



(22) Date de dépôt/Filing Date: 2006/09/08

(41) Mise à la disp. pub./Open to Public Insp.: 2008/03/08

(45) Date de délivrance/Issue Date: 2014/05/27

(51) Cl.Int./Int.Cl. *A47F 3/14* (2006.01),
A47F 5/00 (2006.01), *A47F 5/16* (2006.01)

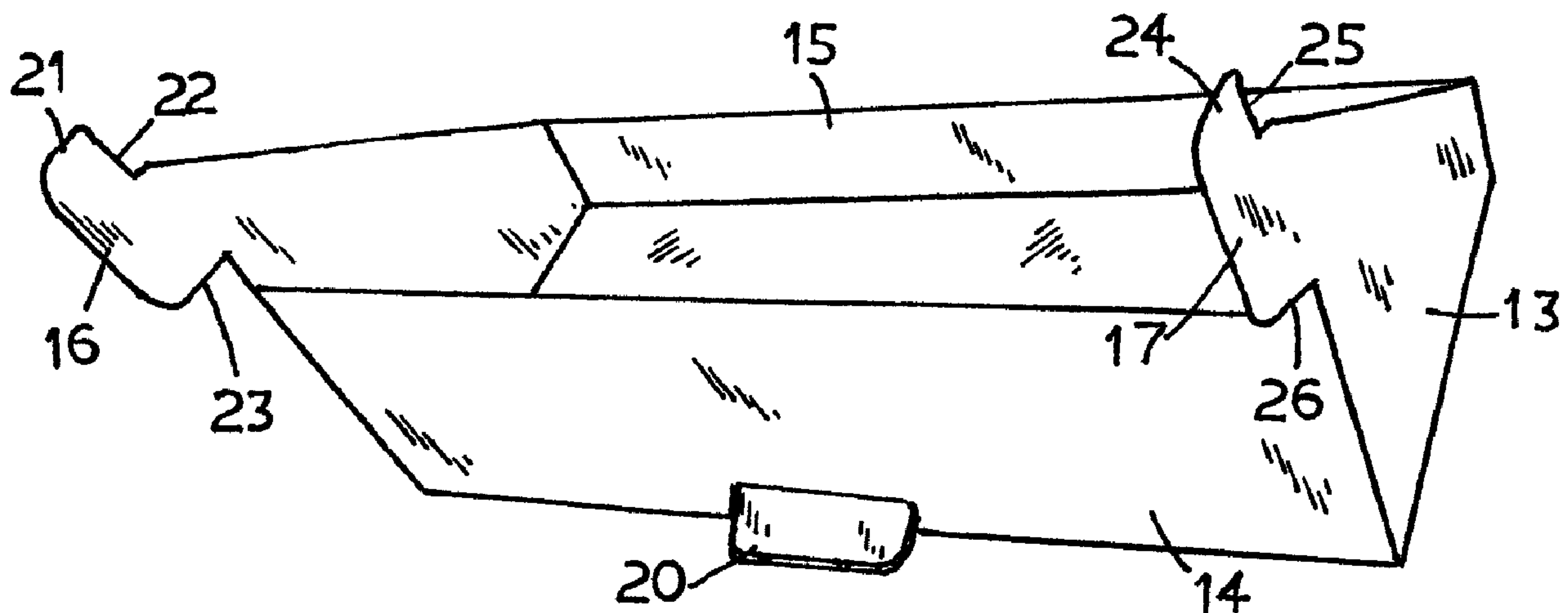
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(54) Titre : PLATEAU A MARCHANDISES DE PRESENTOIR

(54) Title: DISPLAY STAND MERCHANDISE TRAY



(57) Abrégé/Abstract:

A merchandise tray is mountable detachably or removably on a display stand to support relatively heavy weight merchandise items placed therein. The tray has two L-shaped mounting arms insertable into vertical mounting slots formed at the edge portions of the front panel of the display stand. At least one reinforce tab is formed at the rear wall of the tray, which engages with a horizontal mounting slot formed in the front panel of the display stand to provide additional support of the weight of the merchandise items.

ABSTRACT OF THE DISCLOSURE

A merchandise tray is mountable detachably or removably on a display stand to support relatively heavy weight merchandise items placed therein. The tray has two L-shaped mounting arms insertable into vertical mounting slots formed at the edge portions of the front panel of the display stand. At least one reinforce tab is formed at the rear wall of the tray, which engages with a horizontal mounting slot formed in the front panel of the display stand to provide additional support of the weight of the merchandise items.

DISPLAY STAND MERCHANDISE TRAY

This invention relates to merchandise trays mountable on a display stand for displaying merchandise having relatively heavy weight.

Heretofore merchandise trays have been mounted on a vertical display stand in which
5 both the display stand and the merchandise trays are made of cardboard or corrugated board. The display stand may either be of the type having a vertical planar panel supported by an easel to rest in a vertical position or a stand having a triangular side elevation with a rectangular front planar panel. The trays are provided with mounting arms which will engage with mounting openings
10 formed in the planar panel of the display stand. A plurality of such trays may be mounted to the front panel for displaying light weight merchandise consisting of many items in which each item is less than 100 grams. Such merchandise trays are not intended for holding heavier weight merchandise having a plurality of item in which each item is heavier than for example 250grams, since the mounting arms are unable to support the weight of the merchandise in the tray. The weight of the merchandise would dislodge the mounting arms from the display stand.
15 Furthermore, common merchandise trays are complex in construction and awkward to assemble and they often require more than one person to assemble.

It is a principal object of the present invention to provide a merchandise tray which is mountable on a display stand for supporting relatively heavy merchandise items.

It is another object of the present invention to provide a merchandise tray which may be
20 selectively mounted to a display stand detachably or permanently.

It is another object of the present invention to provide a merchandise tray which is simple in construction and yet may be readily and quickly mounted to the display stand.

It is yet another object of the present invention to provide a merchandise tray which is simple to assemble by only one person.

The invention will be described in detail to exemplary embodiments with reference to the following drawings in which

5 Figure 1 is a perspective front and side elevation view of the merchandise tray according to the present invention.

Figure 2 is a perspective rear and side elevation view of the merchandise tray according to the present invention.

10 Figure 3 is a perspective side view of the merchandise tray according to the present invention.

Figure 4 is a exploded perspective front and side elevation view showing the mounting of the merchandise tray to a triangular shape display stand according to the present invention.

Figure 5 is a perspective front and side elevation view showing the merchandise tray mounted on the triangular shape display stand.

15 Figure 6 is an isolated enlarged partial sectional side elevation view showing the engagement of the mounting arm and the reinforcing tab of the merchandise tray with the mounting openings formed in the planar panel of the display stand.

20 Figure 7 is an isolated enlarged rear elevation showing the bending of the mounting arm of the merchandise tray prior to being inserted into the mounting opening of the planar panel of the display stand for permanently mounting the tray to the latter.

Figure 8 is a perspective rear elevation of the second embodiment of the merchandise tray according to the present invention.

Figure 9 is a perspective front and side elevation view of the display stand for mounting the merchandise tray of the second embodiment.

Figure 10 is a perspective elevation view of the pattern which may be stamped from a sheet material for forming the merchandise tray according to the present invention.

5 Figure 11 is a perspective elevation view showing the easy assembly of the merchandise tray according to the present invention.

Figure 12 is a top and rear perspective elevation view of an alternative embodiment of the merchandise tray with an open rear.

10 With reference to the drawings, the merchandise tray 10 according to the present invention is generally rectangular in shape having a rectangular base 11, generally trapezoidal side walls 12 and 13, vertical rectangular rear wall 14, and vertical rectangular front wall 15. The rear wall 14 is preferably higher in height than the front wall 15. Two generally L-shaped mounting arms 16 and 17 are formed at the upper rear corner of the side walls 12 and 13 respectively and they extend rearwardly beyond the rear wall 14. The side walls 12 and 13 have sloping upper edges 18 and 19 sloping downwardly and forwardly from the mounting arms 16 and 17 to the top of the front wall 15 to provide easy viewing from the two sides of the merchandise tray of the merchandise items placed therein. A horizontal reinforce tab 20 is formed at the base of the rear wall 14 and preferably located at the middle position therein as best shown in Figure 2.

20 The L-shaped mounting arm 16 has a vertical abutting arm portion 21 which has a vertical front edge 22, and it has a bottom edge 23. Similarly, the L-shaped mounting arm 17 has a vertical abutting arm portion 24 which has a vertical front edge 25, and it has a bottom edge 26.

The merchandise tray 10 may be mounted on a display stand such as the triangular type

display stand 27. A plurality of pairs of vertical mounting slots 28 are formed adjacent to the two edges of the front panel 29 of the display stand 27. The distance between each pair of mounting slots 28 is equal to the distance between the mounting arms 16 and 17 of the merchandise tray 10. A plurality of horizontal mounting slots 30 are formed at the central along the vertical center line of its front panel 29 and it is adapted to engage with the horizontal reinforce tab 26 of the merchandise tray 10.

The merchandise tray 10 may be mounted to the front panel 29 of the display stand 27 by tilting the front of the tray upwards to insert the mounting arms 16 and 17 into the selected pair of vertical mounting slots 28 of the display stand 27. After insertion of the mounting arms 16 and 17, the merchandise tray 10 may be pressed towards the front panel 27 as well as downward such that the horizontal reinforce tab 20 of the merchandise tray 10 will be inserted into the horizontal mounting slot 30 located aligned with the pair of vertical mounting slots 28. In this mounted position, the front edges 22 and 25 of the mounting arms 16 and 17 respectively will abut against the rear surface of the upper edge portion of vertical mounting slots 28, and their bottom edges 23 and 26 will rest on the lower edge of the vertical mounting slots 28 as best shown in Figure 6. The weight of the merchandise items placed in the tray will increase this tilting action and will force the lower edge of the rear wall 14 to press tighter against the front panel 27 of the display stand thus further increase the firm engagement of the horizontal reinforce tab 20 of the merchandise tray with the horizontal mounting slot 30 of the display stand to provide additional support of the weight of the merchandise items placed in the tray.

The merchandise tray 10 may be readily detached from the display stand 27 by merely reversing the mounting steps described above. Alternatively, the merchandise tray 10 may be

permanently mounted to the display stand by simply first bending the abutting arm portions 21 and 25 to fold onto the mounting arms 16 and 17 and holding them in the folded position prior to inserting the latter into the vertical mounting slots 28 of the display stand 27 as shown partially in Figure 7. The folded abutting arm portions 21 and 25 will inherently unfold after insertion due to the intrinsic characteristic of the cardboard or corrugated board to locate in a transverse manner across the vertical mounting slots 28 so that the mounting arms 16 and 17 may not be pulled out from the vertical mounting slots 28 thereafter to detach the merchandise tray from the display stand.

A plurality of reinforce tabs may be provided to provide firm additional support of the weight of the merchandise item. An example of such alternative embodiment having two reinforce tabs 20A and 20B is shown in Figure 8. Same number of horizontal mounting slots 30A and 30B are formed in the front panel 29 of the display stand 27 for receiving the additional number of reinforce tabs.

A step 31 may be formed at the rear edge of the base 11 within the merchandise tray 10. The step 31 provides additional reinforced strength to the tray as well as a convenient means for raising the position of different merchandise items within the tray such that they are visible to purchasers.

The merchandise tray according to the present invention may be formed by stamping a configuration 32 as shown in Figure 10 on a single sheet material such as cardboard or corrugated board. The configuration 32 has a main rectangular base panel 33. Two triangular side panels 34 and 35 join to the side edges of the rectangular base panel 33 along foldable lines 36 and 37. The L-shaped mounting hooks 38 and 39 are formed at the upper corner of the triangular

side panels 34 and 35. Two retaining panels 40 and 41 extend upwards from a top edge of the triangular side panels 34 and 35. Open slots 42 and 43 are formed in the upper side edge adjacent to the top edge of the retaining panels 40 and 41. Two triangular reinforce panels 44 and 45 are located adjacent to the triangular side panels 34 and 35 and are foldable relative to the latter along foldable lines 46 and 47. A first foldable rectangular panel 48 extends upwards from the top edge 49 of the base panel 33 and it is foldable relative to the latter along its top edge 49. Two reinforce tabs 50 and 51 integral with the base panel 33 extend upwards into semi-circular openings formed in the foldable rectangular panel 48. A second foldable rectangular panel 52 joined to the upper edge of the first rectangular panel 48 and foldable relative to the latter along its upper edge. The first and second rectangular panels 48 and 52 have equal dimensions. A third foldable rectangular panel 53 extends from the upper edge of the second rectangular panel 52 and is foldable relative to the latter along its upper edge. Two reinforce tabs 54 and 55 equal in size to reinforce tabs 50 and 51 integral with the third rectangular panel 53 extend downwards into semi-circular cut out formed in the upper edge portion of the second rectangular panel 52. The third rectangular panel 53 and the base panel 33 have equal dimensions. A fourth foldable rectangular panel 56 extends downwards from the lower edge of the base panel 33 and is foldable relative to the base panel 33. The fourth rectangular panel 56 and the base panel 33 have equal dimensions. The merchandise tray may be easily assembled by one person by first folding the retaining panels 40 and 41 upward until they are perpendicular to the triangular side panels 34 and 35, then the triangular side panels 34 and 35 are folded towards one another until they are perpendicular to the base panel 33 and the retaining panels 40 and 41 may be secured together by slidably engaging the open slots 42 and 43 so as to retain the triangular side panels 34 and 35 in

the position perpendicular to the base panel 33. The first foldable rectangular panel 48 may then be folded upward to abut the rear surface of the joined retaining panels 40 and 41 to form the outer layer of the rear panel of the merchandise tray with the reinforce tabs 50 and 51 extending rearwards beyond the rear panel. The second panel 52 will then be folded downward to cover over the joined retaining panels 40 and 41 with the reinforce tabs 54 and 55 extending under the retaining panels 40 and 41 and the semi-circular cut outs of the first foldable rectangular panel 48 to lie over the reinforce tabs 50 and 51. The fourth foldable rectangular panel 56 may then be folded upwards to lie over the base panel 33 and the triangular reinforce panels 44 and 45 may finally be folded downwards to lie juxtaposed to the inside surface of the triangular side panels 34 and 35. The entire assembly procedure may be easily and quickly accomplished by one person.

Another alternative embodiment of the merchandise tray according to the present invention is best shown in Figure 12. In this embodiment, the rear panel of the tray 10 may be omitted to provide an open rear so as to reduce its manufacturing cost.

Having described the merchandise tray of the present invention by reference to certain of its preferred embodiments, it is respectfully pointed out that the embodiments described are illustrative rather than limiting in nature and that many variations and modifications may be considered obvious and desirable to those skilled in the art based upon a review of the foregoing description of the preferred embodiments.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A merchandise tray for mounting to a display stand for displaying merchandise items placed therein, comprising:

5 a rectangular base, a front wall extending vertically from a front edge of said rectangular base, and a generally trapezoidal shape first side wall extending vertically upward from one side edge of said rectangular base, a generally trapezoidal shape second side wall extending vertically upward from a second side edge of said rectangular base, a vertical rear wall having a height higher than said front wall, and said first side wall and said second side wall having a top edge
10 sloping forwardly and downwardly from an L-shaped flat mounting hook extending outwardly and rearwardly from an upper corner of said first side wall and said second side wall respectively, said mounting hook having a vertical abutting arm portion extending vertically perpendicular to a main body of said mounting hook,
at least one reinforce tab extending rearwards horizontally and outwardly from a rear edge of
15 said rectangular base,
an end portion of said vertical abutting arm portion of said mounting hook being foldable to lie juxtaposed to a main body of said mounting hook..

2. A merchandise tray according to Claim 1 wherein said at least one reinforce tab is integrally formed in said rectangular base and extending rearwards from a middle point of said rear edge of
20 said rectangular base.

3. A merchandise tray according to Claim 2 wherein said mounting hooks are insertable into vertical mounting slots formed at two edge portions of a front panel of said display stand for mounting said merchandise tray to said stand.

4. A merchandise tray according to Claim 3 wherein said reinforce tab is engageable with at least one horizontal mounting slot formed in said front panel of said display stand for supporting the weight of merchandise items placed within said merchandise tray.
5. A merchandise tray according to Claim 4 wherein said tray has an open rear side.

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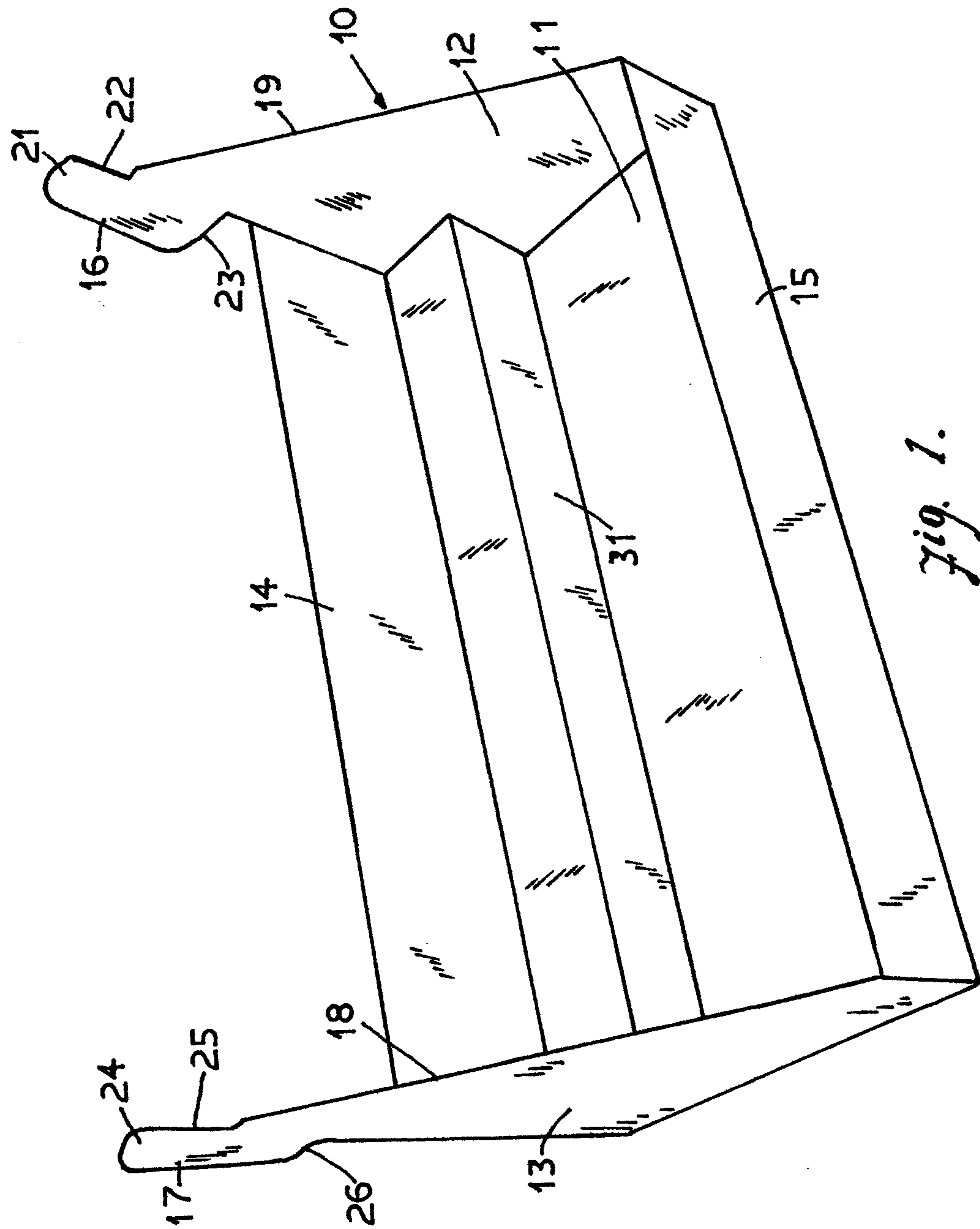
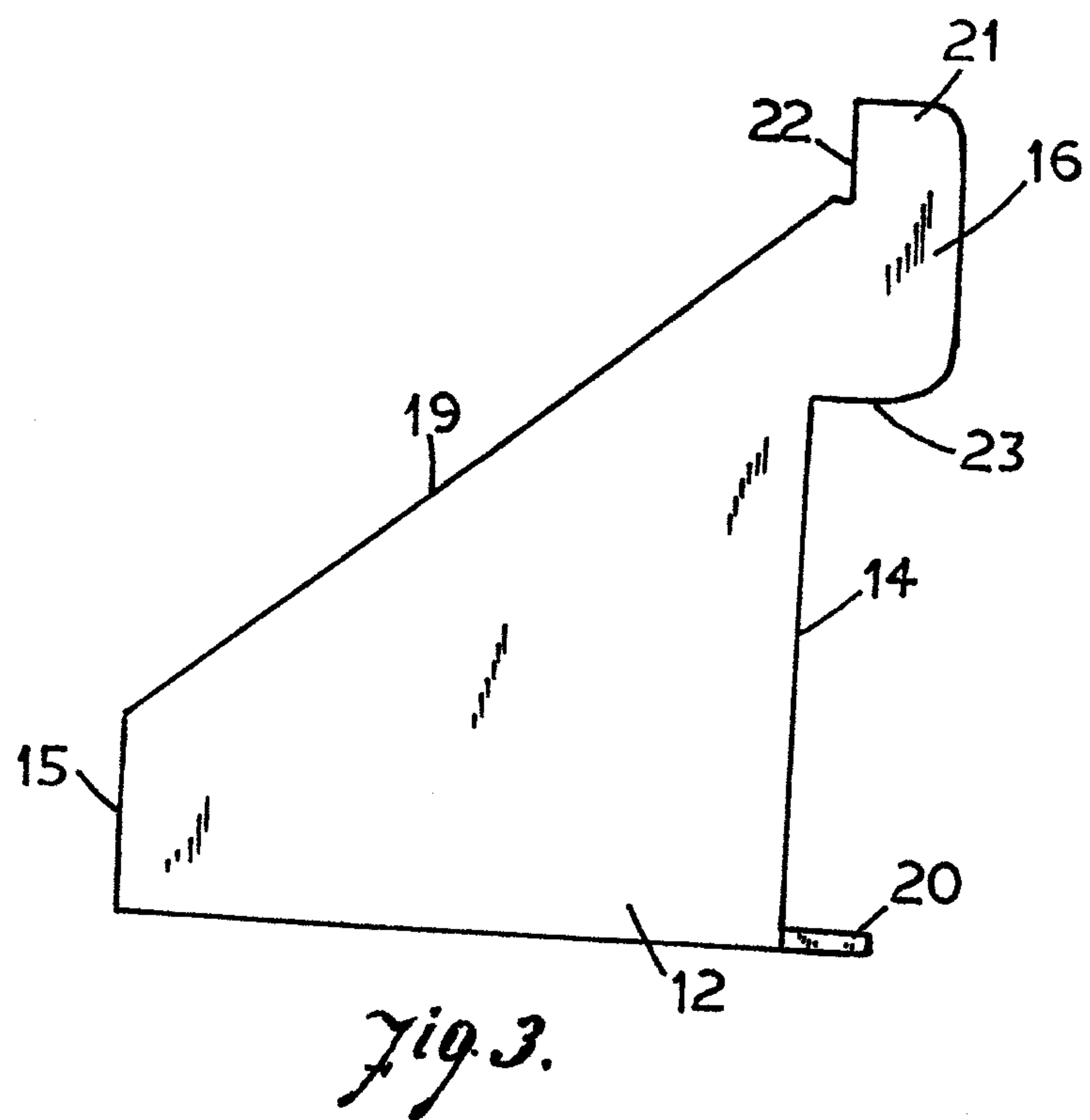
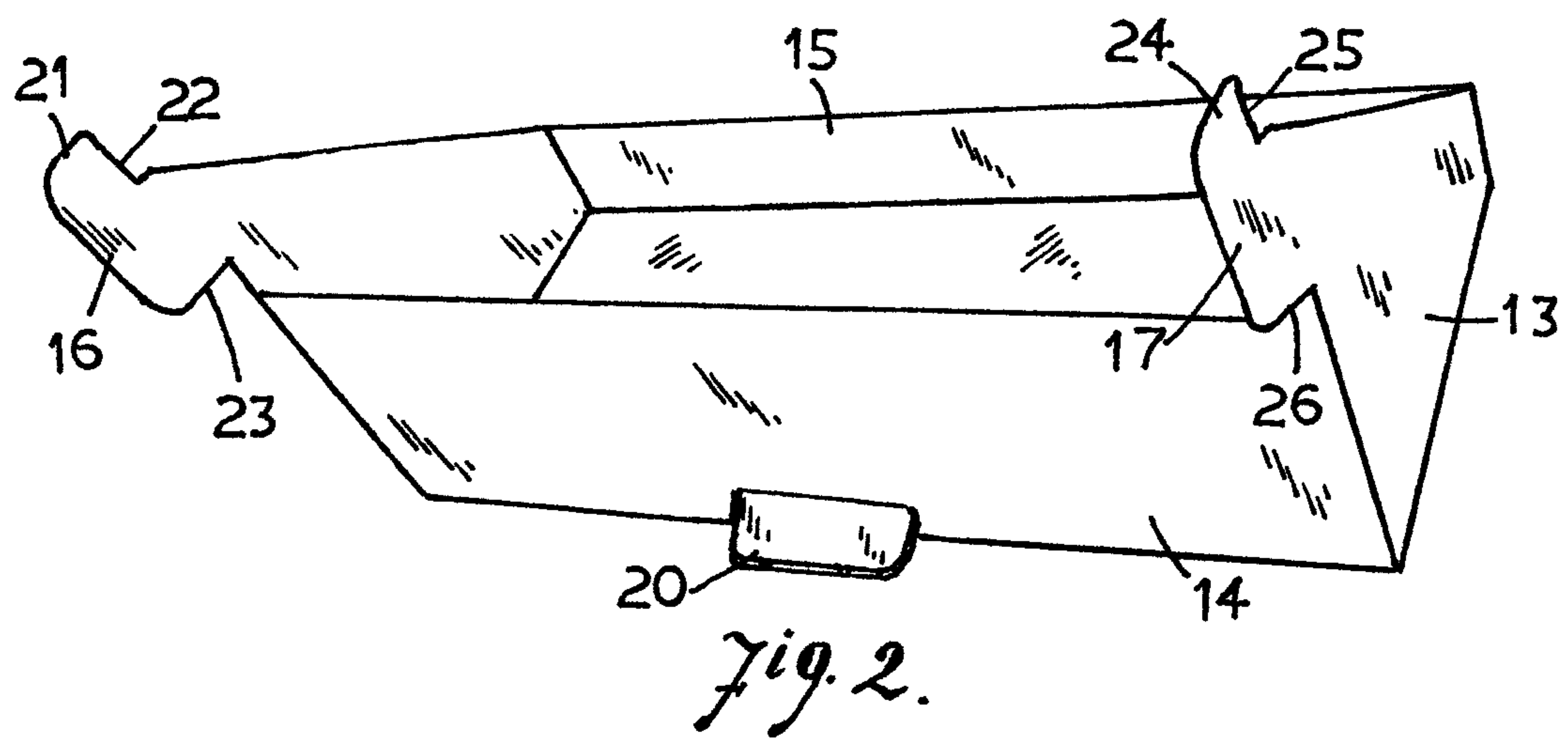


Fig. 1.



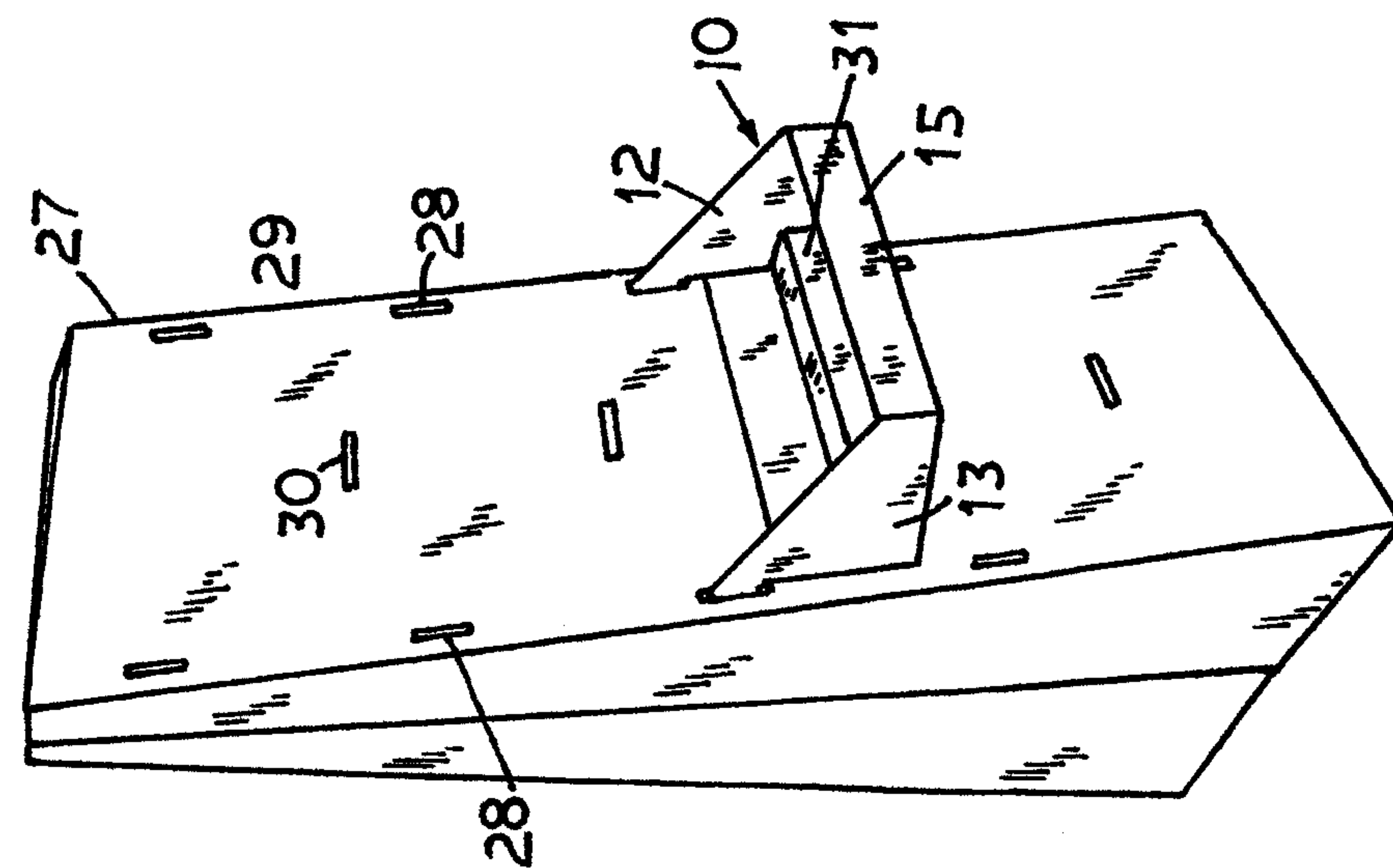


Fig. 5.

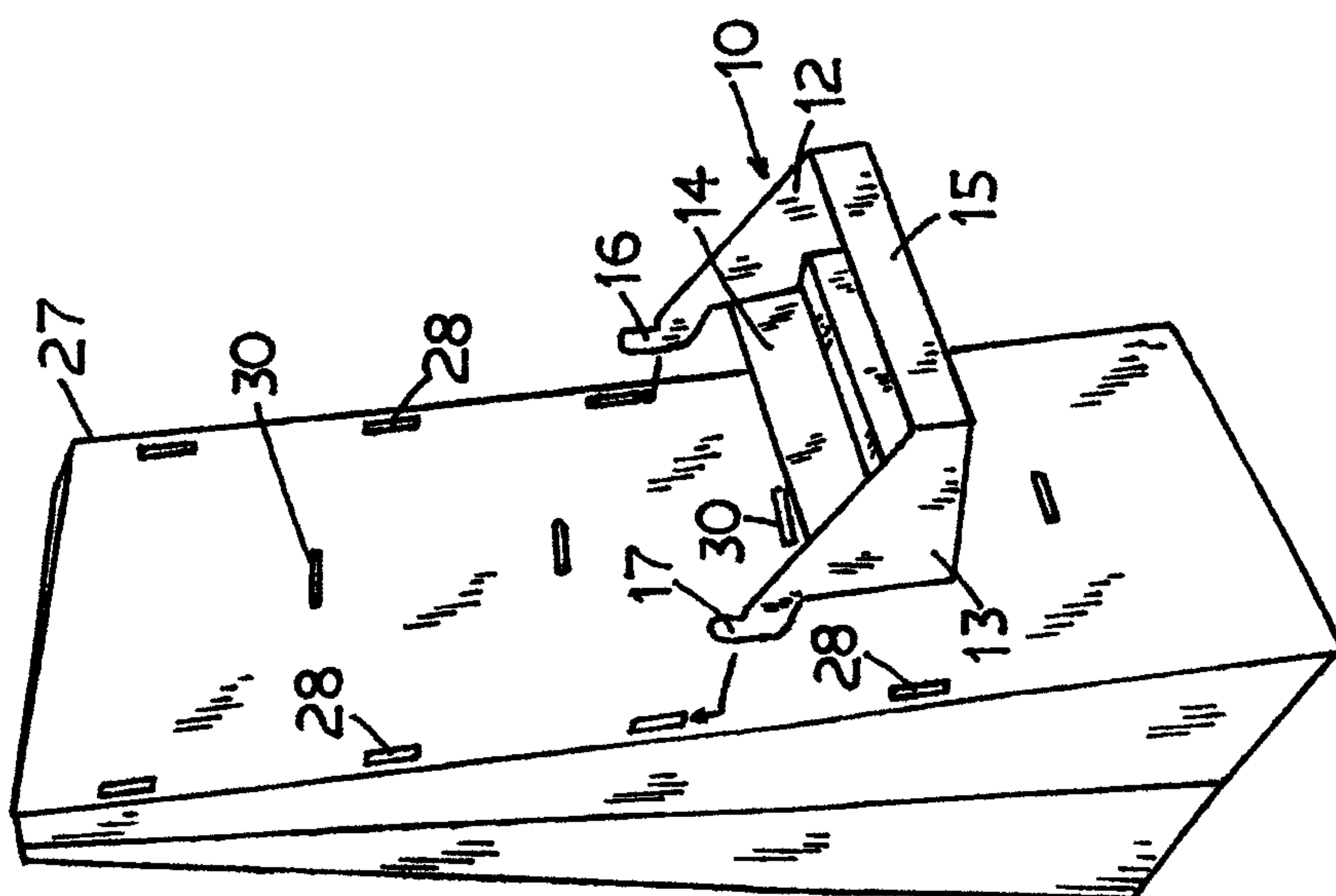
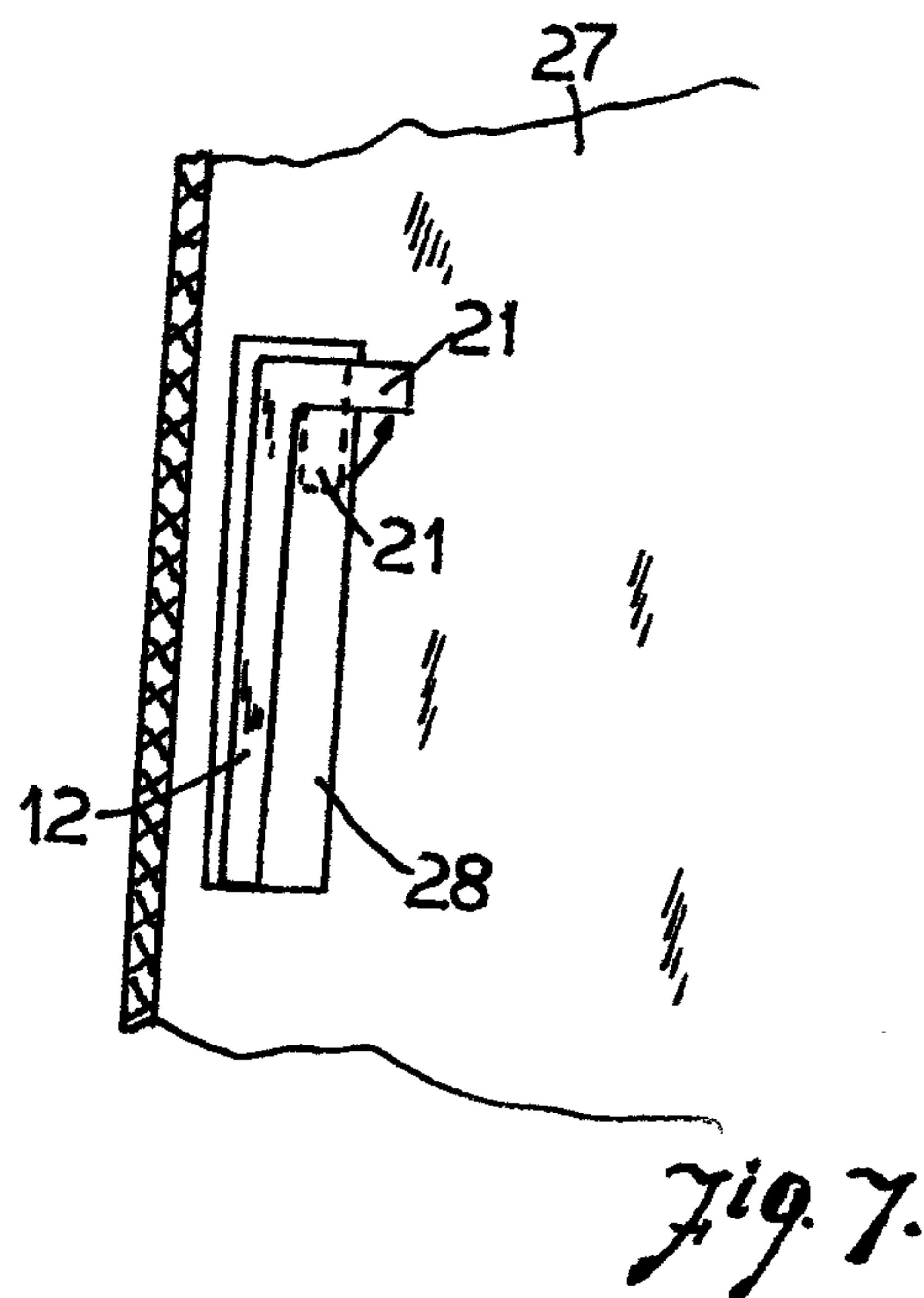
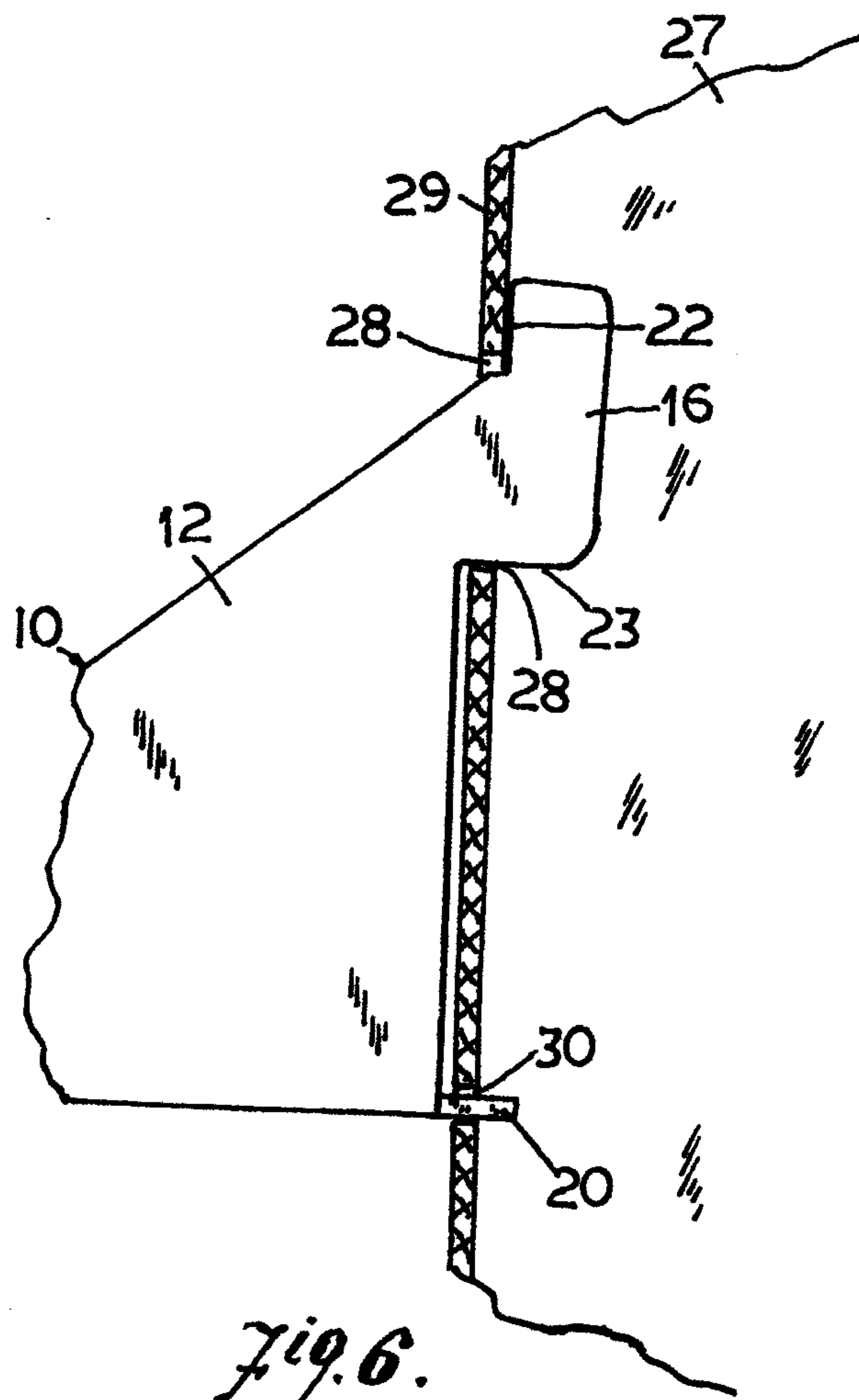
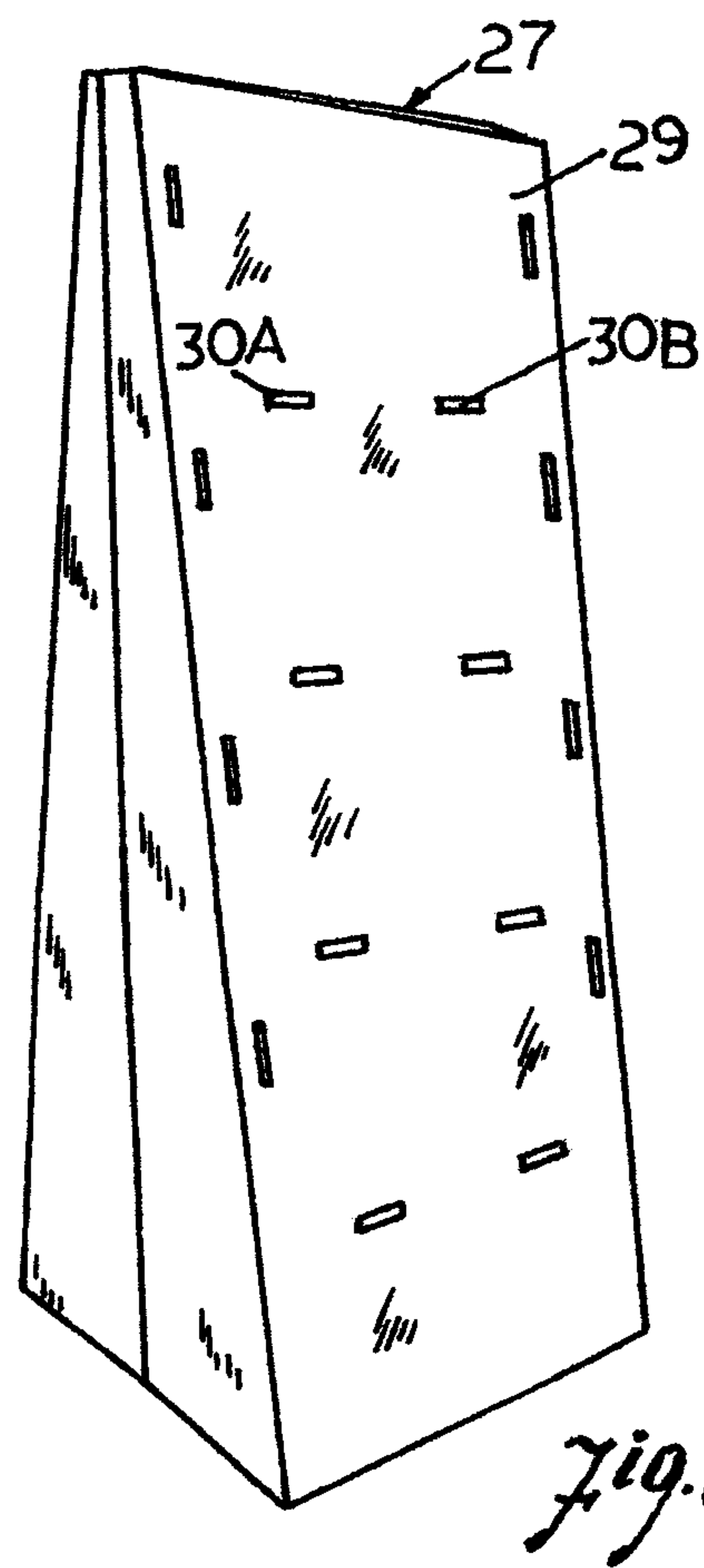
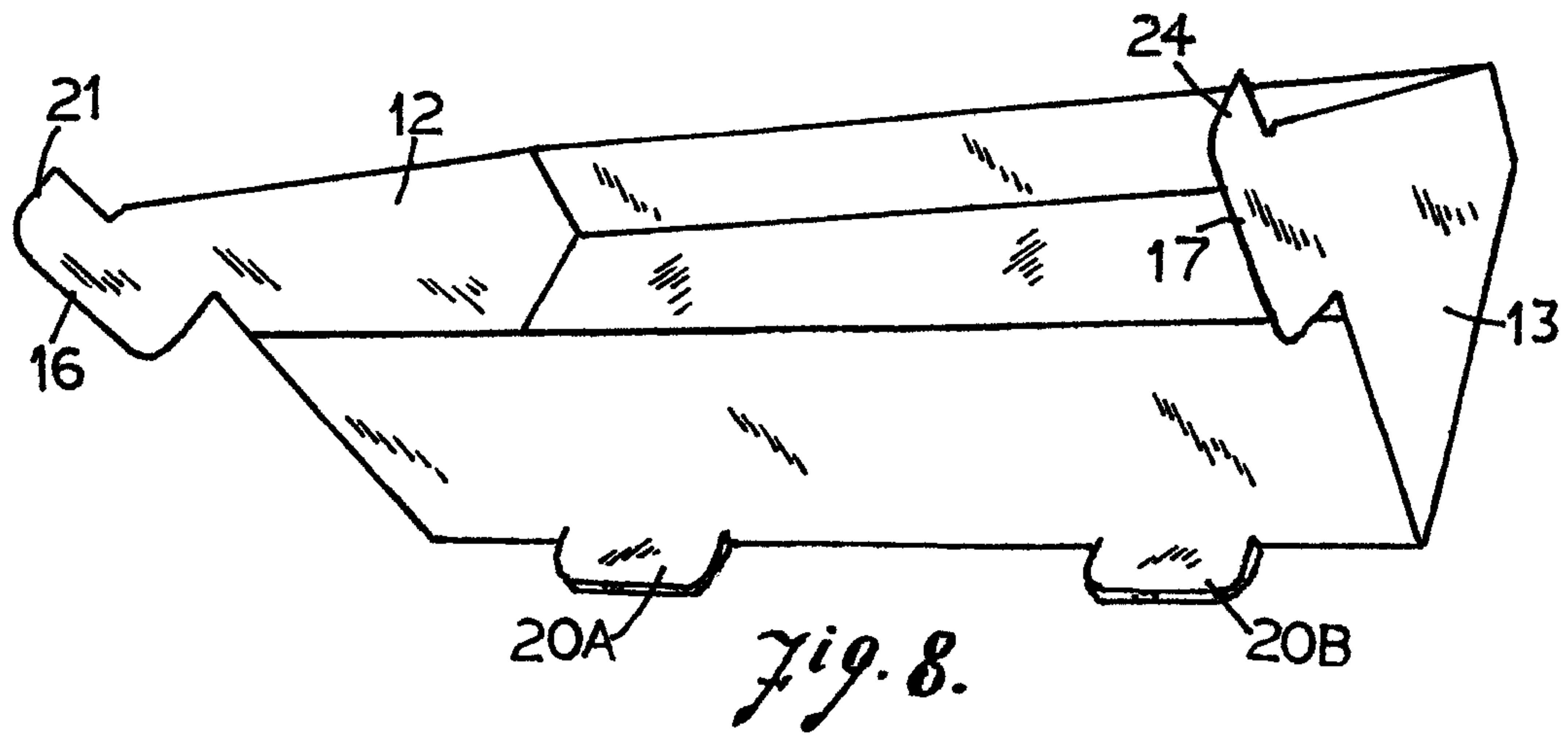


Fig. 4.





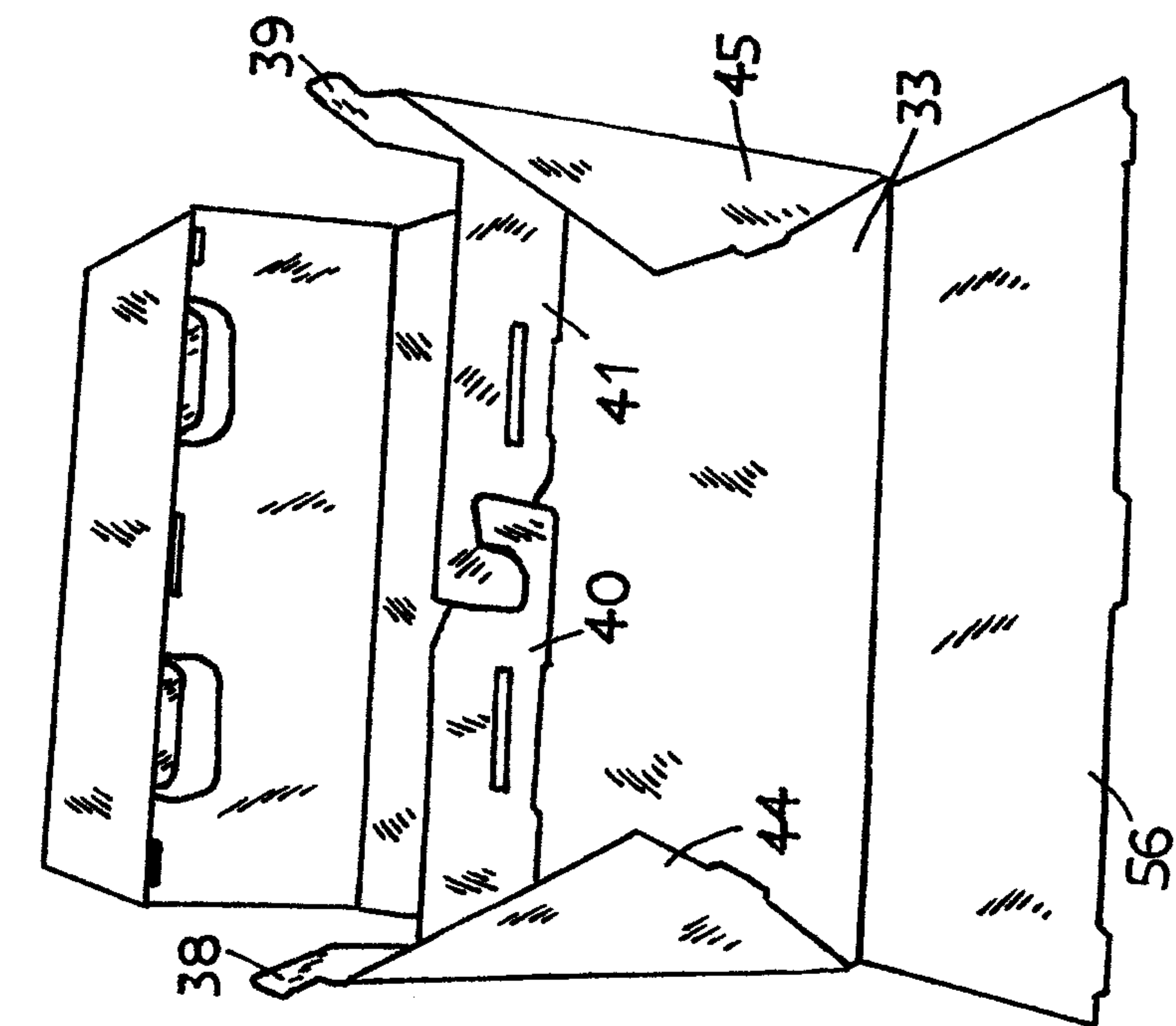


Fig. 11.

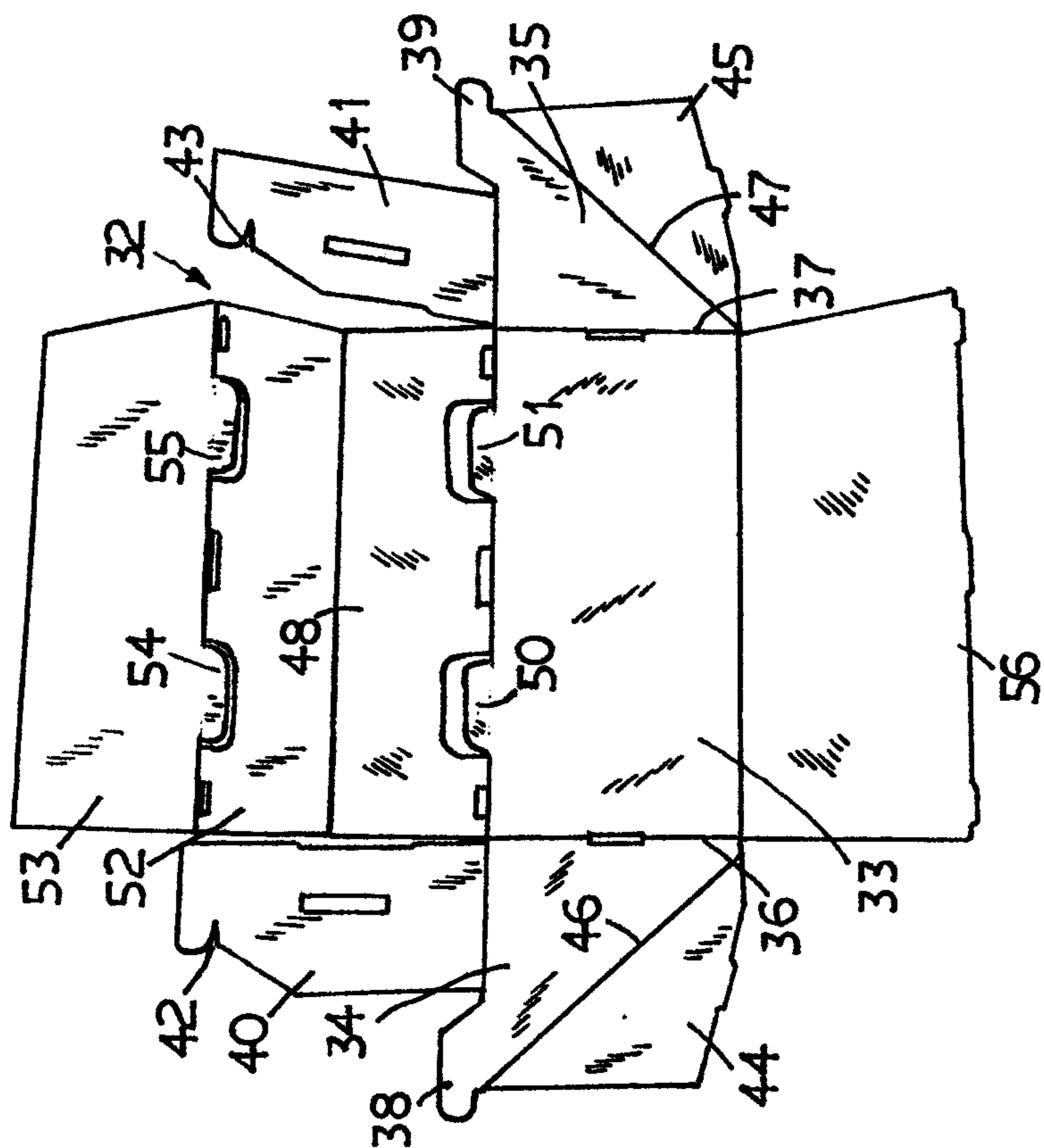


Fig. 10.

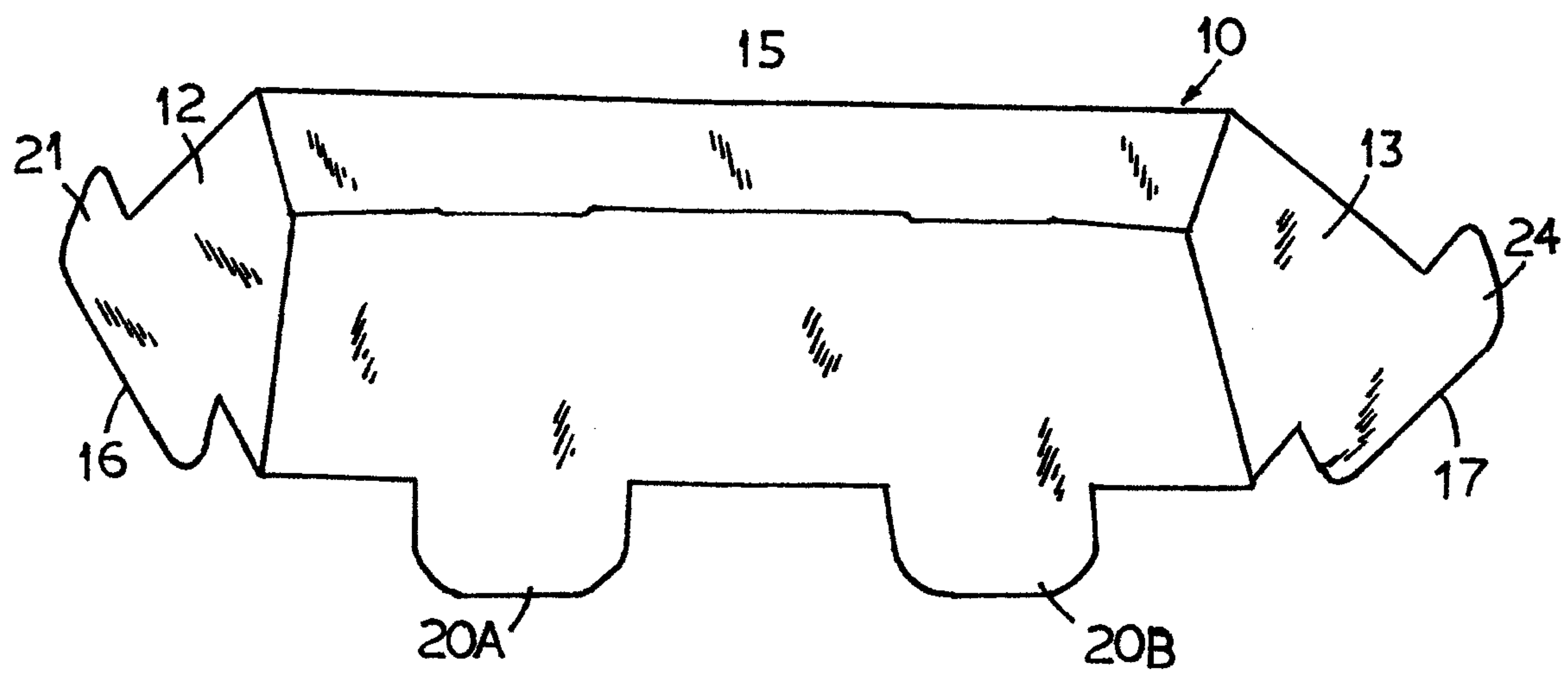


Fig. 12.

