June 28, 1960 W. S. SCHNEIDER 2,942,760

DISPENSING CONTAINER

Filed Aug. 27, 1956

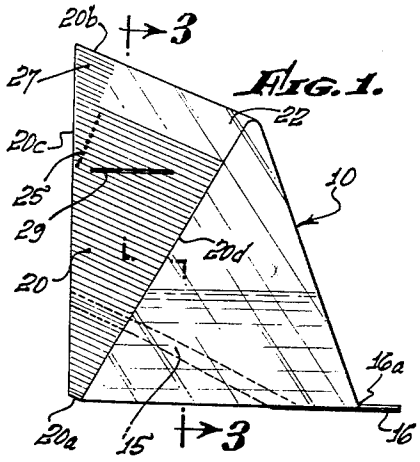

FIG. 1.

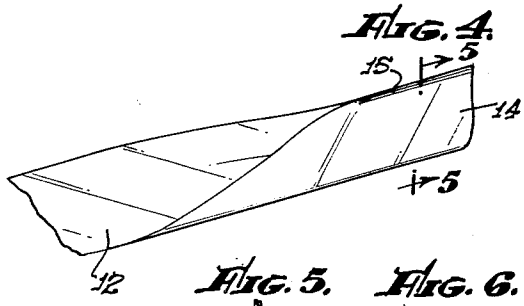

FIG. 4.

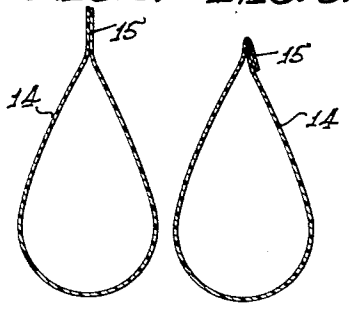

FIG. 5. FIG. 6.

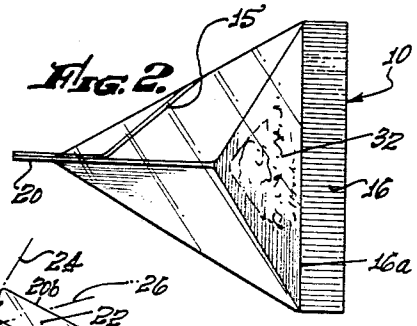

FIG. 2.

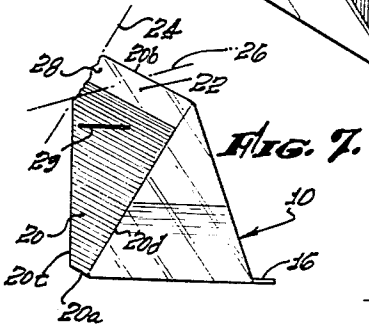

FIG. 7.

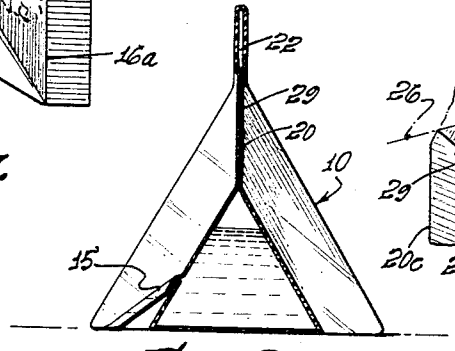

FIG. 3.

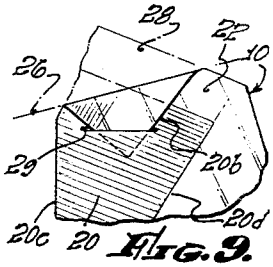

FIG. 9.

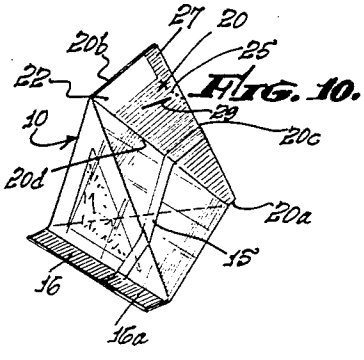

FIG. 10.

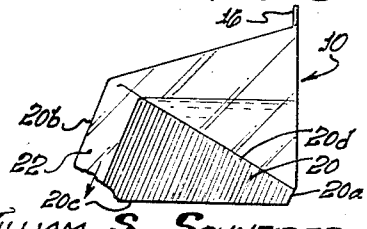

FIG. 8.

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By Knight & Rodgers

ATTORNEYS.

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DISPENSING CONTAINER

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Filed Aug. 27, 1956, Ser. No. 606,349

11 Claims. (Cl. 222—107)

The present invention relates generally to containers for fluid or similar substances, and more especially to flexible containers that are made from thin sheets or webs of paper or plastic materials capable of being sealed together by the application of heat and pressure; such containers being suited to dispensing their contents either all at once or intermittently as may be desired.

Containers made from paper or plastic material and the like have been formed in various ways. For example, two webs of stock can be heat sealed along a portion of their four margins. Another way is first to form the stock into a tubular shape by bringing marginal portions along opposite edges into overlapping relation and then heat sealing the overlap to form a longitudinal seam. The last step is sealing the two ends in a common plane to close the container.

These and similar methods of forming the completed container resulted in a container that is comparatively thin and flat. Methods such as the one first cited are preferred because they utilize stocks that are heat sealable on one side only. It would be obviously advantageous if a larger volume or quantity of material could be placed within a container without increasing the amount of material used. It is evident that the flat shape of the container requires a large amount of material for a given volume enclosed in comparison with a finished container having greater thickness so that its three dimensions are more nearly equal. For greater economy of material a spherical or cubic shape should be more nearly approached.

Relatively thin, flat containers have another disadvantage in the case of liquid or highly fluid contents which are not entirely removed from the container at one time. If a liquid substance is not entirely removed, it runs out of the open container when it is laid down. Merely to stand the container on one end offers no sure solution of the problem, since the container rests on a thin edge and is not in a stable position. It can easily fall over, allowing the contents to leak out and be wasted.

Recognition of these several difficulties has brought about a package in which the stock is formed into tubular shape by bringing marginal portions along opposite edges into overlapping position, and then heat sealing the overlap to form a flat longitudinal seal. The end seals are then placed in planes disposed at 90° to each other, thus enabling the natural stresses produced in the walls of the container to spread apart the walls and increase the volume of material which may be placed within a container using a given area of material. The container resulting from arranging the end seals at 90° to each other is a tetrahedron having four triangular faces of the same size. However, although capacity has been increased, there are still several shortcomings in these packages which have not been eliminated.

A primary shortcoming of a package formed by the several steps just enumerated is that the manufacture

is limited to using stock which is sealable on two sides. This is a necessary characteristic of the stock used because of the nature of the overlapping longitudinal seam. This overlapping seam is formed by bringing together in sealing relation opposite surfaces of the web of material from which the tubular member is made. This characteristic of the container is undesirable because the greater proportion, probably as much as 80–90%, of the materials commercially available for making containers seal on one side only.

One of the most serious of these shortcomings is what is commonly termed "wicking" in the trade. To understand this problem, it should be realized that the web or stock from which these containers are made is not ordinarily homogenous. Instead, it consists of two or more films or layers of different materials which overlie one another and which serve different purposes. For example, the outer coat may make the material sealable and moisture resistant while one of the inner layers, contributing thickness and stiffness, may be moderately absorbent. In this way different combinations of films may be laminated in order to achieve different types of stock from which containers may be made. It is usually true that one of the inner layers is more or less absorbent and when in contact with a liquid slowly absorbs some of the liquid contents of the container. This action of absorbing moisture or "wicking" is always possible when the overlapping seal is used because the moisture barrier is broken at the cut edge of the stock on the inside of the container exposed to the liquid contents. Eventually the stock absorbs enough liquid that it softens or disintegrates, causing the seal to break at this point and the contents of the package can leak out.

A shortcoming of substantial importance to the advertising man is the fact that the present basic container of the tetrahedron shape does not have any readily identifiable top or bottom. All sides are alike; and when set down on a table the container may be placed by chance on any one of these faces.

Having no definite bottom, no attempt can be made to place the printed matter upon the package in a position that enhances the appearance of the package when it is resting on a surface. Since printed material may as likely be upside down as right side up, because all four sides of the tetrahedron are alike, it has been the practice to use random printing for any material which appears upon the final package. If the package were provided with means which would always identify a particular side as being the bottom, the user would by casual inspection determine this fact and normally set the package down or use it in such a way that this one side is considered as the bottom of the package. Under these circumstances, position printing could be used to place appropriate printed material upon the stock from which the container is made, with the knowledge that the printed material would always appear in the proper aspect with relation to the bottom of the completed container.

It will be realized that one of the corners of the tetrahedron is always elevated by virtue of its shape; but nothing has been applied to a container of this shape to take advantage of this fact for purposes of dispensing the contents. Known packages have not been provided with any opening device or pouring channel associated with an elevated portion of the package to facilitate dispensing the contents or to prevent unwanted leakage when set down.

Therefore, it becomes a general object of my invention to form a container from thin, flexible material in such a way that the volume of material enclosed by a given area of material used may be increased in comparison with known styles of thin packages.

An object of the invention is to provide a container of the character described that has no cut edge of material exposed to the contents and is not subject to "wicking" or the absorption of liquid from the contents.

Another object of the invention is to produce a container in the shape of a tetrahedron having characteristics that cause the user normally to set the container down on the same side so that printing of the container walls is normally in a given position.

It is also an object of my invention to make a container suitable for dispensing portions of the contents at intervals by controlling the opening of the container to a predetermined location that can be kept elevated to prevent leakage of the contents when the container is set down after the seal is broken.

It is a further object of my invention to provide a dispensing container of the above characteristics which permits closing the container without the use of heat in such a manner as to provide a reasonably effective seal against loss of the contents.

Another basic object is to provide a container having the above advantageous characteristics that is adapted to manufacture from numerous materials that can be heat sealed on one side only.

The above objects of my invention have been attained in a preferred form of container which is essentially a tube of thin, flexible material closed by seals at each end disposed at an angle to each other. In order to use a material which is sealable on one face only, the flat web of stock is folded into a tube with the inside faces of marginal portions at opposite edges of the web in face-to-face relation. The marginal portions are then heat sealed together inside face to inside face to form a seam extending longitudinally of and projecting away from the tube. A tubular member of proper length may be cut from the web at this stage or after the end seals are placed. The projecting longitudinal seal is folded over against the tube and held in that folded position while the end seals or closures are made in planes angularly disposed with respect to each other. When these end seals are substantially 90° to each other, the resulting container is a tetrahedron having four triangular faces of equal size. Any one of these faces is of sufficient size to provide a base upon which the container may rest in a stable position. The stock which is heat sealable on one side only is thus utilized so the cut edges are all on the outside of the container and are nowhere exposed to the contents. The folded longitudinal seal extends across each end seal at a position intermediate the lateral edges of the end seal. An important characteristic of the package is that if the longitudinal seal is held in a folded back position while the end seals are being placed, the natural stresses in the package thereafter hold the longitudinal seal in a substantially flat folded position close to or in contact with the wall of the container. If the material used is heat sealable on two sides, it is apparent that the longitudinal fin can be sealed down with non wicking and other advantages within the scope of my invention.

At one end, the tube is closed by a broad sealed area within which is formed a pouring channel which extends into but not through the sealed area. It is located adjacent one lateral edge of the sealed area; and a row of spaced perforations is arranged to intersect the outer end edge of the broad sealed area. The row of perforations extends toward but stops short of the pouring channel and provides a means for controlling the direction or location of tearing the container in order to break the seal and open the pouring channel for the purpose of dispensing the contents. This pouring channel is so located that it is at an elevated position when the container rests upon a face at the opposite side of the container preventing the contents from leaking out.

When it is desired to preserve the contents for a short time, it is desired to close this channel. A slit is provided adjacent the pouring channel into which the corner of the container may be inserted after making a fold across this channel. This fold closes the channel and holds the contents against leakage so that they may be dispensed at a later time.

How the above objects and advantages of my invention, as well as others not specically referred to herein, are attained will be more readily understood by reference to the following description and to the annexed drawing, in which:

Fig. 1 is a side elevation of a container embodying a preferred form of my invention;

Fig. 2 is a plan view thereof;

Fig. 3 is a vertical section on lines 3—3 of Fig. 1;

Fig. 4 is a perspective view showing how a sheet of material is folded to form a tubular member;

Fig. 5 is a transverse section of a tubular member on line 5—5 of Fig. 4;

Fig. 6 is a view similar to Fig. 5 but showing the sealed portion folded over against the unsealed portion;

Fig. 7 is a side elevation of the container with a portion torn off to open the pouring channel;

Fig. 8 shows the container of Fig. 7 tipped in order to dispense the contents thereof;

Fig. 9 is a fragmentary side elevation of the upper corner of the container at the pouring channel showing how the corner may be folded and inserted into a slit adjacent the pouring channel; and

Fig. 10 is a perspective view of a modified form of my invention.

Referring now to the drawing, there is shown in Figs. 1 and 2 a completed container embodying my invention. The construction and use of this container is obvious from, and most easily described by following through, the several steps involved in its manufacture, consequently it will be described in this manner.

The container may for some purposes be considered as being made from a tube of plastic material, because in some of its aspects, my invention is independent of how the tubular member is produced. However, as will be explained, the preferred embodiment is formed in a particular manner to permit the use of stock that is sealable on one face only. This makes it possible to use the widest range of materials, including those which are sealable on one or both faces.

There is shown in Fig. 4 the end of a flat web **12** of stock which is a thin, flexible material that can be sealed on one face only, in this case the face that is uppermost in the drawing. The usual materials are laminated or coated, and may include paper, synthetic resin or plastic substance, a metal foil, or the like in various combinations. As is well known in the art, the stock normally is supplied in a roll, not shown in the drawings, which is unrolled to provide a continuous web, the terminal portion of which is shown at **12**. In order to form a tubular member as at **14** from the web **12**, the two longitudinal edges of the web are brought together at **15** above the web so that the inside faces of marginal portions adjacent opposite edges are in contact in what is referred to as face-to-face relation. In this position, marginal portions of the uppermost face of the strip **12** are brought into mutual contact. This is done when the material is one which is sealable only at one side or face. Next the marginal portions are heated under pressure in order to effect a bond between them and produce a longitudinal seam **15**. Thus, the marginal portions of the web are sealed together inside face to inside face. Folding and sealing means are not shown in the drawings, since they form no part of the present invention. Means for forming the tubular member from a web and for effecting the seal longitudinally of the tube are well known in the art and any suitable design of equipment for this purpose may be employed.

At a suitable stage in the operation, the web may be cut off at any desired point, resulting in a tubular member **14** of a desired length which appears in cross-section as in Fig. 5.

On the tubular member **14** made as described, the longitudinal seam **15** projects outwardly away from the tubular wall and in this position presents an obstacle to subsequent steps in the formation of the container embodying my invention. This obstacle is eliminated by folding over the seam **15** at or near its base and holding it flat, as previously described, against an unsealed portion of the tubular member, as shown in Fig. 6. The sealed portion of double thickness now lies flat against one of the sides or walls of the tube and as a result the tubular member **14** can be handled in subsequent operations as easily as if made with the conventional overlapping seam.

My invention is not necessarily limited in all respects to forming the tubular member in this manner; though the container so constructed is believed to be novel. The manner of forming seam **15** eliminates any contact between a cut edge of the stock and liquid contents. The moisture barrier is continuous.

The tubular member has been formed with the sealing face inside. Consequently each end of the tube can be closed by bringing opposing marginal portions of the tube at the end together with the inner sealing faces in contact and heat bonding them to form a flat seal, as at **16** in Figs. 1 and 2. The seal or closure at **16** closes one end of the tubular member and is preferably of more or less uniform width, being only at least wide enough to insure that the two faces of the sheet are securely bonded together.

It is at this stage in the formation of the container that it normally is filled. The contents are ordinarily a liquid or a granular material, either of which is sufficiently fluid that it can flow out of a small opening in the container. The contents of the container **10** are assumed in this example to be liquid; but it will be appreciated that dry substances having similar fluid characteristics may be equally well used and that, in general, the exact nature of the contents of the container is not limitative upon the present invention.

After the tubular member **14** is filled, the other end is closed in a manner similar to the first and by bringing together marginal portions of the walls of the tube at the open end thereof and sealing them together by the application of heat and pressure. This produces the seal indicated generally at **20** in Fig. 1. It will be noted that the area of the seal **20** is generally wider compared with the seal **16** at the other end. Consequently, the seal **20** is referred to as being a broad sealed area.

As may be seen from Figs. 1 and 2, each of the seals **16** and **20** lies essentially in a single plane; and the planes of the two sealed areas are disposed at substantially 90° with respect to each other. As a result, the stresses inherent in the walls cause the container to assume the form of a tetrahedron having four triangular faces, all of the same shape. It will be evident that the triangular side walls of the package are spaced apart in such a way that the cubic contents of the container thus formed is much greater than if the seals **16** and **20** were in the common plane, thus producing a thin flat package. It is not necessary that the planes containing seals **16** and **20** be disposed at exactly 90° with respect to each other; and there is shown in Fig. 10 a container in which the end seals are substantially in planes at 45° to each other, the planes of the two end seals are disposed at an acute angle of less than 90° with respect to each other in order to obtain an increase in the area of two of the triangular faces, the other two being correspondingly smaller.

Longitudinal seam **15** is located to lie on two adjoining faces of the container and to cross the end seals **16** and **20** at some position intermediate or between the lateral edges of the end seals or closures. The longitudinal seal is held flat in a folded over position during the placement of end seals. Thereafter the natural stresses in the package hold this longitudinal fin in a substantially folded position.

Figures 1 and 2 show a preferred form of my package. It should be pointed out that the natural stresses that hold the longitudinal seal in a folded position decrease as the relative angle of the end seals decrease from 90° to 0°. Under 45° this stress is not sufficiently effective. Angles in the range of 60° to 90° are most desirable. In the preferred package the folded longitudinal seal extends across each end seal at a position between the lateral edges of the end seal. In a less preferred form one special case can exist where an end seal is so placed that the longitudinal fin is at one of the lateral edges of that end seal. In this position the longitudinal fin lifts easier and can become an obstacle to the user of the package. Stiffer packaging material contributes to better definition of package contours and better use of natural package stresses.

Considering the broad sealed area **20**, it will be noted that it is bounded by two parallel lateral side edges **20***a* and **20***b*. These lateral edges are at the folds in the sheet material. Each edge intersects the common apex of three of the four triangular sides of the container. Consequently either one of these lateral edges can be maintained at the highest part of the container when resting on a surface by setting the container down so that it rests on its fourth triangular side, which is the side non-contiguous to the particular lateral edge elevated. Because one of the edges of the broad sealed area can be thus elevated by selection of the face upon which the container rests, it is advantageous to locate pouring channel **22** adjacent to such lateral edge, or adjoining it, as shown in Figs. 1 and 7. This pouring channel is a passage which extends into but not through the broad sealed area and communicates freely at one end with the interior of the container. The other end of the channel is closed by seal **20**; but when open, the channel provides means for dispensing the contents of the container.

With this arrangement, if the uppermost corner of the completed package is removed by tearing or cutting along a line generally indicated at **24** in Fig. 7, the outer end of the pouring channel **22** is opened and the contents of the container may be dispensed in a controlled manner by tipping the container as shown in Fig. 8. If the contents are only partially removed and it is desired to retain the remainder within the container for a time, the container is set down as shown in Figs. 1 and 7. The pouring channel **22** is now elevated above the level of the contents and consequently the contents cannot leak or accidentally pour out through the open pouring channel.

Materials of the character used for these containers are tough and hard to tear along a given line, and it may not be convenient to have a scissors or other implements for cutting the container along a line as at **24**. Accordingly, it is preferred to provide a row **25** of spaced perforations which provide a zone of weakness along which a tear can be started by manually shearing the material along the line of the perforations. This line of perforations intersects the end edge **20***c* of the broad sealed area and is directed toward the end of pouring channel **22** but stops short of the channel so as not to interfere with the seal at this point. A controlled tearing of the container can be easily accomplished by starting the tear at the intersection of the row perforations **25** with edge **20***c*. The tear is directed by the row of perforations so that it continues on across the channel, with the result that a triangular piece at **27** of the

broad sealed area is torn off and the pouring channel is opened without the use of any implement or tool.

After the contents of the container are partially removed, it may be desired to store the unused portion in the container for some time; and for this purpose it is desirable to be able to close pouring channel **22**. This may be accomplished by folding the uppermost corner **28** of the container over upon itself along a line such as is indicated at **26**, the fold being located at any place suitable to close the pouring channel. In order to retain the corner **28** in this folded over position, there is provided slit **29** at a position near the outer end of the pouring channel and so located as to receive corner **28** in the manner shown in Fig. 9. If the corner **28** is folded over along line **26** and then creased between the fingers, the corner may then be easily inserted in slot **29** to hold it in folded position. Both folding line and slot can be indicated by positioned printing on my type package. The pouring channel is closed by the fold in the container wall and there is provided a reasonably effective seal against loss of contents in the event that the container is accidentally tipped over.

It will be noted from Fig. 1 that the end edge **20***c* of the broad sealed area is not parallel to the opposite side **20***d* which represents the inner boundary of the sealed area adjacent the interior space of the container. Although these two sides may be made parallel if desired, it will be appreciated that a saving in material can be effected by inclining the two sides with respect to each other. The edge **20***c* represents the cut edge where the original strip of material is severed to cut off a tubular member from the strip as it is formed. The location of pouring channel **22** makes it desirable that sealed area **20** be of maximum width for only a portion of the distance between lateral edges **20***a* and **20***b*. By placing pouring channel **22** adjoining the lateral edge **20***b*, the side of **20***c* of this sealed area can be inclined relative to side **20***d* so that edge **20***a* is shorter than edge **20***b*. In addition to saving material, this arrangement of cut edge **20***c* makes it easier to advantageously locate the row of perforations **25**.

The broad sealed area and the pouring channel make it self-evident to one handling the container that the top of the package is the apex adjoining the pouring channel. As a result, people normally set the container down on the opposite face, in the position of Figs. 1 and 2. As a result, printing can be applied to one or more of the upper three faces, as at **32** in Fig. 2, with the assurance that it will ordinarily be viewed in a given aspect. Thus lines of type parallel to the edge **16***a* of the sealed area will be horizontal and read accordingly. This characteristic of the container permits the use of position printing on the web of stock at positions predetermined to become a side of a container. The container has one side that appears to be properly the bottom and so printing can be applied to take advantage of that fact.

Two sides can be enlarged by making end seals **16** and **20** in planes at an acute angle to each other, typically in the range of 45° to 75°. This emphasizes one of the larger sides as the bottom. It also gives a distinctive appearance to the container; and it may be combined with printed designs for decorative effects. Fig. 10 shows this modified form of the invention in which the end seals are at about 45° to each other.

From the foregoing description, it will be apparent that various departures from the exact shape of construction of a container as described above, may occur to persons skilled in the art and that departures may be made within the spirit and scope of my invention. Accordingly, it is to be understood that the foregoing description is considered as being illustrative of, rather than limitative upon, the appended claims.

I claim:

1. A flexible dispensing container for liquid, granular or other fluent substances comprising a web of thin flexible heat sealable material folded into a tube with marginal portions of the web sealed together inside face to inside face and folded over toward an unsealed portion to form a substantially flat seam extending longitudinally of the tube, and opposing marginal portions of the tube at each end sealed together and disposed substantially in planes at an angle of more than 45° relative to each other to form a four-sided container having triangular sides, the longitudinally extending tube-forming seam extending across each of the angularly displaced end seals in a zone between the lateral edges of each of said end seals and traversing a portion of the surfaces of two adjoining triangular sides of the container.

2. A container as claimed in claim 1 having four similar sides, each of said sides comprising a triangular member, and indicia provided on at least one of said triangular members to distinguish said one member from the others of said members.

3. A container as in claim 1 in which one end has a broad sealed area, and a pouring channel adjacent one lateral edge of the broad sealed area, said channel communicating with the interior of the container and extending into but not across the broad sealed area and said channel being at the top of the container when the container rests on a side opposite the channel.

4. A container as in claim 3 in which a row of spaced perforations intersects the outer end edge of the broad sealed area and extends toward but terminates short of the pouring channel, whereby a portion of the container can be torn off to permit discharge of contents through the pouring channel.

5. A container as in claim 3 which also includes means removable to form an exit for the pouring channel and in which the broad sealed area has a slit at a position adjacent the pouring channel to receive the corner of the container adjacent the exit of the pouring channel when folded over against the sealed area, whereby the pouring channel can be closed.

6. A flexible dispensing container for liquid, granular or other fluent substances comprising a tube of thin, flexible material having at each end opposing marginal portions of the tube sealed together inside face to inside face, at least one of said ends having a broad sealed area, and a pouring channel adjacent one lateral edge of the broad sealed area, said channel communicating with the interior of the container and extending into but not across the broad sealed area, and means removable to form an exit for the pouring channel; said broad sealed area having a slit at a position near the pouring channel to receive a portion of the container adjacent the exit of the pouring channel when folded over against the sealed area and along a line across the channel to close the pouring channel.

7. A flexible dispensing container for liquid, granular or other fluent substances comprising a web of thin, flexible, laminated material heat sealable on one face only and folded into a tube having its inside face joinable to itself by the application of heat and pressure, the tube having a longitudinally extending seam consisting of marginal portions of the web heat sealed together inside face against inside face and then folded over against the outside face of an unsealed portion of the tube, and a closure at each end of the tube, consisting of opposing marginal portions of the tube heat sealed together inside face against inside face, the closures being substantially flat and in planes disposed at substantially a right angle to each other to produce a four-sided container, the longitudinal tube forming seam extending entirely across the closure at each end of the container at a position between the lateral edges of each of said closures.

8. A flexible dispensing container for liquid, granular or other fluent substances comprising a tube of thin, flexible material having at each end opposing marginal portions of the tube sealed together inside face to inside

face, the seal at one of said ends being a broad sealed area and disposed substantially in a plane at an angle of substantially 90° with respect to the plane of the seal at the other end to form a four-sided container; and a pouring channel communicating with the interior of the container and extending into but not across the broad sealed area, said channel being adjacent one lateral edge of the broad sealed area at the top of the container when the container rests on a side adjacent to the other lateral edge of the broad sealed area, and means removable to form an exit for the pouring channel; and said broad sealed area having a slit at a position adjacent the pouring channel to receive the corner of the container adjacent the exit of the pouring channel when folded over against the sealed area, whereby the pouring channel can be closed.

9. A flexible dispensing container for liquid, granular or other fluent substances comprising a tube of thin, flexible material having at each end opposing marginal portions of the tube sealed together inside face to inside face, the seal at one of said ends being a broad sealed area and disposed substantially in a plane at an angle of substantially 90° with respect to the plane of the seal at the other end to form a four-sided container; and a pouring channel communicating with the interior of the container and extending into but not across the broad sealed area, said channel being adjacent one lateral edge of the broad sealed area at the top of the container when the container rests on a side adjacent to the other lateral edge of the broad sealed area, and said broad sealed area having a row of spaced perforations that intersects the outer end edge of the broad sealed area and extends toward but terminates short of the pouring channel, whereby a portion of the container can be torn off to permit discharge of contents through the pouring channel.

10. A four-sided container made from a single sheet of thin, flexible, laminated material having one heat-sealable and moisture-resistant face, no cut edge of such material being exposed to the contents of such container, opposing longitudinal edge portions of said sheet being heat-sealed together inside face to inside face to form a tube having a longitudinally extending seam and presenting an uncut, heat-sealable and moisture-resistant inner surface, opposing marginal portions of the tube at each end being heat-sealed together to form end seals disposed at planes at an angle of between about 60° and 90° to each other to form a container having four substantially triangular sides, said longitudinally extending seam being folded toward the outer surface of the container and extending across each of the angularly displaced end seals and traversing a portion of the outer surface of two adjoining, triangular side of the container, whereby the container tends to hold said longitudinal seam in substantially flat, folded position close to the outer surface of the container.

11. A four-sided container as stated in claim 10, in which one of the end seals is broader than the other end seal and provides a broad sealed area, a pouring channel adjacent one edge of said broad sealed area, said channel communicating with the interior of the container, and means including a row of spaced perforations in said broad sealed area to facilitate removal of a portion of said broad sealed area to permit discharge of the contents of said container through said pouring channel.

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Disclaimer

2,942,760.—*William S. Schneider*, Los Angeles, Calif. DISPENSING CONTAINER. Patent dated June 28, 1960. Disclaimer filed May 28, 1962, by the assignee, *Packaging Frontiers, Inc.*

Hereby enters this disclaimer to claims 1, 7 and 10 of said patent.

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