United States Patent [19]

Transport

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[54] **COLLAPSIBLE EASEL SUPPORT**

[76] Inventor: **Felix Transport,** 98 Riverside Dr., New York, N.Y. 10024

[21] Appl. No.: **135,368**

[22] Filed: **Mar. 31, 1980**

Related U.S. Patent Documents

Reissue of:

[64] Patent No.: **4,149,630**
Issued: **Apr. 17, 1979**
Appl. No.: **792,552**
Filed: **May 2, 1977**

[51] **Int. Cl.**[3] **B65D 5/52**

[52] **U.S. Cl.** **206/45.24;** 248/465; 40/124.1

[58] **Field of Search** 40/124.1, 152.1; 206/45.25, 45.24; 248/459, 463, 465, 472

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Primary Examiner—Davis T. Moorhead
Attorney, Agent, or Firm—James David Jacobs

[57] **ABSTRACT**

A collapsible easel support is provided for supporting a display on a surface at an angle. The display has a back panel which has hinged to its bottom edge a stay flap. Two slits extend from the interior of the stay flap to the interior of the back panel. A first score extends between said parallel slits. A second score in the stay flap extends between the two slits. A third score in the back panel extends between the two slits. The first and second scores define a stay panel to fold against said stay flap and said first and third scores define a support panel to support the easel at an angle to the surface.

18 Claims, 29 Drawing Figures

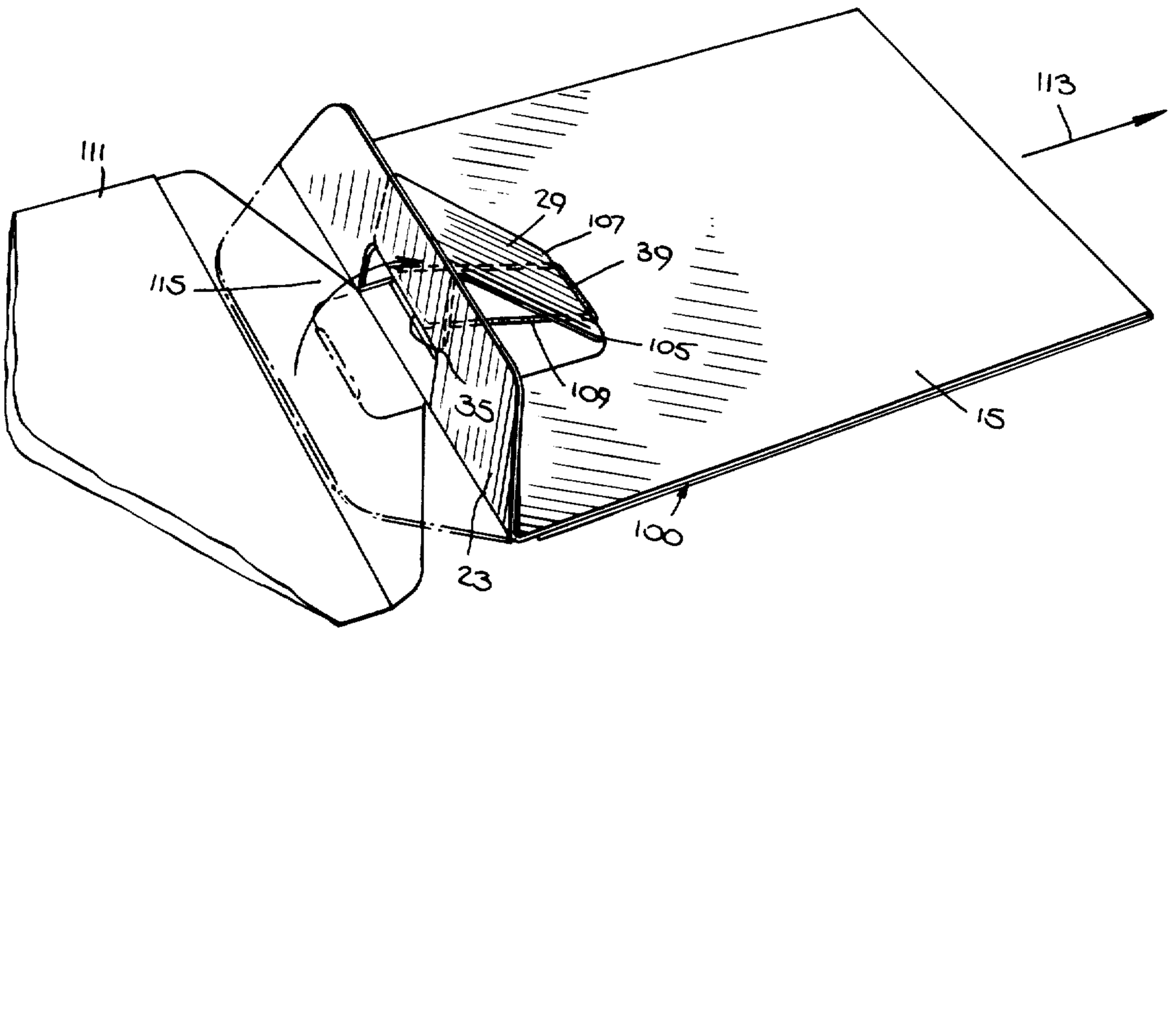


Fig. 1.

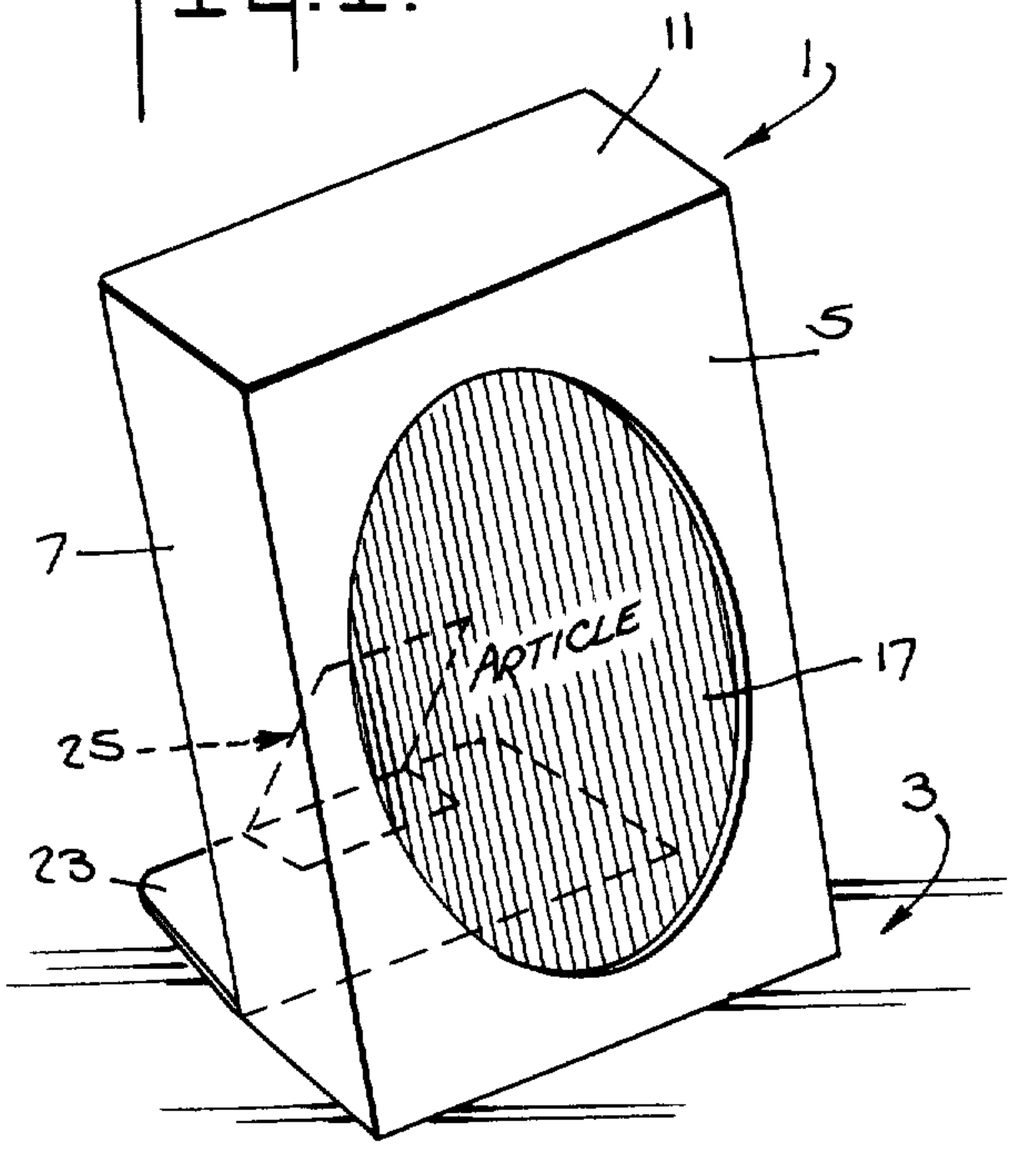


Fig. 2.

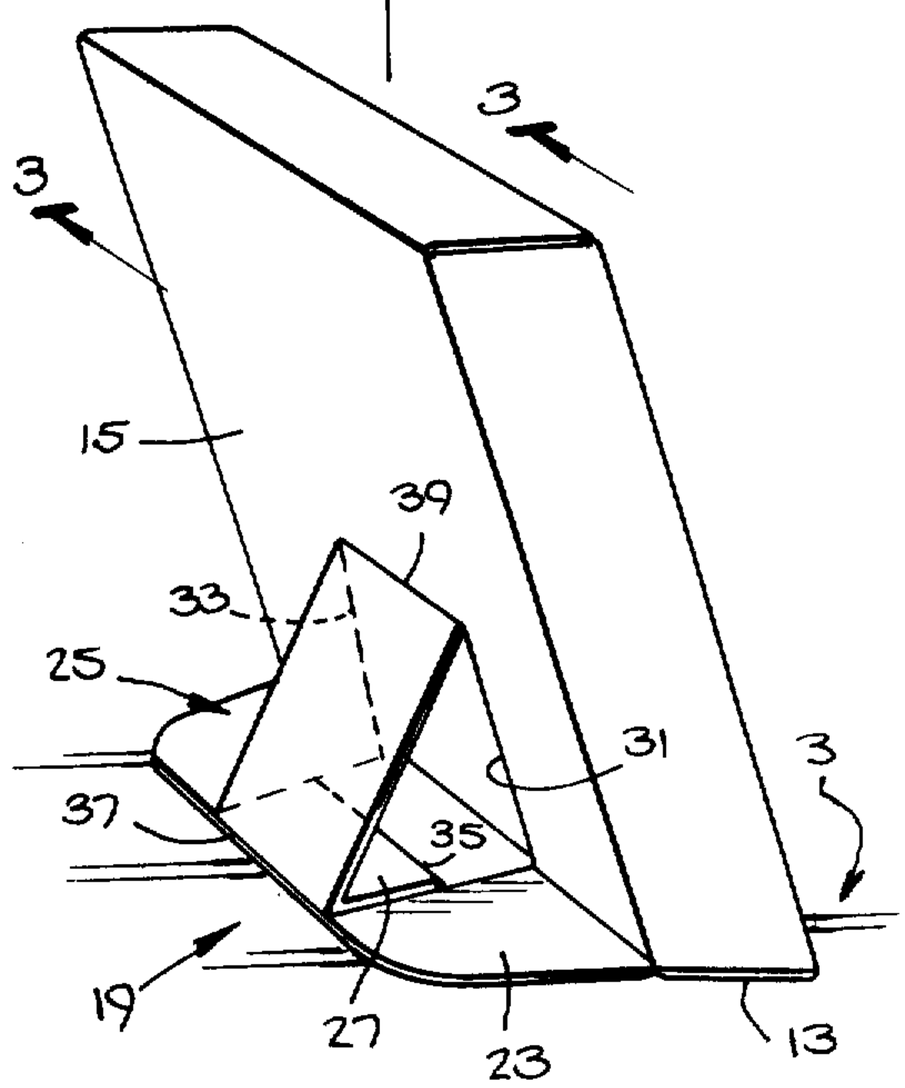


Fig. 3.

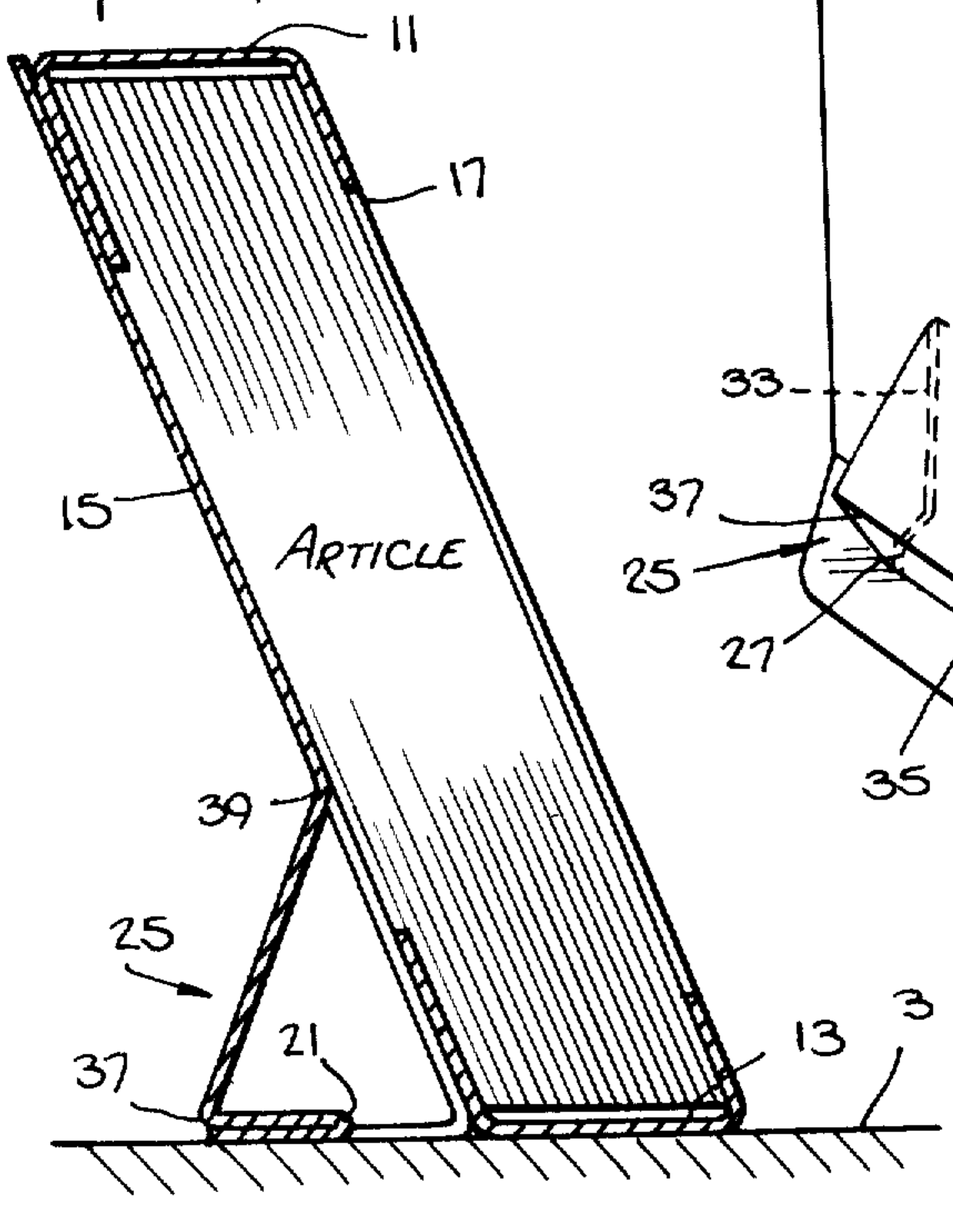


Fig. 4.

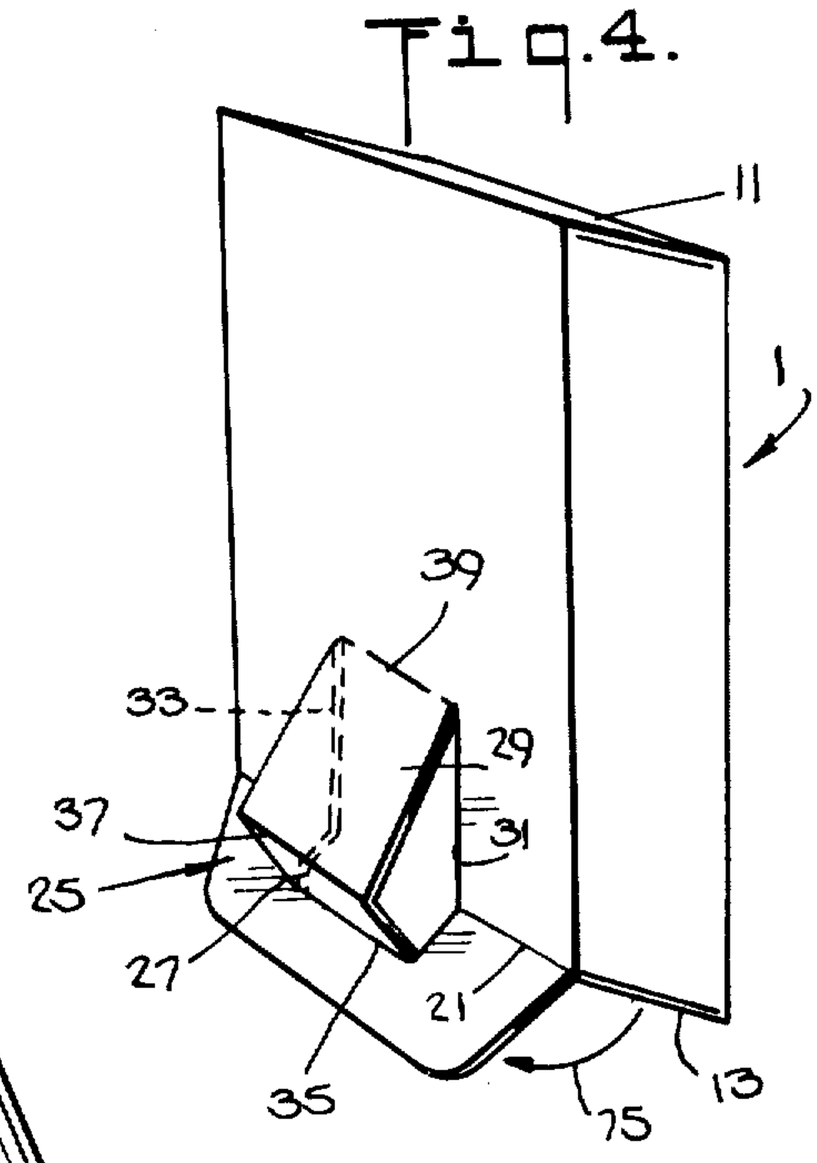
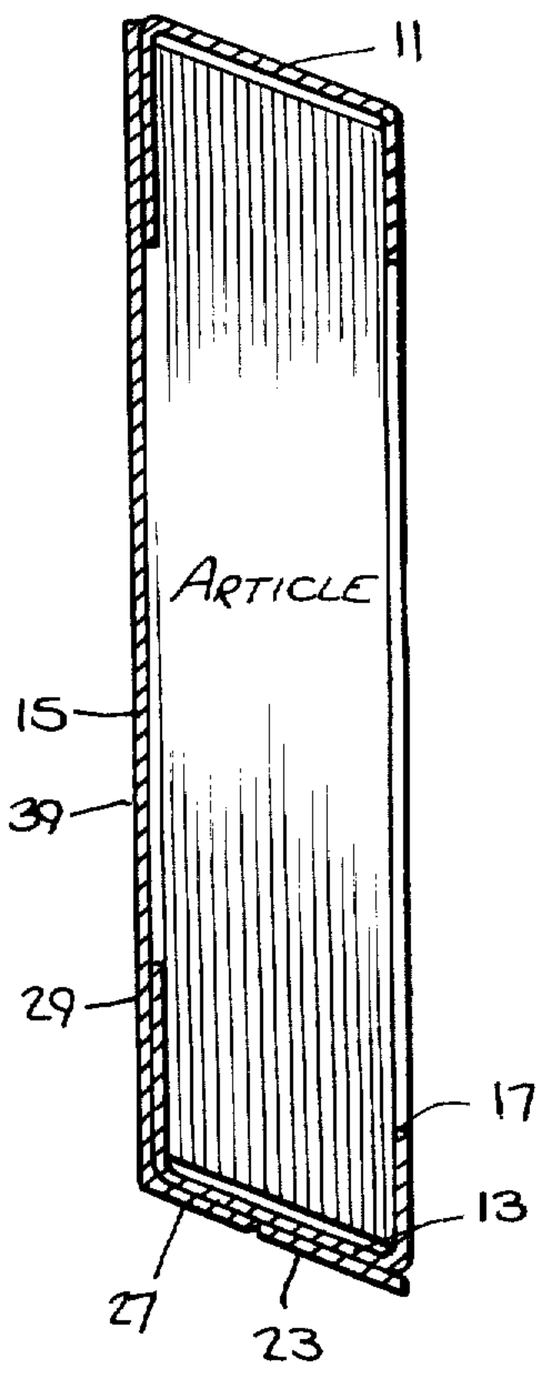
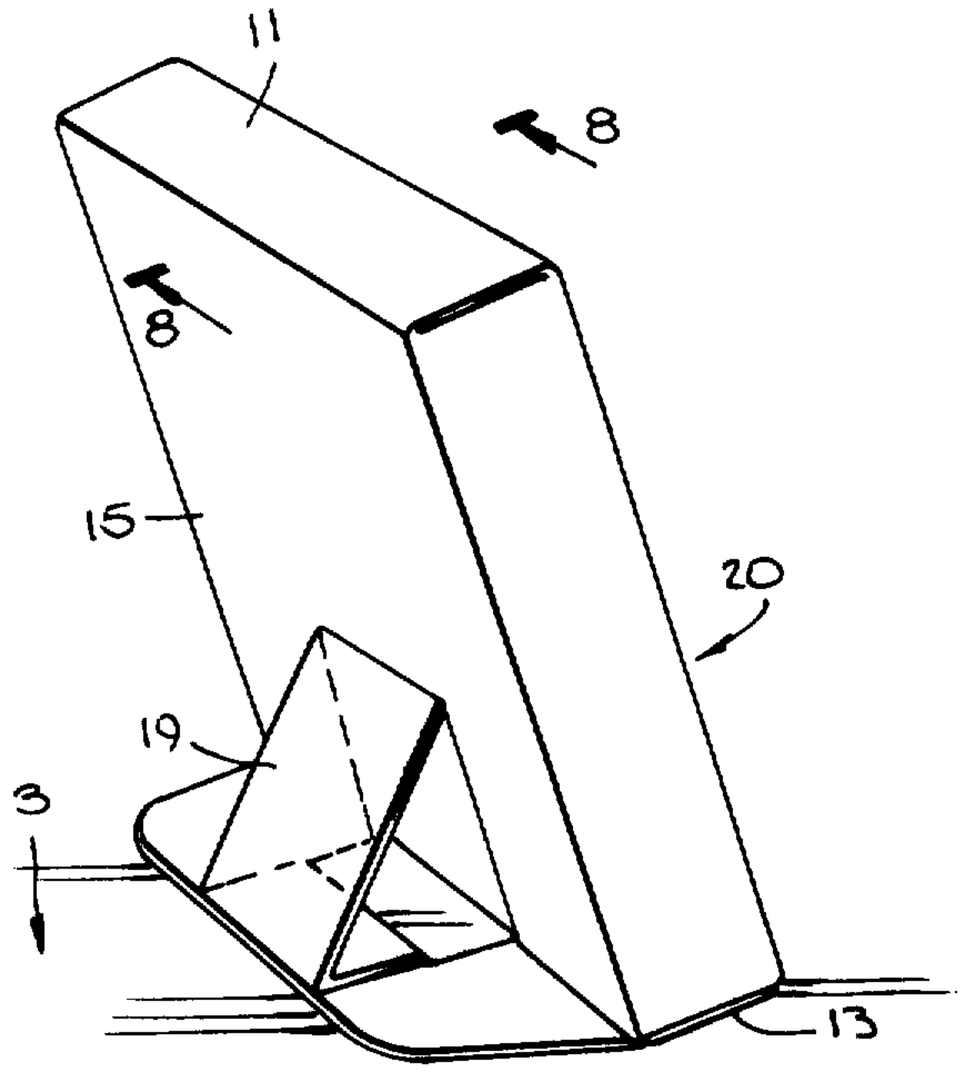


Fig. 5.





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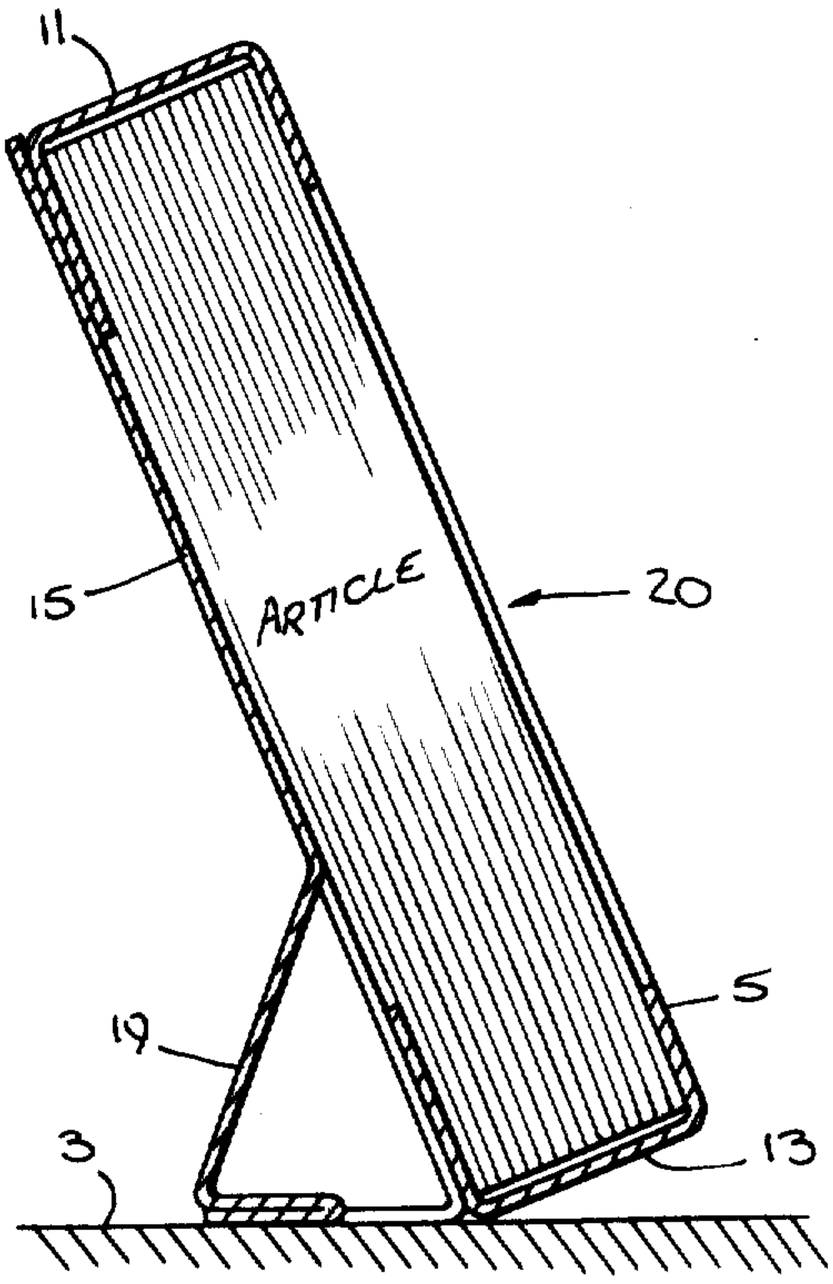

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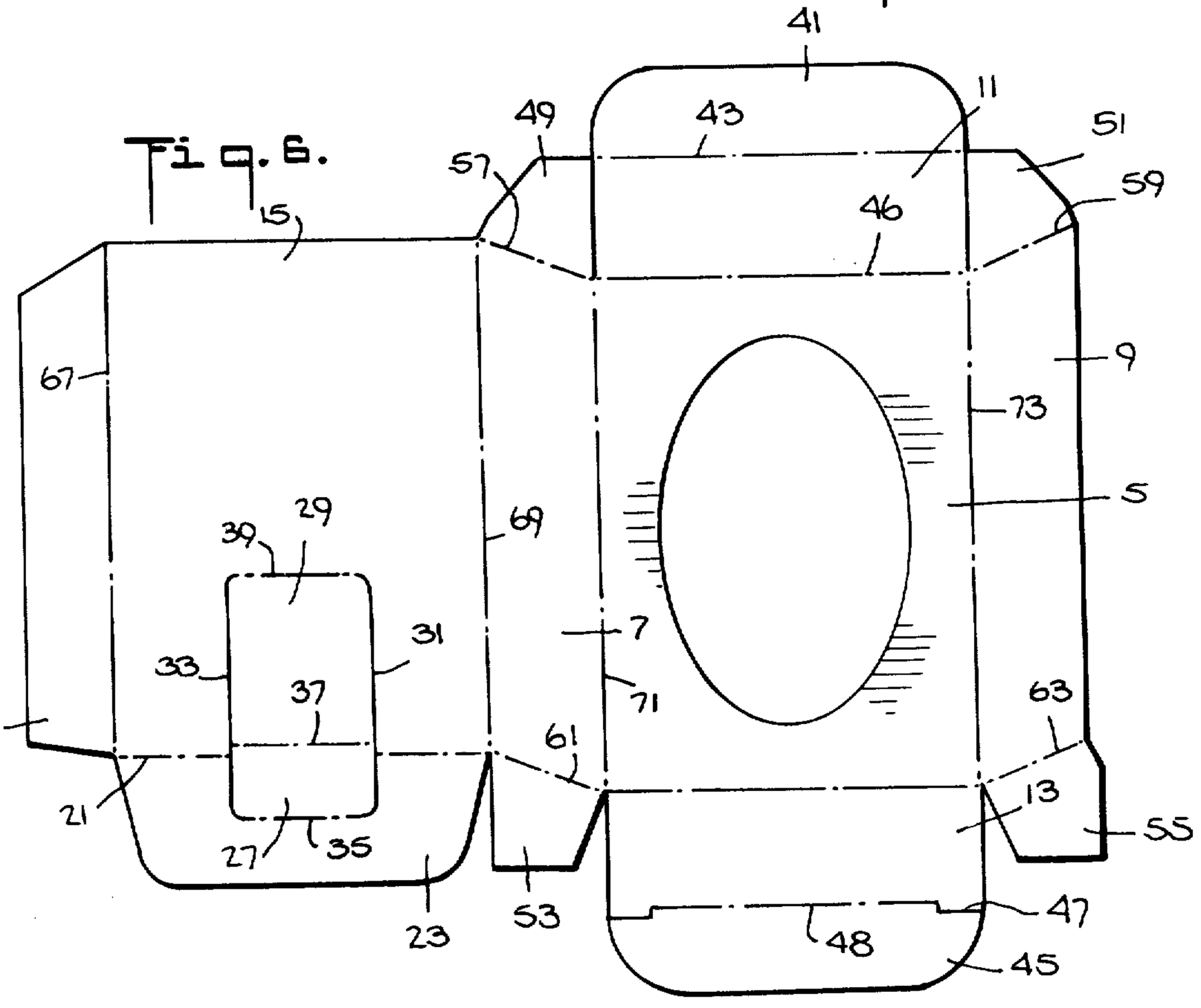
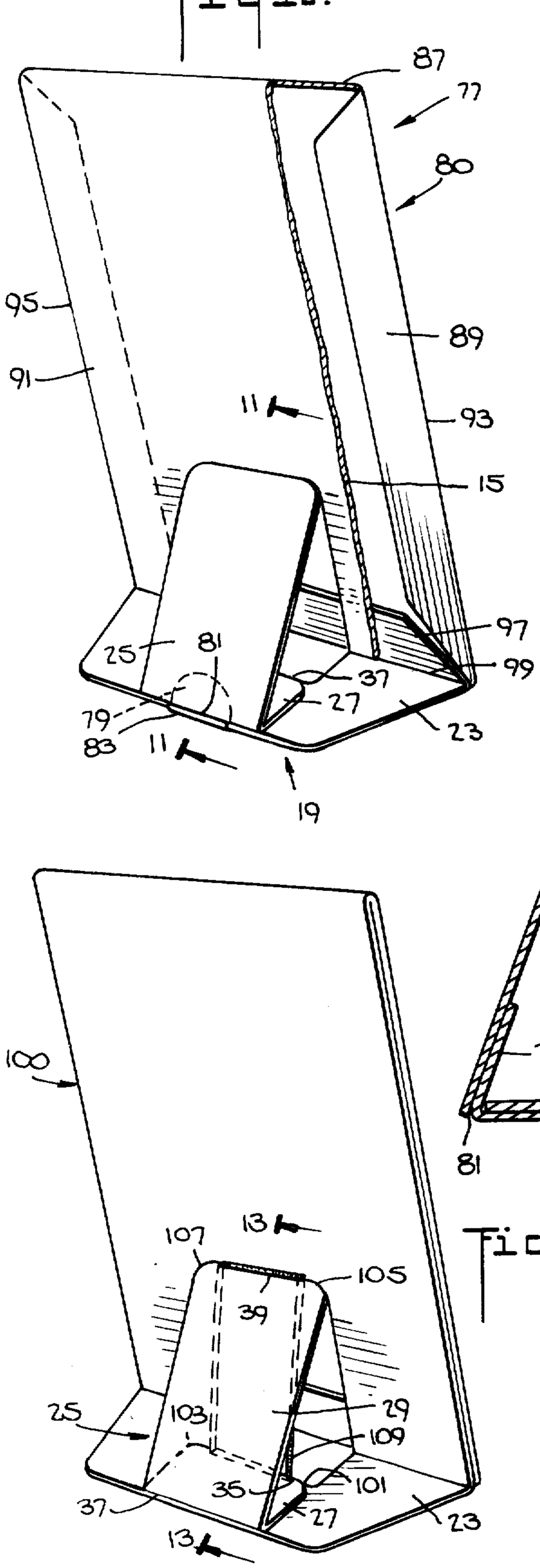
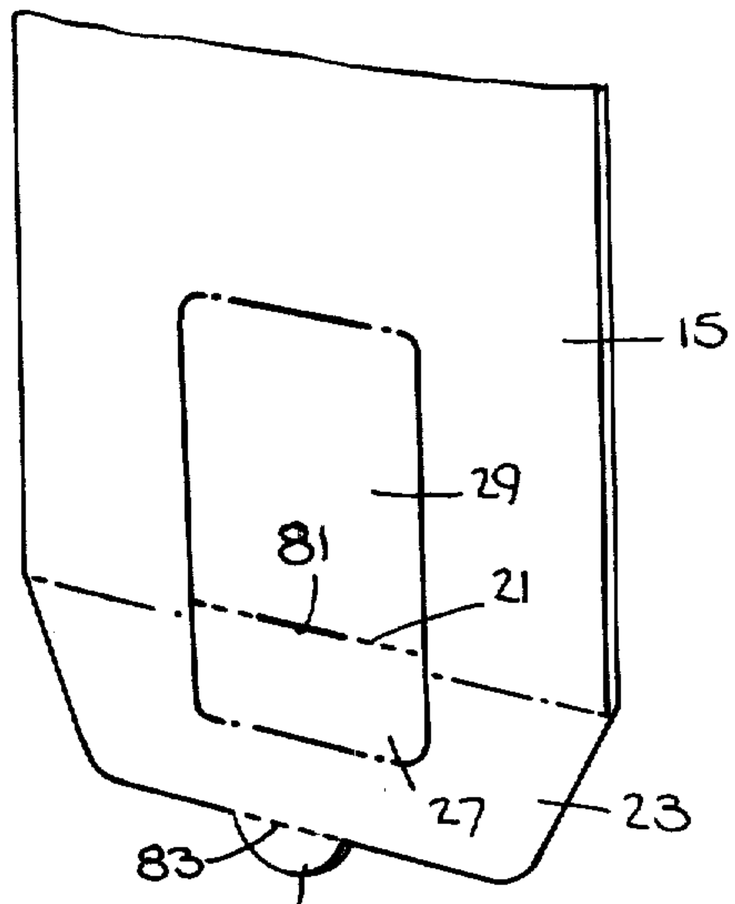


Fig. 6.

Fig 10.





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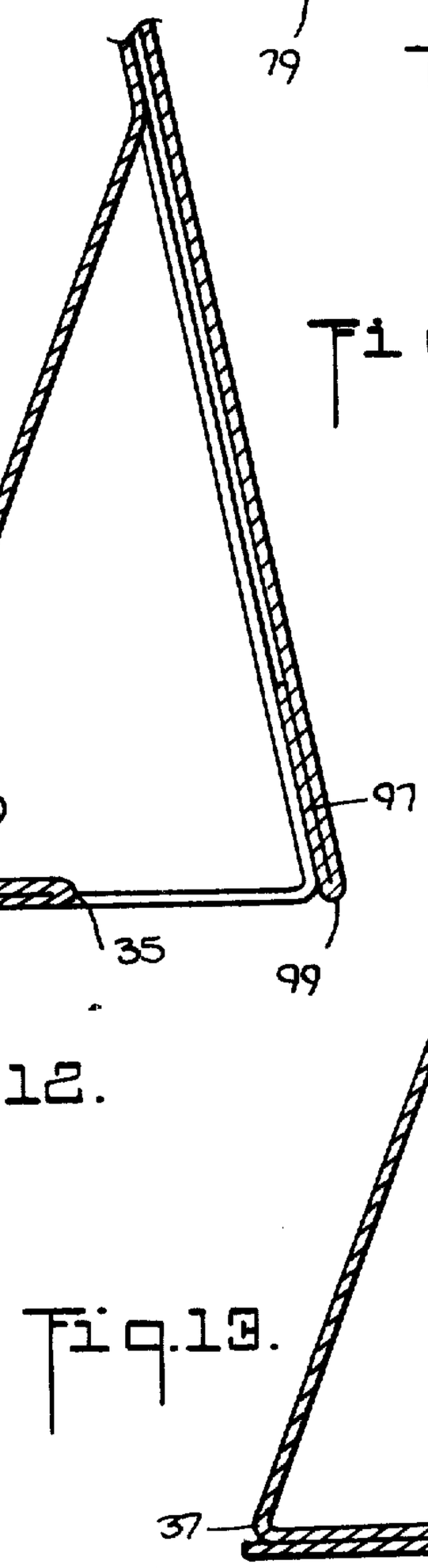

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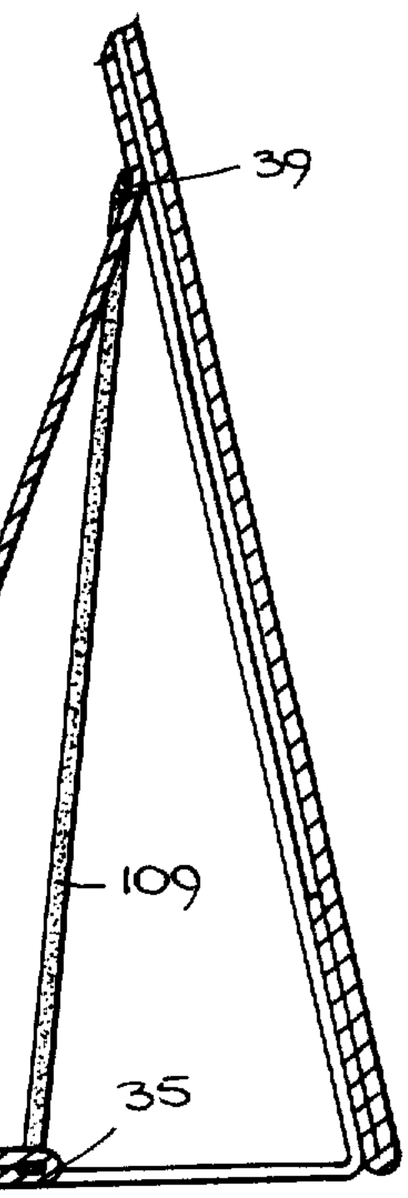
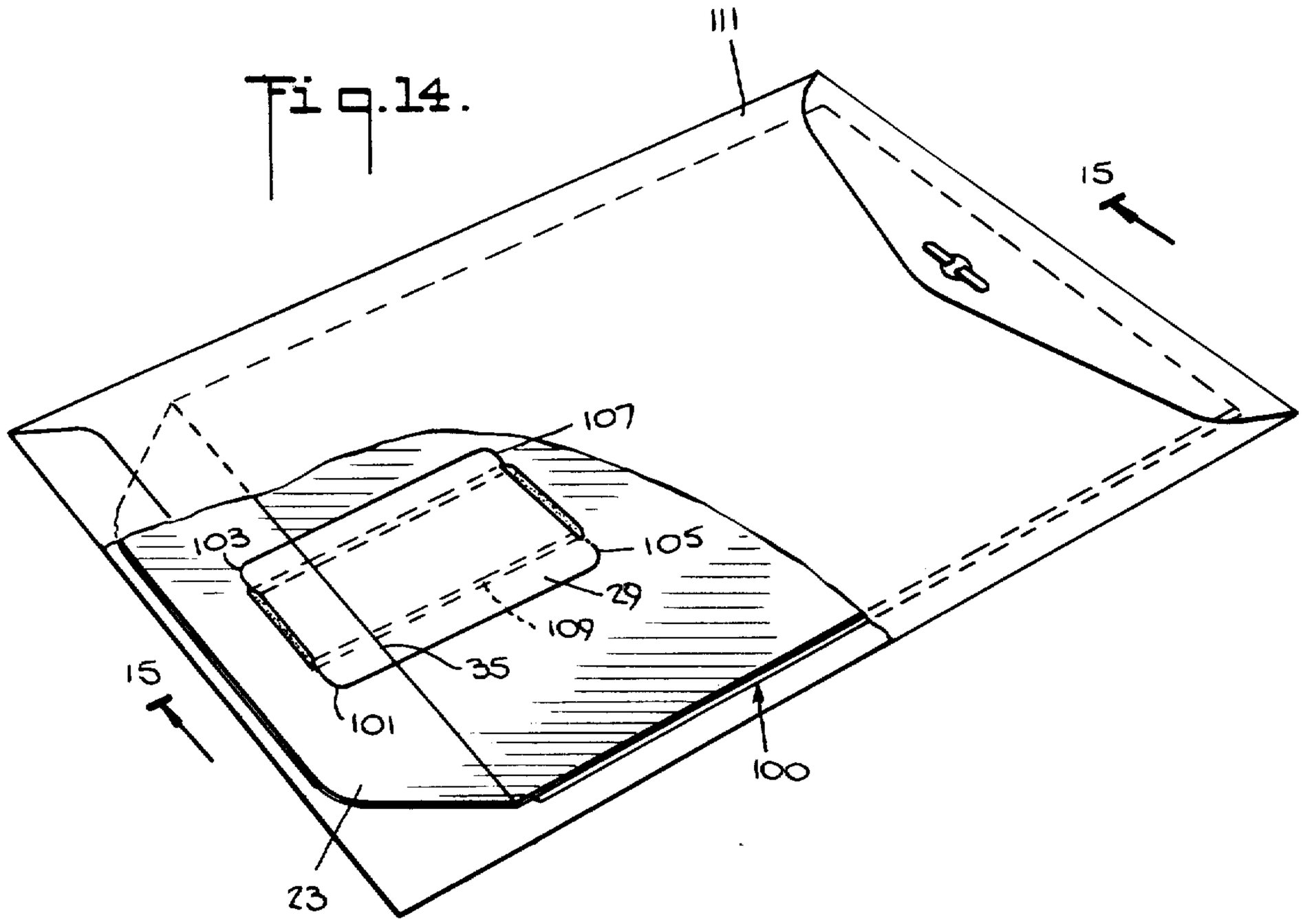


Fig. 12.

Fig. 13.

Fig.14.



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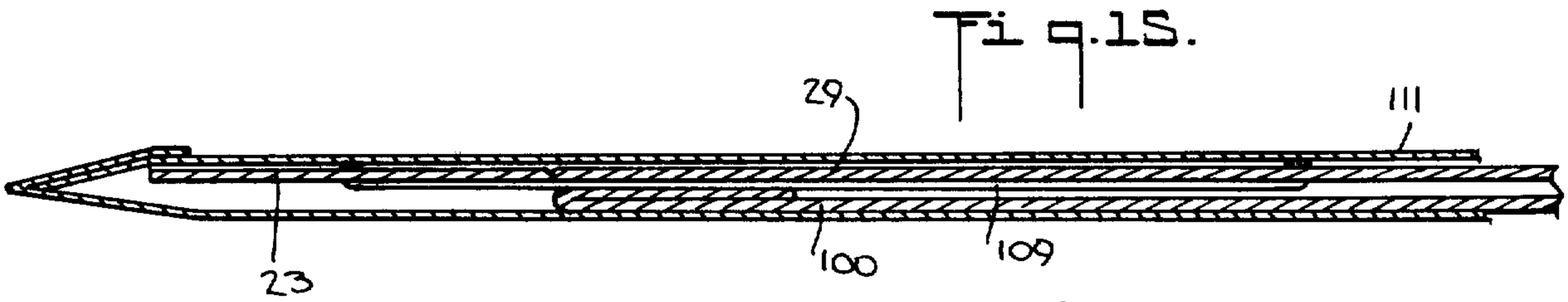


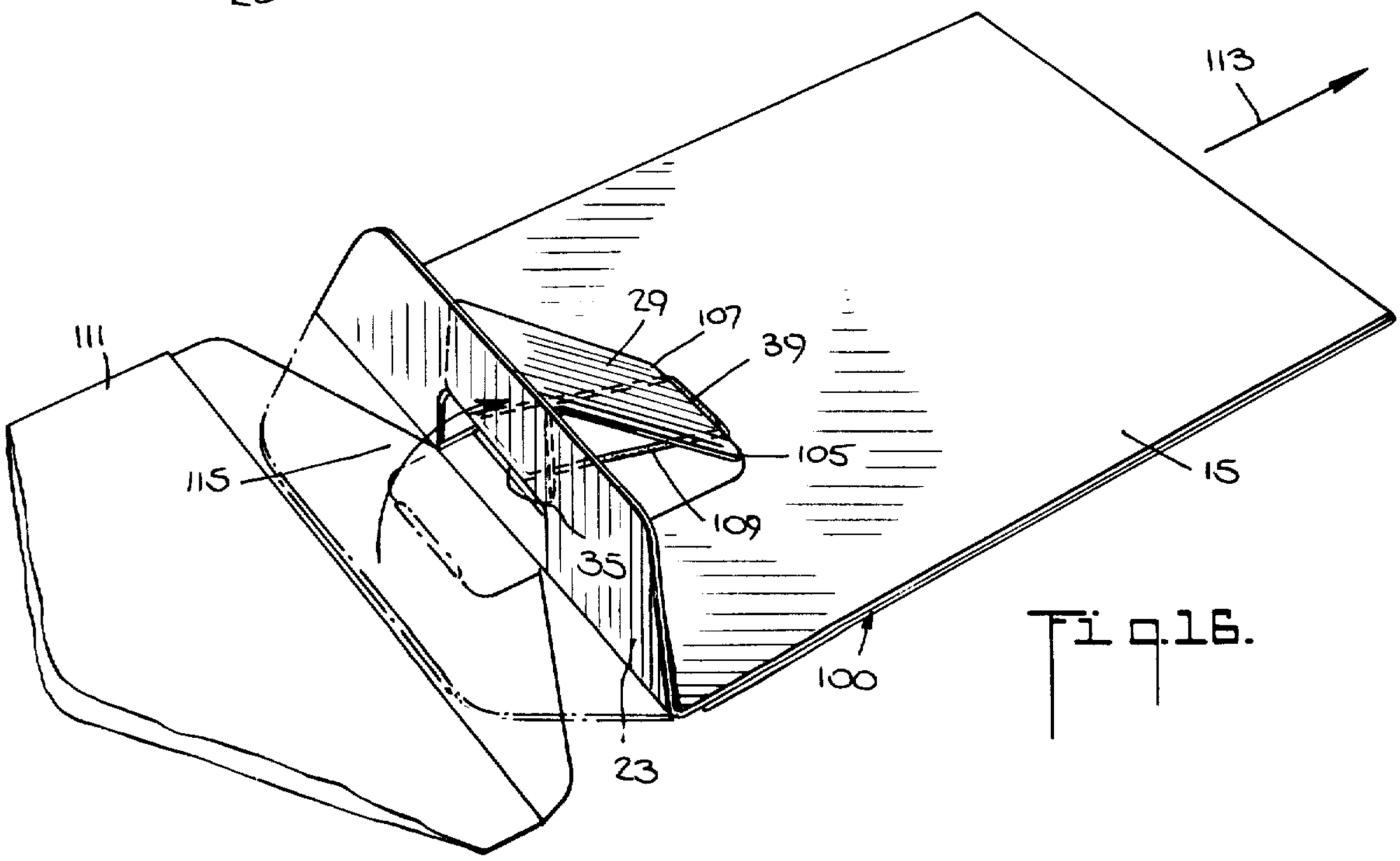
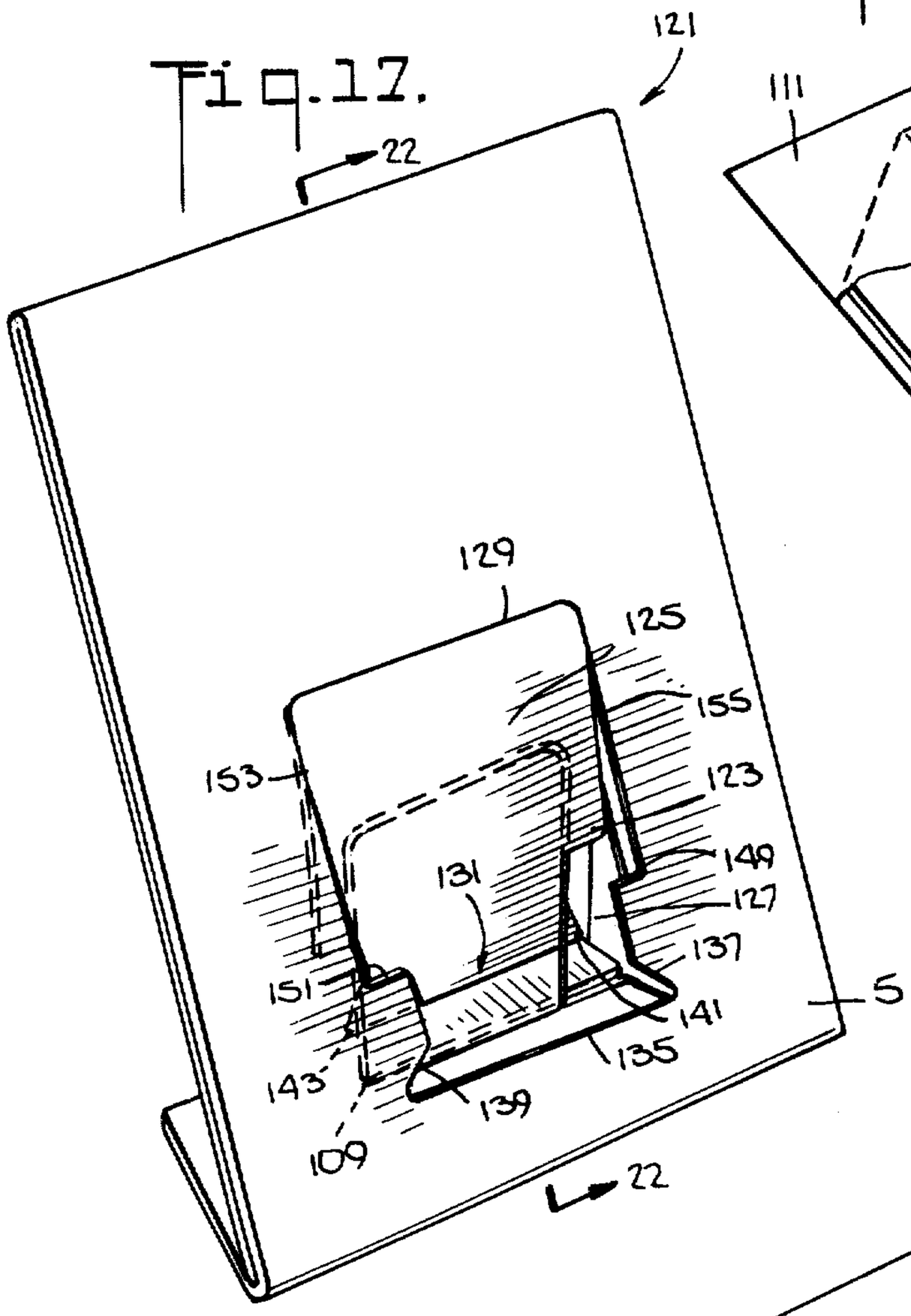


Fig.16.

Fig. 17.



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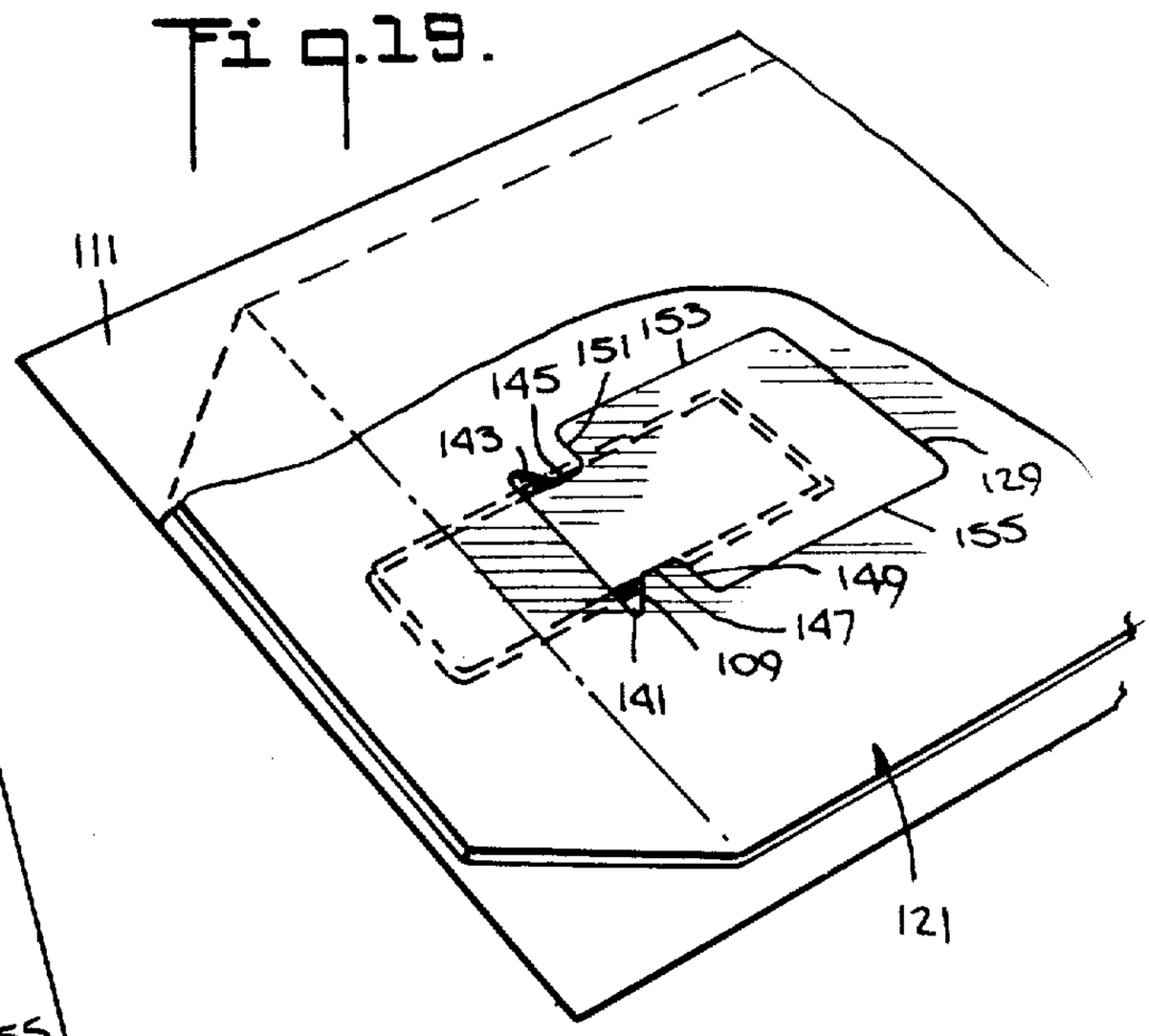

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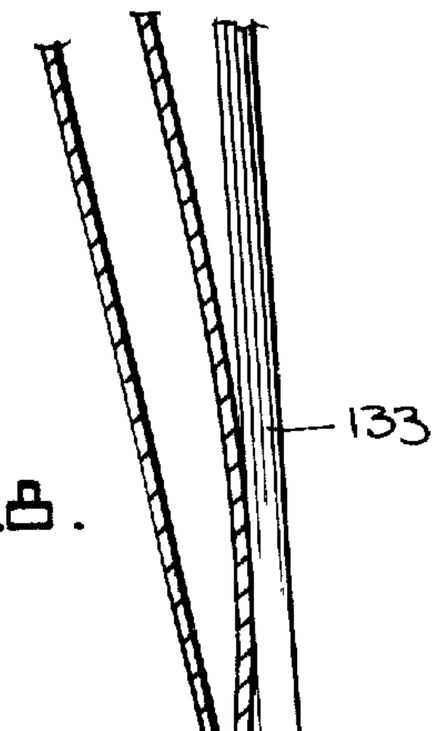

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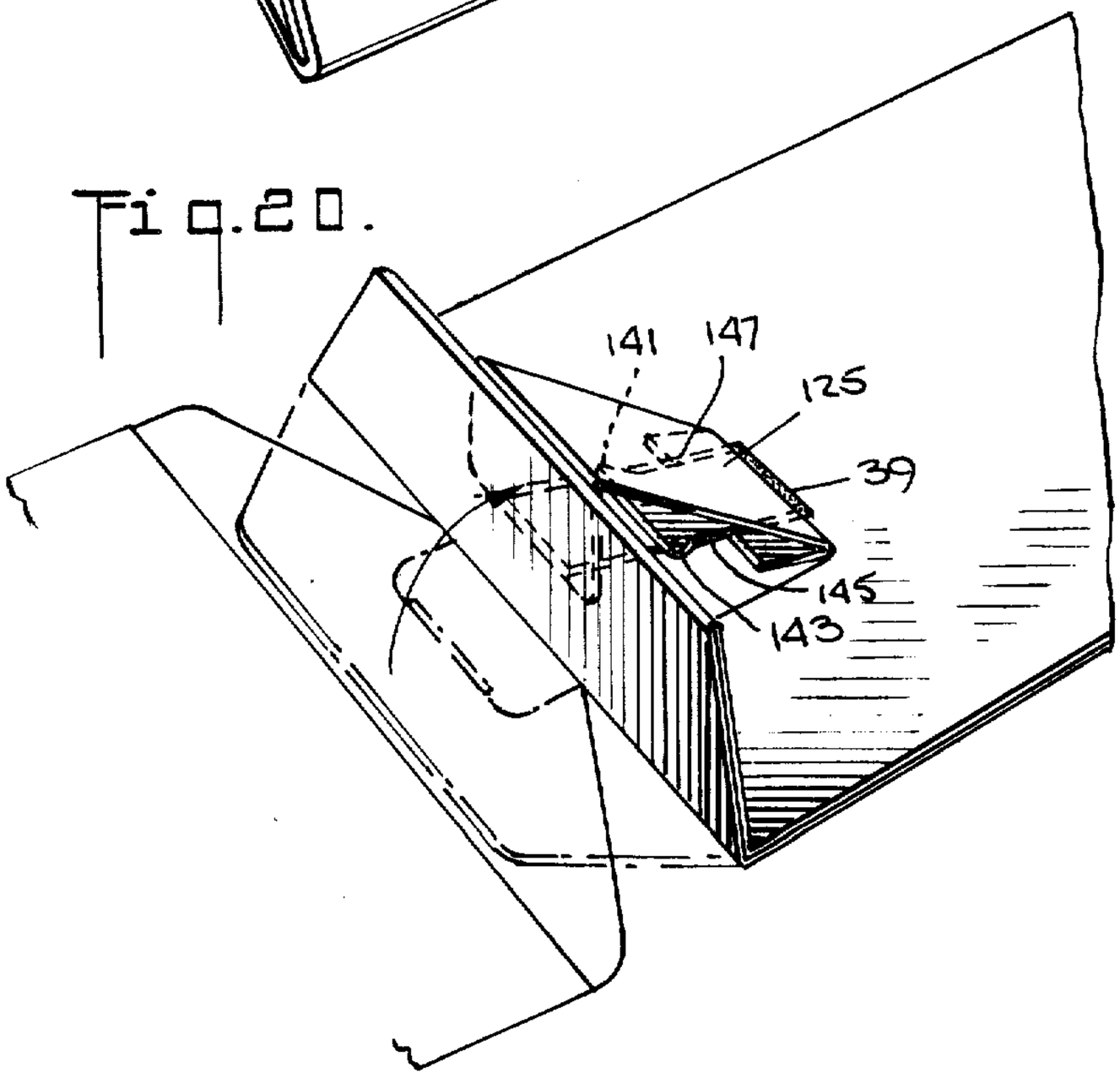

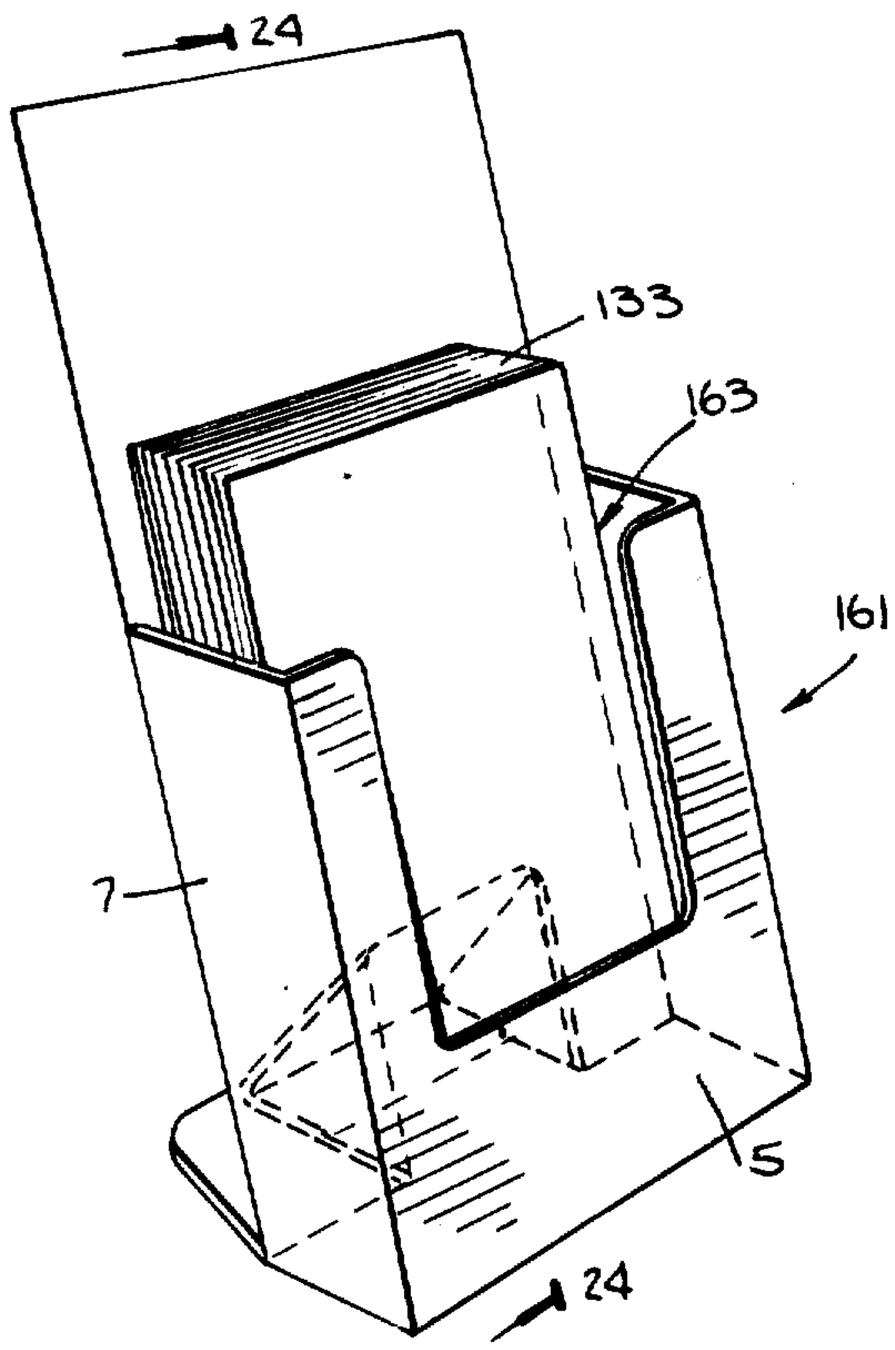

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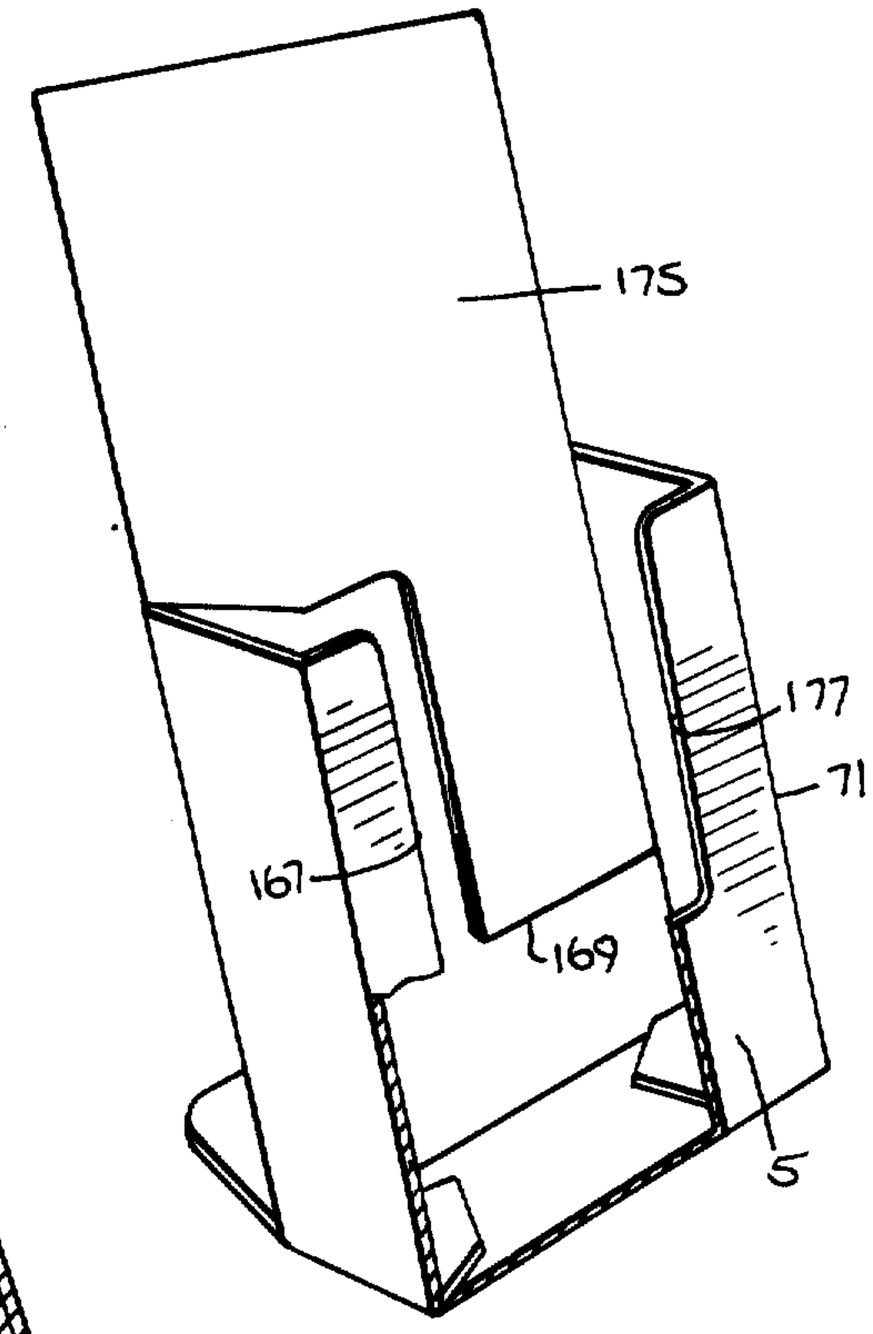
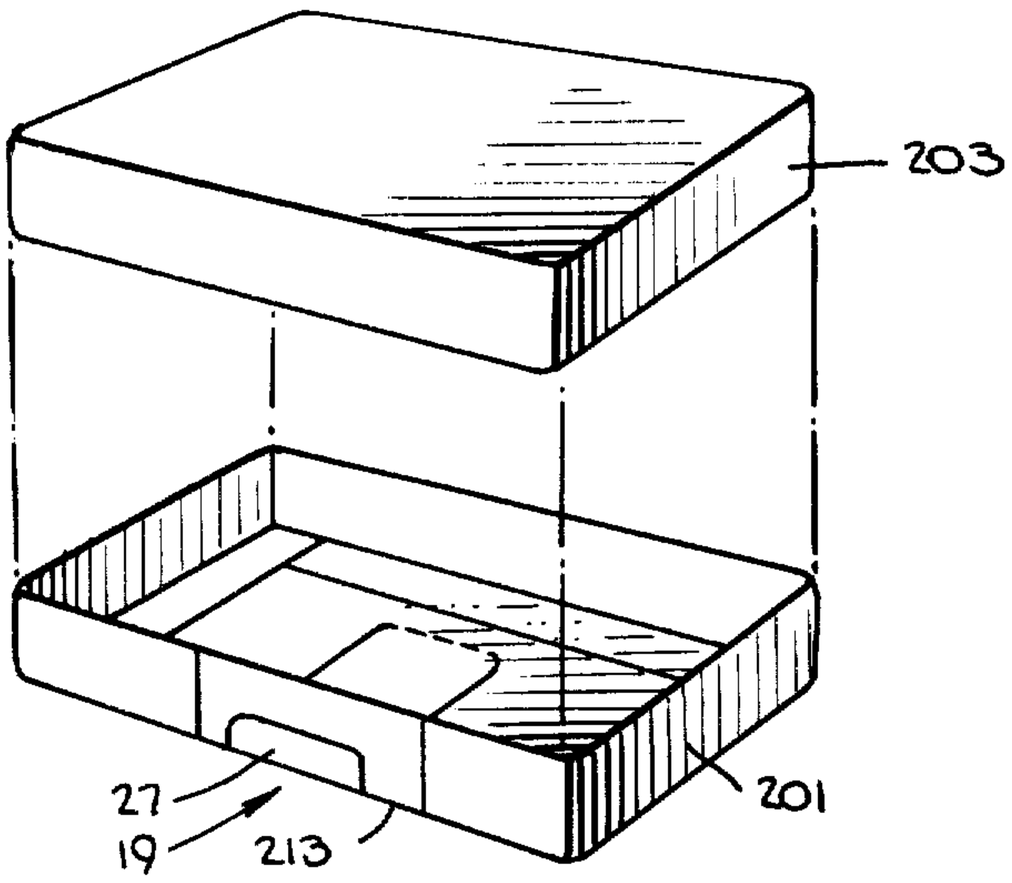


Fig. 22.

Fig. 23.

Fig. 24.



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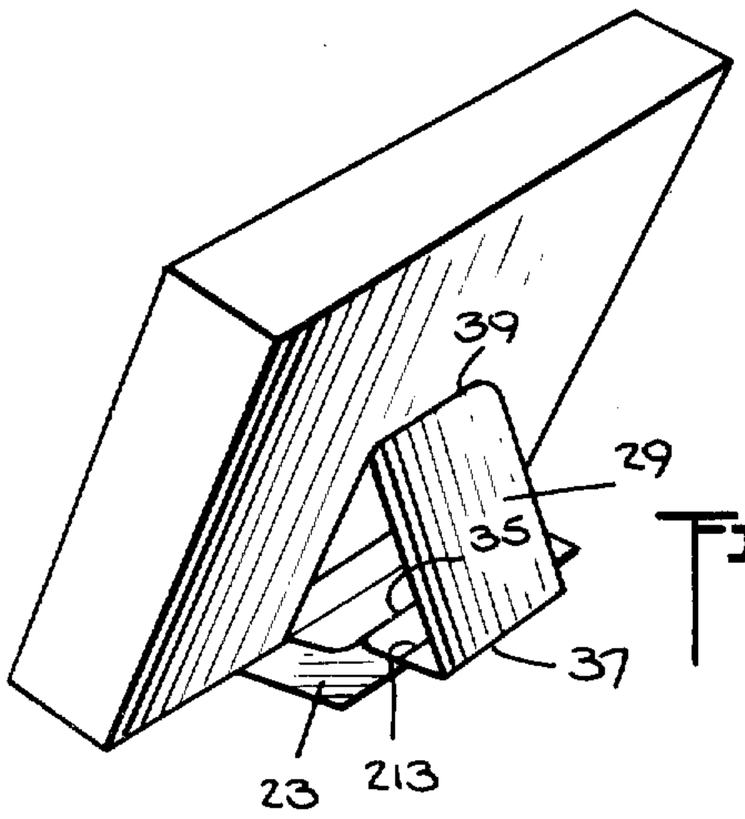
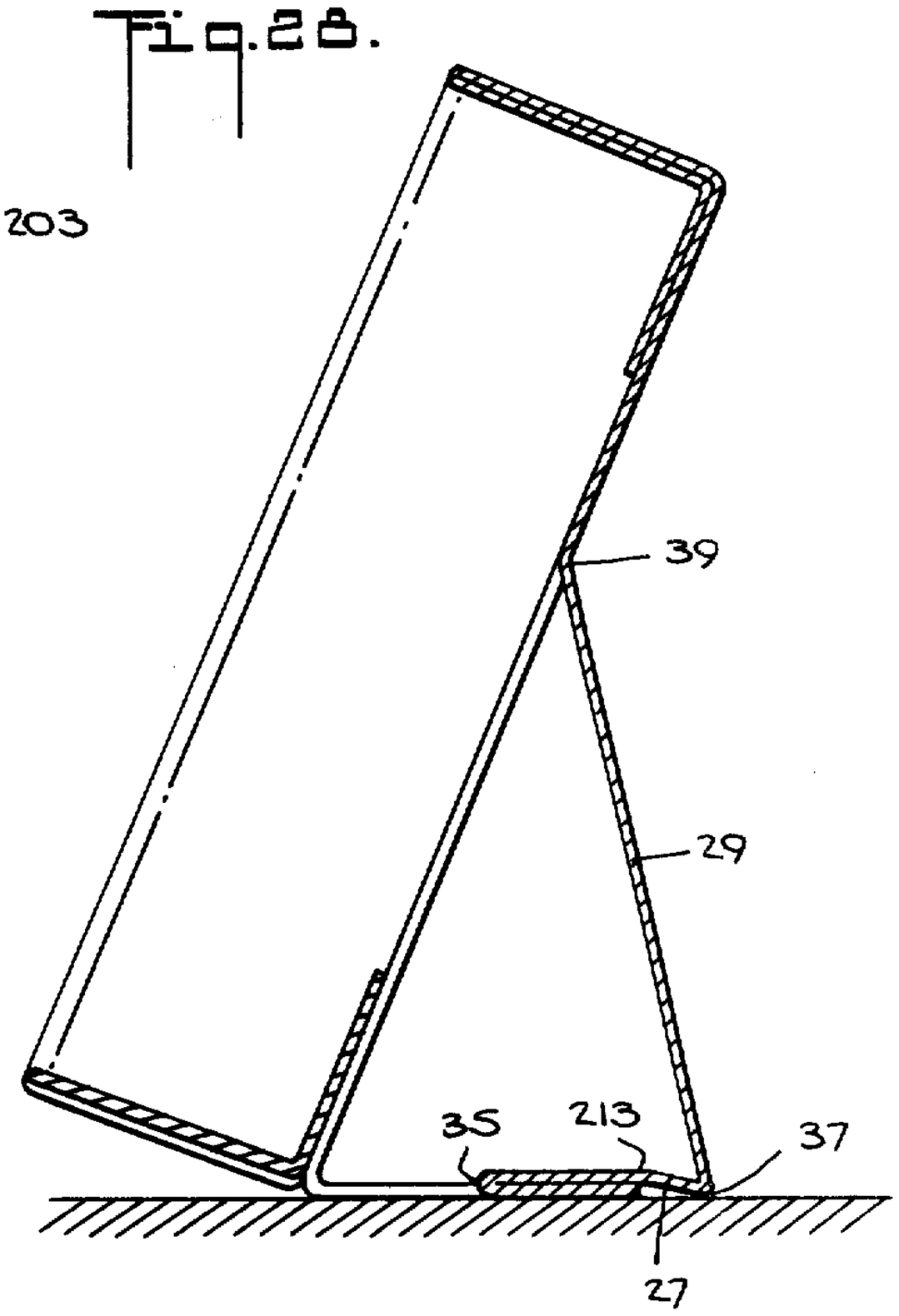


Fig. 27.

Fig. 28.



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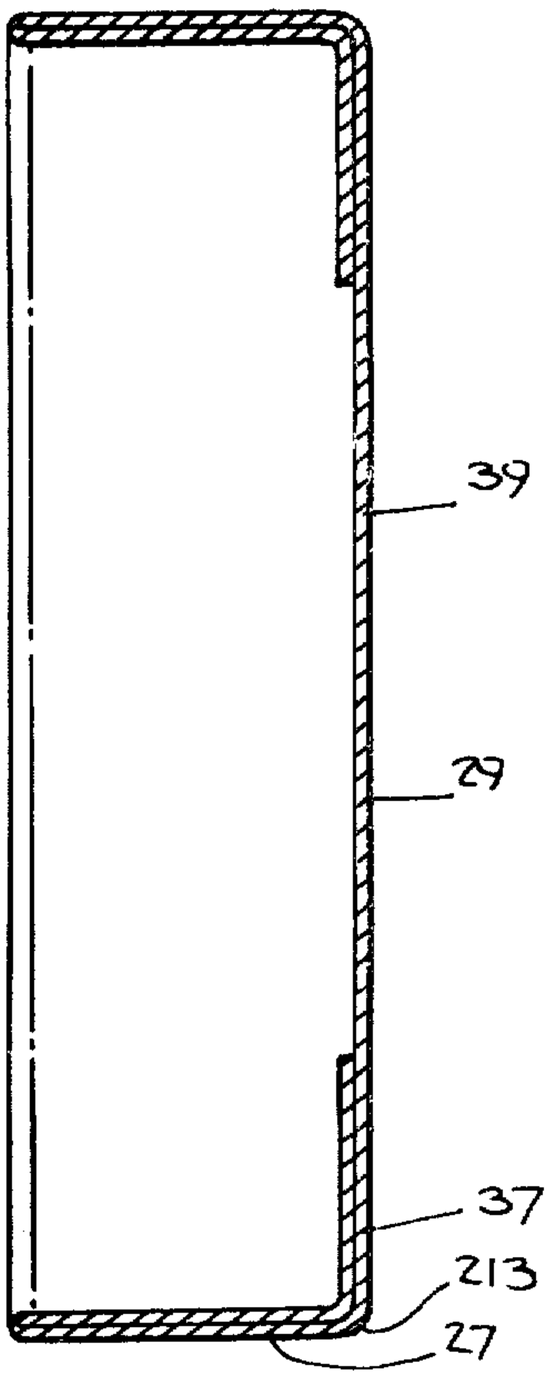

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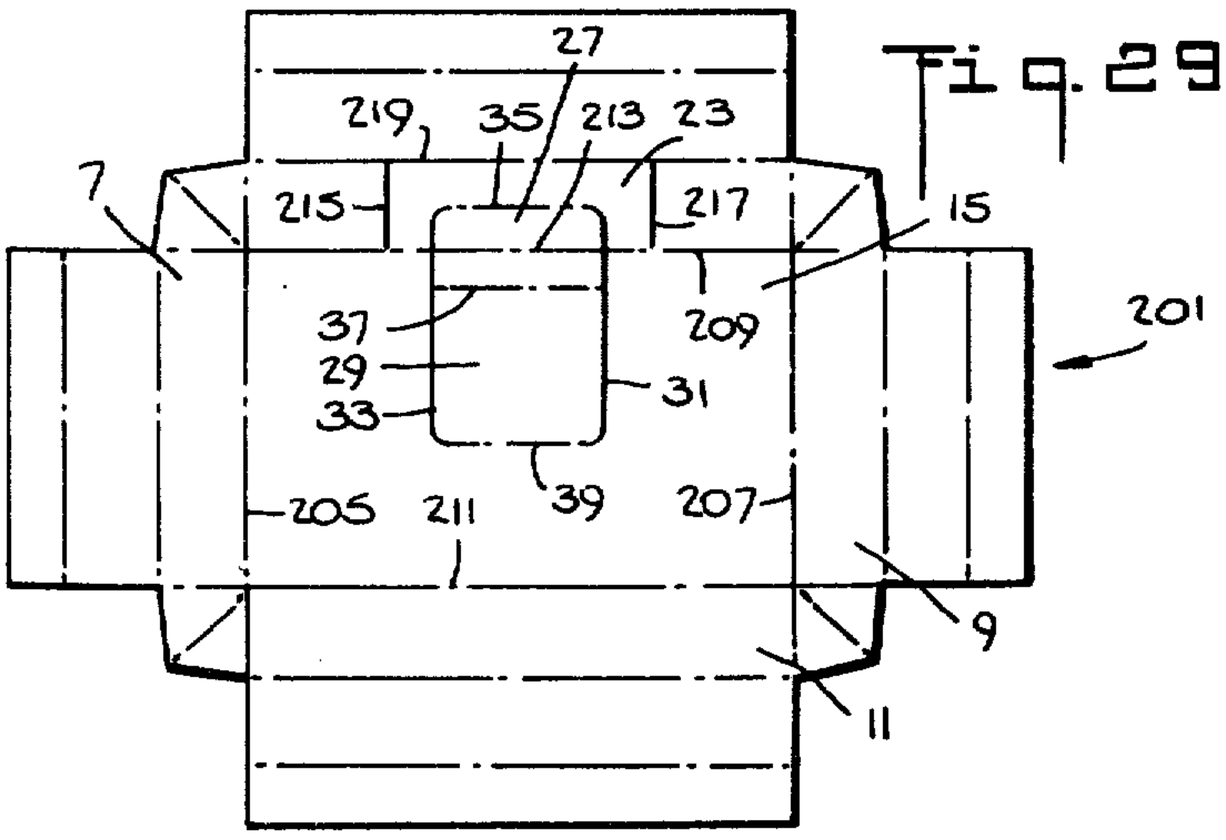

COLLAPSIBLE EASEL SUPPORT

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates generally to paper constructions, particularly boxes and cartons, and is more specifically directed to an easel support designed for displaying an article of merchandise or printed matter at a angle to a surface.

2. Prior Art

The prior art discloses a number of easel supports for folding boxes and display cards. The most commonly used form of easel is the wing-type easel. This easel comprises two leg panels foldable into angular position with regard to the display card (or box) to which they are attached.

Wing easels have numerous disadvantages. They are relatively difficult to erect and generally require a stiffer and heavier board than the boards from which the card (or box) is made. For this reason wing easels are generally manufactured separately and are then glued to the back of the display box or panel. In use, wing easels tend to collapse if the box or panel to which they are attached is moved about. Moreover, the legs of the wing easel tend to spread apart under weight, leading to unsteadiness and danger of collapsing.

An improved example of this type of easel support can be seen in U.S. Pat. No. 3,357,671. In this type a display card has a wing easel made from a single blank. The wing easel has one edge of its two hinged panels hinged to the back of the display card. The other edge of the two hinged panels has a locking flap which engages under a slit in the back of display card to form a triangular pyramid between the display card and the two panels of the wing easel. Moreover, this embodiment permits one panel of the two hinged panels to slide into the same slit of the back as the locking flap in order that the wing easel can be collapsed flat against the back of the display card and subsequently deployed by lifting the wing easel where the two panels hinge together.

Unfortunately, because of the wing design this embodiment is quite asymetrical with numerous notches and flaps. As a result layout of this design on paper is is inefficient and creates large waste.

Another type of easel support is disclosed in U.S. Pat. Nos. 2,507,947; 2,783,013; and 1,860,324. In this form the easel is integral with the box and can also be made from a unitary paper blank. The easel is assembled from the flat, collapsed blank to the assembled position without disturbing the assembled box or its contents. In this construction the easel is composed of two panels which are hinged together to form an acute angular support strut. The remaining end of one panel is permanently hinged to the bottom rear edge of the box and the remaining edge of the other panel carries a tongue or tab which engages in a slit in the back of the box to permanently fix that edge in the middle of the box. Thus, the strut creates an easel support between the bottom rear edge of the box and slit in the back of the box.

Unfortunately, this construction results in relatively narrow tongue, which engages in the slit, bearing the weight of the box. An easel support of this design must also be constructed from relatively sturdy board and is susceptible to fatigue failure, particularly at the score or crease between the tongue and the strut panel. Thus, this construction is unnecessarily expensive or susceptiable to failure. Other examples of the prior art can be found in U.S. Pat. Nos. 1,860,324; 1,330,946; 527,694; and British Pat. No. 113,330.

Moreover, all of the described prior art requires manual operation for the deployment of the easel support from a collapsed position. That is, at least one manual operator is necessary to deploy the easel, and often many operations are necessary.

Therefore, it is an object of the present invention to provide an easel support for a display device which can be made from a unitary blank.

It is another object of the present invention to provide for such an easel support for a display device that permits this display device to be closely abutted to each other to make efficient use of the paper from which it is constructed.

It is another object of the present invention to provide for such an easel support which can be quickly and easily assembled.

It is another object of the present invention to provide an easel support which is collapsible and occupies relatively little additional room in a collapsed state than the assembled box for which it provides support.

It is another object of the present invention to provide an easel support which impose substantially weight on tongues or tabs used to lock it in its deployed position.

It is another object of the present invention to provide an easel support which is adaptable to automatic deployment from its collapsed position.

It is another object of the present invention to provide for the above objects in a simple, clean, and relatively inexpensive construction.

SUMMARY OF THE INVENTION

In accordance with the preferred embodiment of the invention, the above and other objects are obtained by a collapsible easel support for supporting a display on a surface at an angle to that surface comprising a back panel having a bottom edge. A stay flap is hinged to said back panel along said bottom edge. Two slits extend from the interior of said stay flap to the interior of said back panel. A first score extends between said two parallel slits. A second score in said stay flap extends between said two slits. A third score in said back panel also extends between said two slits. Said first and second scores define a stay panel to fold against said stay flap and said first and third scores define a support panel to support the easel at said angle to the surface.

DESCRIPTION OF THE DRAWINGS

A more complete appreciation of the invention and many of the attendant features thereof will be readily apparent by reference to the following description when considered in connection with the accompanying drawings.

FIG. **1** is a perspective view of a container having an easel support according to the present invention fully deployed.

FIG. **2** is another perspective view of the container of FIG. **1**.

FIG. **3** is a side cross-sectional view of the container of FIG. **1**.

FIG. **4** is a perspective view of the container of FIG. **1** with the easel support of the present invention partially deployed.

FIG. **5** is a side cross-sectional view of the container of FIG. **1** with the easel support of the present invention undeployed.

FIG. **6** is a plan view of a blank for the container of FIG. **1**.

FIG. **7** is a perspective view of second container having the easel support of the present invention fully deployed.

FIG. **8** is a side cross-sectional view of the container of FIG. **7**.

FIG. **9** is a perspective view of a display card having an easel support according to the present invention with manual locking in collapsed position.

FIG. **10** is a perspective partially cut-away view of the display card of FIG. **9** with the easel support of the present invention fully deployed.

FIG. **11** is a side cross-sectional view of the display card of FIG. **10**.

FIG. **12** is a perspective view of a display card having an easel support according to the present invention with automatic deployment and locking in a fully deployed position.

FIG. **13** is a side cross-sectional view of the display card of FIG. **12**.

FIG. **14** is a perspective partially cut-away view of the display card of FIG. **12** stored in an envelope in a collapsed position.

FIG. **15** is a side elevational view of the display card of FIG. **14**.

FIG. **16** is a perspective view of the display card of FIG. **12** immediately after it is withdrawn from an envelope.

FIG. **17** is a perspective view of a display card having an easel support and a holding means for handout cards according to the present invention.

FIG. **18** is a side cross-sectional view of the display card of FIG. **17**.

FIG. **19** is a perspective, partially-cut-away view of the display card of FIG. **17** stored in an envelope in a collapsed position.

FIG. **20** is a perspective view of the display card of FIG. **17** immediately after it is withdrawn from an envelope.

FIG. **21** is a perspective view of a container for handout cards having an easel support according to the present invention fully deployed.

FIG. **22** is a partially cut-away perspective view of the container of FIG. **21**.

FIG. **23** is a plan view of a blank for the container of FIG. **21**.

FIG. **24** is a side cross-sectional view of the container of FIG. **21**.

FIG. **25** is a perspective view of a tray and cover having an easel support according to the present invention.

FIG. **26** is a side cross-sectional view of the tray of FIG. **25**.

FIG. **27** is a perspective view of the tray of FIG. **25** fully deployed.

FIG. **28** is a side cross-sectional view of the fully deployed tray of FIG. **27**.

FIG. **29** is plain view of a blank for the tray of FIG. **25**.

The present invention will be best understood from consideration of the following detailed description taken in connection with the above described drawings. However, one skilled in the art will recognize that the invention is not defined to the embodiment and variations shown and described.

DESCRIPTION OF THE INVENTION

Referring now to the drawings, wherein like reference characters designate corresponding parts throughout the several views. FIGS. **1** through **6** illustrate one embodiment of the present invention. As used in this embodiment the invention is a merchandising container for displaying a three dimensional article, such as shaving lotion, perfume, cigarette lighter, or the like at an angle to a horizontal display surface. Another feature of the embodiment of FIGS. **1** through **6** is that when displayed in accordance with this invention, the entire bottom surface of the display container is tangential to the display surface, thus providing a pleasing appearance to the consumer.

In FIG. **1**, container **1** is shown resting upon display surface **3**. Container **1** is an oblique rectangular solid having front panel **5**, side panels **7** and **9**, top end panel **11**, bottom end panel **13**, and back panel **15**. Front panel **5** has an apperture **17** through which the three dimensional article (not shown) can be viewed in its most appealing form.

Referring to FIGS. **2** through **4**, the collapsible easel support **19** of the present invention can clearly be viewed. Stay flap **23** is hinged along score **21** to the bottom edge of back panel **15**.

A strut **25** comprises a stay panel **27** and a support panel **29**. On either side of strut **25** are parallel slits **31** and **33**. Slits **31** and **33** are substantially perpendicular to score **21** and extend on either side of score **21** into back panel **15** and stay flap **23**. Stay panel **27** has at its end located in the interior of stay flap **23** score **35** and at its other end score **37**. Support panel **29** has at one end score **37** and its other end, located on the interior of back panel **15**, score **39**.

Scores **35**, **37** and **39** are substantially parallel to score **21**. Additionally, in the preferred embodiment score **37** is displaced slightly into back panel **15** from a colinear position with score **21** to permit strut **25** to deploy properly, but not so far as to prevent stay flap **23** from folding against bottom end panel **13**, as will become evident.

In FIG. **6** there is illustrated the blank from which container **1** is produced. The components already described previously are shown and will not be further identified. Not previously described are top tongue **41**, which is hinged to top end panel **11** by score **43**. Similarly, bottom tongue **45** is hinged to bottom end panel **13** by score **47**. Further, end panels **11** and **13** are hinged to front panel **5** by scores **46** and **48**, respectively. Also shown are closure tabs **49** through **55**, hinged to their respective side panels **7** or **9** by scores **57** through **63**. It should be noted that scores **57** through **63**, which form the top and bottom end edges of side panels **7** and **9** are not parallel to scores **46** and **48**, but intersect them at the same predetermined angle that easel support **19** supports front panel **5** to support surface **3**.

As one skilled in the art will note, container **1** can be effectively laid out on a sheet of paper, with one blank next to another with little unused paper in between.

OPERATION OF FIGS. 1 THROUGH 6

As one skilled in the art recognizes, the blank illustrated in FIG. **6** is produced by any one of many well known methods such as die cutting. After formation of

the blank and glue is applied to the surface of glue flap **65**, the blank is creased along scores **67** through **73** and folded so that flap **65** contacts the obverse face of said panel **9**. Then, tongue **45**, closure tabs **53** and **55**, and bottom end panel **13**, are creased along their respective scores and folded to close container **1** at its bottom end. Finally, stay flap **23** is folded along score **21** so as to resemble assembled container **1** as illustrated in FIG. **5**, except that top end panel **11** remains parallel to front panel **5** to leave container **1**'s top end open.

Container **1** is now ready to accept the article which is to be stored and displayed therein. As is recognized to those skilled in the art such an article is usually placed in an inner support so as to properly center the article in aperture **17**. The article, and any inner support (which are not shown), are placed into container **1** through the open top end. Subsequently, closure tabs **49** and **51** are folded along their respective scores **57** and **59**, and top tongue **41** is folded along score **43** and inserted into container **1** in front of back panel **15**.

Container **1** (with the article contained therein) is now prepared for shipping to the retail outlet. Generally, container **1** would be placed with many other container **1**'s in a shipping carton with easel support **19** in the collapsed position as shown if FIG. **5** (stay flap **23** refolded against bottom end panel **13**).

When container **1** and its article arrives at the retail outlet, the store clerk will remove container **1** from the shipping carton. He will unfold stay flap **23** from bottom end panel **13** along score **21** in the direction shown by arrow **75** (FIG. **4**). Because score **37** is slightly displaced from lower alignment with score **21** stay panel **27** will fold down along score **37** into contact with stay flap **23**. Support panel **29** extends from stay flap **23** at score **21** to back panel **15** at score **39**.

Thus, when container **1** is placed upon display surface **3**, stay panel **27** and support panel **29** form strut **25** with stay flap **23** to support container **1** at a predetermined angle to display surface **3**. That is, front face **5** forms an angle greater than 90° to display surface **3**, permitting the consumer to more easily view the article in container **1**. Furthermore, because scores **57** through **63** form the same predetermined angle with the scores between their respective side panels and front panel or back panel, bottom end panel **13** is flush with display surface **3** and top end panel **11** is paralled to bottom end panel **13**.

DESCRIPTION OF FIGS. 7 THROUGH 8

In FIGS. **7** and **8** there is shown another embodiment that permits a display container to rest either on its easel support or on its end. Referring to FIGS. **7** and **8** a rectangular solid container **20** incorporates an easel support **19**. The blank for the container of FIGS. **7** and **8** is the same as that shown in FIG. **6**, except that scores **57** and **59** and scores **61** and **63** would form a straight line with scores **46** and **48**, respectively. Thus, end panels **11** and **13** form a right angle to front and back panels **5** and **15**, respectively.

DESCRIPTION OF FIGS. 9 THROUGH 11

In the previously described embodiments no locking for the easel **19** was described. Nor was one needed because the weight of the article in the respective containers was sufficient to lock easel support **19** into its operative position.

However, it is often required to have an easle support an object which would not have sufficient weight to lock the present invention into positive operative position. That is, with a light object, such as a photograph or display card, the resiliency in scores **35**, **37** and **39** may cause panels **27** to **29** to return to a co-planar configuration and topple the photograph or display card on its face.

Referring now to FIGS. **9** and **11**, where again like reference characters designate parts corresponding to those already discussed, there is shown a display card supported by the present inventory employing a manual lock. More particularly, a display card **77** is provided with easel support **19** comprising a stay panel **27** and a support panel **29** separated by score **37**.

Moreover, in this embodiment, the locking tongue **79** is hinged to stay score **37** along score **83**. Locking slit **81** is provided along score **37** between stay panel **27** and support panel **29**. Slot **81** is so located that, when stay panel **27** is folded against stay flap **23** and locking tongue **79** is folded along score **83**, locking tongue **79** can enter locking slit **81** (FIG. **10**).

Also clearly shown in FIG. **10** is the construction of display card **77**. Display card **77** can be made from a single blank. That is, back panel **15** is separated from front face **85** by score **87**. Side flanges **89** and **91** are separated from front face **85** by scores **93** and **95**, respectively. Additionally, a bottom flange **97** is separated from front face **85** by score **99**. When fully assembled, flanges **89**, **91** and **97** provide substantial reinforcement to display card **77** and also provide clean edges to display card **77** for a pleasing appearance to the vendor.

OPERATION OF FIGS. 9, 10 AND 11

Display card **77** is assembled from the blank by applying glue to both sides of flanges **89** and **91**. Glue is also applied to both sides of bottom flange **97**, but is not applied where support panel **29** bears against bottom flange **97** are folded along scores **93**, **95** and **99**, respectively, to secure those flanges against the obverse side of front face **85**. Back panel **15** is then folded along score **87** to secure the obverse side of back panel **15** against the obverse side of front face **85**. Display card **77** then bears the appearance shown in FIG. **9** and is ready for shipment.

After arrival at the display point, the clerk bends stay flap **23** along score **21** to deploy easel support **19** as shown in FIG. **10**. Then, the clerk bends locking tongue **79** along score **83** and inserts locking tongue **79** in locking slit **81**. Easel support **19** is now secured into its fully deployed position with stay panel **27** firmly locked into contact with stay flap **23**. Note, however, that locking tongue **79** does not bear the weight of display card **77**.

DESCRIPTION OF FIGS. 12 THROUGH 16

Shown in FIGS. **12** through **16** is a display card **100** according to the present invention with an automatic lock. Again, elements of FIGS. **12** through **16** which are similar to those of previous embodiments bear like reference characters.

Like the previous embodiments, display card **100** comprises a strut **25** having a stay panel **27** and a support panel **29**. Also like the other embodiments, its deployed position stay panel **27** bears against stay flap **23** and back panel **15** is supported at the predetermined angle to surface **3** by support panel **29**.

Also clearly shown in FIGS. **12** through **16** are channels **101** through **107**. Channels **101** and **103** start at slits **31** and **33**, respectively, and run a short distance along score **35** towards the interior of stay panel **27**. Similarly,

short channels **105** and **107** emanate from slits **31** and **33**, respectively, and run along score **39** a short distance towards the interior of support panel **29**.

Bias means are provided by continuous elastic cord **109**, which extends from the interior end of short channel **101** to the interior end of short channel **105**, along score **39** to the interior end of short channel **107**. From there it extends to the interior end of short channel **103** and back along score **35** to the interior end of short channel **101**. Elastic cord **109** can be an ordinary rubberband of suitable elasticity.

In other respects the display card **100** is similar to display card **77** shown in FIGS. **9** through **11**, except for the absence of locking tongue **79** and locking slit **81**. Reference should be made to the above description of display card **77** for a further understanding of the construction of the display card **100**.

OPERATION OF FIGS. 12 THROUGH 16

FIGS. **14** through **16** illustrate the use of the automatic lock embodiment. In FIG. **14** display card **100** having an automatic lock is shown stored in an evelope **111**. As one skilled in the art will recognize, easel support **19** in its collapsed position is co-planar with back panel **15**.

The recipient opens envelope **111** and removes automatic display card **100**. When the bottom edge of stay flap **23** emerges from the envelope, elastic cord **109** biases score **35** towards score **39**, causing score **37** between stay panel **27** and support panel **29** to bow away from back panel **15**. Thus, as shown by arrow **115**, stay flap **23** is moved from its collapsed co-planar position with back panel **15** to a deployed angular position to back panel **15**. In sum, as automatic display card **100** is removed from envelope **111**, stay flap **23** is automatically moved and locked into its deployed position against strut **25**.

DESCRIPTION OF FIGS. 17 THROUGH 20

FIGS. **17** through **20** illustrate another automatic lock embodiment. In this embodiment, a display card **121** includes holding means **123**. Other than for the holding means **123** as described below, easel support **19** and other features of display card **121** are similar to previously described embodiments and will not be further described.

Holding means **123** is a pocket **131** comprising a pocket flap **125** cut from front panel **5** to define an aperture **127**. At its upper end, pocket flap **125** is hinged to front panel **5** at score **129**. When pocket flap **125** is hinged out of front panel **5** rearwardly, pocket **131** is formed which can receive handout cards **133** (FIG. **18**). Aperture **127**, and thus pocket flap **125**, has a bottom edge **135**. At its outward ends, bottom edge **135** has upwardly and inwardly inclining edges **137** and **139**, which define tabs **141** and **143** on pocket flap **125**. Tabs **141** and **143** engage elastic cord **109** as is evident below.

Aperture **127** also has extending from the inwardmost extension of inclining edges **137** and **139** substantially parallel vertical side edges **145** and **147**. In this embodiment, vertical side edges **145** and **147** extend approximately one-third the height of aperture **127**. The distance between vertical side edges **145** and **147** is slightly less than the distance between the vertical portions of elastic cord **109** so as to permit pocket flap **125** to pass between said vertical portions of elastic cord **109**.

At the upwardmost extension of vertical edges **145** and **147** are outwardly extending horizontal edges **149** and **151**. The distance between the farthest extension of horizontal edges **149** and **151** is slightly greater than the width of handout cards **133** that are to be placed in pocket **131**. From the outwardmost extension of horizontal edges **149** and **151** there extends upwardly to score **129** vertical side edges **153** and **155**.

OPERATION OF FIGS. 17 THROUGH 20

FIG. **19** shows display card **121** stored in envelope **111**. Of particular importance during storage is that elastic loop **109** extends around and engages the front face of tabs **141** and **143** to bias them toward support panel **29**.

The receipient opens envelope **111** and removes display card **121**. When the bottom edge of stay flap **123** emerges from envelope **111**, elastic cord **109** biases score **35** towards score **39**, causing **37** between stay panel **27** and support panel **29** to bow away from back panel **15** to deploy strut **25**. Simultaneously, elastic cord **109** biases flap **125** by means of tabs **141** and **143** out of front panel **5** toward support panel **29**, creating pocket **131**.

Thus, as shown in FIG. **20**, stay flap **23** is moved from its collapsed coplanar position with back panel **15**, and flap **125** is moved from its coplanar position with front panel **5** to the fully deployed position shown in FIG. **17**.

DESCRIPTION OF FIGS. 21 THROUGH 24

Illustrated in FIGS. **21** through **24** is a handout card display container **161**. As in the foregoing embodiments, display container **161** includes an easel support **19**. The particular embodiment of container **161** is similar in some respects to the construction to container **1** of FIGS. **1** through **6**. However, as best seen in FIGS. **21** and **22**, a portion of front panel **5** and side panels **7** and **9** have been cut away to form a pocket **163**. However, as described below, rather than just cutting a portion of container **161** away and discarding it, as herein after described it is retained to provide a display or print surface and add structural strength.

Referring to FIG. **23**, the blank of display container **161** can be viewed. Comparison of the blank shown in FIG. **23** to the blank shown in FIG. **6** reveals numerous similarities which are shown by like reference characters in the two figures. (One skilled in the art will recognize that these respective blanks are partial mirror images of one another—another illustration of the possible variations applicable to the present invention.) However, display container **161** incorporates on front panel **5** a notch defined by vertical side edges **165** and **167** and bottom edge **169**. Side edges **165** and **167** extend approximately one-half the height of front panel **5**. Substantially horizontal broken edges **171** and **173** extend from side edges **165** and **167**, respectively, to scores **69** and **73**.

Score **71** between front panel **5** and side panel **7** extends from the bottom end edge of panel **5** to broken edge **171**. A print flap **175** is hinged to back panel **5** by score **69**, and is defined at its lower extremities by broken edge **171** and bottom edge **169**. Connecting the innermost extension of broken edge **171** and bottom edge **169** is vertical side edge **177**. Print flap **175** also has a side edge **179** substantially parallel to score **69** extending from bottom edge **169** to top edge **46** (formerly score **46** in display container **1**). As best shown in FIG. **22**, print flap **175** folds along score **69** to lie against the obverse face of back panel **15**.

OPERATION OF FIGS. 21 THROUGH 24

Display container **161** is folded and glued in accordance with display container **1** of FIGS.**1** through **6**. Additionally, as shown in FIG. **22**, glue is applied to both faces of glue flap **65** and glue flap **65** is laid against the obverse face of back panel **15**. Then print flap **175** also is laid against the obverse face of back panel **15** to sandwich glue flap **65** between print flap **175** and back panel **15**.

When so folded a pocket **163** is formed into which handout cards **133** can be inserted (FIG. **24**).

This construction has numerous advantages. It reinforces back panel **15** and better secures glue flap **65** into a fixed position. It also covers the unfinished obverse side of back panel **15** with the good side of the material from which display container **161** is constructed. Thus, the material from which display box **161** is constructed can be printed on one side only, yet exhibit to the viewer a finished printed surface, even on the visible interior of pocket **163** above handout cards **133**. This creates a display card surface, upon which advertising matter can be printed.

DESCRIPTION OF FIGS. 25 THROUGH 29

Illustrated in FIGS. **25** through **29** is a tray **201** and cover **203** embodying an easle support **19** according to the present invention. Particularly noteworthy is that tray **201** utilizes no additional material or requires no additional manufacturing steps than are required by the standard tray presently used to package consumer items such as toiletries and confectionaries. Nevertheless, according to the present invention tray **201** embodies a self-contained collapsible easle support **19**.

More particularly, referring to FIG. **29**, the blank of tray **201** can be viewed. Tray **201** comprises a back panel **15** and side panels **7** and **9**, bottom end panel **13** and top end panel **11**. Bottom end panel **13** is hinged to back panel **15** at the back panel **15**'s bottom end edge by score **209**. Similarly, side panels **7** and **9** and top end panel **11** are hinged to back panel **15** by scores **205**, **207** and **211**, respectively.

A stay flap **23** is formed in bottom end panel **13** by substantially parallel slits **215** and **217** extending perpendicularly from score **209** into bottom end panel **13**, and slit **219**, substantially perpendicular to and extending between slits **215** and **217**. As with prior embodiments easle support **19** is formed between two substantially parallel slits **31** and **33** extending from stay flap **23** into back panel **15**.

Easle support **19** incorporated in tray **201** includes a modification not previously discussed. This modification is necessitated when the depth of tray **201** (height of bottom end edge **13**) is relatively small compared either to the weight of product that tray **201** contains or the angle to the vertical at which tray **201** is to be displayed. Under these circumstances, stay flap **23** is not large enough to properly support tray **201**. Therefore, to displace the supportive easle a further distance from the bottom end edge (score **209**) of back panel **15**, stay panel **27** of easle support **19** is enlarged over that permitted if it was to be defined by a score **35** in stay flap **23** and another score substantially co-linear with bottom end edge of back panel **15** as in the previously described versions above. In easle support **19** of cover **201** stay panel **27** is hinged to stay flap **23** by score **35** and is separated from support panel **29** by score **37**. However, stay panel **27** also incorporates score **213** substantially co-linear with score **209**. Thus, the depth of stay panel **27**, i.e., the distance between scores **35** and **37**, is greater than the depth of bottom end panel **13**. Yet, because of score **213**, stay panel **27** can assume a substantially co-planar position with back panel **15** and bottom end panel **13** when it is in its undeployed position.

The remainder of tray **209** is of conventional design as illustrated in FIGS. **26** through **29**. From these figures and the description above one skilled in the art will quickly understand the construction of tray **201** and its cover **203**.

OPERATION OF FIGS. 26 THROUGH 29

Referring to FIG. **25**, tray **201** and cover **203** are shown in the undeployed state. Stay panel **27** is folded in a co-planar relationship with both bottom end panel **13** and back panel **15** along score **213**. In this position tray **201** assumes the same configuration as the conventional tray presently used in the art.

However, tray **201** according to the present invention also possesses the capability of a display tray. This is clearly shown in FIGS. **27** and **28**. In accordance with previous description easle support **19** is formed by support panel **29** and stay panel **27** separated by score **37**. When easle support **19** is deployed, score **213**, which was necessary to permit a portion of stay flap **27** to assume the co-planar position with bottom end panel **13**, can be best seen in FIG. **27**.

One skilled in the art will recognize that in displacing score **37** from a position substantially co-linear with score **209** to a position more into back panel **15**, a larger stay panel **27** is formed. Thus, score **37** is further displaced from the bottom end edge of back panel **13** of tray **201**, and thus easle support **19** provides better support for tray **201** in its deployed position.

While the invention has been described by specific embodiments and illustrated variations, it is not limited thereto. Obvious modifications will occur to those skilled in the art. For example, depending on the weight of the contents of the container or card to be displayed by the easle support of the present invention, the angle at which the easle displays the device can be varied. That is, if the article displayed by the container has a relatively large weight with respect to the strength of the paper used to construct the easle support, the angle at which the easel displays the container should be increased to approach the perpendicular.

Another variation that will occur immediately to those skilled in the art is the method by which the various scores above described are created. That is, in order to ease folding along various score lines, such score lines may be partially slit, either along their entire length where the slit does not penetrate through the depth of the paper, or only along part of the length where the slit penetrates through the depth of the paper. *Other embodiments of the present invention can also be found in a co-pending application of the present inventor Ser. No. 135,539, filed March 31, 1980.* Thus, one skilled in the art can create various modifications without departing from the scope of this invention, as defined by the following claims.

What is claimed is:

1. A collapsible easel support means for supporting a display on a surface at an angle comprising:

a back panel having a bottom edge;

a stay flap hinged to said back panel along said bottom edge to rest on said surface;

two slits extending across said bottom edge from the interior of said stay flap to the interior of said back panel;

a first score in said stay flap extending between said two slits;

a second score in said back panel extending between said two slits;

a third score between said first and second scores extending between said two slits;

said first and third scores defining a stay panel and said second and third scores defining a support panel;

said stay panel folded into co-planar contact with said stay flap when said stay flap makes a predetermined angle of less than 90° with said back panel, whereby said support panel between said back panel and said stay flap supports said back panel at said predetermined angle to said surface when said stay flap rests on said surface.

2. A collapsible easel support as in claim 1 including bias means for biasing said second score towards said third score for locking said easel support in the deployed position.

3. A collapsible easel support means as in claim 2 wherein said bias means is a continuous elastic cord.

4. A collapsible easel support means as in claim 3 wherein said continuous elastic cord encircles said second and third scores.

5. A display container having a collapsible easel support for supporting said container at a predetermined angle to a surface comprising:

a front panel having two side edges, a top end edge and bottom end edge;

a first side panel having two side edges and two end edges, one of said side edges hinged to one of the side edges of said front panel;

a second side panel having two side edges and two end edges, one of said side edges hinged to the remaining side edge of said front panel;

a back panel having two side edges; a bottom end edge and a top end edge, one of said side edges hinged to the remaining side edge of said second side panel and the other of said side edges adaptable to permanently abut the remaining side edge of said first side panel;

a stay flap hinged to the bottom end edge of said back panel;

two substantially parallel slits substantially perpendicularly to said bottom end edge extending to either side of said bottom end edge into the interior of said stay flap and the interior of said back panel;

a first score in said back panel substantially parallel to said bottom end edge extending between said two slits;

a second score in said stay flap substantially parallel to the bottom end edge of said back panel extending between said two parallel slits;

a third score between said first and second scores in said back panel substantially parallel to the bottom end edge of said back panel extending between said two parallel slits, said first and third scores defining a support panel and said second and third scores defining a stay panel;

said stay panel folded into co-planar contact with said stay flap when said stay flap makes a predetermined angle of less than 90° with said back panel, whereby said support panel between said back panel and said stay flap supports said container at said predetermined angle to said surface when said stay flap rests on said surface.

6. A display container as in claim 5 wherein:

said top end edge of said second side panel intersects said side edge of said back panel below the top end edge of back panel:

said top end edge of said front panel intersects the top end of said second side panel; and including:

a notch in said front panel extending from said top end edge; and

a print flap hinged to the side edge of said back panel above the intersection of said top end edge of said second side panel to fold against the obverse side of said back panel.

7. A display container as in claim 6 including:

a glue flap hinged to the side edge of said first side panel that abuts the side edge of said back panel and engages the obverse face of said back panel; and

said print flap having an extension whose obverse side engages at least a portion of said glue flap to sandwich said glue flap between the obverse face of said back panel and said extension.

8. A display container as in claim 5 wherein said end edges of said side panels intersect the side edges of said front and back panels at said predetermined angle.

9. A collapsible easel support as in claim 1 including:

a slit in said third score; and

a tongue hinged to said stay flap along a fourth score and adapted for entering said slit and locking said easel support in the operative position.

10. A display card having a collapsible easel support for supporting said display card on a surface at a predetermined angle comprising:

a front panel having two side edges, a top end edge and a bottom end edge;

a back panel having two side edges, a top end edge and a bottom end edge, said top end edge hinged to the top end edge of said front panel;

a stay flap hinged to the bottom end edge of said back panel;

two substantially parallel slits substantially perpendicular and extending to either side of the bottom end edge of said back panel into the interior of said stay flap and said back panel;

a first score in said back panel substantially parallel to said bottom end edge and extending between said two slits;

a second score in said stay flap substantially parallel to the bottom end edge of said back panel and extending between said two parallel slits;

a third score between said first and second scores, and substantially parallel to the bottom end edge of said back panel and extending between said two parallel slits, said second and third scores defining a stay panel and said first and third scores defining a support panel for supporting said display card at said predetermined angle to the surface.

11. A display card as in claim 10 including a pocket flap in said front panel hinged at its upper edge to said front panel and having engagement means to engage said bias means to bias said pocket flap toward said support panel.

12. A display card as in claim 11 wherein said pocket flap has two side edges, and said engagement means are outwardly extending tabs on said side edges of said pocket flap.

13. A display container having a collapsible easle support for supporting said container at a predetermined angle to a surface comprising:

a back panel having a bottom end edge;

a bottom end panel having one edge hinged to the bottom end edge of said back panel;

first and second substantially parallel slits extending from said bottom end edge into said bottom end panel, and a third slit in said bottom end panel substantially perpendicular and extending between said two parallel slits, said first, second and third slits forming a stay flap hinged to said bottom end edge of said back panel; fourth and fifth substantially parallel slits substantially perpendicular to said bottom end edge extending to either side of said bottom end edge into the interior of said stay flap and the interior of said back panel;

a first score in said back panel substantially parallel to said bottom end edge extending between said fourth and fifth slits;

a second score in said stay flap substantially parallel to the bottom end edge of said back panel extending between said fourth and fifth parallel slits;

a third score in said back panel between and substantially parallel to said first and second scores and extending between said fourth and fifth parallel slits, said first and third scores defining a support panel and said second and third scores define a stay panel for supporting said container at said predetermined angle to the surface.

14. A display container as in claim 13 including a fourth score between said second and third scores substantially co-linear with said bottom end edge for permitting a portion of said stay panel between said fourth score and said second score to fold co-planar with said bottom end panel and the remaining portion of said stay panel between said fourth score and said third score to fold co-planar with said back panel.

15. A collapsible easel support for supporting a display on a surface at an angle comprising:

a back panel having a bottom edge;

a stay flap hinged to said back panel along said bottom edge and having first and second sides, said second side resting on said surface;

two slits extending across said bottom edge from the interior of said stay flap to the interior of said back panel to form a strut, said strut comprising:

a stay panel hinged to said stay flap along a first score and resting in co-planer contact with said first side of said stay flap; and

a support panel hinged to said back panel along a second score and to said stay panel along a third score supporting said back panel at an angle to said surface.

16. A display device having a collapsible easel support for supporting a display device on a surface at a predetermined angle comprising:

a back panel having a bottom edge;

a stay flap;

a support panel having top and bottom edges;

a stay panel having top and bottom edges;

a first hinge hinging said stay flap to said bottom edge of said back panel;

a second hinge hinging the bottom edge of said support panel to the top edge of said stay panel;

a third hinge hinging the top edge of said support panel to the interior of said back panel;

a fourth hinge hinging the bottom edge of said stay panel to said stap flap.

17. A display device as in claim 16 wherein said fourth hinge is on the interior of said stay flap.

18. A self-supporting display device to rest upon a solid surface, including:

a rear panel; a base panel; a hinge dividing said rear and base panel;

parallel slits extending from intermediate said rear panel to intermediate said base panel forming an extensible support member;

a first score line extending between approximately the top of said slits;

a second score line extending between said parallel slits substantially centrally of said hinge;

a third score line extending between approximately the bottom of said slits, whereby when said base panel is moved in an arcuate direction the extendable support member will move outwardly to provide a base and a diagonally disposed support offset from each other along said second score line.

* * * * *