Oct. 11, 1938. C. BUTTY 2,133,185

CONTAINER

Filed March 10, 1938

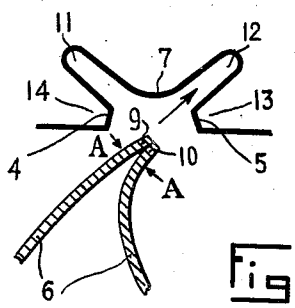


Fig. 1

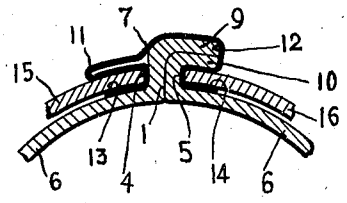


Fig. 2

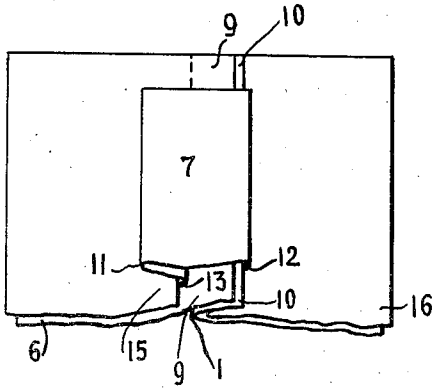


Fig. 3

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CONTAINER

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1 Claim. (Cl. 229—48)

The present invention relates to containers, and in particular to containers made of flexible material and having a body portion comprising an outer wall and an inner wall and a uniting member of strip material and having a joint of the type described and illustrated in my prior United States Patent No. 1,989,075.

In accordance with said patent, the lateral straight edges of the inner and outer sheets are joined by means of a member formed of a straight strip of sheet material bent so as to form two symmetrical external channels and two likewise symmetrical internal channels, the lateral edges of the inner sheet being bent outwardly and fitted one into each of the internal channels of said member, whereas the lateral edges of the outer sheet are fitted into the external channels, the assembled parts being thereupon pressed tightly together by means of a suitable tool.

As explained in the said prior patent, the construction provides a tight joint between the abutting portions of the inner wall, said abutting portions being forced into so close a contact by the lower bulges of the S's as to provide a joint preventing transfiltration or leakage. A further advantage of the construction of the prior patent is that the inner surface of the body is completely smooth and there is no break in continuity whereby the contents should come into contact with the metallic uniting member.

From the point of view of protecting the contents against contact with the metallic portions of the uniting member, as well as with regard to the prevention of leakage or transfiltration, the particular construction disclosed in my prior patent has proved to be perfectly satisfactory in practice. Nevertheless under certain manufacturing conditions, it has been found advantageous that the uniting member should not extend the full length of the lateral edges of the sheet material. The reason for this is to be found in the fact that the shortening of the uniting member facilitates the application of the top and/or bottom when the containers are being finished on a mass production basis at high speed by any of the known machines for applying end closures. Except over the joint the lip of the end closure is applied directly to the material of the container walls, but if the uniting member is coextensive with the longitudinal edges at the points on the ends of the container body where the uniting member lies, a hump is formed the radial thickness of which is equal to the thickness of the inner wall plus twice the thickness of the uniting member. When the uniting member is shortened, the abutting portions of the inner layer have shown a tendency to separate slightly in that part of the container wall which projects beyond the uniting member.

The purpose of the present invention, therefore, is to introduce a modification in the type of joint disclosed in Patent No. 1,989,075 and thereby to allow of the use of the shortened uniting member.

The object of the present invention, therefore, is to provide a container of flexible material having a body portion comprising an outer wall and an inner wall and a uniting member of strip material adapted to be compressed for joining simultaneously the longitudinal edges of said outer and inner walls, said uniting member being a cross-section substantially in the shape of two opposing S's joined at the extremities of their upper curves to provide a pair of symmetrical external channels disposed back to back and a pair of symmetrical internal channels disposed mouth to mouth the container being characterized by the fact that both the longitudinal edges of the inner wall are introduced into the same inner channel and bent over so as to be above one of said external channels, the longitudinal edges of the outer wall being introduced into said outer channels and the arrangement being such that upon compression of the uniting member the other of said inner channels is flattened so that its two walls are in direct contact and the tails of the S's lie between the outer and the inner walls and both the edges of the inner wall lie outside one of the longitudinal edges of the outer wall and within one of said inner channels.

In the drawing:

Fig 1 is a diagrammatic sectional view illustrating the manner in which the two longitudinal edges of the inner sheet are introduced into one of the inner channels of the uniting member.

Fig. 2 is a fragmentary cross-section of a container showing the finished and compressed joint.

Fig. 3 is a fragmentary plan view of the joint improved in accordance with the present invention.

With reference to the drawing, it will be seen that in accordance with the present invention, both the edges 9 and 10 of the inner wall 6 are introduced into one inner channel 12 of the uniting member 7.

From an inspection of Fig. 2, it will be apparent that the joint along the line 1 will be of the same effectiveness as regards prevention of leakage or transfiltration as in the case of the construction

according to the prior patent, since the bulges 4 and 5 of the outer channels 13 and 14 will act in the same way to force into close contact the portions of the edges 9 and 10 included between said bulges.

Fig. 2 likewise shows that upon compression of the joint the channel 11 not filled by the edges of the inner wall is compressed so that its two walls are in direct contact with each other, and thus provide on that side of the joint, the necessary material for gripping the edge 15 of the outer layer 16 which is introduced into the outer channel 13 immediately below what was the inner channel 11.

In order to provide a good joint at the end portions, the uniting member must, if the construction of the prior patent is used, be made coextensive with the longitudinal edges of the inner (and outer) layer. But this gives rise to difficulties when the end closure is applied.

Comparing the prior construction with the modified form represented in Fig. 3, it will be seen that as a result of introducing both the longitudinal edges into one inner channel, the efficacy of the joint is maintained practically unimpaired even over the projecting portion, inasmuch as any tendency of the two edges 9 and 10 to move relatively to each other must necessarily result in a sliding motion which is prevented in part by the longitudinal resistance of the sheet material itself and in part by the fact that the two edges 9 and 10 are firmly pressed against each other by the inner channel 12.

Moreover, when the end closure is applied and firmly compressed against the sheet material, it will be clear to those skilled in the art, that the two portions of the edges 9 and 10 not covered by the uniting member will nevertheless be firmly pressed together by the end closure and this will ensure a perfectly tight joint along the full extent of the said longitudinal edges.

I claim:

A container of flexible material having a body portion comprising an outer wall and an inner wall and a uniting member of strip material adapted to be compressed for joining simultaneously the longitudinal edges of said outer and inner walls, said uniting member being a cross-section substantially in the shape of two opposing S's joined at the extremities of their upper curves to provide a pair of symmetrical external channels disposed back to back and a pair of symmetrical internal channels disposed mouth to mouth the container being characterized by the fact that both the longitudinal edges of the inner wall are introduced into the same inner channel and bent over so as to be above one of said external channels the longitudinal edges of the outer wall being introduced into said outer channels and the arrangement being such that upon compression of the uniting member, the other of said inner channels is flattened so that its two walls are in direct contact and the tails of the S's lie between the outer and the inner walls and both the edges of the inner wall lie outside one of the longitudinal edges of the outer wall and within one of said inner channels.

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