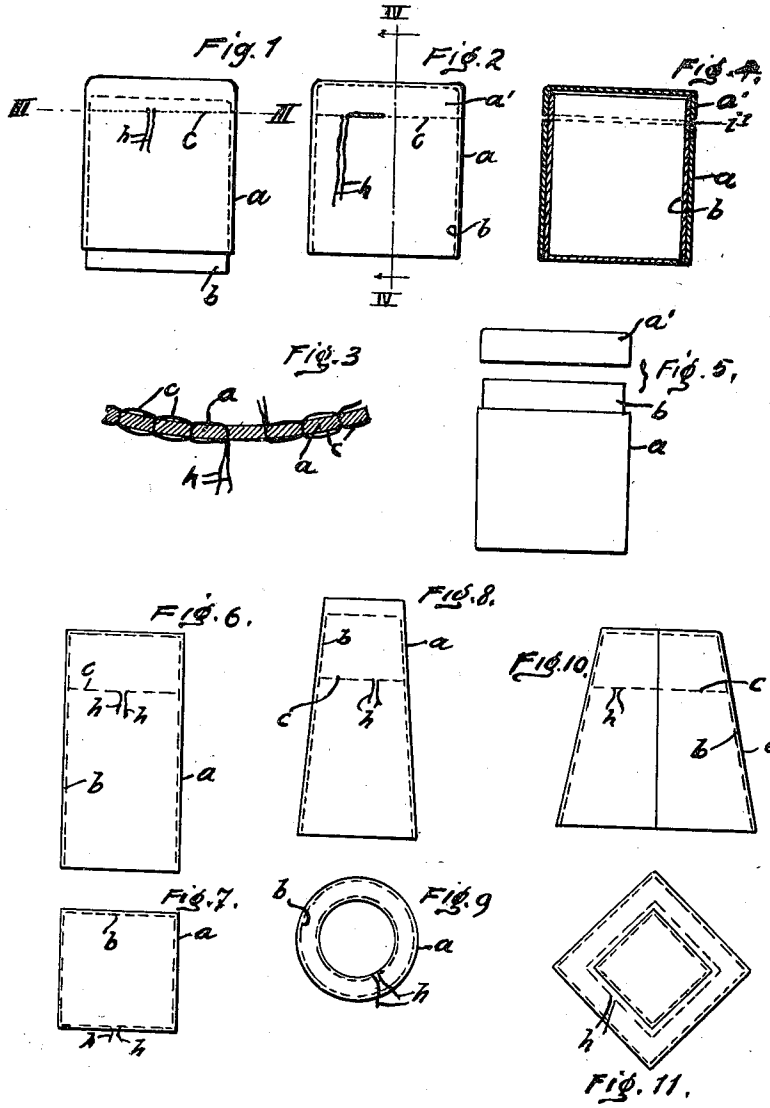
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CONTAINER AND MEANS FOR OPENING THE SAME

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CONTAINER AND MEANS FOR OPENING THE SAME

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This invention relates to the manufacture of boxes of the type wherein a box is provided with a double side wall produced by fully telescoping the side wall of one box element within a slightly larger side wall of a second box element, both of said side walls or at least one side wall of the second box element being made of paper, cardboard or any other material of such nature that it may readily be cut or lacerated, said side wall of the second box element being provided with means for readily cutting or dividing the wall into perimetral or peripheral direction into two portions in order to obtain a cover or lid separate from the portion connected with the bottom and capable of being used over again for the box thus opened.

In the mentioned types of boxes heretofore known it is not feasible to obtain a tight closure (viz. preventing the entrance of moisture and air) except by covering them, after they have been closed, with an envelope of paper, "cellophane" or the like, the edges of which are secured in place by means of adhesives, or by dipping the box into a molten mass, such as for instance paraffin, so as to completely line the box therewith.

The subject matter of the present invention is a novel manufacturing method, according to which the box tightness is automatically obtained as soon as the two elements are brought into closing position.

A further object of the invention consists in the provision of a special method of fixing to the outer element of the box the member serving to divide the said wall into two portions for the purpose of obtaining the aperture of the box as well as of obtaining a lid adapted to be easily removed and re-fitted on the box at will.

According to the invention the outer element of the box is made of paper, cardboard or other material that can be easily cut or lacerated whereas the inner element (the side wall of which has got to be completely surrounded by the side wall of the outer element) may be made either of one of the materials just named or of any other tough, rigid, strong and more or less fragile material. In the first manufacturing stage, both elements possess such a diameter or perimeter that, when they are fitted into one another there remains a clearance between the two side walls, so that the threading-in and out of the two elements can be accomplished with the greatest facility.

After this, a peripheral or perimetral, double stitch sewing is made with a sewing machine in the side wall of the outer element in the vicinity of the bottom thereof, and the last ends of the threads are led to the outside, and are thus exteriorly accessible. Such a sewing, in addition to providing the cutting or lacerating means in the form of the sewing thread, also provides a row of relatively closely set holes, thus supplying a zone along which the side wall in question can be readily cut or lacerated. The described arrangement does not tend to weaken the box structure but actually fortifies it.

Thereupon the two elements are separately plunged into a molten mass impermeable to water and air (such as for instance paraffin) so that the two elements are coated all over their surface with a thin layer of the stuff used. The thickness of the coatings thus left on the inner face of the outer element and the outer face of the inner element should be such that the two coatings, taken together, correspond to the clearance mentioned above and impart a suitable degree of rigidity and strength to the element or elements made of a readily cut or lacerable material.

When the inner element is made of a tough, rigid, strong or more or less fragile material, it is not deemed advisable to coat this element with the said molten stuff, and the coating on the inner face of the outer element should be of such a thickness as to fill the mentioned clearance.

The two elements are now ready for being fitted into one another and for effecting the closing of the box.

The closing is performed in the following manner:

The edge of the open end of the outer element should be so arranged as to surround the edge of the open end of the inner element, and a pushing action should be exerted on the outer element so as to cause its side wall to gradually surround the side wall of the inner element with a relatively hard friction till the open end of the inner element strikes the obstacle offered by the peripheral or perimetral projection formed by the sewing thread or filament. A greater effort is now required to carry out the final stage of the closing operation. A thump should now be given on the cover of the outer element, with the result that the open end of the inner element will overcome the said obstacle, pass beyond it and come into contact with the end of the outer element and with the lower surface of the plain wall of same element.

The box will now be tightly closed. The tightness will be ensured by the two contacting surfaces of the paraffin layers, by the open end of the inner element bearing against the end of the

outer element, and by the projection formed by the sewing threads or filaments.

The tightness will be further increased when the box is closed directly after the box body (inner element) is filled with products possessing a certain degree of heat capable of causing a certain softening of the paraffin layers coating the adjacent side walls and thus binding the two layers together.

If desired, after closing, the box may be subjected to a subsidiary paraffin-coating operation.

The boxes thus obtained are strong. Besides, owing to the high friction between the side walls of the two elements, which is increased at the zone of the double stitch sewing, the opening of the box (for which it is necessary to draw the inner element out of the outer one) is impossible without that, in the attempts to do so, visible traces are left on the box elements. The closure can therefore be looked upon as a safety closure.

As it is practicable to manufacture the inner element out of a rigid, tough, strong or more or less fragile material (for instance metal, wood, bakelite or other similar condensation products of phenol and aldehyde or other compounds, glass, porcelain, faience etc.), the said element, after complete removal of the outer element, may be used as a cup, glass or other vessel.

With the method according to the invention, boxes of different shapes can be manufactured, for instance having the form of a cylinder, cone, truncated cone, parallelepiped, pyramid or truncated pyramid. The ends of such boxes may be of any desired contour, for instance: circular, oval, ovoidal, triangular, quadrangular or polygonal with equal or unequal sides. In the case of truncated cone or truncated pyramid forms, the major ends will always constitute the bottom of the box and consequently of the inner element.

The invention is illustrated in the accompanying drawing in some of its execution forms and merely by way of example.

Fig. 1 is an elevated view showing a cylindrical box, in which the inner element *b* has not been forced quite home in the outer element *a*.

Fig. 2 is a similar view to Fig. 1, but with the inner element *b* forced quite home in the outer element *a*.

From Fig. 2 it may be seen that, by acting on one of the ends *h* of the two threads *c* of the double-stitch seam or sewing along the periphery of the outer element *a*, which threads constitute the cutting or tearing means, a peripheral cut *i* can be made. This cut is shown as extending only over a portion of the periphery of the said wall.

Fig. 3 shows in enlarged scale a portion of the outer element *a* in section along the line III—III in Fig. 1, viz. along the peripheral zone of the double-stitch sewing *c*.

Fig. 4 is a vertical axial section along the line IV—IV in Fig. 2. Here is to be clearly seen the peripheral cut *i*, that has divided the side wall of the outer element into two portions, the top portion *a'* being fit to serve as a lid that can be removed and re-set at will.

Fig. 5 is an elevated view showing a cylindrical box similar to the one illustrated by Figs. 1—2. and 4, the lid *a'* being removed from the box *a—b*.

Figs. 6 and 7 are an elevation and plan, respectively, of a box according to the invention having the form of a parallelepiped with square base. In this figure, *h—h* are the ends of the thread constituting the cutting or tearing means.

Figs. 8 and 9 are views corresponding to Figs. 6 and 7 and show a box having the form of a straight truncated cone.

Figs. 10 and 11 are views corresponding to Figs. 6—7 and 8—9 and show a box having the form of a truncated pyramid with square base.

Of course with the same system boxes may be manufactured having forms different from those shown, for instance boxes the ends or bases of which may have the most varied contours or perimeters.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An article of manufacture consisting of a double walled annular box comprising an inner annular box element telescoped within an outer annular box element, means providing a tight and closely fitting closure for said box when the inner element has been forced home into the outer element, including an exteriorly accessible cutting means incorporated solely in the annular wall of the outer element along a peripheral line spaced a distance below the top of said outer element and bearing with sealing effect against the annular wall of the inner element for the twofold purpose of providing means for cutting off a portion of the length of said outer element along said peripheral line in order to open the box and obtain a cover which may be used again, and serving as an annular gasket between the annular telescoped walls of said outer and inner box elements.

2. An article of manufacture consisting of a double walled box comprising an inner box element telescoped within an outer box element, means providing a tight and closely fitting closure for said box when the inner element has been forced home into the outer element, including a double stitching of cutting thread sewed through the wall of the outer box element along a line on said wall spaced a distance below the top of said outer element and having the ends of the thread disposed upon the exterior of the box to provide exteriorly accessible means together with said double stitching for cutting off a portion of the length of the outer element along said line in order to open the box and obtain a cover for the same which is adapted to be used over again, which double stitching also bears against the wall of the inner box element with sealing effect and serves as a gasket between the telescoped wall of said outer and inner box elements.

3. An article of manufacture consisting of a double walled annular box comprising an inner annular box element telescoped within an outer annular box element, means providing a tight and closely fitting closure for said box when the inner element has been forced home into the outer element, including a double stitching of cutting thread sewed through the annular wall of the outer box element along a peripheral line on said wall spaced a distance below the top of said outer element and having the ends of the thread disposed upon the exterior of the box to provide exteriorly accessible means together with said double stitching for cutting off a portion of the length of the outer element along said peripheral line in order to open the box and obtain a cover for the same which is adapted to be used over again, which double stitching also bears against the annular wall of the inner box element with sealing effect and serves as an annular

gasket between the annular telescoped wall of said outer and inner box elements.

4. An article of manufacture consisting of a double walled box comprising an inner box element telescoped within an outer box element, means providing a tight and closely fitting closure for said box when the inner element has been forced home into the outer element, including in combination, a coating of paraffin applied at least to the inner wall of the outer box element and to the exterior of the wall of the inner box element and a double stitching of cutting thread sewed through the wall of the outer box element along a line on said wall parallel with the top of said outer box element and having the ends of the thread disposed upon the exterior of the box to provide exteriorly accessible means together with said double stitching for cutting off a portion of the length of the outer element along said line in order to open the box and obtain a cover for the same which is adapted to be used over again, which double stitching also bears against the wall of the inner box element so as to cooperate with the paraffin coating upon the exterior of the wall of the inner box element with an effective sealing effect and serve as a gasket between the telescoped wall of said outer and inner box elements.

5. An article of manufacture consisting of a double walled box comprising an inner box element telescoped within an outer box element, means providing a tight and closely fitting closure for said box when the inner element has been forced home into the outer element, including in combination, a coating of paraffin applied at least to the exterior of the wall of the inner box element, and a double stitching of cutting thread sewed through the wall of the outer box element along a line on said wall parallel with the top of said outer box element and having at least one end of the thread disposed upon the exterior of the box to provide exteriorly accessible means together with said double stitching for cutting off a portion of the length of the outer element along said line in order to open the box and obtain a cover for the same which is adapted to be used over again, which double stitching also bears against the wall of the inner box element so as to cooperate with the paraffin coating upon the exterior of the wall of the inner box element with an effective sealing effect and serve as a gasket between the telescoped wall of said outer and inner box elements.

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