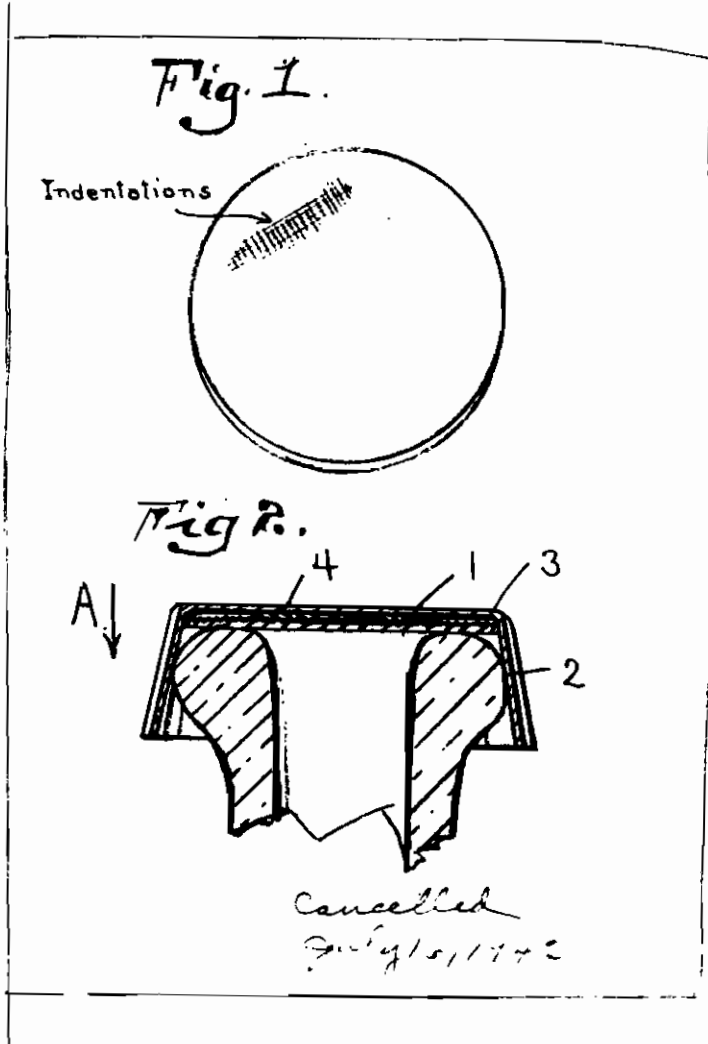


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BOTTLE CLOSURE OF THE CROWN-CORK TYPE  
AND SEALING DISC FOR THE SAME  
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# ALIEN PROPERTY CUSTODIAN

## BOTTLECLOSURE OF THE CROWN-CORK TYPE AND SEALING DISC FOR THE SAME

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In the manufacture of bottle closures of the crown-cork type sealing discs of cork or cellulose in a "worked" state such as card board has been used.

The principal object of the present invention is, as a substitute for cork to employ a special kind of cellulose material one surface of which, according to a further feature of the invention is corrugated.

A further object of the invention is to secure the highest elasticity at the required points of the sealing disc and for this purpose the use of two or more discs, the dimensioning of the discs and the pasting together of the same at special points are further features of the invention.

The cellulose material employed i. e. pulpboard without the addition of glue or filling materials, usually used in paper making, does not in the same degree as cork possess the plastic and elastic properties, which are characteristic for this material, and it is therefore also, as it will appear from the above, an object of the invention to draw advantage from the natural qualities of the pulp-board, these being tenacity and toughness combined with some degree of elasticity; and employ the special shaping of the surface of the pulp obtained during the rolling or pressing of the same when dried and which consists in little indentations so as to secure a maximum of elasticity.

These small indentations, which are only found on one side of the disc, have in no way influence on the structure of the mass, as they are formed during the composition of the same and are therefore quite different to indentations made by special tools in paper board, which is hardened by glue and filling materials, so that such indentures will considerably weaken the structure.

Cellulose material of the kind dealt with will for the same reason be very cheap in use, as it does not require any special treatment apart from the one it has already been subject to during its drying, rolling or pressing.

When the sealing disc is placed in the part of the bottle closure consisting of the usual outer metal crown, the corrugated side of the disc is turned inward towards the metal so as to give way in points when pressure is applied to it.

The other side of the disc has a comparatively smooth surface, so that in manner known per se it may be covered with a protective layer of high flexibility such as "cellophane," with or without a further protective layer consisting of a central aluminium spot.

According to the invention two or more layers of the above mentioned material may be employed, but in that case the corrugated surfaces are turned against each other whereby a sufficient degree of elasticity is obtained.

When using the preferable form of combining two layers of cellulose material in the sealing disc it is important for the further handling of the layer when placing the same in the metal crown and pressing the latter on to the bottle and also for the purpose of obtaining the proper degree of elasticity that the corrugations on the insides of the layers take up a fixed position adjacent to each other, so that they are not displaced in relation to each other. The position of the little indentations over the surface of each layer is not exactly uniform, and the position of the indentations in relation to each other is therefore adlibitive. It is, however, of importance that the relative position is kept constant. The layers or discs may therefore be glued together, so that the points, which have contact with each other, remain so and so that on the other hand around these points areas will be found where there is no contact and where, when the sealing disc in its entirety is subjected to high pressure, will give way and thereby increase the elasticity of the disc considerably.

It has appeared to be of the greatest advantage to choose the diameter of one of the discs forming the complete sealing disc somewhat smaller than that of the other and in a sealing disc of this nature to glue only the central parts of the layers forming the disc together.

In order to illustrate this feature more fully the drawing shows in Fig. 1 a single layer of pulpboard according to the invention, and Fig. 2 shows to an enlarged scale a bottle closure of the crown cork type with a sealing disc consisting of two layers placed therein, one of larger diameter than the other.

By employing a sealing disc of this nature, in which the two layers are only glued together by their central parts, the outer edge of the large layer will lie rigidly against the bend of the outer crown shell, while the entire disc because of the upper layer, which has a diameter of less dimension, may follow the bottom of a metal crown, when it is bent and deformed by the pressure created, when the bottle closure is pressed on to the bottle.

The sealing disc will under these circumstances give way with a certain degree of resiliency. The advantage obtained by gluing the layers together at certain points has been described above, and

this advantage is naturally maintained in the special embodiment dealt with here, but the disadvantage presented due to the fact that the discs, when the adhesive material in the course of time becomes hardened, and the resiliency therefore diminished is avoided as only the outer edges, which should be most active, because they are the parts of the disc, which are subjected to the most pressure are free to slide on each other.

The upper edge of the bottle mouth will not press directly upon the extreme outer edge of the sealing disc, but if one bisects the radius of the same the pressure from the bottle neck will act approximately in the centre of the middle of the outer half of the bisected radius. By letting the pressure act approximately at the edge of the upper layer of less diameter the same will be bet-

ter adapted to give way and add to the resiliency of the entire sealing disc.

In the drawings 1 is the plane part of the outer metal shell, 2 the edge of the shell, and 3 and 4 the outer and inner layers of the complete sealing disc. As it will be seen from the drawing the outer layer has a circumference, which reaches out to the edge of the crown cork metal shell 2, while the inner layer 4 is somewhat smaller. If the layer is subjected to pressure acting in the direction of the arrow A the layer will give way and may be bent inwards without meeting any obstacles. Because of the rigidity of the material employed, the entire sealing disc has considerable elastic properties.

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