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(54) **Container made of cardboard or the like having a cylindrical shape and an automatic bottom**

Behälter aus Karton od. dgl. mit zylindrischer Form und automatisch auffaltbarem Boden

Récipient un carton ou matière analogue avec une forme cylindrique et fond automatique

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FR-A- 2 375 100
US-A- 2 189 436
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Description

The present invention generally relates to containers made of cardboard or the like, having an automatic bottom and, more particularly, to a container of the above mentioned kind capable of taking a substantially cylindrical shape during the assembly.

The containers made of cardboard or the like, having an automatic bottom are already known. Their very important feature is to have a so-called "automatic bottom" that is a bottom which is self-forming during their assembly. In order to obtain the automatic bottom the blank intended to form the container is provided with suitably shaped bottom tongues having mutual engagement means. These bottom tongues are glued in pairs to each other and once the longitudinal edges of the blank have been glued therebetween and the assembly of the container is started by transforming it from a flattened or bidimensional shape, as it is put on the market, to the final open or tridimensional shape, the so glued bottom tongues are brought in such a position as to form the bottom wall of the container and are retained in this final position by the mutual engagement of the engagement means.

By means of this system containers having in plan view poligonal shapes, for example square, rectangular, pentagonal, esagonal shape etc. have been developed.

DE-A-40 33 947 discloses a packing container corresponding to the container according to the entering clause of claim 1 formed from a flat blank. In this blank only two folding lines, which are diametrically opposed when the container is in its final condition of use, are extending between an upper edge and a lower edge of the side wall of the container. In this manner the container can be brought in a flat condition. Projecting from the upper zone of the lower edge are tongues which are foldable about linear folding lines. These tongues form an automatically closing bottom when a pressure is exerted on the two folding lines of the side wall of the container. In order to bring the container in its final condition of use the linear folding lines of the tongues have a lenght which is only a portion of the tongue width. Furthermore, the tongues on the side confronting the lower edge have curved lines. In this container the bottom tongues are attached to the side wall through small segments only and this can impair the container because the bottom tongues could get detached.

US-A-2 189 436 discloses a container comprising a collapsible tubular member, quadrantal flaps integral with the bottom of said tubular member and foldable inwardly into lapped bottom forming position, tongue and slot connections between diametrically disposed quadrantal flaps for locking the same together, inwardly foldable webs connecting portions of the flaps with the tubular member and being folded over the inside of the flaps when the same are in bottom forming position and an inner bottom fibre board disk snugly fitting within the tubular member and seated upon the inwardly folded webs. This container shows the same disadvantage of that remarked for the container of the DE-A-4033947. Furthermore, the side wall of this container has a plurality of score lines and not two folding lines only.

The present invention aims at obviating this drawback by providing a blank for containers made of cardboard or the like, having a new design. The container according to claim 1 is capable of permitting the assembly of cylindrical containers, the term "cylindrical" meaning a solid formed by generatrixes starting from points of a directrix formed by a closed line: circle, ellipse, oval...

More particularly, the container according to the present invention having generally a cylindrical shape and an automatically closing bottom obtained from a blank with bottom tongues having mutually engagement means for automatically closing the bottom during the formation of the container, said blank comprising a rectangular zone having only two folding lines perpendicular to the side corresponding to the bottom of the container in order to allow the container to be put on the market in a flattened shape and to be opened in its final tridimensional shape upon the use, a glueing edge on one of the sides perpendicular to the side corresponding to the bottom of the container and intended to form the lateral wall thereof is characterized in that said blank further comprises:

a strip projecting from the side of said rectangular zone corresponding to the bottom of the container and having at least three curved folding lines from each of which a single one of the tongues intended to form the automatically closing bottom extends such that the bottom tongues have at least a curved side corresponding to the curve folding lines, each curved line being curved over its entire length and having an identical or different radius of curvature according to the cross-section of the cylindrical container to be formed,

- the strip being intended to be folded along a folding line which separates it from the rectangular zone of the blank and to be glued thereto.

This invention will be now described in greater detail in connection with the accompanying drawings, wherein:

Fig. 1 shows a first blank for obtaining the right circular cylindrical container having an automatic bottom;

Fig. 2 shows a first mounting step of the container of Fig. 1;

Fig. 3 shows a second mounting step of the container of Fig. 1;

Fig. 4 is a cross-sectional view taken through the blank after the second mounting step of the container has been accomplished;

Fig. 5 shows the final mounting step of the container of Fig. 1;

Fig. 6 shows a second blank for obtaining the right circular cylindrical container having the automatic bottom;

Fig. 7 shows a first mounting step of the container of Fig. 6;

Fig. 8 shows a second mounting step of the container of Fig. 6;

Fig. 9 is s cross-sectional view taken through the blank of Fig. 6 after the second mounting step of the container has been accomplished;

Fig. 10 shows the final mounting step of the container of Fig. 6, looking from the bottom;

Fig. 11 shows the container of Fig. 10 in a plan view;

Fig. 12 shows a third blank for obtaining an elliptical cylindrical container having the automatic bottom;

Fig. 13 is a perspective view of the container obtained with the blank of Fig. 12;

Figs. 14 and 15 show the sectional profile of other containers obtained with the blank according to the present invention.

Fig. 1 shows a typical blank for obtaining a container having the shape of a right circular cylinder and provided with tongues, generally designated by T, intended to form in a manner per se known the automatic bottom. The blank is designated by 1 and has a zone 2 of rectangular shape intended to form the lateral wall of the container. This zone is divided in three portions A,B,C by two cross-folding lines 3,4. The rectangular zone 2 has on one shorter side thereof, in this case on the portion A, a glueing edge L. Projecting from the upper larger side of the rectangular zone 2 is a strip, generally designated by D, divided in four segments D1,D2,D3,D4 each of which terminates in one of the tongues T intended to form in a manner per se known the automatic bottom of the container and bearing here the reference numbers 5,6,7,8. This strip D is separated from the rectangular zone 2 by a longitudinal folding line P and the tongues T are separated from the relevant strip segment D1,D2,D3,D4 by curved folding lines, generally designated by S and bearing here the reference numbers 9,10,11,12. In this case the curved folding lines have the shape of an arc of circle and their radius of curvature correspond to that of the circular cylindrical container to be formed. The folding lines 9,10,11,12 in this case are four in number and their length corresponds to 1/4 of the blank lenght l and therefore 1/4 of the container circumference.

The tongues 5,6,7,8 have a specifical shape adapted to form the engagement means of the automatic bottom and, in the blank of Fig. 1, these tongues are identical two by two. In particular, the tongue 5 has the same shape as that of the tongue 7 and the tongue 6 has the same shape as that of the tongue 8. The tongues 6 and 8 have substantially a triangular shape, whereas the tongues 5 and 7 have a composite rectilinear and curvilinear shape. In particular, each of the tongues 5,7 has a triangular tab 13 and 14, respectively and a toothed portion 16. The substantially triangular tabs 13,14 are defined by an inner folding line 15 and have a curved side which has the same radius of curvature as that of the circular cylindrical container to be formed.

Fig. 2 shows the first mounting step of the circular cylindrical container with automatic bottom starting from the blank 1. This step consists in folding the strip segments D1,D2,D3,D4 along the folding line P against the rectangular zone 2 and in glueing them thereto by leaving free the tongues 5,6,7,8.

Fig. 3 shows a second mounting step of the container. This step consists in glueing the glueing edge L to the opposite outer side of the rectangular zone 2 so as to obtain a closed element and in glueing the tabs 13,14 to the triangular tongues 6,8 so that the tabs 13,14 cover exactly the half portion of said triangular tongues, as can be seen in the cross-section of Fig. 4 wherein the zones marked by crosses designate the glueings. Once this operation is terminated, the so obtained blank is folded along the folding lines 3,4 to form the container in the flattened condition, as it is put on the market.

Fig. 5 shows the final mounting step of the container. This step consists in opening the so glued blank by exerting an inwardly directed pressure on the cross-folding lines 3 and 4. In so doing, the tongues 5,6,7,8 automatically open inwardly until the toothed portion 16 of the tongues 5,7 engage therebetween, thus retaining the formed bottom.

Fig. 6 shows a second typical starting for obtaining a modification of the right circular cylindrical container provided with six tongues T intended to form in a manner per se known the automatic bottom. This blank is designated by 21 and has also a rectangular zone 22 intended to form the lateral wall of the container. This zone is divided also in three portions A,B,C by two cross-folding lines 23,24. The rectangular zone 22 has on one shorter side thereof, in this case on the portion A, a glueing edge L. Projecting from the upper larger side of the rectangular zone 22 is a strip D divided in three segments D1,D2,D3, each of which is provided with the tongues T, bearing here the reference numbers 25,26,27,28,29,30 intended to form the automatic bottom. This strip is separated from the rectangular zone 22 by a folding line P.

In particular, the strip segment D1 has the tongue 25, the strip segment D2 has the tongues 26,27,28 and

the strip segment D3 has the tongues 29 and 30. All the tongues are separated from the relevant strip segments by curved folding lines S, bearing here the reference numbers 31,32,33,34,35,36. Here again the curved folding lines have the shape of an arc of circle and their radius of curvature correspond to that of the circular cylindrical container to be formed. The folding lines 31-36 in this case are six in number and their length corresponds to 1/6 of the blank length l and therefore to 1/6 of the container circumference.

The tongues 25-30 have a specifical shape adapted to form the automatic bottom and, also in the blank of Fig. 6, these tongues are identical two by two. In particular, the tongue 25 has the same shape as that of the tongue 28, the tongue 26 has the same shape as that of the tongue 29 and the tongue 27 has substantially the same shape as that of the tongue 30. The tongues 25,28 have substantially a triangular shape with curved sides and the tongues 26,29 have substantially the shape of a rhombus with curved sides, divided in two tabs E,F by an inner folding line 37, whereas the tongue 27 has the shape of a circle,the radius of curvature of which corresponds to that of the container to be formed and the tongue 30 has the shape of a circle segment.

Fig. 7 shows the first mounting step of the circular cylindrical container with automatic bottom starting from the blank 21 of Fig. 6. This step consists in folding the strip segments D1,D2,D3, along the folding line P against the rectangular zone 22 and in glueing them thereto by leaving free the bottom tongues 25-30.

Fig. 8 shows the second mounting step of the container starting from the blank 21 of Fig. 6. This step consists in glueing the edge L to the opposite edge of the rectangular zone 22 so as to obtain a closed element and in glueing the tongues 25,28 to the tabs F of the tongues 26,29. Then the circular tongue 27 is folded along the diametral folding line 38 and the semicircular portion G of this tongue to the tongue 30 having the shape of a circle segment which now, after the closed element has been formed, is in front of the circular tongue 27, as can be seen from the cross-section shown in Fig. 9. Once this operation is terminated, the so obtained blank 21 is folded along the cross-folding lines 23,24 to form the container in the flattened condition, as it is put on the market.

Fig. 10 shows the final mounting step of the container. This step consists in opening the so glued blank by exerting an inwardly directed pressure on the cross-folding lines 23 and 24. In so doing, the tongues 26,27 and 29 automatically open and the tongue 30 overlaps the circular tongue 27 in order to impart the necessary dimensional stability to the finished container.

In Fig. 10 the container is viewed from the bottom so as to show the tongues 26 and 29 which overlap the circular tongue 27.

In Fig. 11 the container is viewed from the top, so as to show the tongue 30 having the shape of circular segment which overlaps the circular tongue 27.

In this case the engagement means shown in the blank of Fig. 1 are not provided, but in their place there are the tongues 27 and 30, which impart the dimensional stability to the circular cylindric container once it has been open from the flattened condition to the final tridimensional shape.

Fig. 12 shows a third typical blank for obtaining a container having an elliptical cylindrical shape provided, as in the embodiment of Fig. 6, with six tongues T intended to form in a manner per se known the automatic bottom. This blank is designated by 121 and has also a rectangular zone 122 intended to form the lateral wall of the container. This zone is divided also in three portions A,B,C by two cross-folding lines 123,124. The rectangular zone 122 has on one shorter side thereof, in this case on the portion A, a glueing edge L. Projecting from the upper larger side of the rectangular zone 122 is also a strip D divided in three segments D1,D2,D3, each of which is provided with the tongues T, bearing here the reference numbers 125, 126,127,128,129,130 and intended to form the automatic bottom. This strip is separated from the rectangular zone 122 by a folding line P.

In particular, the strip segment D1 has the tongue 125, the strip segment D2 has the tongues 126,127,128 and the strip segment D3 has the tongues 129 and 130. All the tongues are separated from the relevant strip segments by curved folding lines S, bearing here the reference numbers 131,132,133, 134, 135, 136, which represent the six ellipse segments in which the elliptic cylindrical container to be formed has been divided.

The tongues 125-130 correspond to the tongues 25-30 of the blank of Fig. 6 and are intended to form the automatic bottom. As far as the shapes of the tongues are concerned, they correspond to those of Fig. 6. In particular, the tongue 125 has the same shape as that of the tongue 128, the tongue 126 has the same shape as that of the tongue 129 and the tongue 127 has substantially the same shape as that of the tongue 130. The tongues 125,128 have substantially a triangular shape with curved sides and the tongues 126,129 have substantially the shape of a rhombus with curved sides, divided in two tabs E,F by an inner folding line 137, whereas the tongue 127 has the shape of an ellipse, and the tongue 130 has the shape of an ellipse sector.

The mounting of the container according to Fig. 12 occurs exactly in the same manner as that of the container of Fig. 6, the sole difference being given by the fact that the base of the cylinder in this case corresponds to an ellipse and not to a circle.

In Fig. 13 the elliptical cylindrical container with the formed automatic bottom is shown in perspective view.

Of course, although only three embodiments of the present invention have been described, illustrating a circular cylindrical container formed starting from four and from six strip segments each having a curved folding line and an elliptical cylindrical container formed starting from six strip segments each having a curved folding line, it is apparent that the curved folding lines can be

eigth or more in number.

In Fig. 14 there is diagrammatically shown, for example, the cross-section of an oval cylindrical container and, if in the strip D also a segment having a straight folding line is provided, a cylindrical container having a flat wall portion can be obtained, as illustrated in Fig. 15.

From the foregoing, it can be seen that by means of the blank according to the present invention it is possible to obtain a cardboard container or the like having the generic external shape of a cylinder in the mathematical sense expressed in the introductory portion of the description and provided with automatic bottom, what it was not possible to obtain using the blanks provided with tongues for the automatic bottom till now used.

Claims

1. Container made of cardboard or the like having generally a cylindrical shape and an automatically closing bottom obtained from a blank with bottom tongues (T; 5,6,7,8) having mutually engagement means for automatically closing the bottom during the formation of the container, said blank comprising a rectangular zone (2) having only two folding lines (3,4) perpendicular to the side corresponding to the bottom of the container in order to allow the container to be put on the market in a flattened shape and to be opened in its final tridimensional shape upon the use, a glueing edge (L) on one of the sides perpendicular to the side corresponding to the bottom of the container and intended to form the lateral wall thereof, characterized in that said blank further comprises:

   a strip (D; D1,D2,D3,D4) projecting from the side of said rectangular zone (2) corresponding to the bottom of the container and having at least three curved folding lines (S; 9,10,11,12) from each of which a single one of the tongues (T; 5,6,7,8) (T; 5,6,7,8) intended to form the automatically closing bottom extends such that the bottom tongues (T; 5,6,7,8) have at least a curved side corresponding to the curve folding lines (S; 9,10,11,12), each curved line (S; 9,10,11,12) being curved over its entire length and having an identical or different radius of curvature according to the cross-section of the cylindrical container to be formed,

   - the strip (D; D1,D2,D3,D4) being intended to be folded along a folding line (P) which separates it from the rectangular zone (2) of the blank (1) and to be glued thereto,

2. Container according to claim 1, characterized in that said curved folding lines (S) of the strip (D) are four in number (9,10,11,12) and there are four bottom tongues (5,6,7,8) extending therefrom, said curved folding lines (9,10,11,12) being in the form of arc of circle and having the same radius of curvature as that of the container to be formed.

3. Container according to claim 2, characterized in that the bottom tongues (5,6,7,8) are identical two by two.

4. Container according to claims 2 and 3, characterized in that a pair of bottom tongues (6,8) have substantially a triangular shape.

5. Container according to claim 1, characterized in that said curved folding lines (S) of the strip (D) are six in number (31,32, 33,34,35,36) and there are six bottom tongues (25,26,27,28,29,30) extending therefrom, said curved folding lines (31,32,33,34,35,36) being in the form of arc of circle and having the same radius of curvature as that of the container to be formed.

6. Container according to claim 5, characterized in that four of the bottom tongues (25,26,28,29) are identical two by two, the bottom tongue (27) has a circular shape and the bottom tongue (30) has a segment circular shape having the same radius of curvature as that of the bottom tongue (27) and that of the container to be formed.

7. Container according to claim 1 characterized in that said curved folding lines (S) of the strip (D) are six in number (131,132, 133,134,135,136) and there are six bottom tongues (125,126,127, 128,129,130) extending therefrom, said curved folding lines (131, 132,133,134,135,136) being in the form of ellipse segments.

8. Container according to claim 7, characterized in that four bottom tongues (125,126,128,129) are identical two by two, the bottom tongue (127) has an elliptical shape and the bottom tongue (130) has a sector ellipse shape.

9. Container according to claim 1, characterized in that said curved folding lines (S) of the strip (D) are oval segments.

10. Container according to one of the preceding claims, characterized in that a strip segment having a straight folding line can be provided.

11. Container according to one of the claims 5-10, characterized in that a pair of bottom tongues (25,28; 125,128) have substantially a curvilinear triangular shape.

12. Container according to claims 1 and 5-10, characterized in that a pair of bottom tongues (26,29; 126,129) have substantially a curvilinear rhombic

shape.

Patentansprüche

1. Aus Karton oder dgl. bestehender, im allgemeinen zylinderförmiger und mit einem sich selbsttätig schließenden Boden versehener Behälter, der aus einem Zuschnitt erhalten wird, mit Bodenzungen (T; 5,6,7,8), die Mittel für den gegenseitigen Eingriff zum selbsttätigen Schließen des Bodens während der Bildung des Behälters besitzen, wobei der Zuschnitt aus einer rechteckigen Zone (2) mit nur zwei Faltlinien (3,4), die zur Bodenseite des Behälters senkrecht sind, um den Behälter im flachliegenden Zustand auf den Markt zu bringen und ihn beim Gebrauch in seine räumliche Endgestalt zu öffnen, einer Klebekante (L) auf einer der zur Behälterbodenseite senkrechten Seiten zur Bildung der Behälterseitenwand besteht, dadurch gekennzeichnet, daß der Zuschnitt ferner besteht aus:

   - einem Streifen (D; D1,D2,D3,D4), der von der dem Behälterboden entsprechenden Seite der rechteckigen Zone (2) absteht und mindestens drei gebogene Faltlinien (S; 9,10,11,12) hat, von denen sich jeweils eine der Zungen (T; 5,6,7,8) zur Bildung des sich selbsttätig schließenden Bodens erstreckt, so daß
   - die Bodenzungen (T; 5,6,7,8) mindestens eine gebogene Seite haben, die den gebogenen Faltlinien (S; 9,10,11,12) entspricht, wobei jede gebogene Linie (S; 9,10,11,12) über ihre gesamte Länge gebogen ist und den gleichen Krümmungsradius entsprechend des Querschnitts des zu bildenden zylinderförmigen Behälters hat,
   - wobei der Streifen (D; D1,D2,D3,D4) längs der Faltlinie (P), die ihn von der rechteckigen Zone (2) des Zuschnitts (1) trennt, gefaltet und an diese Zone geklebt wird.

2. Behälter nach Anspruch 1, dadurch gekennzeichnet, daß die gebogenen Faltlinien (S) des Streifens (D) vier sind (9,10,11,12) und vier sich davon erstreckende Bodenzungen (5,6,7,8) vorhanden sind, wobei die gebogenen Faltlinien (9,10,11,12) eine Kreisbogenform aufweisen und denselben Krümmungsradius wie der des zu bildenden Behälters haben.

3. Behälter nach Anspruch 2, dadurch gekennzeichnet, daß die Bodenzungen (5,6,7,8) paarweise identisch sind.

4. Behälter nach Anspruch 2 und 3, dadurch gekennzeichnet, daß zwei Bodenzungen (6,8) im wesentlichen eine Dreiecksform haben.

5. Behälter nach Anspruch 1, dadurch gekennzeichnet, daß die gebogenen Faltlinien (S) des Streifens (D) sechs sind (31,32,33,34,35,36) und sechs sich davon erstreckende Bodenzungen (25,26,27,28,29,30) vorhanden sind, wobei die gebogenen Faltlinien (31,32,33,34,35,36) eine Kreisbogenform aufweisen und denselben Krümmungsradius wie derjenige des zu bildenden Behälters haben.

6. Behälter nach Anspruch 5, dadurch gekennzeichnet, daß vier der Bodenzungen (25,26,28,29) paarweise identisch sind, wobei die Bodenzunge (27) kreisförmig ist und die Bodenzunge (30) die Form eines Kreissektors hat und sie denselben Krümmungsradius wie die Bodenzunge (27) und derjenige des zu bildenden Behälters haben.

7. Behälter nach Anspruch 1, dadurch gekennzeichnet, daß die gebogenen Faltlinien (S) des Streifens (D) sechs sind (131,132,133,134,135,136) und sechs sich davon erstreckende Bodenzungen (125,126,127,128,129,130) vorhanden sind, wobei die gebogenen Faltlinien (131,132,133,134,135,136) die Form von Ellipsensektoren haben.

8. Behälter nach Anspruch 7, dadurch gekennzeichnet, daß vier Bodenzungen (125,126,128,129) paarweise identisch sind, die Bodenzunge (127) eine Ellipsenform und die Bodenzunge (130) die Form eines Ellipsensektors hat.

9. Behälter nach Anspruch 1, dadurch gekennzeichnet, daß die gebogenen Faltlinien (S) des Streifens (D) ovale Abschnitte sind.

10. Behälter nach irgendeinem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß ein Streifenabschnitt mit einer geraden Faltlinie vorgesehen werden kann.

11. Behälter nach irgendeinem der Ansprüche 5 - 10, dadurch gekennzeichnet, daß zwei Bodenzungen (25,28; 125,128) im wesentlichen eine gebogene Dreiecksform haben.

12. Behälter nach Anspruch 1 und nach den Ansprüchen 5 - 10, dadurch gekennzeichnet, daß zwei Bodenzungen (26,29; 126,129) im wesentlichen eine gebogene Rautenform haben.

Revendications

1. Récipient en carton ou analogue, ayant une forme globalement cylindrique et un fond à fermeture automatique, obtenu à partir d'un flan ayant des languettes de fond (T; 5,6,7,8), présentant des moyens d'engagement mutel servant à fermer automatiquement le fond durant la formation du

récipient, ledit flan comprenant une zone rectangulaire (2) ayant seulement deux lignes de pliage (3,4) perpendiculaires au côté correspondant au fond du récipient, en vue de permettre au récipient d'être mis sur le marché sous une forme aplatie et d'être ouvert vers sa forme tridimensionnelle finale lors de l'utilisation, un bord collant (L) sur l'un des côtés perpendiculaires au côté correspondant au fond du récipient et destiné à former sa paroi latérale, caractérisé en ce que ledit flan comprend en outre une bande (D; D1,D2,D3,D4) faisant saillie du côté de ladite zone rectangulaire (2) qui correspond au fond du récipient et présentant au moins trois lignes de pliage (S; 9,10,11,12) incurvées, à partir desquelles s'étend une seule des languettes (T; 5,6,7,8) destinées à former le fond à fermeture automatique, de manière que les languettes de fond (T; 5,6,7,8) présentent au moins un côté incurvé correnspondant aux lignes de pliage (S; 9,10,11,12), chaque ligne incurvée (S; 9,10,11,12) étant incurvée sur toute sa longueur et ayant un rayon d'incurvation identique ou différent d'après la section transversale du récipient cylindrique à former, la bande (D; D1,D2,D3,D4) étant destinée à être pliée le long d'une ligne de pliage (P) qui la sépare de la zone rectangulaire (2) du flan (1) et qui est destinée à être collée sur cette dernière.

2. Récipient selon la revendication 1, caractérisé en ce que lesdites lignes de pliage (S) incurvées de la bande (D) sont au nombre de quatre (9,10,11,12) et quatre languettes de fond (5,6,7,8) s'étendent depuis ces dernières, lesdites lignes de pliage (9,10,11,12) incurvées se présentant sous la forme d'un arc de cercle et ayant le même rayon d'incurvation que le récipient à former.

3. Récipient selon la revendication 2, caractérisé en ce que les languettes de fond (5,6,7,8) sont identiques deux par deux.

4. Récipient selon les revendications 2 et 3, caractérisé en ce qu'un couple de languettes de fond (6,8) présentent une forme sensiblement triangulaire.

5. Récipient selon la revendication 1, caractérisé en ce que lesdites lignes de pliage (S) incurvées de la bande (D) sont au nombre de six (31,32,33,34,35,36) et six languettes de fond (25,26,27,28,29,30) s'étendent depuis ces dernières, lesdites lignes de pliage (31,32,33,34,35,36) incurvées se présentant sous la forme d'un arc de cercle et ayant le même rayon d'incurvation que le récipient à former.

6. Récipient selon la revendication 5, caractérisé en ce que quatre des languettes de fond (25,26,28,29) sont identiques deux par deux, la languette de fond (27) présentant une forme circulaire et la languette de fond (30) présentant une forme circulaire de segment ayant le même rayon d'incurvation que la languette de fond (27) et que le récipient à former.

7. Récipient selon la revendication 1, caractérisé en ce que lesdites lignes de pliage (S) incurvées de la bande (D) sont au nombre de six (131,132,133,134,135,136) et six languettes de fond (125,126,127,128,129,130) s'étendent depuis ces dernières, lesdites lignes de pliage (131,132,133,134,135,136) incurvées se présentant sous la forme de segments d'ellipse.

8. Récipient selon la revendication 7, caractérisé en ce que quatre languettes de fond (125,126, 128,129) sont identiques deux par deux, la languette de fond (127) présentant une forme elliptique et la languette de fond (130) présentant une forme de secteur d'ellipse.

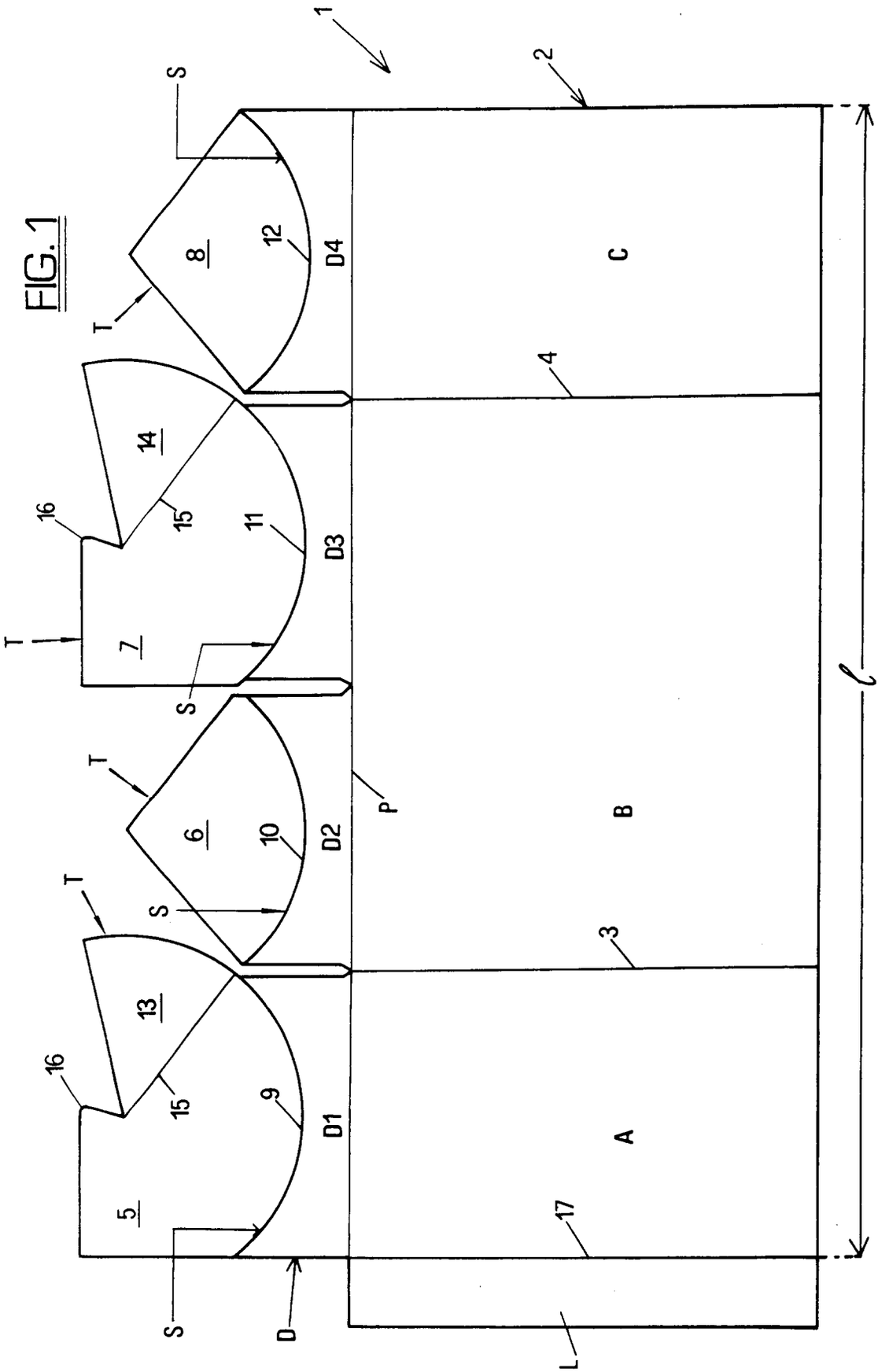
9. Récipient selon la revendication 1, caractérisé en ce que lesdites lignes de pliage (S) incurvées de la bande (D) sont des segments de forme ovale.

10. Récipient selon l'une des revendications précédentes, caractérisé en ce qu'un segment de bande ayant une ligne de pliage droite peut être prévu.

11. Récipient selon l'une des revendications 5 à 10, caractérisé en ce qu'un couple de languettes de fond (25,28; 125,128) présente une forme sensiblement triangulaire curviligne.

12. Récipient selon les revendications 1 et 5 à 10, caractérisé en ce qu'un couple de languettes de fond (26,29; 126,129) présente une forme sensiblement rhombique curviligne.

FIG. 1


1
2
S
T
8
12
D4
C
4
14
16
15
11
D3
7
T
S
T
6
10
D2
P
B
S
T
3
13
16
15
9
D1
A
5
17
S
D
L
l

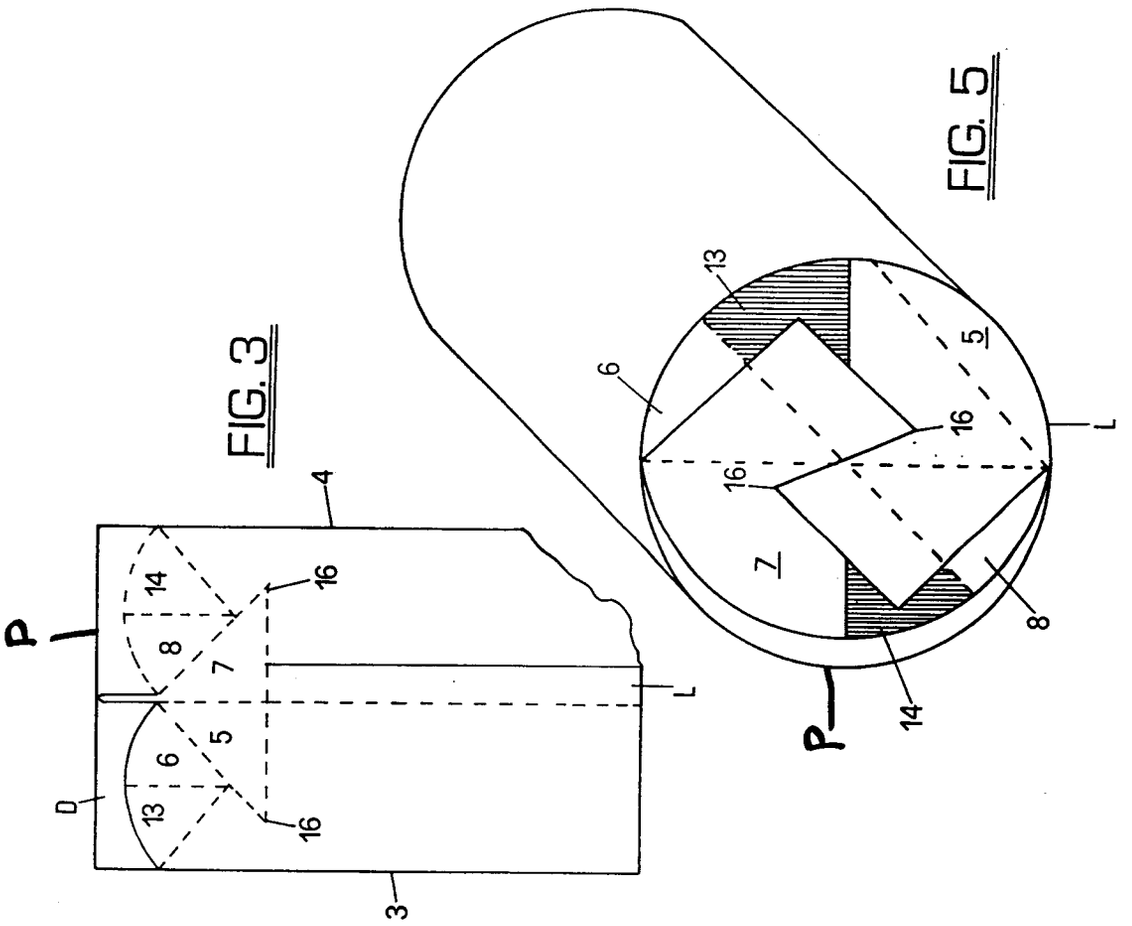


FIG. 3

FIG. 5

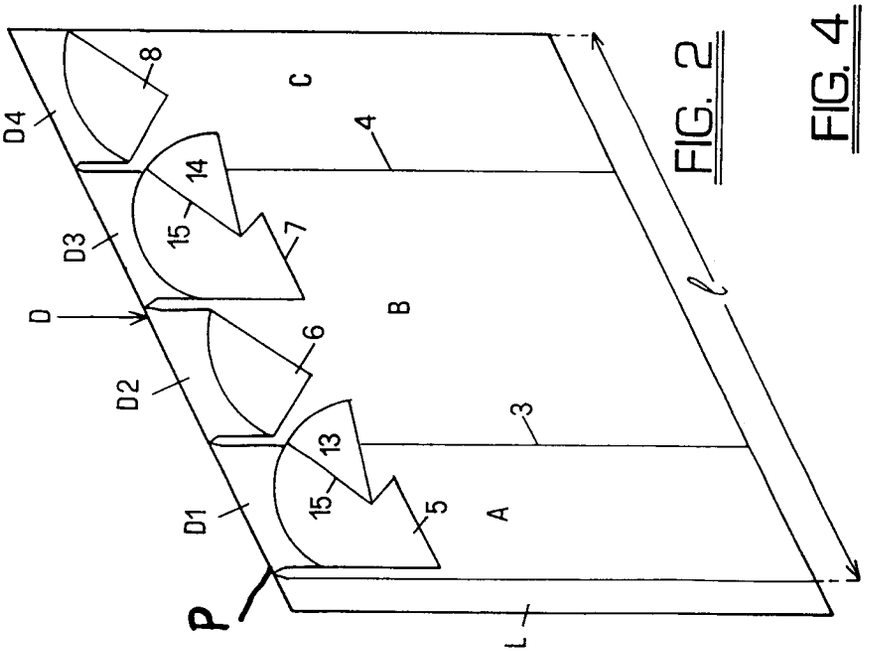


FIG. 2

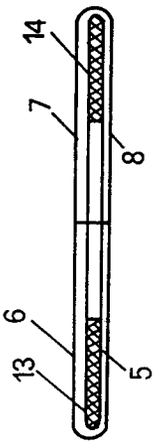


FIG. 4

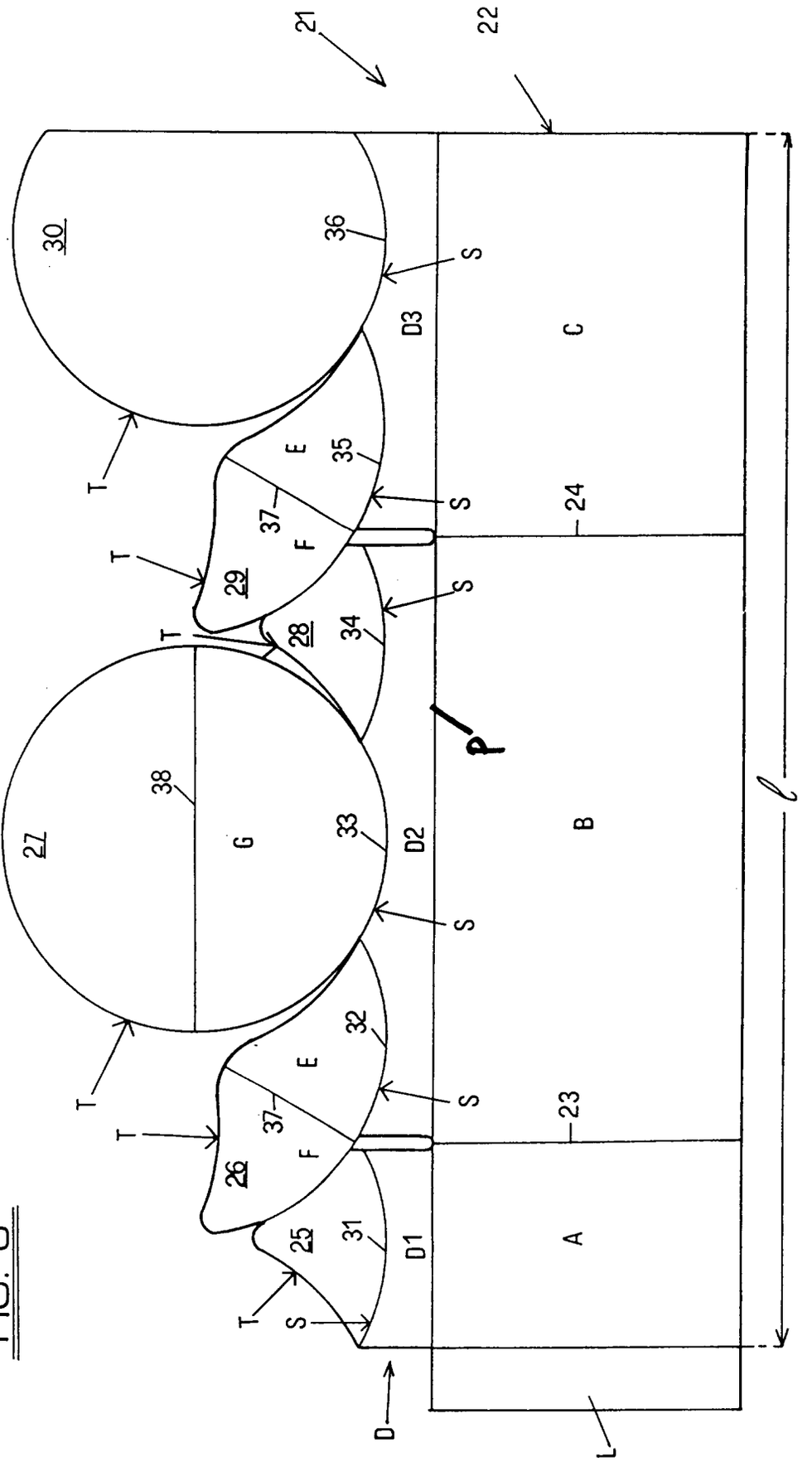

21
22
30
36
S
D3
C
T
E
35
37
F
24
29
28
34
P
27
38
G
33
D2
B
32
23
26
25
31
D1
A
D
L
l

FIG. 6

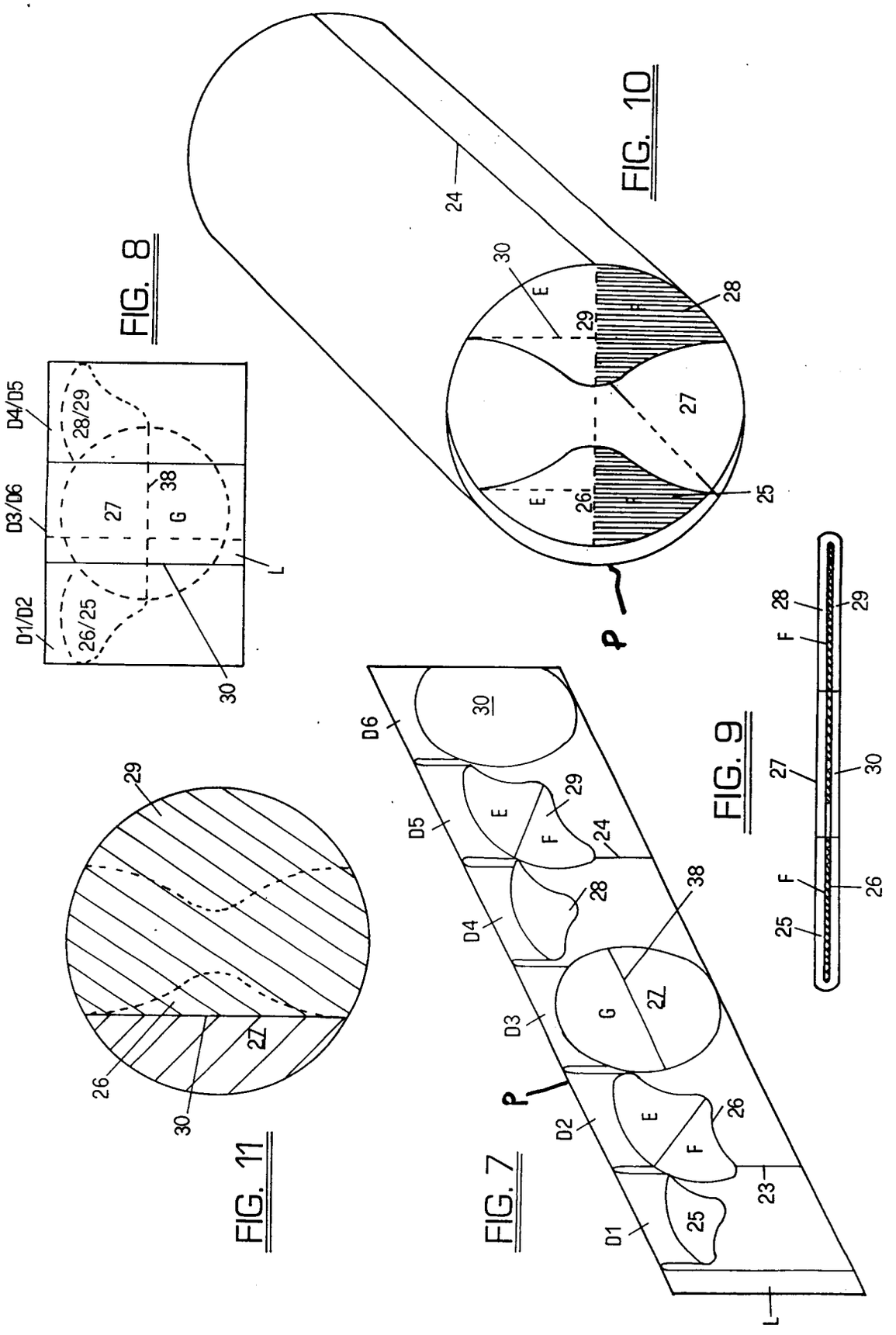

D1/D2
D3/D6
D4/D5
26/25
27
G
38
28/29
L
30
FIG. 8
24
30
E
29
F
28
27
26
E
F
25
P
FIG. 10
D6
D5
D4
D3
D2
D1
30
E
29
F
24
28
38
G
27
P
E
F
26
25
23
L
FIG. 7
28
F
29
27
30
F
26
25
FIG. 9
29
26
27
30
FIG. 11

FIG. 12

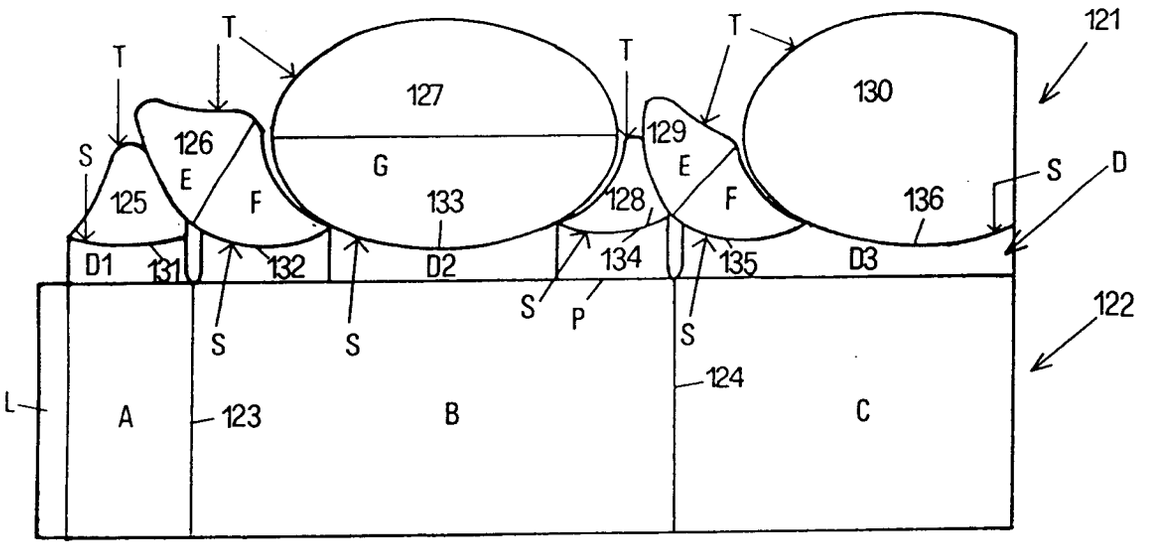
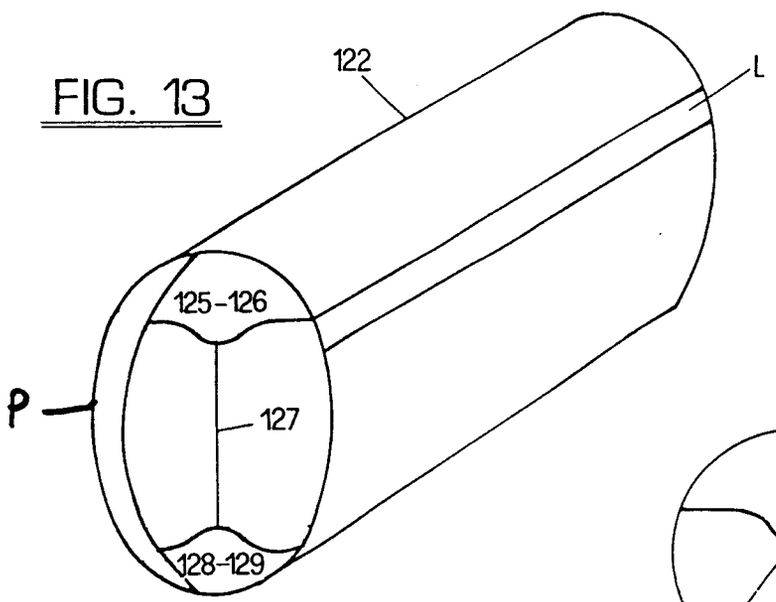


FIG. 13



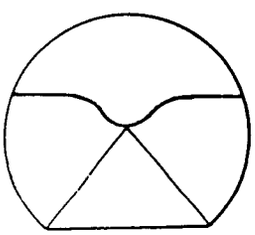


FIG. 15

FIG. 14

