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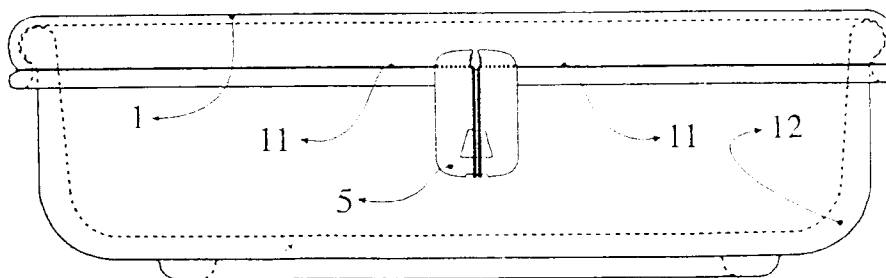
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(54) Device to seal containers

(57) It includes a dish shaped cover (1) that incorporates a peripheral slot (3) around its external surface designed to house the cover tight application means to the mouth of the container, consisting said means of a metal cord element (11) housed as an incomplete circumference with its ends joined at a side area of the

cover retained by a metal plate (5) forming a slot (8) at one of its ends for the passage of the two ends of the cord element, which are fastened through the action of areas of curvature incorporated into the cord element and by the pressure of a tab (6) formed by the plate material itself holding tight the ends of the cord element.

FIG. 11



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Description

This Utility Model refers to a device to seal containers. This Utility Model is a perfected version of Utility Model number 9302666.

The containers or packages used for the commercial distribution of canned food, bread spreads, pate de foie type spreads, chocolate flavored spreads, ice creams, marmalades, etc, are covered and sealed in a number of ways that we may consider standard, but there are a number of containers such as those made of ceramic, fired clay, chinaware, etc. that, due to their variable features could not be certifiably covered and sealed unless they are covered up using the retractable cover system. This Utility Model solves the above problem, due to which the manufacturers of this type of containers shall have further applications for their products and foodstuff manufacturers shall have the benefits of a new format. It is furthermore of benefit to the industry generally.

This method allows covering containers incorporating substantial $\pm$ variations in their dimensions. To understand this point let us illustrate the difficulty of properly covering ceramic and chinaware containers. This is due to the fact that in their manufacturing process (that of the ceramic and chinaware containers) come into play a number of contractions and deformities due to the composition and variation of their raw materials, the level of humidity, the moulding stage, the drying stage and the oven firing stage. Throughout the whole manufacturing process the size of a ceramic item may contract up to 8%, whereas chinaware may contract by up to 18%. These contractions are difficult to control and therefore the containers do not maintain an accurate finish, despite being manufactured in series, being it therefore impossible to guarantee the level of tolerance, roundness and flatness of their openings that would allow their sealing using already known methods.

The principle of the Utility Model is based on a wire, cable, cord, etc. which is pulled taught around a cover made of flexible material, which outside is fitted with a slot to house said wire and with a metal device or fastening located at its end points, which locks and maintains the pressure applied when the container is sealed. It can furthermore be manually loosened or opened, without requiring the help of any tools.

This Utility Model has been mainly devised to cover containers made of ceramic, fired clay, chinaware, glass, metal, cardboard, plastic, etc., of a size similar to that of a water glass or cup, that is to say, a container of the type normally used for individual portions and also for slightly larger, such as family size. It is aimed, inter alia, to the manufacturers that package foodstuffs such as: ice creams, animal based bread spreads, pate de foie type products, marmalades, canned food, mayonnaise, nuts, precooked meals, etc., as well as for industry generally.

For a better understanding of the foregoing, for the

sole purpose of supplying an example, and without its constituting a limitation in any way whatsoever, the attached drawings illustrate a practical method of execution:

5 Figure 1 shows the theoretical scheme of the container sealing system.

Figure 2 features the profile of the injected (polyethylene, polypropylene, nylon, etc.) circular cover where item number 3 is an external slot or opening around the cover which purpose is to house a stainless steel wire or cable (it may be made of any material) to tighten up and lock the cover once it has been placed on the container. Item number 1 represents a section view of the cover whereas item number 4 is the rim that on one side seals up against the container and on the other prevents the wire coming off the slot, and item number 2 is a cavity shaped to fit the edge of the container.

Figure 3, sealing or locking plate number 5, made of stainless steel, that locks and seals the wire surrounding the previously mentioned cover once said wire has been pulled taut with the help of a machine that controls the tightening, cuts the wire and crushes tab number 6 in order to maintain wire tension around the cover. Item number 8 represents a slot with non parallel sides, which shall enable the wire to be threaded and throttled around the cover to seal it. The purpose of this slot number 8 is also to enable the action of loosening wire tension whenever the container cover is to be unsealed.

Figure 4 represents a section view of the plate, item number 7 is a bellmouth shape that enables the wire to be pulled taut and number 6 is the tab that is to be bent over or crushed by the sealing machine upon the ends of the sealing wire.

Figures 5, 6, 7 and 8 show the curves of the wire upon the metal cover, in order to maintain cover pressure applied at all times. Item number 11 represents the wire, number 1 a section of the plastic cover and number 6 is a tab that ensures that the wire curve at point 10 of figure 8 remains closed in order to prevent the wire from sliding losing the tightening pressure that keeps the cover locked.

Figure 9 represents the surface of the locking cover with the wires threaded and pulled taught. Slot number 8 has allowed the sealing cord to be easily threaded due to the fact that it is a slot, rather than a hole. This slot is also important at the time of unsealing the cover as the action of grabbing the plate or cover with two fingers and turning it ninety degrees will allow wire tension to be freed. With the rotation of the plate, as shown in figures 12, 13, 14 and 15, the wire is unloaded through the slot and the circumference of the sealing cord previously applying pressure upon the cover enlarges its perimeter by a length equal to that of points number 9 and 10 of figure 9.

Figure 10 represents a section view of a section of the container as well as the position of the locking element or terminal. Item number 11 is the wire, number 1 is the cover section, number 5 is the plate or locking

element and item number 12 is a section view of the container.

Figure 11 shows the container covered and sealed using the applications means duly adjusted to the mouth of the container.

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Figures 12 and 13 show the initial action to be exerted manually to open up the cover.

Figures 14 and 15 are plan view representations showing how the steel wire loosens up to enable the cover to be opened. (The wire and the plate or tag may now be disposed of). The container is then unsealed and the cover may be easily taken off and put back on again.

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Within its essentiality the Model may be put into practice in other shapes and sizes of execution varying in detail from that depicted as an example in the foregoing description, in respect of which it will also be afforded the protection claimed. It may, therefore, be manufactured in any shape and size and using the most suitable materials, given that any and all such variations are duly covered by the spirit of the claims.

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Claims

1. Device to seal containers, specially ceramic containers, characterized by incorporating a generally dish shaped cover made of a slightly flexible material and means to enable its tight application to the mouth of the container.
2. Device to seal containers, as per claim 1, characterized because the cover has a peripheral slot around its external surface, designed to house the tight application means.
3. Device to seal containers, as per claim 1, characterized because the means enabling the tight application of the cover to the mouth of the container consist of a cord like element, preferably made of metal and housed, as an incomplete circumference, inside the peripheral slot provided on the outside of the cover and with its ends joined at a side area of the cover and retained by a metal plate forming a slot at one of its ends for the passage of the two ends of the cord like element, which, once pulled taut, are fastened by the action of areas of curvature incorporated into the cord element and by the pressure of a tab formed by the plate material itself, which holds tight the ends of the cord element.

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FIG. 1

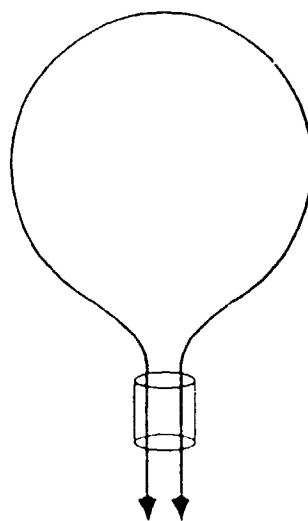


FIG. 2

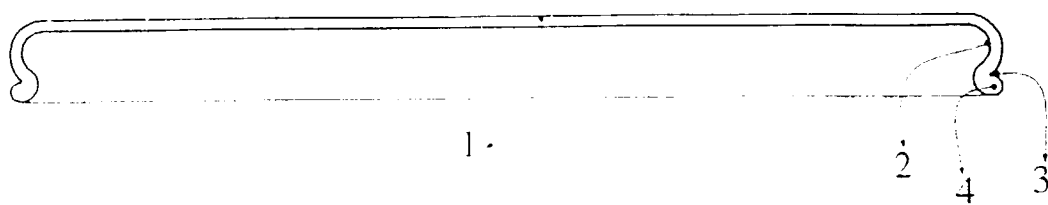


FIG. 3

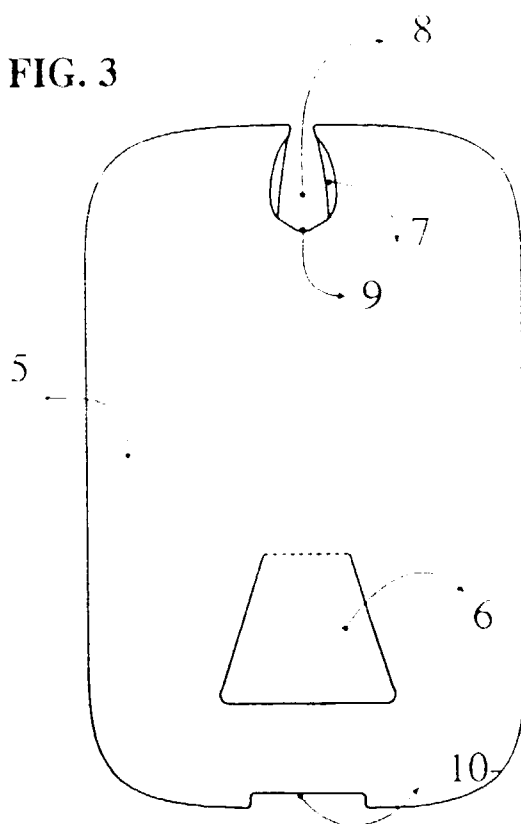


FIG. 4

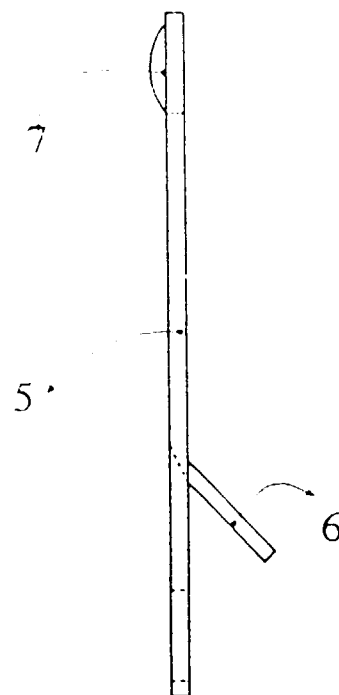


FIG. 5

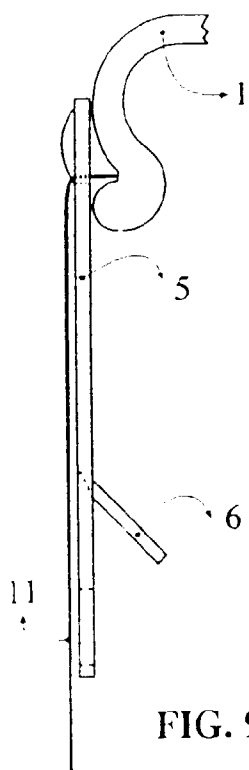


FIG. 6

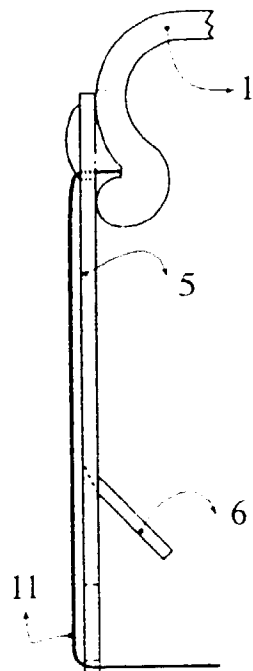


FIG. 7

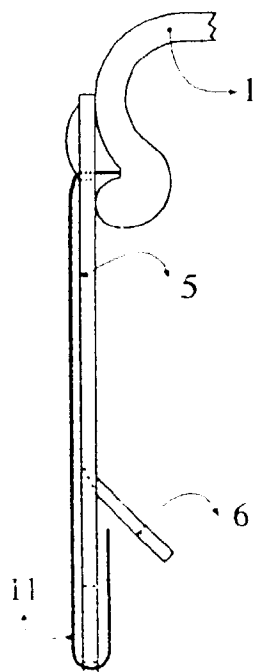


FIG. 8

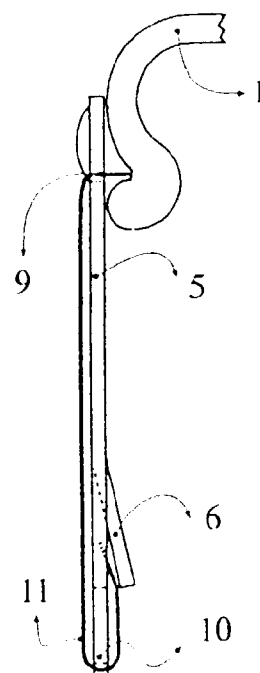


FIG. 9

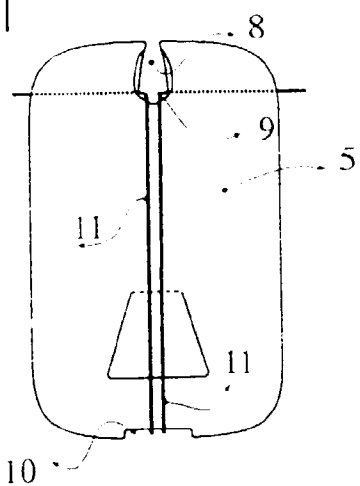


FIG. 10

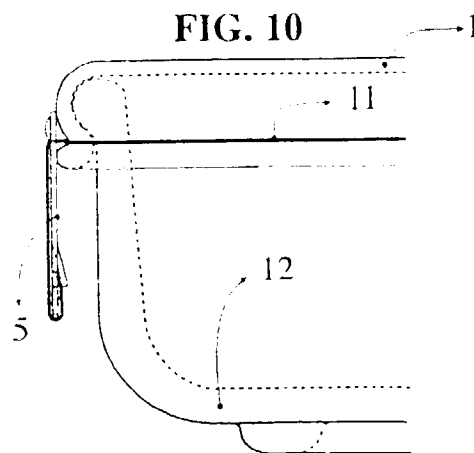


FIG. 11

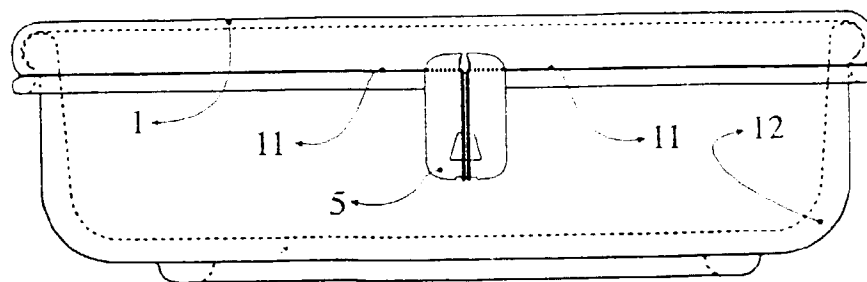


FIG. 12

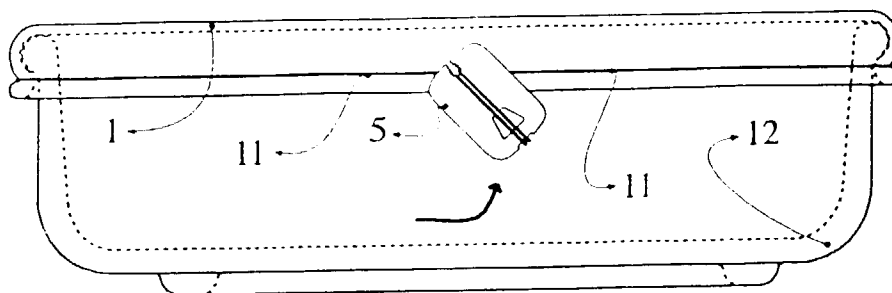


FIG. 13

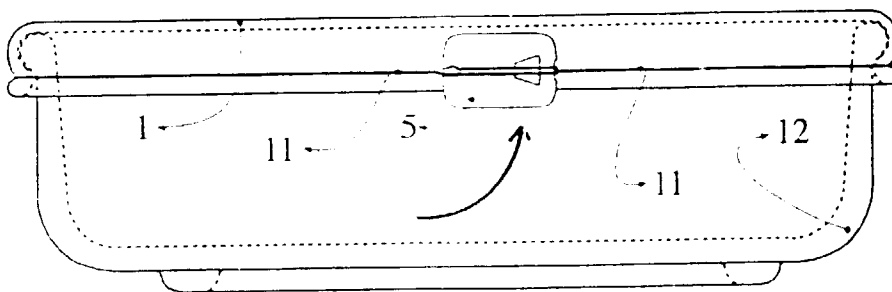


FIG. 14

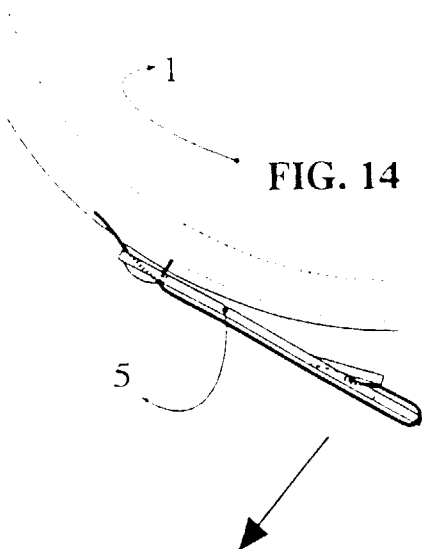
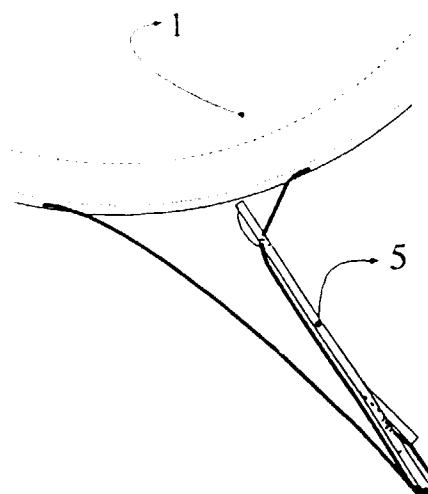


FIG. 15





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EUROPEAN SEARCH REPORT

Application Number
EP 96 50 0009

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE-U-94 15 174 (C. ROSES) * claims 1-5 *	1-3	B65D45/32
A	US-A-2 812 093 (A. PODESTA) ---		
A	US-A-2 147 963 (R. CASCIOTTI) ---		
A	US-A-2 016 324 (L. GABOR) ---		
A	FR-A-787 836 (W. VOGT) ---		
A	FR-A-709 255 (R. STEHLIN) ---		
A	FR-A-341 496 (G. KIRKEGAARD) ---		
A	US-A-1 400 918 (R. STOCK) -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 26 April 1996	Examiner Korth, C-F
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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