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(54) Playhouse

(57) A playhouse formed from a single sheet of cardboard material comprises opposite first and second walls (2,6) and opposite third and fourth walls (4,8) extending between the first and second walls (2,6). Each of the third and fourth walls (4,8) has a respective triangular gable (38,40) extending therefrom, each gable being arranged to pivot between a vertical position, to support a pitched roof (22,24), and a horizontal position, to allow the pitched roof to be flattened. The playhouse is thus readily reconfigurable to form part of a modular system for constructing larger structures.

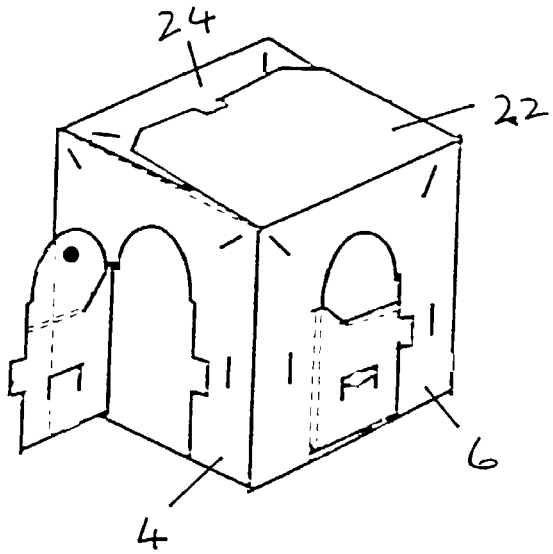

Figure 2

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Description

[0001] The present invention relates to a playhouse, and more particularly to a playhouse suitable for use in a modular system for constructing larger structures: a playhouse in the present context being a house-like structure into which a child may enter to play.

[0002] Hitherto, playhouses have typically been formed either by erecting tent-like structures, wherein a flexible sheet is draped over a frame, or by connecting together a plurality of pre-formed wooden or plastic panels. However, such structures are expensive to manufacture, difficult to assemble, and have a shape which is not readily reconfigurable to allow the playhouse to form part of a modular system for constructing larger structures.

[0003] I have now devised an arrangement which overcomes the limitations of existing playhouses.

[0004] In accordance with the present invention, there is provided a playhouse comprising opposite first and second walls and opposite third and fourth walls extending between the first and second walls, each of the third and fourth walls having a respective triangular gable extending therefrom and arranged to pivot between a vertical position, to support a pitched roof, and a horizontal position, to allow the pitched roof to be flattened.

[0005] Preferably the playhouse is formed from a single blank of sheet material, e.g. cardboard, and may be folded flat for transportation or storage.

[0006] Preferably a rectangular roof panel extends from the upper edge of the first wall and is pivotable between an inclined position, in which the panel may be supported by the gables in their vertical position, and a horizontal position, when the gables are horizontally aligned.

[0007] A second rectangular roof panel preferably extends from the upper edge of the second wall and is pivotable between an inclined position, in which this roof panel may be supported by the gables in their vertical position, and a horizontal position, when the gables are horizontally aligned.

[0008] Preferably respective panels formed on the side of each gable adjacent the second wall are arranged to extend towards one another, when the gables are horizontally aligned, and to interengage to support the distal end of the first rectangular roof panel: this arrangement imparts a high degree of strength to the roof structure in its flat condition.

[0009] Preferably the support panels can be folded, when the gables are in their vertical position, to buttress the apex of the roof: this arrangement imparts a high degree of strength to the roof structure in its pitched condition.

[0010] Preferably the two support panels are arranged to overlap one another when the gables are horizontally aligned, so that a flap, formed along the second-wall facing edge of the lower support panel, may be folded over the second-wall facing edge of the upper support panel. It will be appreciated that the folded flap provides a strengthening rib across the roof, and also serves to support the gables in their horizontal position.

[0011] Preferably a respective panel connects the first-wall facing edge of each gable to the adjacent side edge of the first roof panel, the connecting panels being arranged to be folded inwards against the inner surface of the first roof panel, when the gables are in their vertical position, to form respective struts for preventing the gables from pivoting. Preferably the folded support panels, which buttress the apex of the roof when the gables are in their vertical position, also serve to hold the folded connecting panels against the inner surface of the roof panel. A flap is preferably formed along the distal edge of the first roof panel and is arranged to be folded over the folded connecting panels so that the folded support panels hold the flap in place against the folded connecting panels.

[0012] Also in accordance with the present invention, there is provided a playhouse arranged to be interconnected, side-by-side to a second playhouse by folding a door of the first playhouse house through a doorway of the second playhouse.

[0013] Preferably, the door may be arranged to be folded in two about a vertical axis to fit into a corner of the second playhouse.

[0014] The door may also or otherwise be arranged to be folded across a corner of the second playhouse, the door preferably being arranged to be folded in two about a horizontal axis to form a platform across the corner.

[0015] Further in accordance with the present invention, there is provided a door brace for a playhouse and comprising a strip of sheet material arranged to be passed through apertures formed on either side of a door frame of the playhouse to form a loop, with the opposite ends of the strip overlapping one another, one end of the strip being formed on one side with a flap which may be wrapped around the overlapping ends of the strip to prevent their separation.

[0016] Preferably the brace is arranged such that, in use, the flap extends from the rearmost of the overlapping ends of the strip and is passed upwards over the foremost end of the strip and tucked between the rearmost end of the strip and the surface of the door which is to be secured.

[0017] Preferably the flap is formed with a tab which may be pressed through corresponding apertures formed in each end of the strip. Most preferably the tab is formed in the portion of the flap which, in use, is tucked between the rearmost end of the strip and the surface of the door which is to be secured.

[0018] Embodiments of the present invention will now be described by way of examples only and with reference to the accompanying drawings, in which:

Figure 1 is a plan view of a blank of sheet material used to form a playhouse in accordance with the present invention;

Figure 2 is a perspective view of a playhouse folded to provide a flat roof;

Figure 3 is a perspective view of a playhouse folded to provide a pitched roof;

Figure 4 is a series of perspective views showing how a collapsed playhouse may be expanded for use;

Figure 5 is a series of perspective views showing how the expanded playhouse may be folded to form a pitched roof;

Figure 6 is a series of perspective views showing how the expanded playhouse may be folded to form a flat roof;

Figure 7 is a first plan view of two playhouses connected together side-by-side;

Figure 8 is a perspective view of the assembly of Figure 7;

Figure 9 is a second plan view of two playhouses connected together side-by-side;

Figure 10 is a perspective view of the assembly of Figure 9;

Figure 11 is an exploded view showing a set of blanks used to form a roof structure over an assembly of playhouses;

Figure 12 is a perspective view showing how the roof structure of Figure 11 may be fitted over a side-by-side assembly of four playhouses;

Figure 13 is a series of perspective views showing how the roof structure may be folded to fit over a side-by-side assembly of two playhouses;

Figure 14 is a series of perspective views showing how the roof structure may be collapsed for storage or for use as a ramp;

Figure 15 is a series of perspective views showing how the collapsed roof structure may be connected to a playhouse to form a ramp;

Figure 16 is a series of perspective views showing how a pair of playhouses may be assembled one on top of the other;

Figure 17 is a plan view of a blank of sheet material suitable for forming a clamp to secure the door of a playhouse and to provide a step;

Figure 18 is a series of views showing how the sheet of Figure 16 may be attached across the doorway a playhouse; and

Figures 19 and 20 are perspective views of more elaborate assemblies of playhouses and roof members.

[0019] Referring to Figure 1 of the drawings, there is shown a blank formed from a sheet of stiff cardboard material. The blank is formed with various cuts (shown as solid lines) and pre-scored fold lines (shown as dashed lines) to allow the sheet to be folded into a playhouse having either a flat or a pitched roof, shown respectively in Figures 2 and 3. The playhouse forms, in each configuration, a strong structure in or upon which children may play.

[0020] The cuts and pre-scored fold lines divide the blank into four side panels 2,4,6 and 8, each formed with a respective door 10 having a lower portion 12 and an upper portion 14 arranged to be pivoted forwards with respect to the lower portion 12 and held in place by tucking the distal end of the upper portion behind a respective flap 16. The base of each door 10 is cut away so that, when the playhouse is formed, there will be no interference between the bottom of the door 10 and the surface upon which the playhouse rests. Each side panel 2,4,6 and 8 is also formed with slots 18 and 20, for attaching additional parts to the playhouse.

[0021] First and second roof panels 22 and 24 extend respectively from the upper edges of side panels 2 and 6, each roof panel 22,24 being formed with a respective flap 26,28 extending along its upper edge. Roof panel 24 is formed with a slot 30 for receiving a corresponding tab 32 formed in the upper edge of flap 26 of the second roof panel 22.

[0022] Roof panel 22 is free along both of its sides, whereas roof panel 24 is connected along each of its sides, via a pair of intermediate triangular panels 34,36, to the opposed inside edges of respective triangular gables 38,40, each of which extends from the upper edge of a respective side panel 4,8.

[0023] A second pair of triangular panels 42,44 extend from the outside edge of each gable 38,40, the outside edge of each panel 44 being perpendicular to the upper edge of its adjacent side panel 4,8, and the upper edge of each panel 44 being formed with a flap 46. The outside edge of the panel 44 which extends perpendicularly from side panel 8 is formed with an additional flap 48.

[0024] The lower edges of the side panels 2,4,6 and 8 are formed with respective flaps 50, which are arranged to be folded inwards at the base of the expanded playhouse.

[0025] Side panel 8 is formed with a flap 52 which is arranged to be glued or otherwise fastened to a region 54 of side panel 2, so that the blank may be folded as shown in Figure 4a for storage, and expanded as shown in Figures 4b, 4c and 4d such that the side panels 2,4,6 and 8 form respective side walls of a playhouse. An optional rectangular floor member 56 may inserted into the playhouse, as shown in Figure 4d, to maintain the rectangular shape of the playhouse.

[0026] To form a playhouse having a pitched roof, starting from the expanded arrangement shown in Figure 5a, gables 38 and 40 are first held upright, and panels 34 and 36 at each end of the playhouse folded inwards towards one another (Figure 5b), so that rectangular roof panel 24 pivots inwards to form one half of a pitched roof. The flap 28 at the end of the rectangular roof panel 24 is then folded inwards (Figure 5c) to cover the folded panels 34 and 36 at each end of the play-

house, thereby preventing the gables 38 and 40 from pivoting inwards or outwards.

[0027] Panels 42 and 44 at each end of the playhouse are then folded inwards (Figure 5d and 5e) along the fold line between panel 42 and its adjacent side wall, so that panel 42 extends downwards, away from the side wall with its upper edge extending diagonally across the surface of the flap 28 to hold the flap in place. Panel 44 is then folded towards the side wall, along the fold line between the two panels 42,44, and flap 46 tucked between the roof panel 24 and panel 34 to fix the various panels in place. Each pair of panels 42,44 thus forms a respective hollow strut which buttresses the apex of the roof.

[0028] The second rectangular roof panel 22 is then pivoted inwards (Figure 5f) so that it is supported at the apex of the roof by the flap 26 which bears upon the two panels 42.

[0029] Alternatively, to form a playhouse having a flat roof, starting from the expanded arrangement shown in Figure 6a, gables 38 and 40 are first folded inwards (Figures 6b, 6c, 6d, 6e and 6f) so that the rectangular roof panel 24 pivots forwards into a horizontal position. As the roof panel 24 pivots forwards, the flap 28 is folded inwards (Figure 6d) so that, in the horizontal position, the ends of the flap 28 are supported by the gables 38,40. The folded flap thus forms a strengthening rib across the top of the playhouse, as well as holding the panels 34 against the underside of the roof panel 24.

[0030] Also, as the roof panel 24 pivots forwards, the two pairs of panels 42 and 44 overlap one another so that a flap 48 joined to the foremost edge of the lower panel 44 projects forwards from the playhouse. When the second roof panel 22 is subsequently folded onto the roof of the playhouse (Figure 6f), the flap 48 becomes secured between the opposed surfaces of uppermost panel 44 and roof panel 22. Flap 26 of roof panel 22 is formed with a tab 32 which fits into a corresponding slot 30 formed in roof member 24 to secure the two panels together.

[0031] Two or more playhouses may be interconnected, side-by-side, by folding a door of one playhouse outwards and through the doorway of an adjacent playhouse, for example as shown in Figures 7 to 10. Thus, a first playhouse 58 is shown connected to a second playhouse 60 by folding door 62 of playhouse 58 outwards and through the doorway of playhouse 60, and door 64 of playhouse 60 outwards and through the doorway of playhouse 58. It will be appreciated that, as the top of each doorway is formed as an arch, the two playhouses are thus prevented from separating. The gap at the bottom of each door 62,64 provides sufficient clearance for the door to pass over the floor member 56 of the playhouse into which it projects, but is small enough that the bottom edge of the door interferes with the floor member 56 to hold the door in place.

[0032] As shown in Figures 7 and 8, to further secure the two playhouses together and to prevent play from being obstructed, each door 62,64 may be folded flush against the interior walls of the playhouse into which it projects. In the embodiment illustrated, this requires each door 62,64 to be folded along a vertical axis to fit into the corner of the playhouse into which it projects.

[0033] Alternatively, as shown in Figures 9 and 10, a second door 65 of each house 58,60 may be folded inwards against the inter-connecting door 62,64 of its respective adjoining house, with the upper portions 14 of the two doors e.g. 65,62 being folded, one on top of the other, into the corner adjacent the two doors to provide a step or seat.

[0034] Where a plurality of playhouses are to be interconnected side-by-side, a separate roof structure may be provided which covers some or all of those playhouses. Figure 11 shows a plurality of blanks which may be assembled into a roof structure for covering a square assembly of four playhouses, as shown in Figure 12, or two adjacent playhouses, as shown in Figure 13.

[0035] To assemble the roof structure, the upper edges of rectangular blanks 66,68 are first brought together so that flaps 70 formed along the sides of each blank may be glued to respective regions 72 of gables 74 and 76. A central fold line divides each rectangular blank into two panels 78 and 80, and a flap 82 extends from the upper edge of one of the panels 80.

[0036] Once the rectangular blanks 66 and 68 have been glued to the gables 74 and 76, the flaps 82 are folded forwards and fixed in place by inserting tabs 84 into corresponding slots 86 to fasten each pair of opposed roof portions together along the apex of the roof.

[0037] Respective flaps 88 extend from the bottom edges of the rectangular blanks 66,68 and of the gables 74,76, each flap being formed with tabs 90 for fitting into corresponding apertures 92 formed in the exterior side panels of an assembly of playhouses to fasten the roof structure thereto.

[0038] Each gable 74,76 is formed with a central fold line along which the gable may be folded, as shown in Figures 13a and 13b, to convert the duo-pitched roof of Figure 12 into a mono-pitched roof suitable for covering an assembly of only two playhouses, such as those shown in Figures 7 to 10.

[0039] Referring to Figure 12, playhouse 94 is formed with a pitched roof, so that a child may gain access to the loft space, formed by the roof structure 96, when the roof panel 22 is folded forwards onto the flat roof of playhouse 98.

[0040] In the arrangement shown in Figure 13, a ramp 100 extends from one side of the playhouse 102, the ramp 100 being formed from a roof structure 96 by firstly folding the gables 74 and 76 inwards between the two panels 78,80 at either end of the roof structure, as shown in Figure 14b, and then folding the rectangular blanks 66,68 along their common centre line, as shown

in Figure 14c.

[0041] The folded roof structure is fitted to playhouse 102, as shown in Figure 15, by inserting tabs 90 into corresponding slots 92,94 respectively formed in the side wall and in the flat roof of the playhouse.

[0042] Two or more playhouses may also be stacked one on top of the other, for example as shown in Figure 16, wherein playhouse 104 is supported by two of its flaps 50 which, when playhouse 106 is formed, are tucked into corresponding slots formed on either side of the flat roof of playhouse 106 between the opposed surfaces of the gables 38 and 40 and their respective connecting panels 34,36.

[0043] Figure 16c shows how the roof panel 22 of a third playhouse 108 may be slotted between the stacked playhouses 104 and 106 so that the open roof of the playhouse 108 provides a route by which a child may gain access to the upper playhouse 104. To facilitate such access, playhouse 108 is preferably provided with a step, formed by folding the doors of the two houses 106, 108 in the manner discussed with reference to Figures 9 and 10.

[0044] Where two or more playhouses are stacked one upon the other, it is desirable, for reasons of safety, to provide means for securing some or all of the doors of the or each elevated playhouse. Figure 17 shows a brace 110, intended primarily to secure a door of a playhouse, for example as shown in Figure 3, but which may also be used to provide a step. The brace 110 is formed from a sheet of cardboard material comprising a panel 112 having an elongate portion 114 extending therefrom. The panel 112 and the elongate portion 114 are pre-scored to provide a plurality of cuts (shown as solid lines) and fold lines (shown as dashed lines) to enable the brace to be locked in place across the doorway of a playhouse.

[0045] Figure 18 shows how the brace 110 of Figure 17 may be fitted across a doorway by feeding the elongate portion 114 of the brace 110 through a first slot 116 formed on one side of a doorway, across the rear of the doorway, forwards through a second slot 118 on the opposite side of the doorway, and back across the front of panel 112, as shown in Figures 18a to 18c. The bottom of panel 112 may then folded upwards, over the end of the elongate portion 114 and tucked behind the top of panel 112, as shown in Figures 16d and 16e, so that a tab 120 may be pressed through aligned apertures 122 and 124, respectively formed in the end of elongate portion 114 and in the top of panel 112, to lock the brace securely in position (Figure 18f) so that it cannot easily be unlocked by a child from inside the playhouse.

[0046] It will be appreciated that a playhouse of the type described above may be supplied as a single blank, or as one of a plurality of blanks which may, for example, comprise all of the blanks required to form the four playhouses and the roof structure shown in Figure 12. It is envisaged that more elaborate structures, such as those shown in Figures 19 and 20, may be built up by purchasing additional playhouses and roof structures as required.

[0047] The playhouse thus described is both cheap to manufacture and provides the advantage of being readily reconfigurable so that the playhouse may form part of a modular system for constructing larger structures.

Claims

1. A playhouse comprising opposite first and second walls (6,2) and opposite third and fourth walls (4,8) extending between said first and second walls, each of said third and fourth walls having a respective triangular gable (38,40) extending therefrom and arranged to pivot between a vertical position, to support a pitched roof (22,24), and a horizontal position, to allow said pitched roof to be flattened.

2. A playhouse as claimed in Claim 1, formed from a single blank of sheet material which may be folded flat.

3. A playhouse as claimed in Claim 1 or claim 2, wherein a rectangular roof panel (24) extends from the upper edge of said first wall (6) and is pivotable between an inclined position, in which said panel may be supported by said gables (38,40) in their vertical position, and a horizontal position, when said gables are horizontally aligned.

4. A playhouse as claimed in Claim 3, wherein a second rectangular roof panel (22) extends from the upper edge of said second wall (2) and is pivotable between an inclined position, in which said second roof panel may be supported by said gables (38,40) in their vertical position, and a horizontal position, when said gables are horizontally aligned.

5. A playhouse as claimed in Claim 3 or claim 4, wherein respective panels (42,44,46), formed on the side of each of said gables (38,40) adjacent said second wall, are arranged to extend towards one another, when said gables are horizontally aligned, and to interengage to support the distal end of said first rectangular roof panel (24).

6. A playhouse as claimed in Claim 5, wherein said support panels (42,44,46) are arranged to be folded, when said gables (38,40) are in their vertical position, to buttress the apex of the roof.

7. A playhouse as claimed in Claim 5 or Claim 6, wherein said support panels (42,44,46) are arranged to overlap one other, when the gables (38,40) are horizontally aligned, so that a flap (48), formed along the second-wall facing edge of the lower one of said support panels, may be folded

over the second-wall facing edge of the upper one of said support panels to interengage the panels.

8. A playhouse as claimed in any of Claims 3 to 8, wherein a respective panel (34,46) connects the first-wall facing edge of each of said gables (38,40) to the adjacent side edge of said first roof panel (24), said connecting panels being arranged to be folded inwards against the inner surface of said first roof panel, when said gables are in their vertical position, to form respective struts for preventing said gables from pivoting.

9. A playhouse as claimed in Claim 8 appended to Claim 6, wherein said support panels (42,44,46) are arranged such that when folded to buttress the apex of the roof, said support panels also hold said connecting panels (34,36) in place against the inner surface of said first roof panel (24).

10. A playhouse as claimed in Claim 8 or Claim 9, wherein a flap (28), formed along the distal edge of said first roof panel (24), is arranged to be folded over the connecting panels (34,36), when they are folded against the inner surface of said first roof panel, so that said support panels, when folded to buttress the apex of the roof, hold said flap in place against said connecting panels.

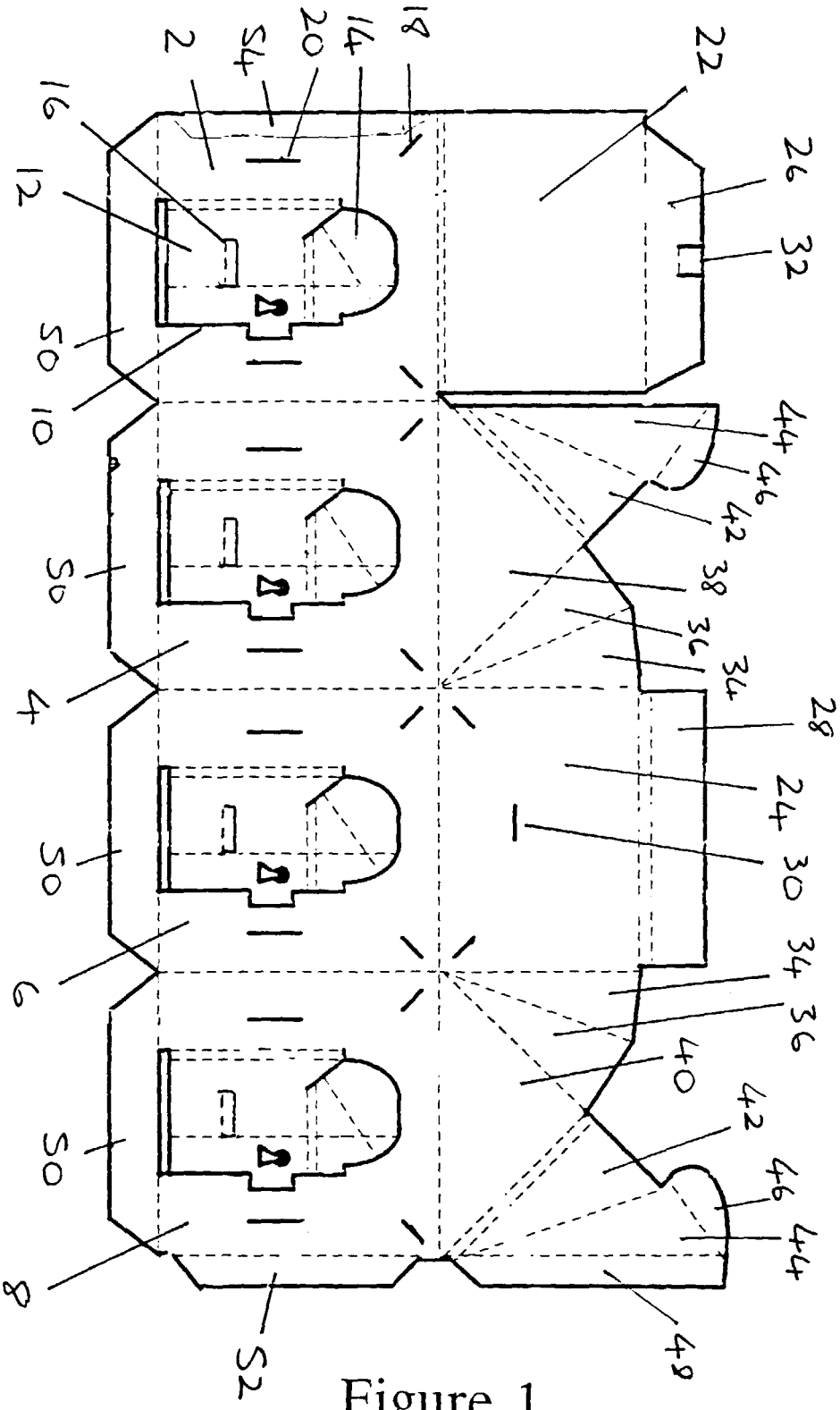
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Figure 1

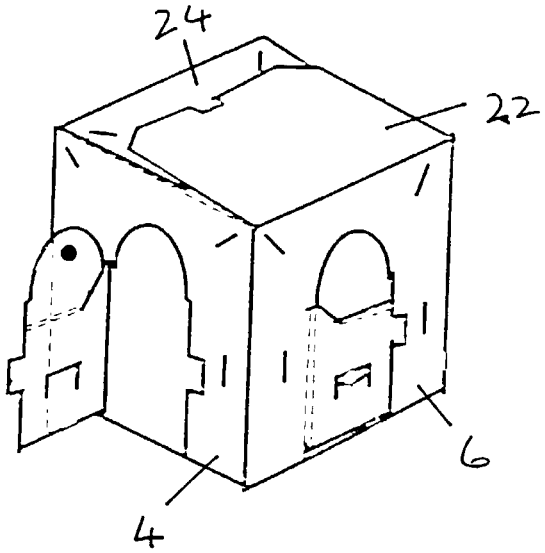

Figure 2

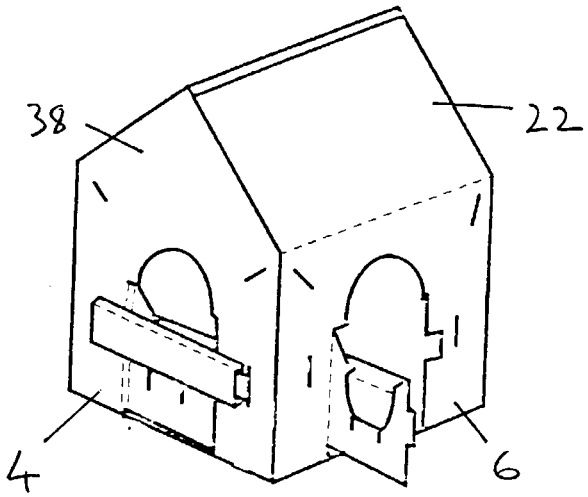

Figure 3

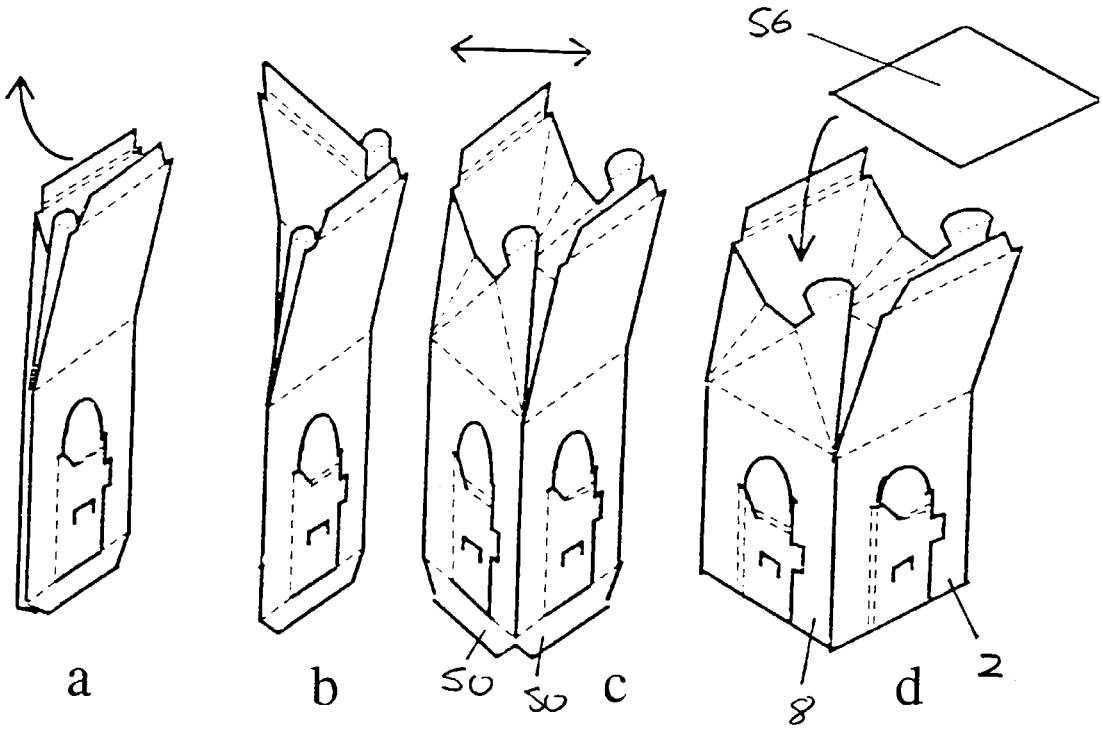

Figure 4

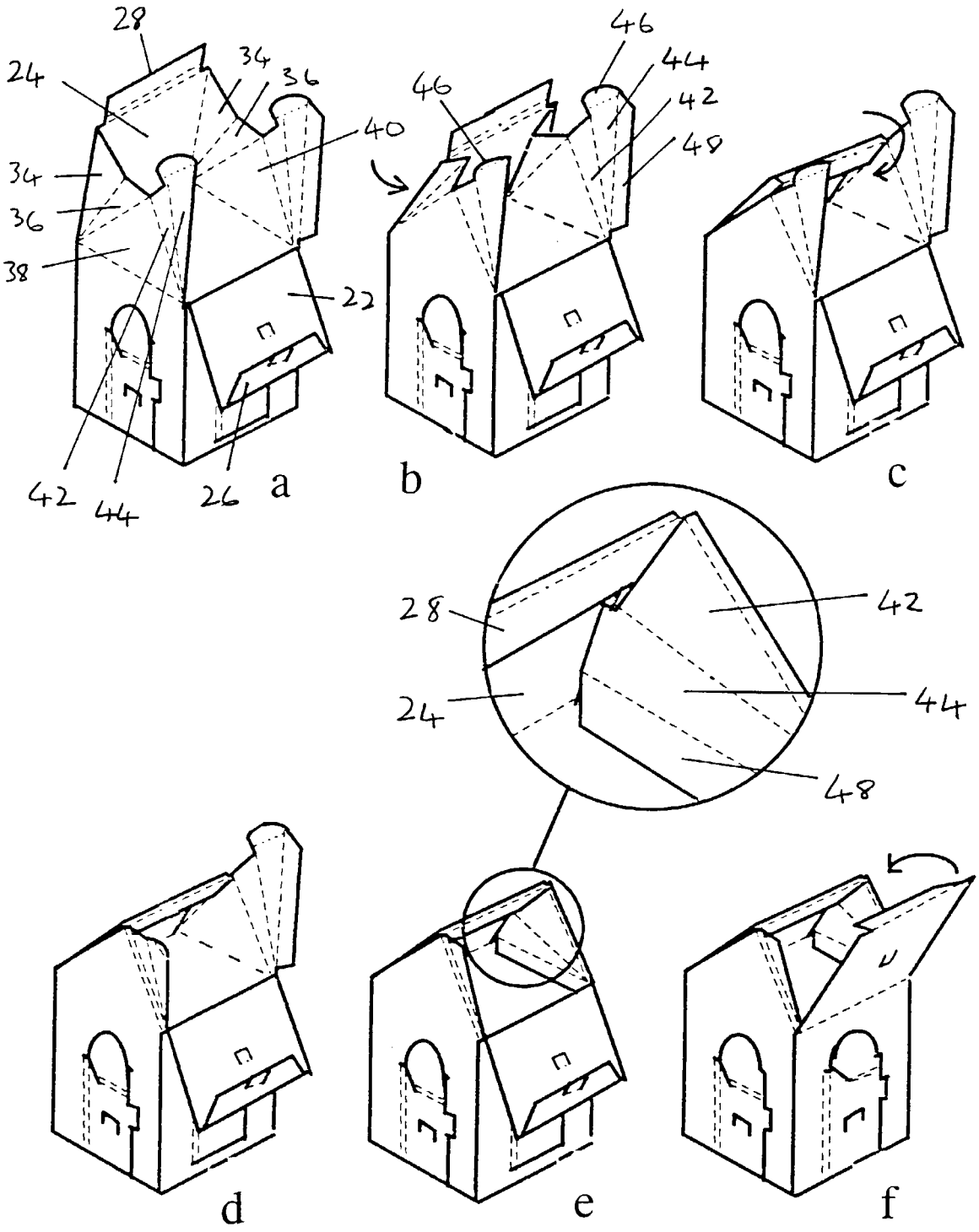
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Figure 5

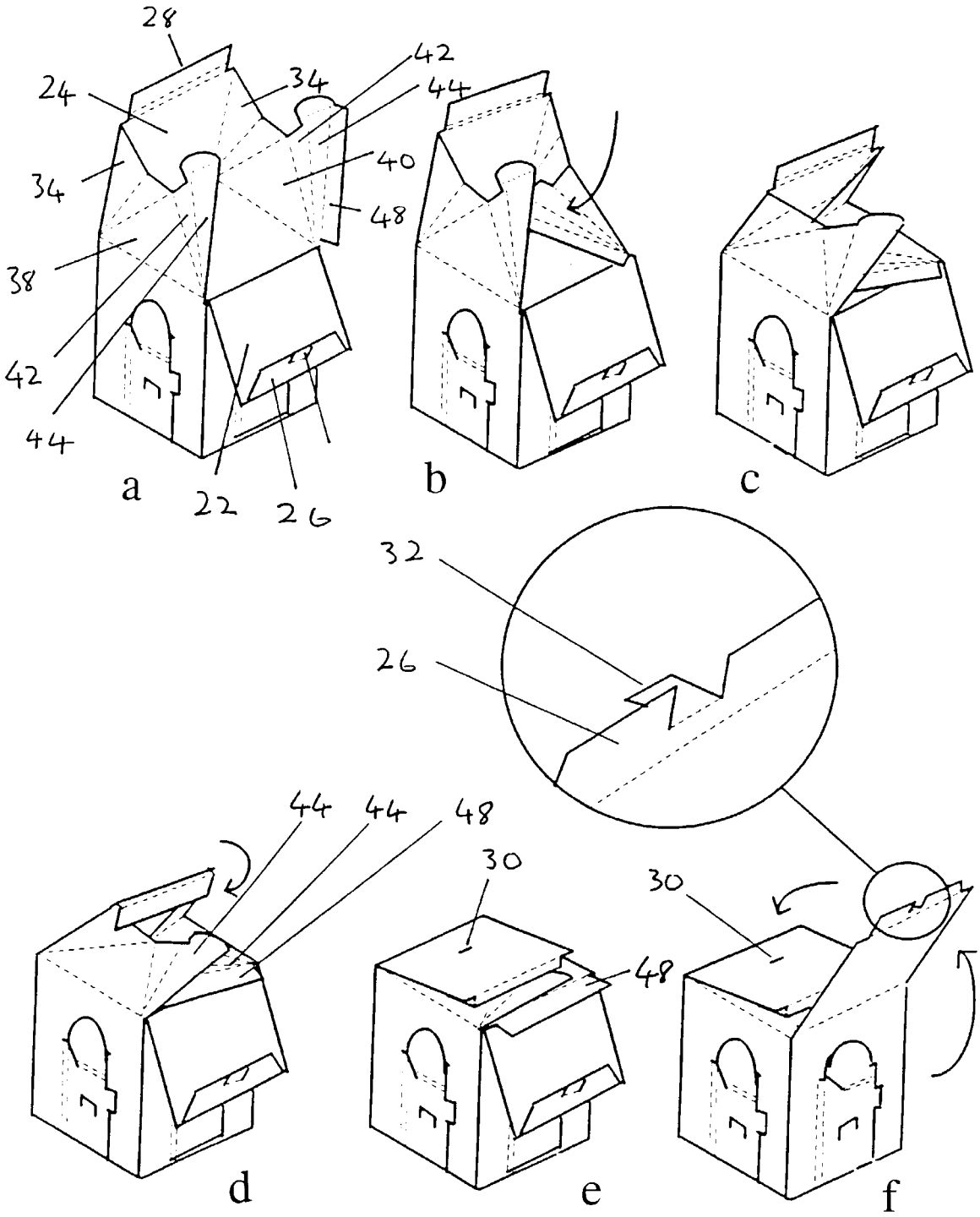

Figure 6

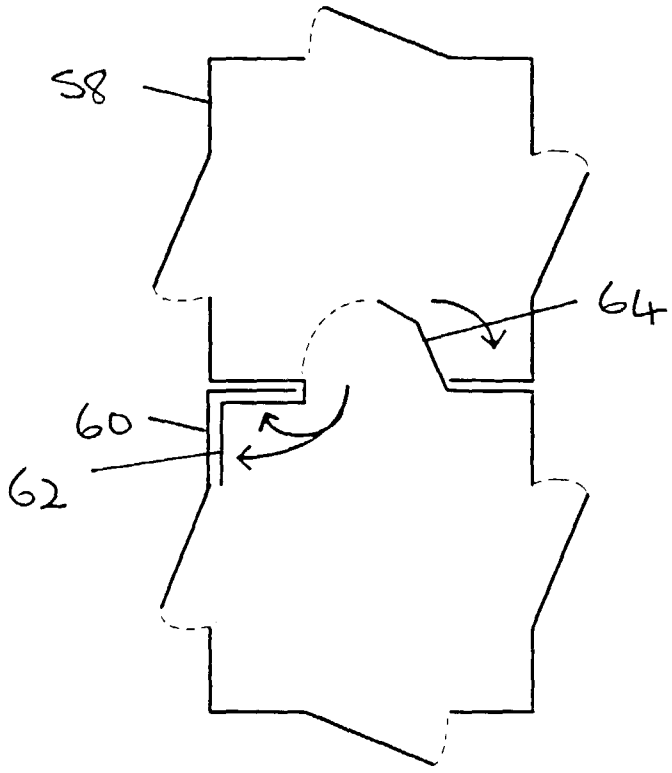

Figure 7

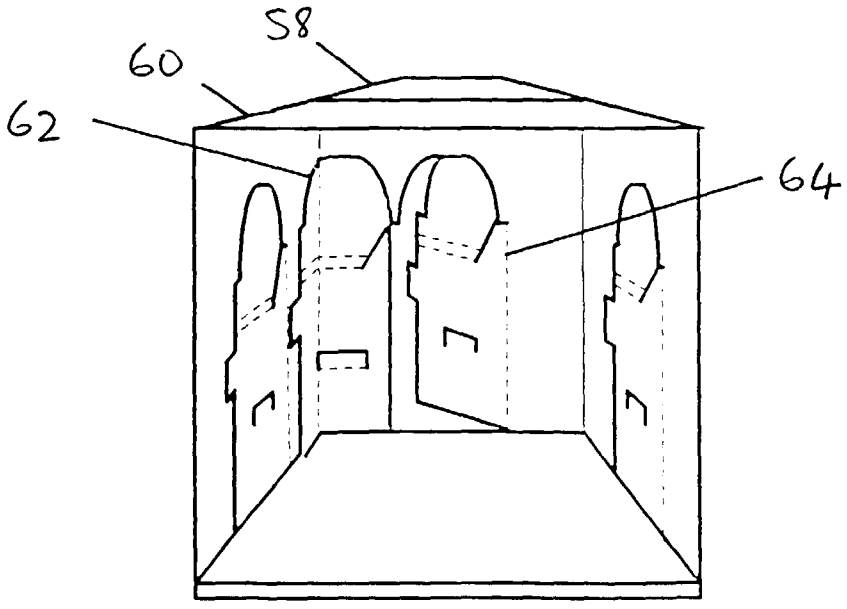

Figure 8

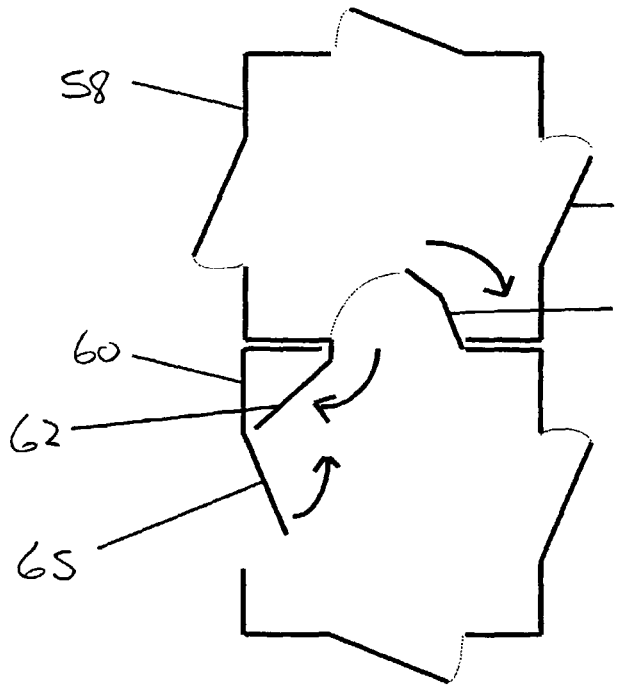

Figure 9

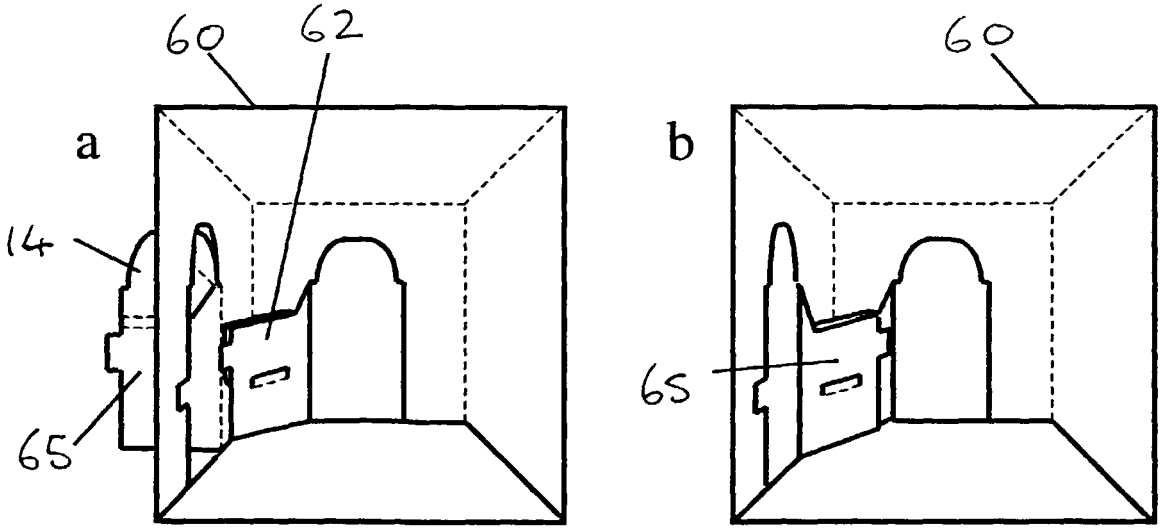

Figure 10

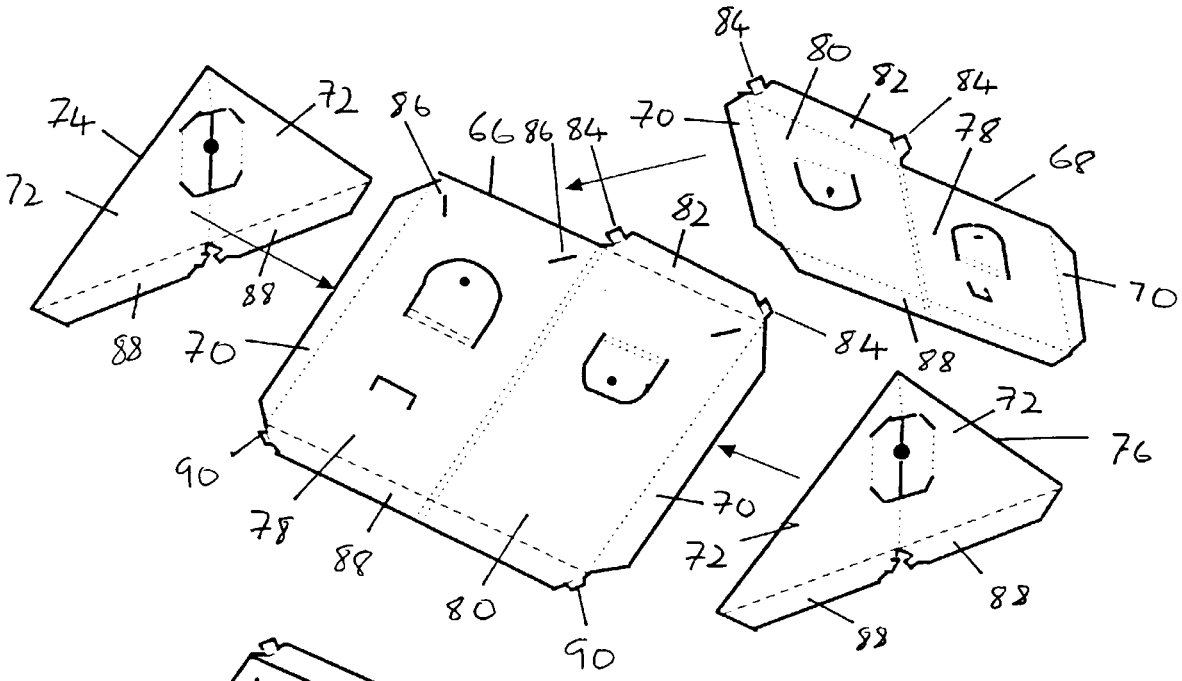

Figure 11

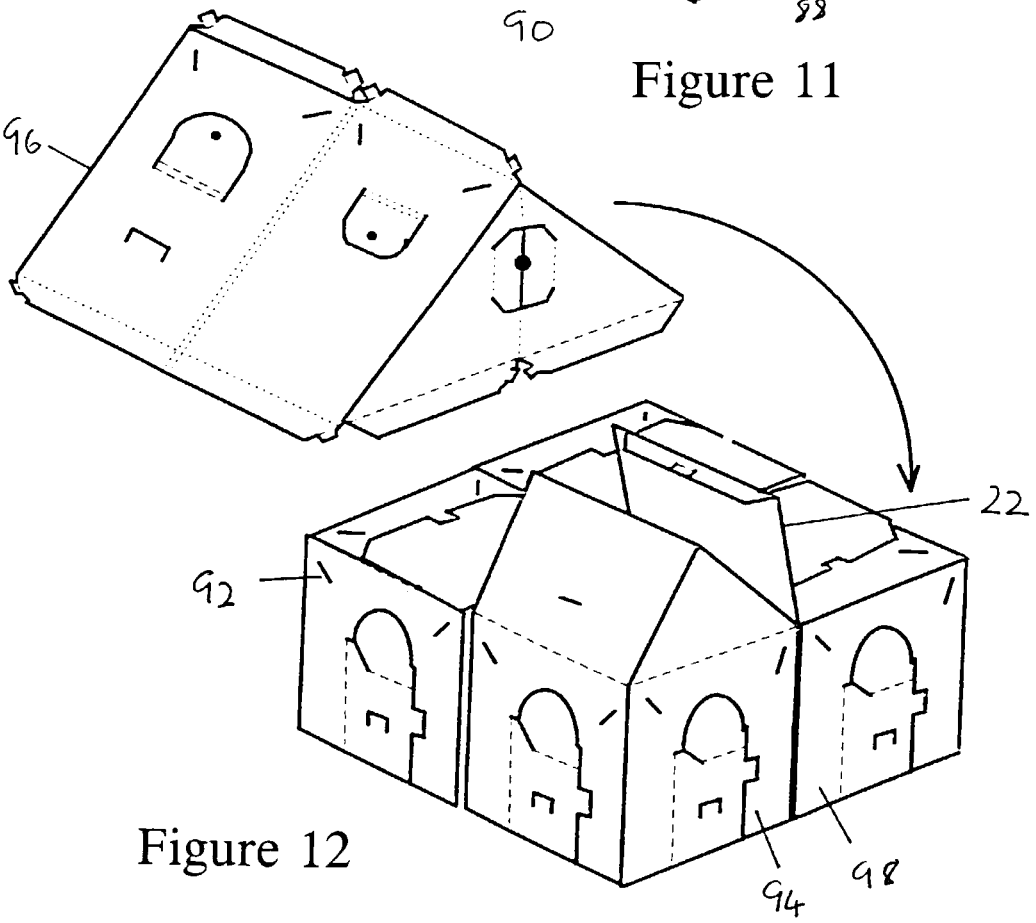

Figure 12

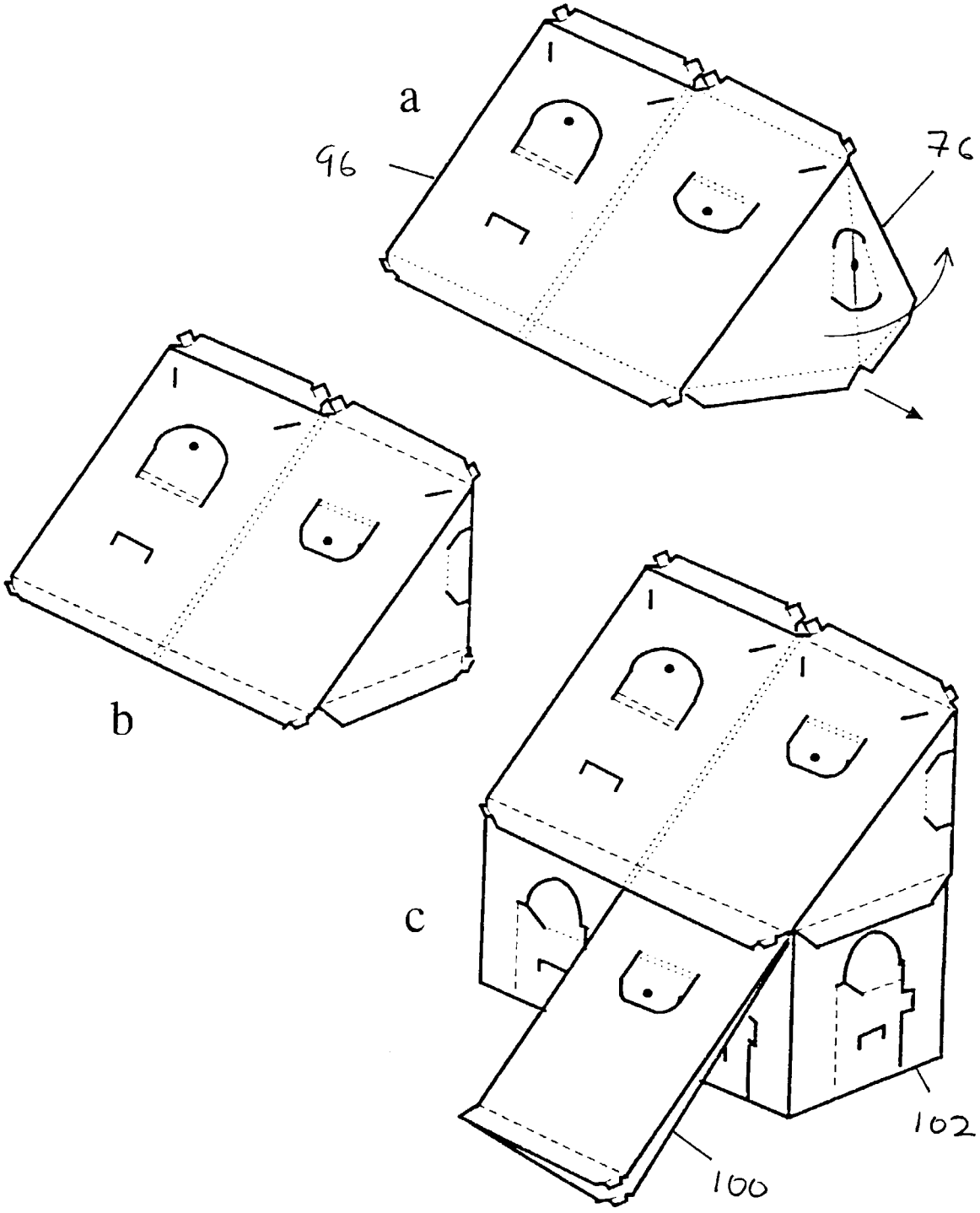

Figure 13

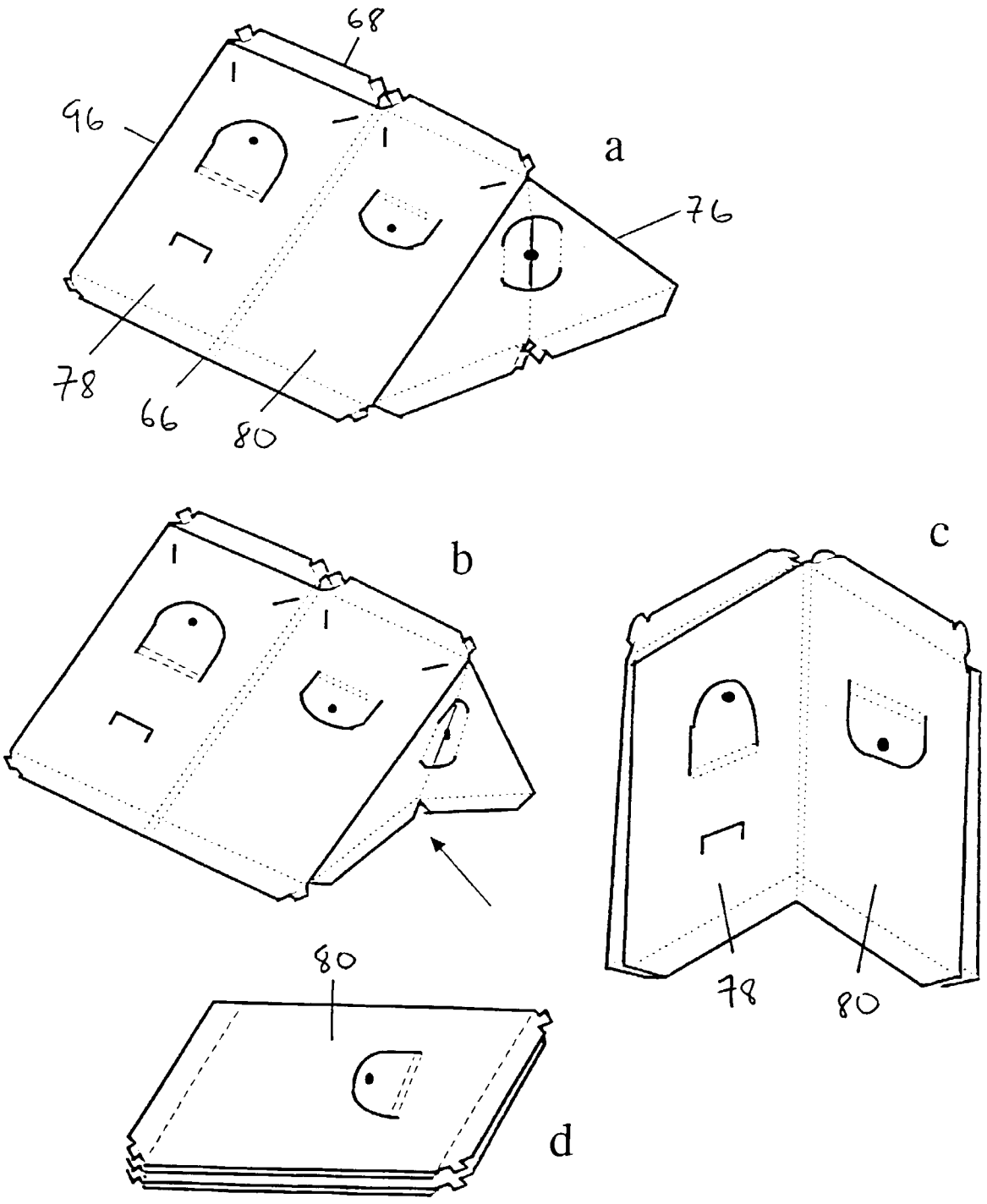

Figure 14

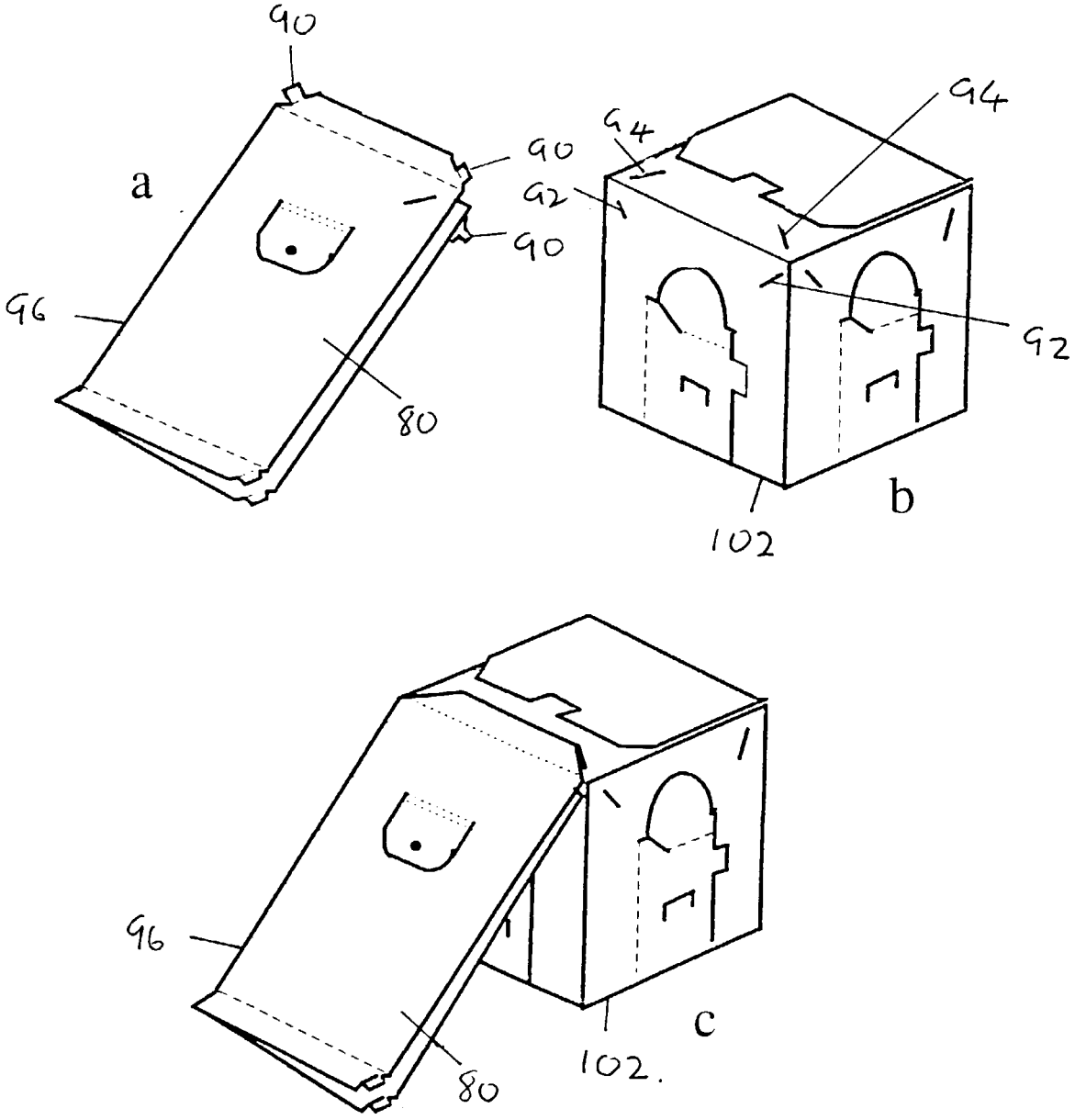

Figure 15

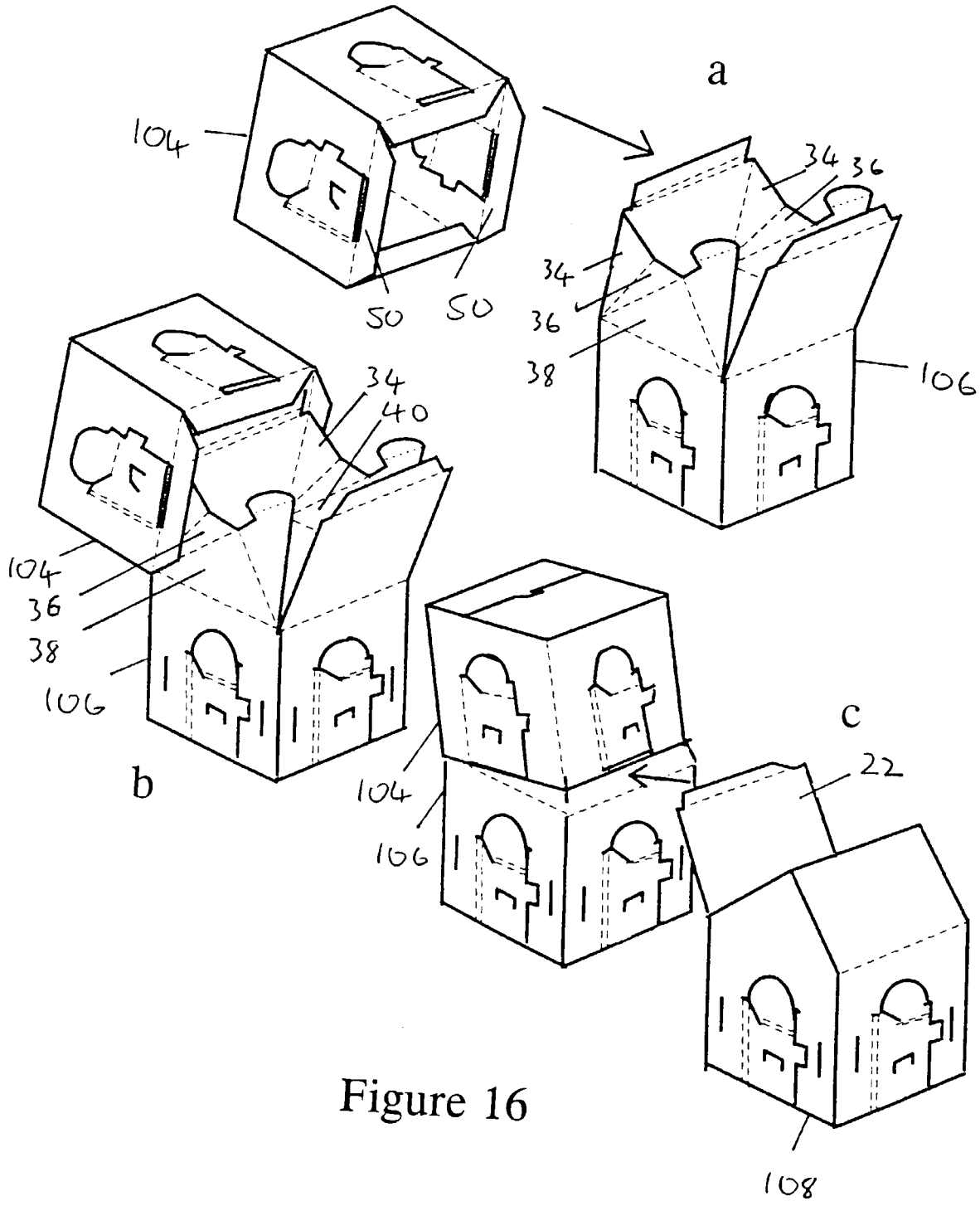

Figure 16

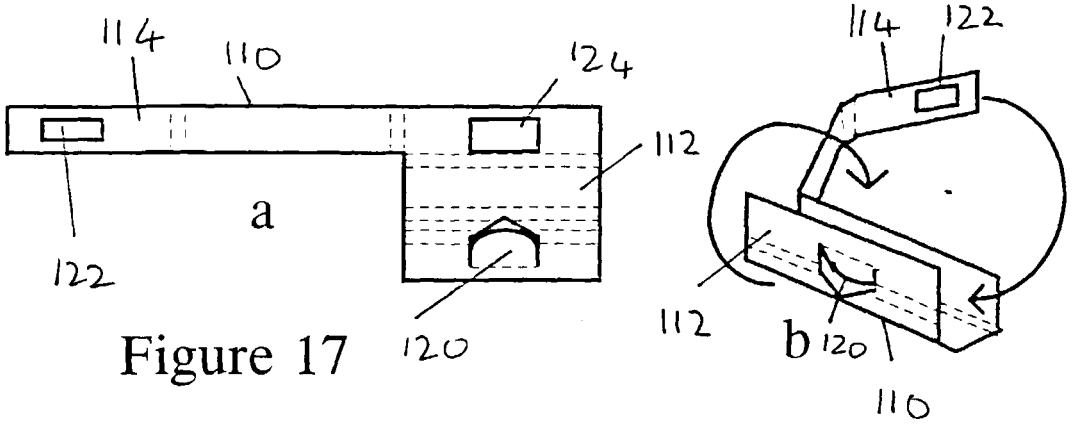

Figure 17

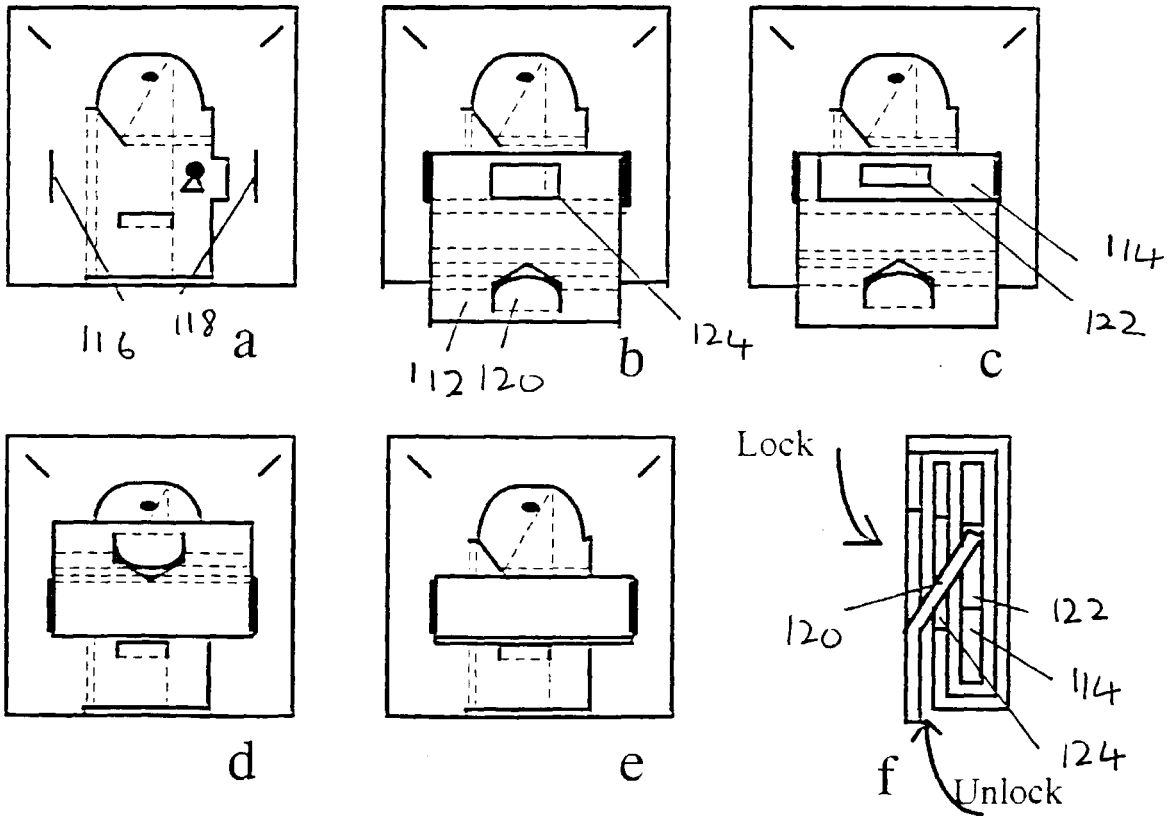

Figure 18

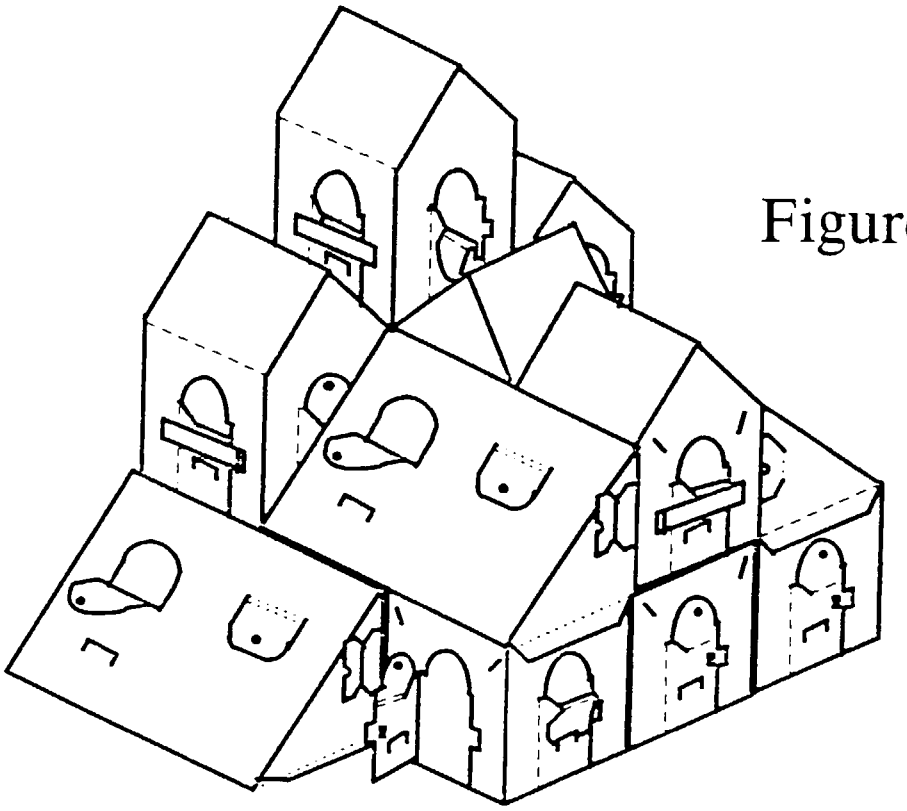

Figure 19

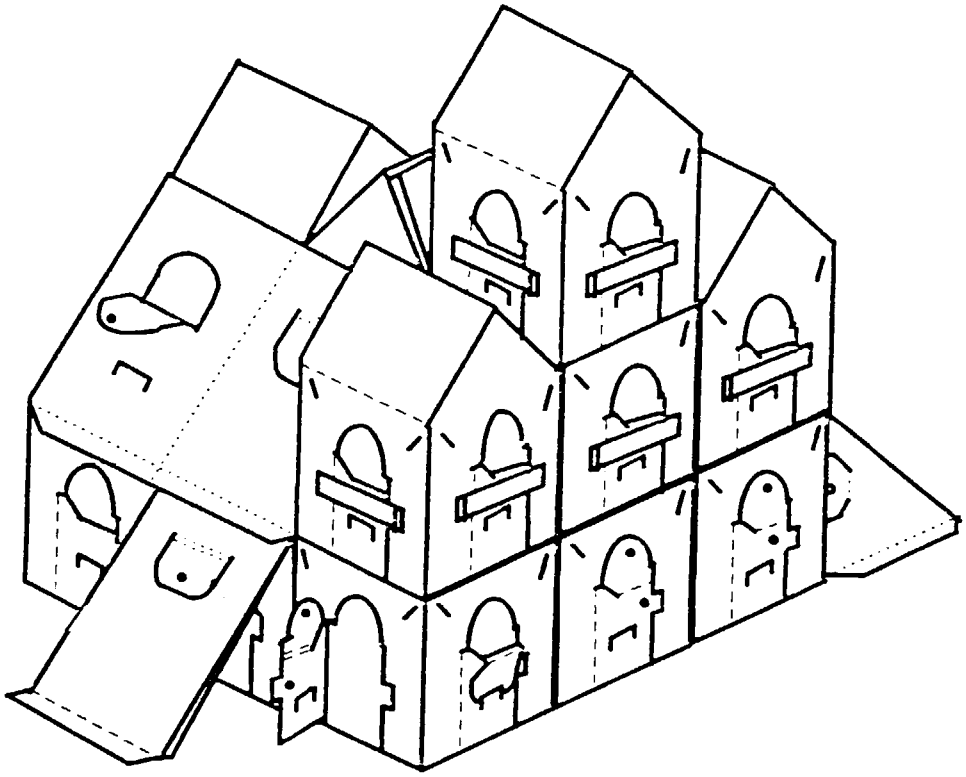

Figure 20