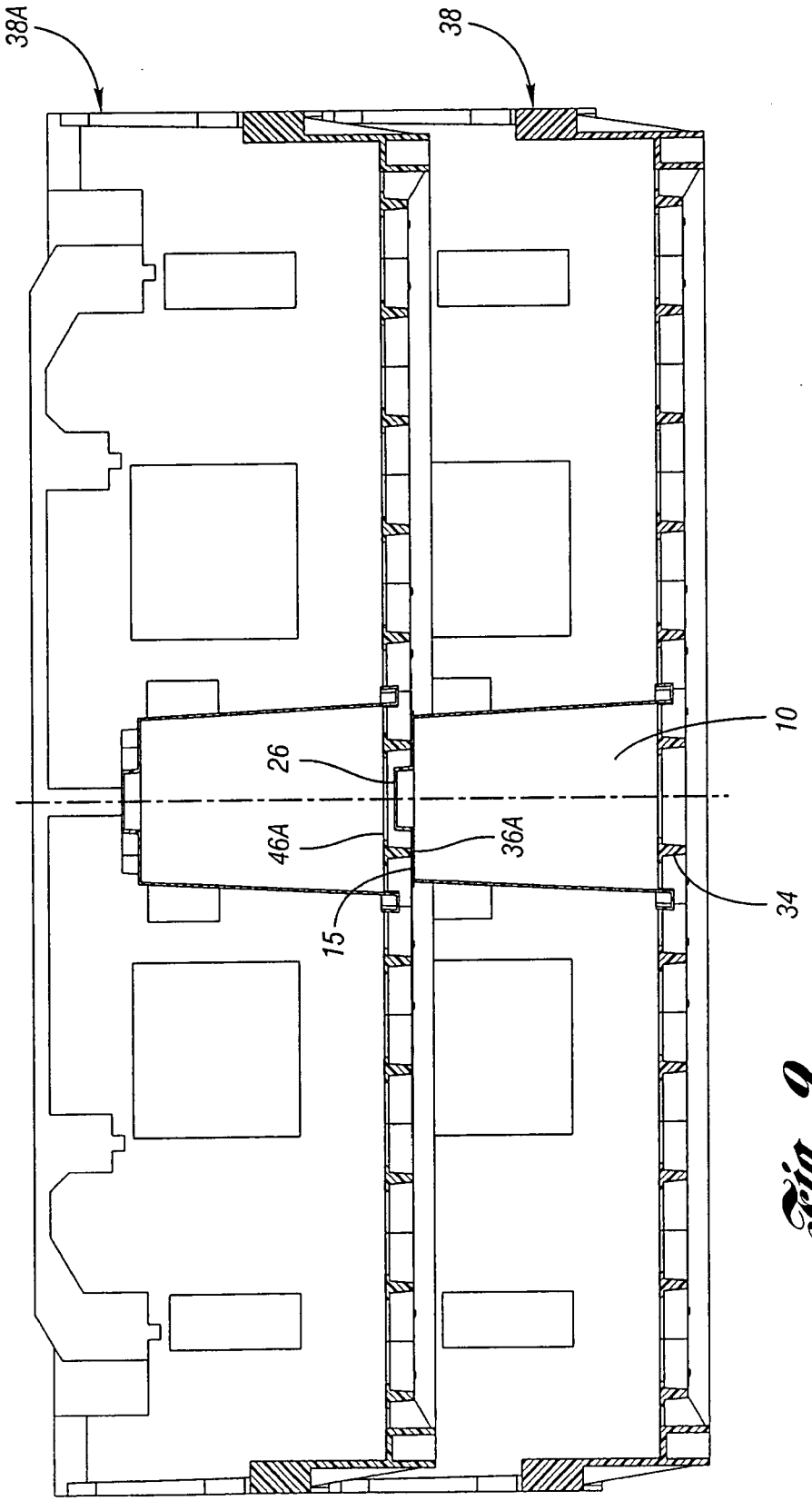

Fig. 9

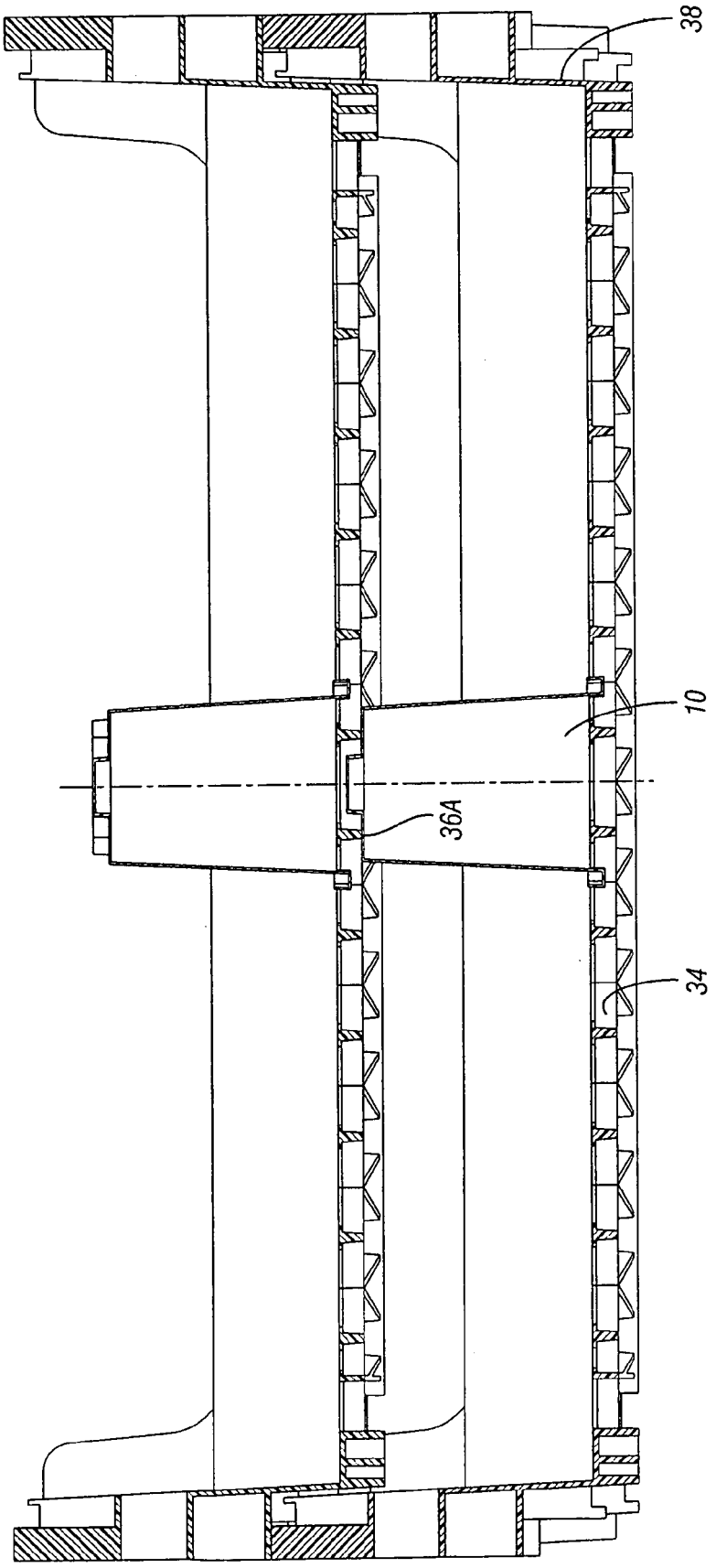

Fig. 10

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EUROPEAN SEARCH REPORT

Application Number
EP 08 25 2832

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 120 444 A (GRAY LIONEL CEDRIC NALL) 17 October 1978 (1978-10-17) * column 3, line 24 - column 4, line 32; figures 3,7-9 *	1	INV. B65D21/032
X	FR 2 494 080 A (LAFFI DANTE LAFFI GIORGIO CO S [IT]) 21 May 1982 (1982-05-21) * page 4, line 1 - line 37; figures 2,4 *	1,3	
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X	GB 2 162 823 A (BORDEN INC BORDEN INC [GB]) 12 February 1986 (1986-02-12)	9	
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TECHNICAL FIELDS SEARCHED (IPC)

B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	31 October 2008	Galli, Monia

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 25 2832

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31-10-2008

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82