



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 1 237 791 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention  
of the grant of the patent:

**19.11.2003 Bulletin 2003/47**

(21) Application number: **00985598.2**

(22) Date of filing: **18.12.2000**

(51) Int Cl.7: **B65D 6/16**, B65D 21/06

(86) International application number:  
**PCT/GB00/04848**

(87) International publication number:  
**WO 01/044060 (21.06.2001 Gazette 2001/25)**

(54) **CONTAINERS**

BEHÄLTER

RECIPIENTS

(84) Designated Contracting States:  
**DE ES FR SE**

(30) Priority: **16.12.1999 GB 9929643**  
**26.07.2000 GB 0018211**

(43) Date of publication of application:  
**11.09.2002 Bulletin 2002/37**

(73) Proprietor: **C G Paxton Limited**  
**Walsall, West Midlands WS9 8 DS (GB)**

(72) Inventor: **COPE, Andrew Christopher**  
**Bloxwich, West Midlands WS3 3TT (GB)**

(74) Representative: **Skinner, Michael Paul**  
**c/o Swindell & Pearson**  
**48 Friar Gate**  
**Derby DE1 1GY (GB)**

(56) References cited:  
**WO-A-95/18048** **WO-A-98/56668**

**EP 1 237 791 B1**

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

## Description

**[0001]** The present invention relates to containers and in particular to collapsible containers (see for example WO 98/56668 A).

**[0002]** Collapsible containers are known for use in many applications, including retail delivery. Fig. 1 is a highly schematic and simplified perspective view of a collapsible retail delivery container 2, having a base 4 from which four walls 6 are upstanding. In the erect condition (Fig. 1) the walls 6 extend up from the base 4 to define an open-topped container. When not in use (such as for return after a delivery) the walls 6 can be collapsed by folding them over the base in the directions of the arrows 8 (Fig. 2). In the illustrated example, the base 4 is rectangular, but it is readily apparent that the same principles can be used to design a square container and for this reason, the term "rectangular" is used herein to encompass containers with a square or rectangular base.

**[0003]** The invention provides a collapsible container according to claim 1.

**[0004]** The stacking members are preferably movable between the stacking and filling positions by means of a first type movement, wherein manual intervention causes the stacking members to undertake second type movement which results in the locking arrangements being released. The second type movement is preferably begun by manual intervention. Preferably manual intervention is required while the stacking member is moving from the filling to the stacking position or before the stacking members leave the filling position. Second type movement is preferably begun by depressing the stacking member relative to the container walls.

**[0005]** The container may comprise inter-engaging formations of the stacking members and walls, the inter-engaging formations serving to guide the stacking formations to first type movement except as a result of manual intervention. The guide surfaces may be fixed relative to the walls, and operable to deflect a moving stacking member to first type movement. There may be second guide surfaces carried by stacking members to ride across the fixed guide surfaces to cause stacking members to continue to execute first type movement. The stacking member may carry a land which engages the fixed guide surface to be guided along first type movement, and which enters a slot defining second type movement, upon manual intervention as aforesaid.

**[0006]** The stacking member may be resiliently mounted to allow the stacking member to be deflected against the resilience during first type movement, the deflection causing the fixed guide surface to be missed, to allow the stacking member to execute second type movement. The resilient mounting may comprise a resilient member which supports the weight of the stacking member and is mounted on a first wall to releasably engage a second wall when deflected. The resilient mounting may incorporate the locking arrangement, whereby

deflection of the stacking member causes the locking arrangement to be released. The resilient member may comprise a spring finger having a hook member which engages the second wall when relaxed, and is disengaged when pressed by the stacking member while executing second type movement.

**[0007]** Alternatively, the locking arrangement may be a snap-fit arrangement and the stacking member may comprise cam means operable to force the locking arrangement to release by camming action during second type movement.

**[0008]** Preferably the stacking members are stacking bars. The stacking members are preferably mounted on opposed relatively short walls of the container.

**[0009]** An embodiment of the present invention will now be described in more detail, by way of example only, and with reference to the remaining drawings, in which:

Fig. 3 is a perspective view of a container according to the present invention, arranged for stacking;

Fig. 4 is a perspective view of a corner of the container of Fig. 3, from above and on an enlarged scale;

Fig. 5 is a schematic partial section through one end of the container of Fig. 3;

Fig. 6 is a perspective view of the container of Fig. 3, with the stacking members in the filling condition;

Fig. 7 corresponds with Fig. 5, showing the stacking bar in the filling condition;

Fig. 7A is a section along the side wall of the container in the condition illustrated in Fig. 7;

Fig. 8 corresponds with Fig. 7, showing the stacking bar part-way between the filling and stacking positions;

Figs. 9 and 9A correspond with Figs. 7 and 7A, showing the stacking bar after manual intervention to release the locking arrangement;

Figs. 10 and 10A correspond with Figs. 7 and 7A, showing the locking arrangement after release;

Fig. 11 corresponds with Fig. 4, showing the locking arrangements released, and the walls partly collapsed;

Fig. 12 corresponds with Fig. 7, showing an alternative embodiment; and

Fig. 12A is a section along the side wall of the container of Fig. 12, with the end wall removed for clarity.

**[0010]** Turning first to Fig. 3, there is shown a container 10 having a base 12 which is rectangular. Four walls 14, 16 are upstanding from the base 12, namely relatively short end walls 14, and relatively long side walls 16. The walls 14, 16 are attached by hinge arrangements 18 along their lower edge, to the base, to allow the container to collapse by hinging the walls over the base 12, generally in the manner described above in relation to Figs. 1 and 2.

**[0011]** The container 10 further comprises stacking members in the form of stacking bars 20 which are movable between stacking and filling positions when the container is erect, as will be described.

**[0012]** Fig. 3 shows the stacking bars 20 in the stacking position. Each lies across the upper mouth of the container 10 to provide support for the base of another container stacked on the container 10. In particular, the stacking bars 20 will support the base of another similar container or of a nesting container (not shown) having the same overall dimensions in plan as the container 10 (typically 400 mm by 600 mm), but designed for nesting with itself, and therefore having a base which is smaller than the overall plan dimensions, and tapering side walls. When in the stacking position of Fig. 3, the stacking bars 20 are sufficiently close to allow the base of a nesting container to bridge between the bars 20, thereby supporting the upper container.

**[0013]** The mounting of the bars 20 on the container 10 can be explained in more detail, commencing with reference to Figs. 4 and 5. These show one corner of the container 10. Equivalent structures are provided at each of the four corners, but only one corner will be described in detail.

**[0014]** Short extension leg 22 is carried at the end of the bar 20, extending generally perpendicular to the length of the bar 20 and carrying a boss 24 (Fig. 3) which runs in a generally vertical slot 26 in the side wall 16. As the boss 24 approaches the top of the slot 26, the bar 20 may swing over to the position shown in Figs. 4 and 5, with the end of the bar 20 supported in a seating indicated generally at 28, provided on the side wall 16. This provides support to bear the weight of a second container sitting on the bar 20,

**[0015]** The bar 20 can also be manipulated to a second, filling condition illustrated in Fig. 6, in which the bar 20 has moved clear of the mouth of the container 10. This improves access to the container, for instance during filling, and is thus termed the "filling" position, but it is to be understood that the bars could be moved to this position for other reasons.

**[0016]** The filling condition of Fig. 6 is achieved from the stacking condition of Figs. 3 and 4 by lifting the bar 20 and swinging it to bring the leg 22 to a position approximately vertical and below the bar 20, and then allowing the boss 24 to run down the slot 26 until the position of Fig. 6 is reached.

**[0017]** It is important to note from Fig. 6 that in the filling condition, the boss 24 is not at the lowermost extremity of the slot 26. The significance of this feature will be explained below.

**[0018]** The boss 24 is located to run in the slot 26, as has been described, and is retained therein by a flange 34 (Fig. 7A) which captures the leg 22 between the flange 34 and the wall 36 in which the slot 26 is formed. The flange 34 and the wall 36 together form a short projection from the plane of the end wall 14, as can be seen in Fig. 4.

**[0019]** A guide slot 38 is formed near the top of the flange 34, opening away from the side wall 16 and leaving a relatively small nose 40 of flange material above the guide slot 48. The nose 40 has a flat upper surface 42 and a sloping forward surface 44 forming a lead-in surface, for reasons to be described. The guide slot 38 is slightly sloped to be lower at its inner end 46 than at its mouth 48.

**[0020]** The guide slot 38 and nose 40 are provided to inter-work with a land 50 carried by the leg 22 at a position indicated in Fig. 7, and clearly visible in Fig. 4. The land 50 is shaped so that when the bar 20 is in the filling position (Fig. 7), the land 50 opposes the nose 40, having a sloping under-surface 52, rounded at 54 to meet the upper surface 56 of the land 50. The height of the rounded edge 54 is slightly higher than the height of the front edge of the nose 40 when the bar 20 is at rest in the stacking position (as illustrated in Fig. 7), so that when the bar 20 is pushed horizontally, the land 50 will be pushed against the nose 40, engaging the under-surface 52 with the lead-in surface 44 and causing the land 50 to ride up the lead-in surface 44 and across the upper surface 42, so guiding the bar 20 to move out to the stacking position illustrated in Figs. 3 to 5. In doing so, the bar 20 will pass through an intermediate position illustrated in Fig. 8, in which the boss 24 has risen up the slot 26 and the land 50 has ridden along the upper surface 42. The bar 20 can then be picked up and moved to the seating 28.

**[0021]** It will readily be understood from the above, that when the bar 20 is in the stacking position and is pushed out toward the end wall 14, the reverse operation can occur, in which the land 50 rides over the upper surface 42 until dropping down behind it, to the position illustrated in Figs. 7 and 7A.

**[0022]** In normal use of the container, while the container remains in the erect condition, the bars 20 will be moved between the stacking and filling conditions, as required, in the manner described above. During this use, the walls 14, 16 remain locked together in a manner which can now be described in more detail, as follows. Again, only the structures at one corner will be described; equivalent structures are provided at each of the four corners of the container.

**[0023]** The flange 34 and wall 36 which extend from the plane of the end wall 14 are accommodated in a rebate 58 toward the top of the side wall 16, when the container 10 is erect. The lower edge 60 of the rebate 58 carries a spring finger 62 which extends under the lower edge of the flange 34 and carries a hook portion 64 which serves to engage behind the flange 34, preventing the side wall 16 hinging down over the base 12. The hook portion 64 also provides a support on which the lowermost extremity of the leg 22 will sit when the bar 20 is in the filling condition, so sharing the weight of the bar 20 with the corresponding structures at the other end. The resilient strength of the spring finger 62 is sufficient to hold the land 50, relative to the nose 40, at the

position described above. However, manual intervention by way of downward force applied to the bar 20, will be transmitted along the leg 22 to cause the spring finger 62 to flex downwardly, as illustrated in Figs. 9 and 9A. This allows the land 50 to move down, relative to the nose 40. A position is eventually reached at which the rounded edge 54 of the land 50 is clear below the front edge of the nose 40, so that the land 50 can move into the slot 38 (Figs. 10 and 11). The result of this downward movement is that the hook portion 64 is pushed below and clear of the lower edge of the flange 34, thus unlocking the side wall 16 from the end wall 14, and allowing the side wall to be folded down over the base 12. As the side wall folds down, the finger 62 moves clear of the flange 34, as seen in Fig. 10 and 11.

**[0024]** A locking arrangement of the type described above is provided at each of the four corners of the container 10, with each bar 20 serving to disconnect a locking arrangement at each end, in the manner described. Thus, by downward pressure on both bars 20, all four locks can be released, allowing the side walls 16 to fold down over the base 12, and then the end walls 14 to fold down over the side walls, to complete the collapse of the container 10.

**[0025]** In order to erect the container, the reverse sequence is executed, with the end walls 14 being first raised, and then the side walls 16 being raised until the spring fingers 62 engage the lower edges of the flanges 34. The hook portions 64 will deflect to ride under the flanges 34 and then snap behind them to lock the side walls 16 in place. As the spring finger 62 snaps past the flange 34, it will engage the lower end of the leg 22, slightly lifting the bar 20, to resume the filling position of Fig. 7.

**[0026]** In the arrangements described above, movement of the stacking bar 20 acts directly, by means of the extension legs 22, to press and release the spring finger 52. Figs. 12 and 12A illustrate an alternative arrangement in which indirect action is achieved, as set out below. Many features illustrated in Figs. 12 and 12A correspond closely to features of the other Figures and are thus given the same reference numerals.

**[0027]** In this example, the stacking bars 20 are again mounted by means of extension legs 22 which extend down between a flange 34 and a slot 36 in which a guide slot 38 accommodates a boss 24. The flange 34 and wall 36 are again accommodated in a rebate 58 in the side wall 16, and the lower edge 60 of the rebate 58 again carries a spring finger 62, which is able to extend under the lower edge of the flange 34 to hook behind it and thus lock the walls 14, 16 together, preventing the container from collapsing.

**[0028]** In this example, the weight of the stacking member 20 is supported by a resilient ledge 65 on which the lower end of the extension leg 22 rests.

**[0029]** The hook portion 64A, shown in Fig. 12A, is much more rounded than the hook portion 64 of earlier Figures. Consequently, whereas the hook portion 64

cannot be released from the flange 34 without being forced downwardly, the rounded hook portion 64A can be pulled away from the flange 34 by the application of adequate force in a generally horizontal direction, (tending to fold down the wall 16). This force is provided, in use, by means of a cam arrangement, as follows.

**[0030]** Comparison of Fig. 12 and Fig. 7, for instance, illustrates that in Fig. 12, the leg 22 is carrying a stub 66 which extends generally horizontally away from the end wall 14. The stub 66 has a sloping lower face 68. The stub 66 projects out from between the flange 34 and wall 36 and into a slot 69 formed in the edge of the wall 16. The slot 69 has a sloping floor 70.

**[0031]** In use, when the container is to be collapsed, the stacking bar 20 is pushed down to release the walls, generally in the manner described above, and against the resilience of the ledge 65. The downward force applied to the stacking bar 20 presses the bar 20 and the legs 22 down against the resilience of the ledge 65, allowing the land 50 to move clear below the nose 40, as described above. The stub 66 will reach a position at which the lower face 68 bears on the floor 70. The sloping nature of both surfaces causes a camming action which converts the downward force on the stacking bar 20 into a generally horizontal force pushing the wall 16 to fold down. As downward force on the stacking bar 20 increases, this horizontal force increases until eventually, the finger 62 is snapped from under the flange 34, releasing the wall 16 to collapse. As it does so, the stub 66 leaves the slot 69 through an exit aperture at 72.

**[0032]** When the wall 16 is subsequently raised again, the rounded hook portion 64A can snap under the flange 34 to lock the walls together again. The stub 66 re-enters the slot 69 and thereafter assists in bracing the joint to hold the side and end walls together.

**[0033]** There are thus provided containers which can be operated to provide stacking with a similar container or a nestable container, using bars which can be moved substantially clear of the mouth when not required for stacking, and which can be collapsed, when not required to contain goods, but which is secure against collapse except when deliberate manual intervention occurs.

**[0034]** Many variations and modifications can be made to the container described above, without departing from the scope of the invention. In particular, many different sizes, shapes, relative sizes and other design details can be varied. It is envisaged that the container can be made as a set of plastics components, such as by injection moulding, for subsequent assembly.

**[0035]** References above to directions are solely for reasons of clarity. However, it is expected that in normal use, the container will have the orientation shown and described.

## Claims

1. A collapsible container (10) comprising a rectangular base (12), and four walls (14, 16) upstanding from the base (12) and able to hinge down to overlie the base when the container is collapsed, the container further comprising stacking members (20) which, when the container is erect, are movable between a stacking position at which the stacking members (20) are positioned to support the base of another container stacked thereon, and a filling position at which the stacking members are substantially removed from the container mouth, the container further comprising releasable locking arrangements (34, 64) and being **characterised in that** the locking arrangements are operable to retain the container walls locked together while the stacking members (20) are free to be moved between the filling and stacking positions, and **in that** the locking arrangements (34, 64) are releasable by manipulation of the stacking members (20). 5
2. A container according to claim 1, wherein the stacking members (20) are movable between the stacking and filling positions by means of a first type movement, wherein manual intervention causes the stacking members (20) to undertake second type movement which results in the locking arrangements (34, 64) being released. 10
3. A container according to claim 2, wherein the second type movement is begun by manual intervention. 15
4. A container according to claim 2 or 3, wherein the manual intervention is required while the stacking member (20) is moving from the filling to the stacking position or before the stacking members (20) leave the filling position. 20
5. A container according to any of claims 2 to 4, wherein second type movement is begun by depressing the stacking member (20) relative to the container walls (14, 16). 25
6. A container according to any of claims 2 to 5, comprising inter-engaging formations (24, 26) of the stacking members (20) and walls (14, 16), the inter-engaging formations serving to guide the stacking members (20) to first type movement except as a result of manual intervention. 30
7. A container according to claim 6, wherein the guide formations are fixed relative to the walls, and operable to deflect a moving stacking member (20) to first type movement. 35
8. A container according to claim 7, comprising second guide formations carried by stacking members (20) to ride across the fixed guide formations to cause stacking members (20) to continue to execute first type movement. 40
9. A container according to claim 7 or 8, wherein the stacking member (20) carries a land (50) which engages the fixed guide formations (40) to be guided along first type movement, and which enters a slot (26) defining second type movement, upon manual intervention as aforesaid. 45
10. A container according to any of claims 7 to 9, wherein the stacking member (20) is resiliently mounted to allow the stacking member (20) to be deflected against the resilience during first type movement, the deflection causing the fixed guide formation to be missed to allow the stacking member (20) to execute second type movement 50
11. A container according to claim 10, wherein the resilient mounting comprises a resilient member (62) which supports the weight of the stacking member (20) and is deflectably mounted on a first wall to releasably engage a second wall. 55
12. A container according to claims 10 or 11, wherein the resilient mounting incorporates the locking arrangement, whereby deflection of the stacking member (20) causes the locking arrangement to be released. 60
13. A container according to claims 11 or 12, wherein the resilient member comprises a spring finger (62) having a hook member (64) which engages the second wall when relaxed, and is disengaged when pressed by the stacking member (20) while executing second type movement 65
14. A container according to any of claims 2 to 9, wherein the locking arrangement (34, 64) is a snap-fit arrangement and the stacking member (20) comprises cam means (68, 70) operable to force the locking arrangement to release by camming action during second type movement. 70
15. A container according to any preceding claim, wherein the stacking members (20) are stacking bars. 75
16. A container according to any preceding claim, wherein the stacking members (20) are mounted on opposed relatively short walls of the container. 80

## Patentansprüche

1. Zusammenklappbarer Behälter (10) mit einer recht-

- eckförmigen Basis (12) und vier von der Basis (12) hochstehenden Wänden (14, 16), die angelenkt sind und nach unten geschwenkt werden können, um auf der Basis aufzuliegen, wenn der Behälter zusammengefaltet ist, wobei der Behälter außerdem Stapelglieder (20) aufweist, die, wenn der Behälter aufrecht ist, bewegbar sind zwischen einer Stapelstellung, bei der die Stapelglieder (20) so positioniert sind, dass sie die Basis eines darauf gestapelten anderen Behälters abstützen, und einer Füllstellung, bei der die Stapelglieder von der Behältermündung im wesentlichen entfernt sind, wobei der Behälter außerdem lösbare Verriegelungsanordnungen (34, 64) aufweist und **dadurch gekennzeichnet ist, dass** die Verriegelungsanordnungen betätigbar sind, um die Behälterwände miteinander verriegelt zu halten, während die Stapelglieder (20) zwischen der Befüllungs- und Stapelstellung frei bewegbar sind, und dass die Verriegelungsanordnungen (34, 64) durch Betätigung der Stapelglieder (20) lösbar sind.
2. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stapelglieder (20) bewegbar sind zwischen der Stapel- und der Befüllungsstellung mittels einer Bewegung einer ersten Art, wodurch ein manueller Eingriff bewirkt, dass die Stapelglieder (20) eine Bewegung einer zweiten Art durchführen, die dazu führt, dass die Verriegelungsanordnungen (34, 64) gelöst werden.
  3. Behälter nach Anspruch 2, **dadurch gekennzeichnet, dass** die Bewegung der zweiten Art durch manuellen Eingriff begonnen wird.
  4. Behälter nach Anspruch 2 oder 3, **dadurch gekennzeichnet, dass** der manuelle Eingriff erforderlich ist, während sich das Stapelglied (20) von der Befüllungs- zu der Stapelstellung bewegt oder bevor die Stapelglieder (20) die Befüllungsstellung verlassen.
  5. Behälter nach einem der Ansprüche 2 bis 4, **dadurch gekennzeichnet, dass** die Bewegung der zweiten Art begonnen wird, indem man das Stapelglied (20) bezüglich der Behälterwände (14, 16) herunterdrückt.
  6. Behälter nach einem der Ansprüche 2 bis 5, **dadurch gekennzeichnet, dass** er ineinander eingreifende Formationen (24, 26) der Stapelglieder (20) und der Wände (14, 16) aufweist, wobei die ineinander eingreifenden Formationen dazu dienen, die Stapelglieder (20) mit Ausnahme eines Ergebnisses eines manuellen Eingriffs zu einer Bewegung der ersten Art zu führen.
  7. Behälter nach Anspruch 6, **dadurch gekennzeichnet, dass** die Führungsformationen bezüglich der Wände befestigt sind und betätigbar sind, um ein sich bewegendes Stapelglied (20) zu einer Bewegung der ersten Art abzulenken.
  8. Behälter nach Anspruch 7, **dadurch gekennzeichnet, dass** er zweite Führungsformationen aufweist, die durch Stapelglieder (20) getragen werden, um über die befestigten Führungsformationen zu gleiten, um zu bewirken, dass die Stapelglieder (20) die Bewegung der ersten Art weiterhin ausführen.
  9. Behälter nach Anspruch 7 oder 8, **dadurch gekennzeichnet, dass** das Stapelglied (20) einen Ansatz (50) trägt, der mit den befestigten Führungsformationen (40) in Eingriff ist, um gemäß einer Bewegung der ersten Art geführt zu werden, und der nach dem erwähnten manuellen Eingriff in einen Schlitz (26) eintritt, der eine Bewegung der zweiten Art bestimmt.
  10. Behälter nach einem der Ansprüche 7 bis 9, **dadurch gekennzeichnet, dass** das Stapelglied (20) federnd montiert ist, um zu ermöglichen, dass das Stapelglied (20) während der Bewegung der ersten Art gegen die Federwirkung abgelenkt wird, wobei die Ablenkung bewirkt, dass die befestigte Führungsformation verfehlt wird, um zu ermöglichen, dass das Stapelglied (20) die Bewegung der zweiten Art ausführt.
  11. Behälter nach Anspruch 10, **dadurch gekennzeichnet, dass** die federnde Montierung ein federndes Glied (62) aufweist, welches das Gewicht des Stapelglieds (20) trägt und an einer ersten Wand ablenkbar montiert ist, um mit einer zweiten Wand lösbar in Eingriff zu gelangen.
  12. Behälter nach Anspruch 10 oder 11, **dadurch gekennzeichnet, dass** die federnde Montierung die Verriegelungsanordnung enthält, wodurch eine Ablenkung des Stapelglieds (20) bewirkt, dass die Verriegelungsanordnung gelöst wird.
  13. Behälter nach Anspruch 11 oder 12, **dadurch gekennzeichnet, dass** das federnde Glied einen Federfinger (62) mit einem Hakenglied (64) aufweist, das im entspannten Zustand mit der zweiten Wand in Eingriff gelangt und außer Eingriff gelangt, wenn er durch das Stapelglied (20) beim Durchführen der Bewegung der zweiten Art gepresst wird.
  14. Behälter nach einem der Ansprüche 2 bis 9, **dadurch gekennzeichnet, dass** die Verriegelungsanordnung (34, 64) eine Einrast-Anordnung ist und das Stapelglied (20) ein Nockenmittel (68, 70) aufweist, das betätigbar ist, um durch Nockenwirkung während der Bewegung der zweiten Art das Lösen

der Verriegelungsanordnung zu erzwingen.

15. Behälter nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Stapelglieder (20) Stapelstangen sind.
16. Behälter nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Stapelglieder (20) an gegenüberliegenden relativ kurzen Wänden des Behälters montiert sind.

## Revendications

1. Conteneur démontable ou pliable (10) comprenant une base rectangulaire (12) et quatre parois (14, 16) s'élevant verticalement depuis la base (12) et capables de pivoter vers la bas pour reposer sur la base lorsque le conteneur est démonté ou plié, le conteneur comprenant, de plus, des éléments d'empilage (20) qui, lorsque le conteneur est monté, peuvent être déplacés entre une position d'empilage dans laquelle les éléments d'empilage (20) sont positionnés pour soutenir la base d'un autre conteneur empilé sur celui-ci, et une position de remplissage dans laquelle les éléments d'empilage sont sensiblement retirés de l'ouverture du conteneur, le conteneur comprenant, de plus, des dispositifs de verrouillage amovibles (34, 64) et étant **caractérisé en ce que** les dispositifs de verrouillage peuvent être utilisés pour maintenir les parois du conteneur verrouillées conjointement tandis que les éléments d'empilage (20) peuvent être déplacés librement entre les positions de remplissage et d'empilage, et **en ce que** les dispositifs de verrouillage (34, 64) peuvent être ouverts par manipulation des éléments d'empilage (20).
2. Conteneur selon la revendication 1, dans lequel les éléments d'empilage (20) peuvent être déplacés entre les positions de remplissage et d'empilage au moyen d'un mouvement d'un premier type, dans lequel l'intervention manuelle conduit les éléments d'empilage (20) à effectuer un mouvement d'un second type qui conduit à ce que les dispositifs de verrouillage (34, 64) soient ouverts.
3. Conteneur selon la revendication 2, dans lequel le mouvement de second type est commencé par une intervention manuelle.
4. Conteneur selon la revendication 2 ou 3, dans lequel l'intervention manuelle est requise lorsque l'élément d'empilage (20) se déplace de la position de remplissage vers celle d'empilage ou avant que les éléments d'empilage (20) quittent la position de remplissage.

5. Conteneur selon l'une quelconque des revendications 2 à 4, dans lequel le mouvement de second type est commencé par l'abaissement de l'élément d'empilage (20) par rapport aux parois du conteneur (14, 16).
6. Conteneur selon l'une quelconque des revendications 2 à 5, comprenant des formations de mise en prise mutuelle (24, 26) des éléments d'empilage (20) et des parois (14, 16), les formations de mise en prise mutuelle servant à guider les éléments d'empilage (20) vers le mouvement de premier type sauf à la suite d'une intervention manuelle.
7. Conteneur selon la revendication 6, dans lequel les formations de guidage sont fixes par rapport aux parois, et peuvent être utilisées pour dévier un élément d'empilage mobile (20) vers le mouvement de premier type.
8. Conteneur selon la revendication 7, comprenant des secondes formations de guidage portées par les éléments d'empilage (20) pour chevaucher latéralement les formations de guidage fixes pour conduire les éléments d'empilage (20) à continuer l'exécution du mouvement de premier type.
9. Conteneur selon la revendication 7 ou 8, dans lequel l'élément d'empilage (20) porte un méplat (50) qui met en prise les formations de guidage fixes (40) pour être guidées le long du mouvement de premier type, et qui entre dans une fente (26) définissant le mouvement de second type, lors d'une intervention manuelle, comme mentionné précédemment.
10. Conteneur selon l'une quelconque des revendications 7 à 9, dans lequel l'élément d'empilage (20) est monté de manière résiliente pour permettre à l'élément d'empilage (20) d'être dévié contre la résilience lors du mouvement de premier type, la déviation conduisant la formation de guidage fixe à être manquée pour permettre à l'élément d'empilage (20) d'exécuter le mouvement de second type.
11. Conteneur selon la revendication 10, dans lequel le montage résilient comprend un élément résilient (62) qui soutient le poids de l'élément d'empilage (20) et est monté de manière déplaçable sur une première paroi pour mettre en prise de manière réversible une seconde paroi.
12. Conteneur selon les revendications 10 ou 11, dans lequel le montage résilient incorpore le dispositif de verrouillage, de telle manière que la déviation de l'élément d'empilage (20) conduise le dispositif de verrouillage à être ouvert.
13. Conteneur selon les revendications 11 ou 12, dans

lequel l'élément résilient comprend un doigt rabatteur (62) ayant un élément formant crochet (64) qui met en prise la seconde paroi lorsqu'il est relâché et est mis hors prise lorsqu'il est comprimé par l'élément d'empilage (20) en exécutant le mouvement de second type. 5

14. Conteneur selon l'une quelconque des revendications 2 à 9, dans lequel le dispositif de verrouillage (34, 64) est un dispositif de type à emboîtement-pression et l'élément d'empilage (20) comprend un moyen de came (68, 70) pouvant être actionné pour forcer le dispositif de verrouillage à être ouvert par l'action de la came lors du mouvement de second type. 10  
15

15. Conteneur selon l'une quelconque des revendications précédentes, dans lequel les éléments d'empilage (20) sont des barres d'empilage. 20

16. Conteneur selon l'une quelconque des revendications précédentes, dans lequel les éléments d'empilage (20) sont montés sur des parois opposées relativement courtes du conteneur. 25

30

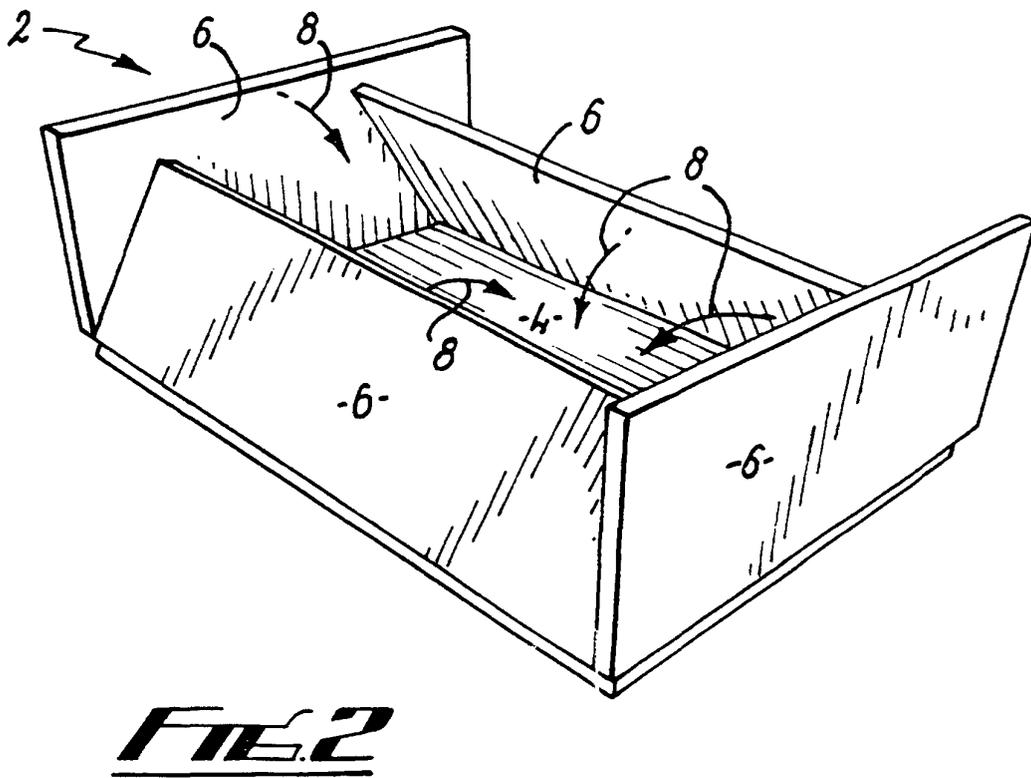
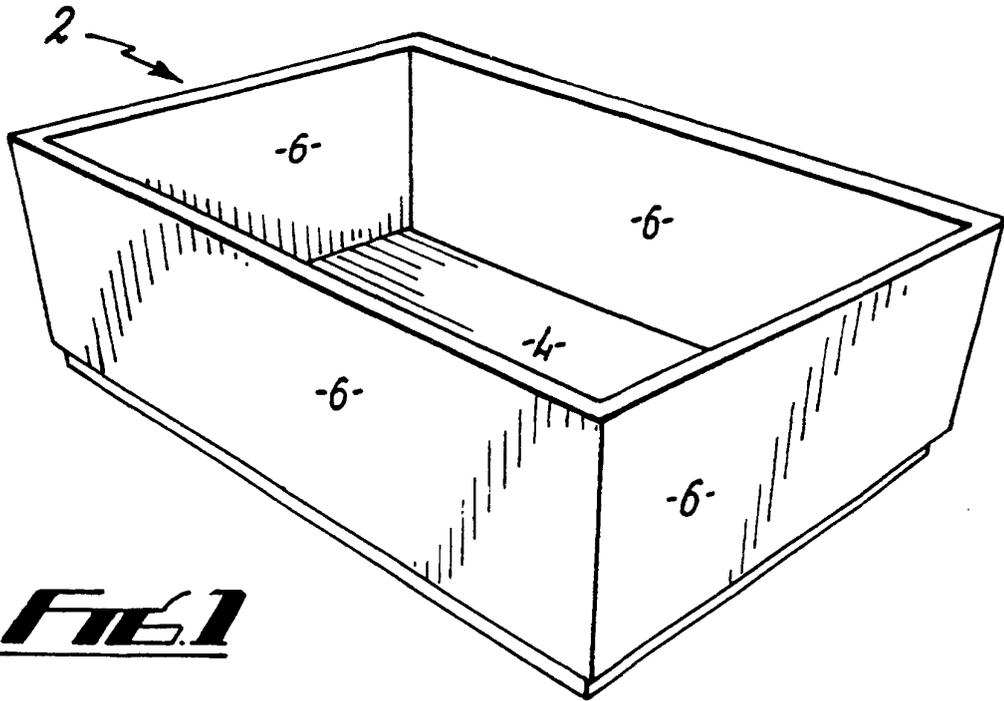
35

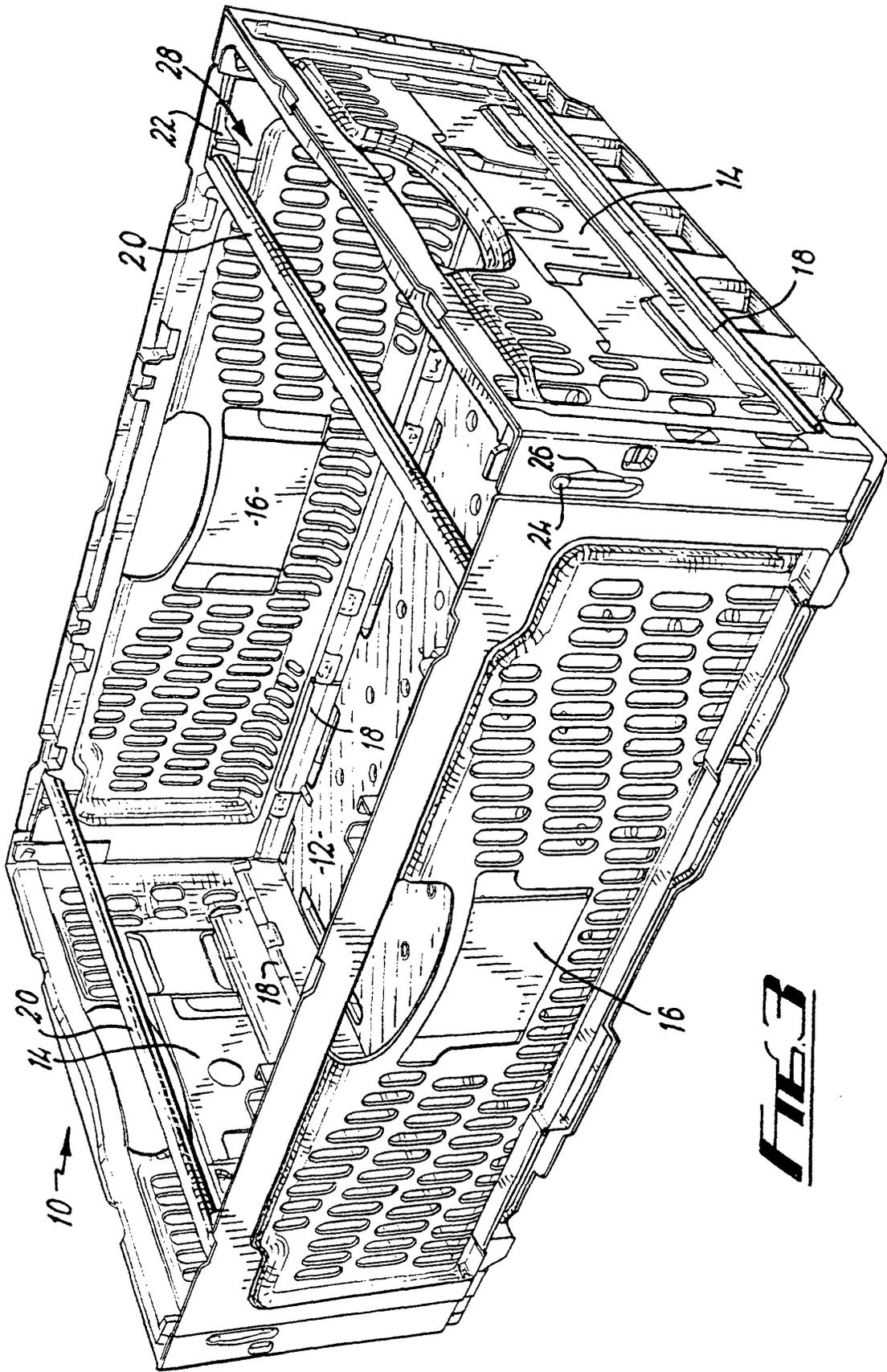
40

45

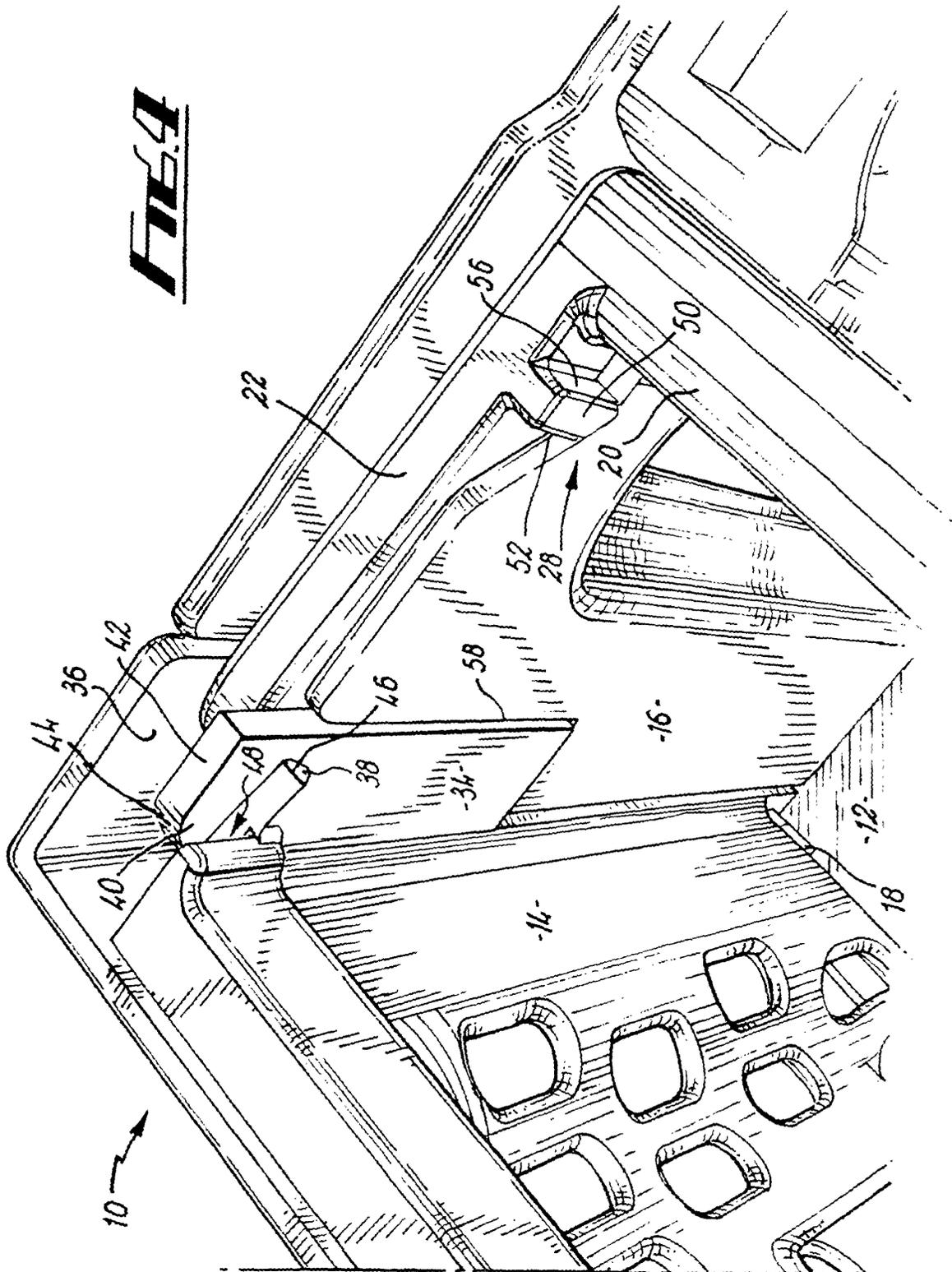
50

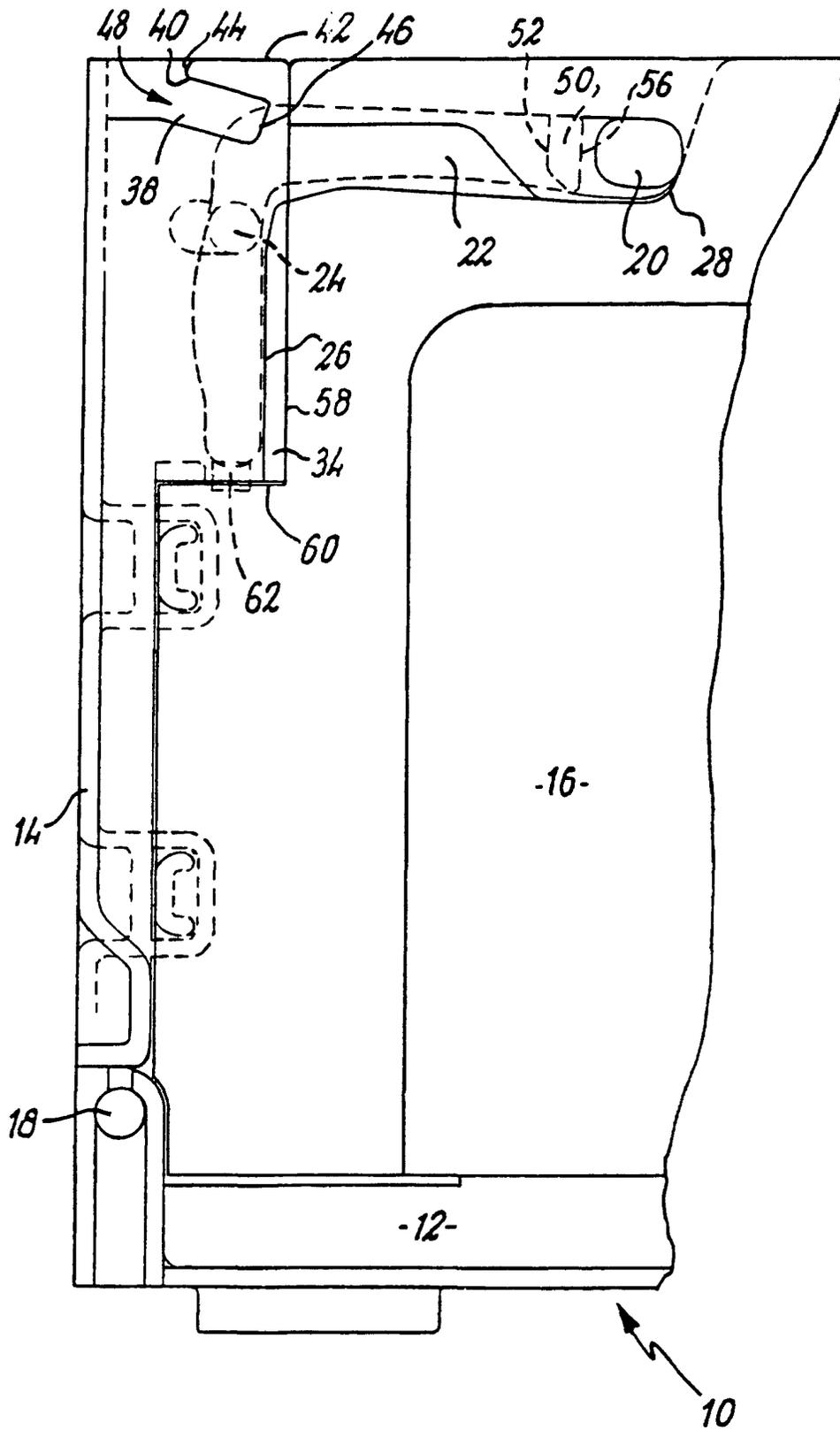
55



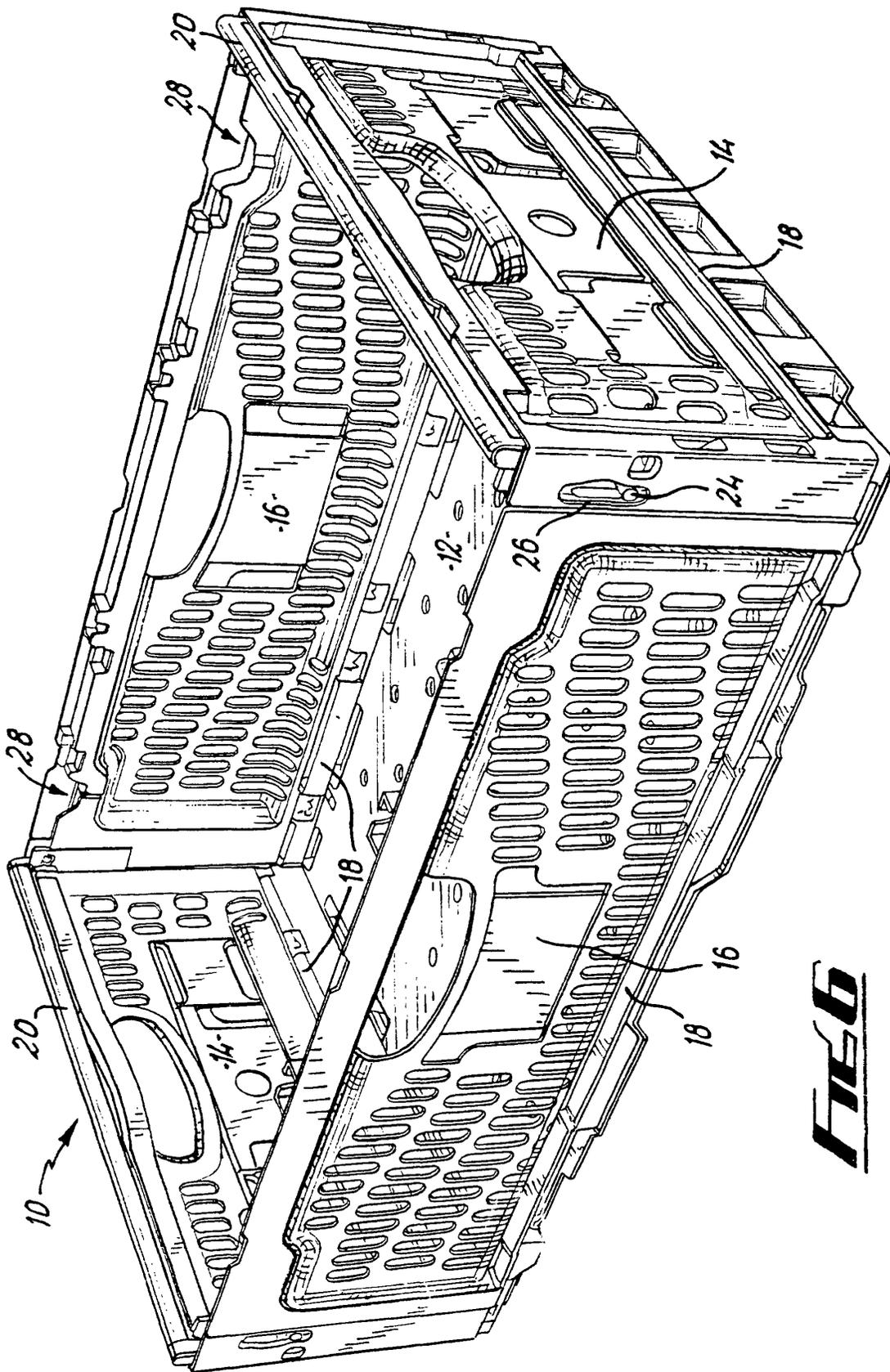


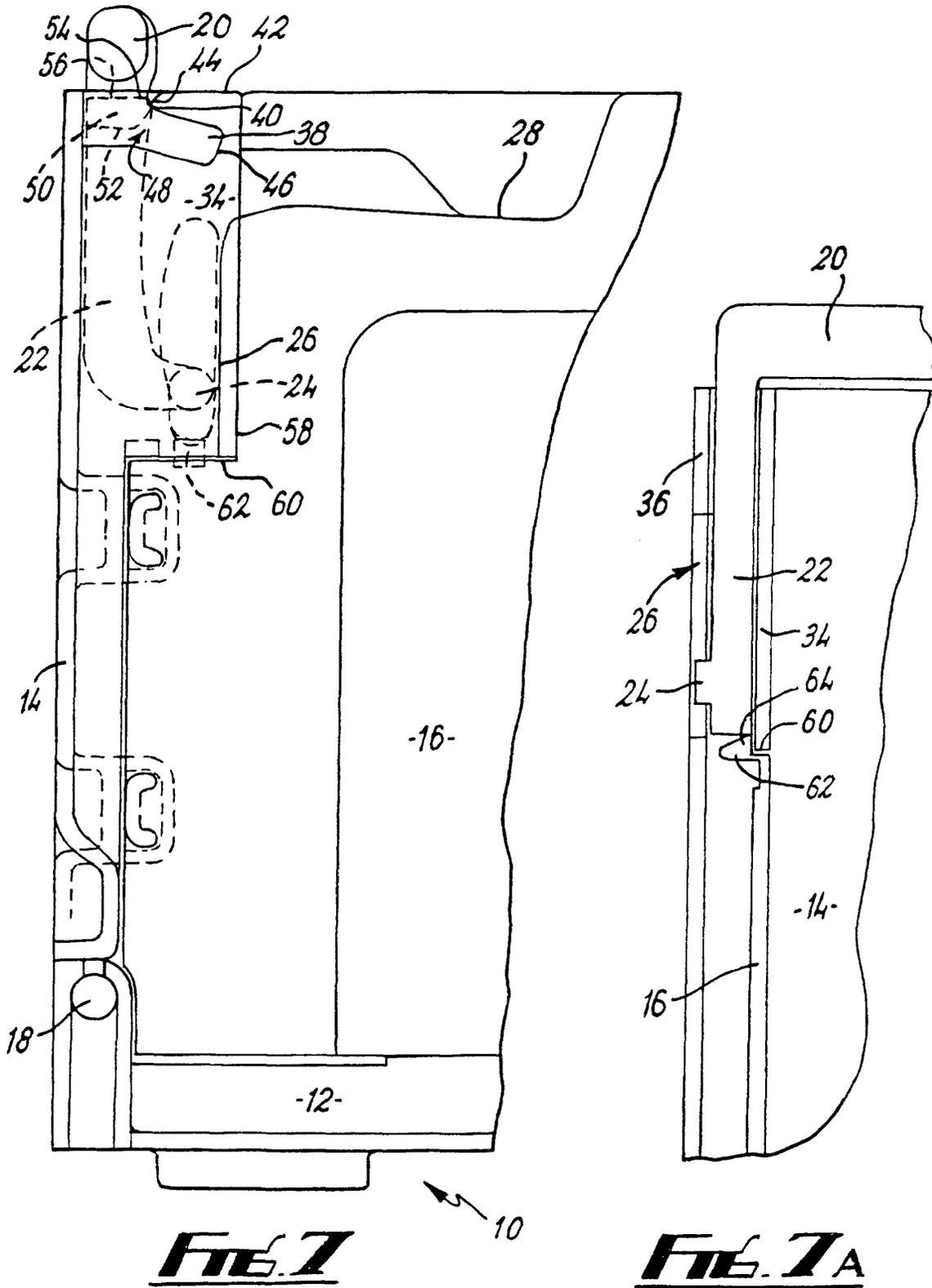
**FEA**

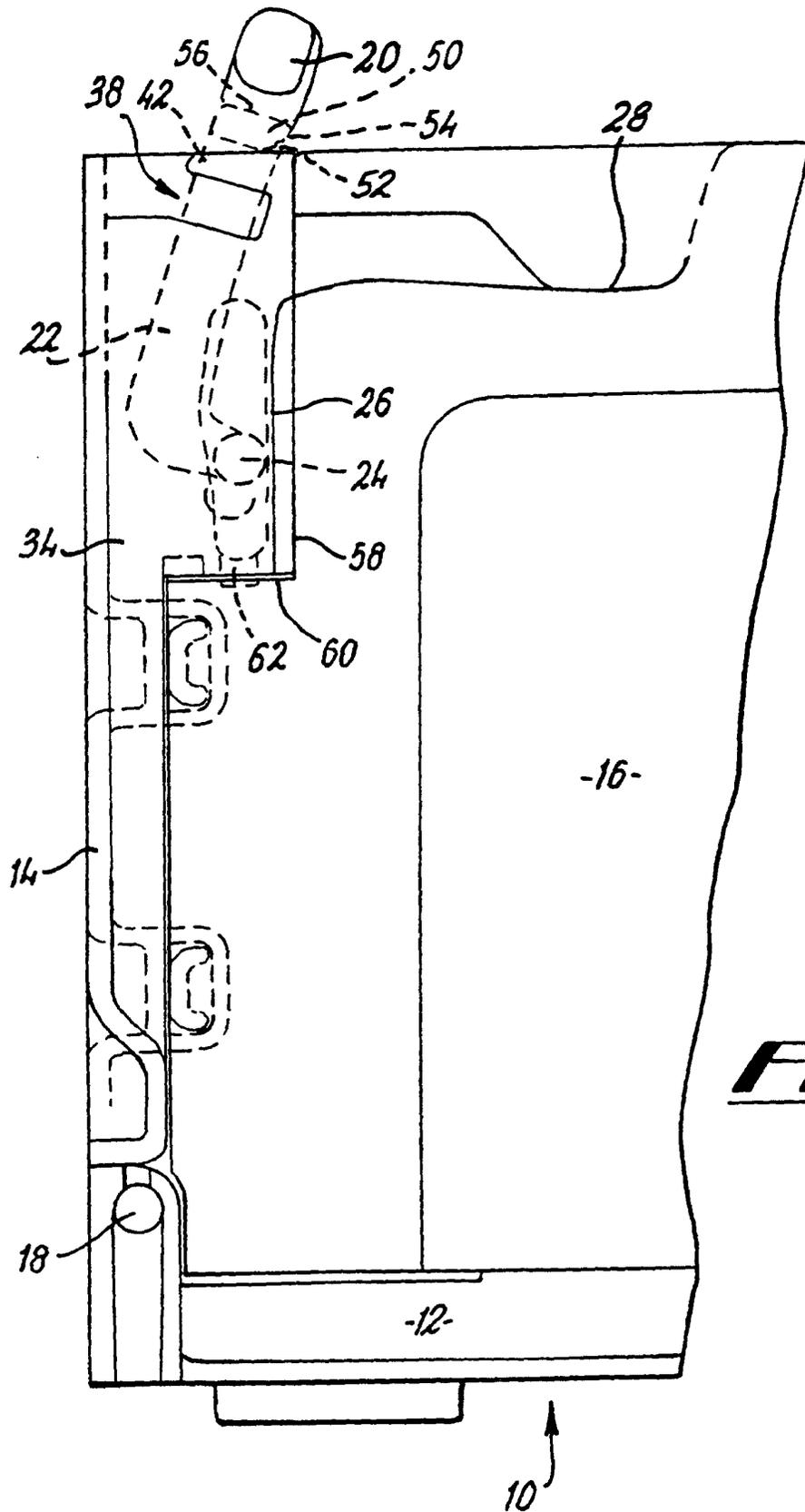


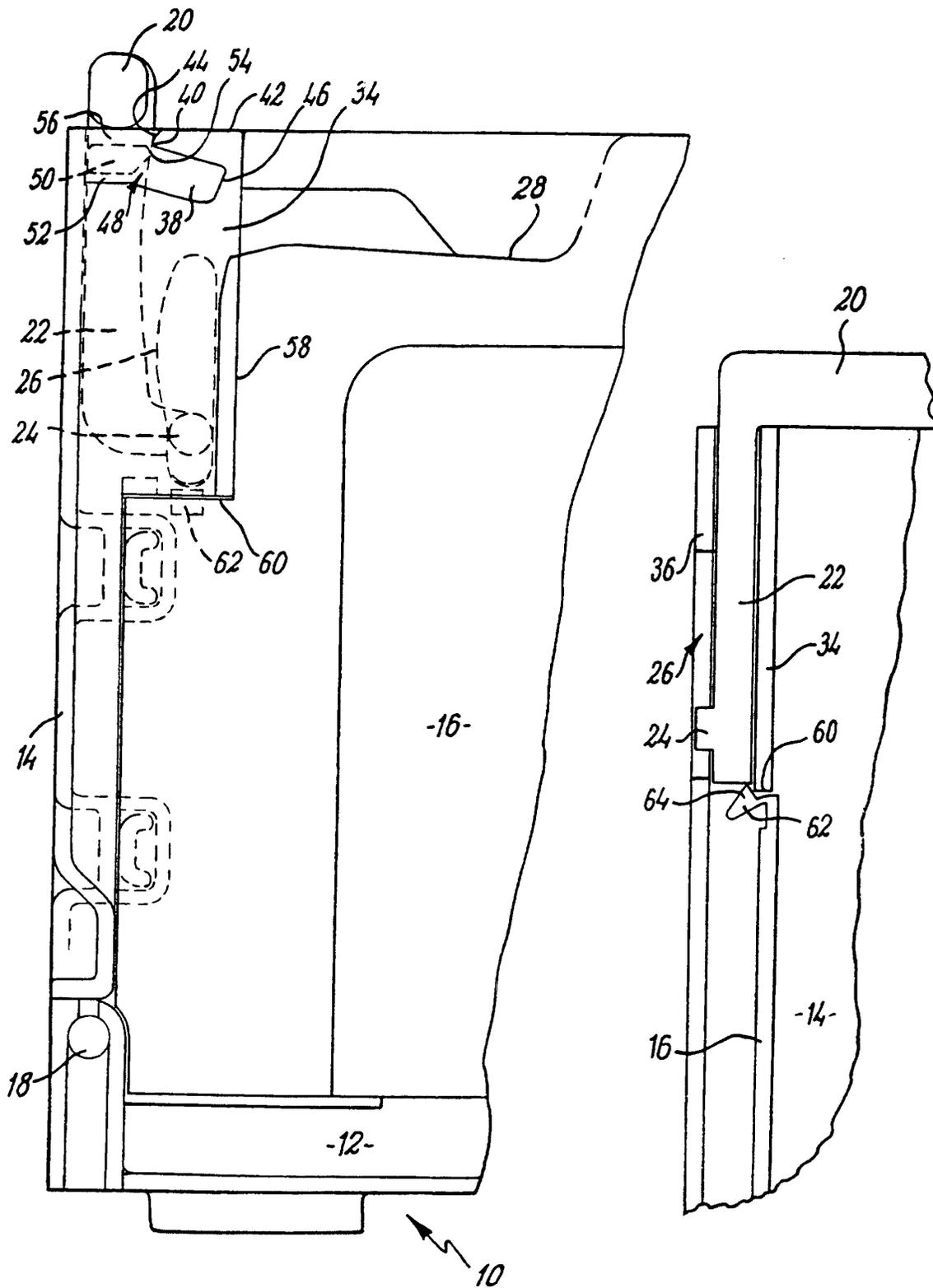


**FIG. 5**



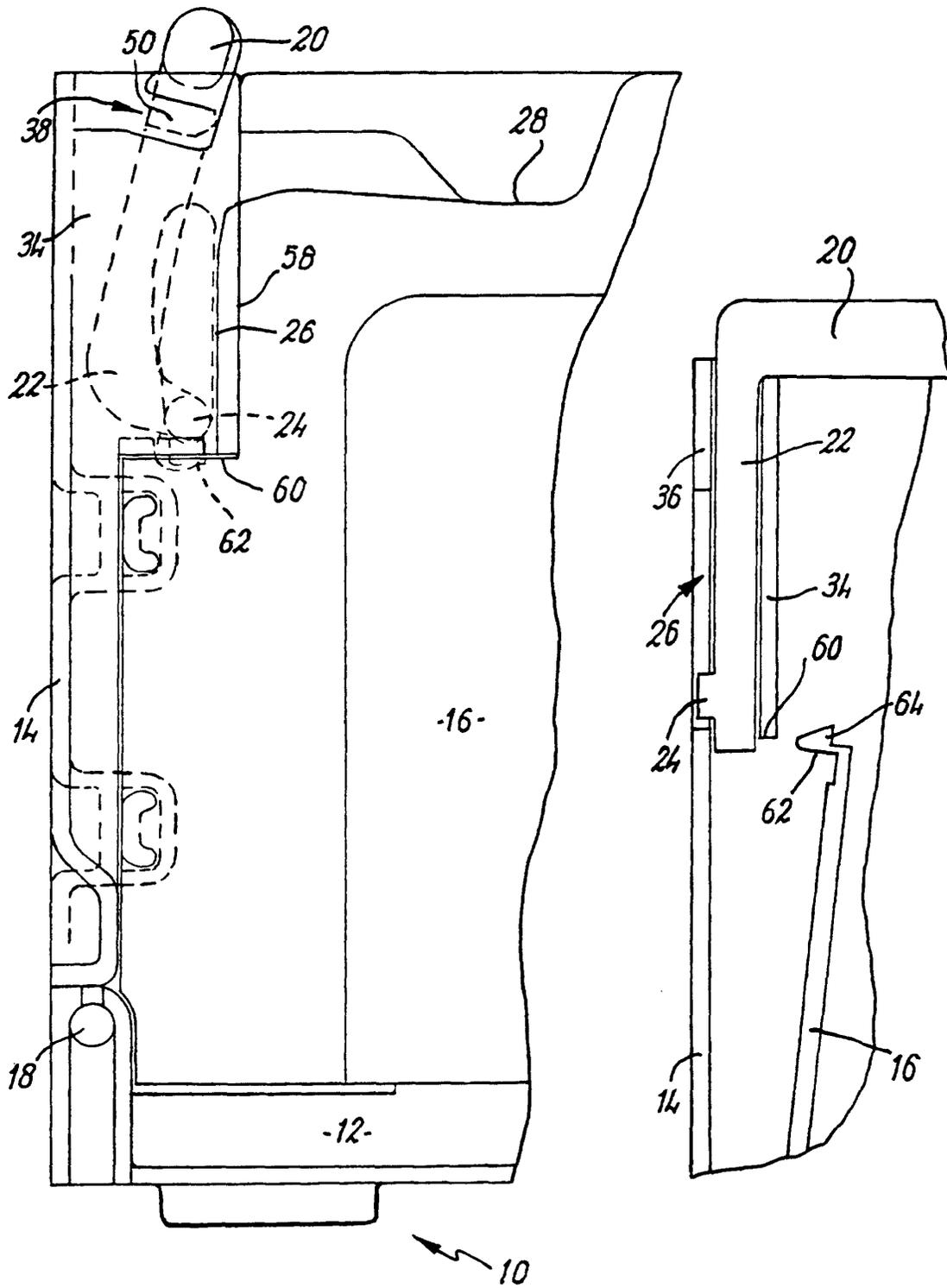






**FIG. 9**

**FIG. 9A**



**Fig. 10**

**Fig. 10A**

