Aug. 19, 1958 J. G. O'NEIL 2,848,151

SEALED CONTAINER

Filed Oct. 6, 1954

FIG. 1

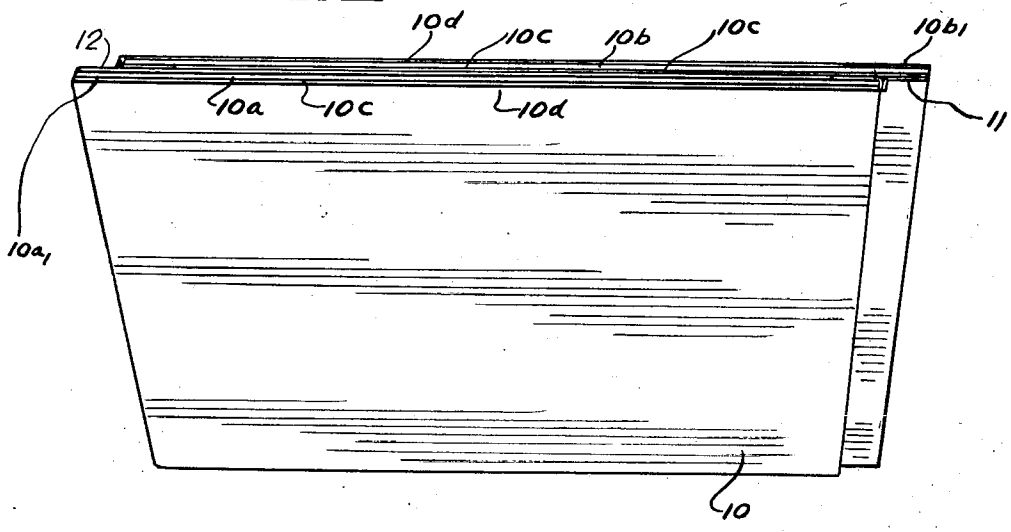


FIG. 2

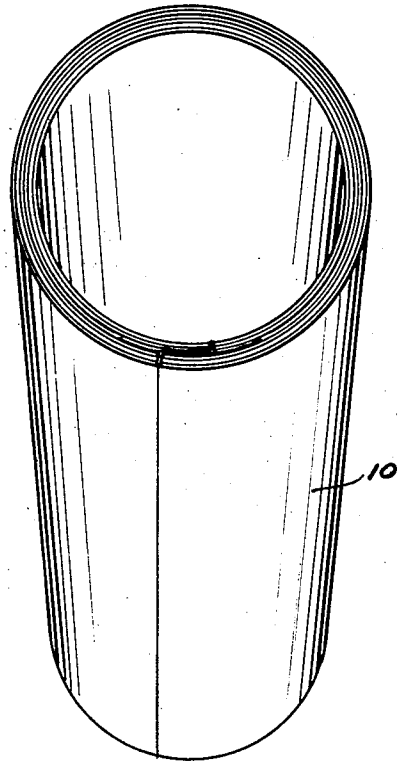


FIG. 3

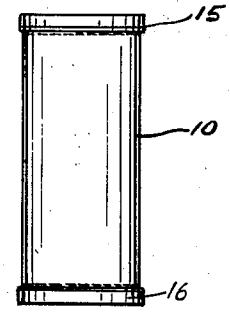
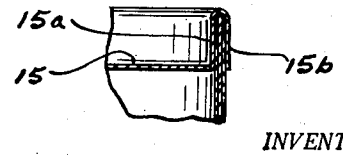


FIG. 4



INVENTOR.
JOHN G. O'NEIL
BY
Chas. C. Reif
ATTORNEY

United States Patent Office 2,848,151 Patented Aug. 19, 1958

2,848,151

SEALED CONTAINER

John G. O'Neil, Minneapolis, Minn., assignor to Safe-Pack Container Co., Minneapolis, Minn., a corporation of Minnesota

Application October 6, 1954, Serial No. 460,541

3 Claims. (Cl. 229—4.5)

This invention relates to a container, and particularly to a container made of a sheet of flexible material, which sheet is folded into tubular form and then has caps secured to the ends of said tube.

Many substances today are packed in sealed containers and it is very desirable to have a container which can be made at a small price and yet one which can be perfectly sealed and will be strong enough to withstand great internal pressure.

It is an object of this invention therefore to produce a container made from a sheet of flexible material, said sheet preferably being of rectangular form and comprising superposed layers, said sheet being bent into tubular form and having overlapping edge portions, together with means for connecting said overlapping edge portions, sealing the same and also covering and sealing the edges of said sheet.

It is a further object of the invention to produce a container made from a laminated sheet of flexible material, said sheet comprising superposed layers which are offset laterally so that each layer has a portion projecting beyond one edge of the other layer, a strip of sealing material extending along the inner side of said projecting portion and over the adjacent edges of said layers at one side of said sheet, said sheet then being bent into tubular form, the said projecting portions overlapping so that overlapping portions are connected and sealed and the edges of said layers are also covered and sealed.

It is also a further object of this invention to provide a container made from a flexible sheet of material having superposed layers, said sheet preferably being rectangular and said layers being offset a short distance laterally so that there is a projecting portion of a layer at each side of said sheet, a strip of sealing material being disposed a short distance between said layers, then extending along the adjacent edge of one of said layers, the same being reversely bent and extending along the inner side of one projecting portion, a similar strip at the other side of said sheet, said sheet being bent into tubular and preferably cylindrical form with said projecting portions overlapping so that said projecting portions are connected and sealed and the edges of both layers are also covered and sealed.

It is another object of this invention to provide a novel method of making such a container.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a perspective view of a sheet of laminated material from which said container is made;

Fig. 2 is a perspective view of the finished container, a portion of said container being shown in transverse cross section;

Fig. 3 is a view in side elevation of the finished and closed container; and

Fig. 4 is a partial radial vertical section through one side of said container.

Referring to the drawings, a sheet of material **10** is shown, and while this may be made of various materials suitable for a particular container, in the embodiment of the invention illustrated said sheet comprises superposed layers **10***a* and **10***b*. While the material of layers **10***a* and **10***b* can be varied to suit the particular container being made, in the embodiment of the invention illustrated each layer comprises a central layer **10***c* which is preferably made of flexible material, such as strong heavy paper or cardboard. At each side of the central layer **10***c* is a layer **10***d*, and while the material of this layer may be varied, in the embodiment of the invention illustrated, layers **10***d* are made of thin metal foil. While various metal foils could be used, in practice a thin foil of aluminum has been found satisfactory.

As shown in Fig. 1, the layers **10***a* and **10***b* are offset a short distance laterally so that layer **10***a* has a projecting portion $10a_1$ and layer **10***b* has a projecting portion $10b_1$. A strip of sealing material **11** is disposed between layers **10***a* and **10***b* for a short distance and this strip then extends along the adjacent edge of sheet **10***a*, the same then being reversely bent to extend along the inner side of the projecting portion $10b_1$. While various kinds of sealing strips could be used, in practice an adhesive tape preferably reinforced with a reinforcing layer of cheesecloth has been used. A similar strip **12** is placed between layers **10***a* and **10***b* for a short distance at the other side of sheet **10**, and this strip then extends along the adjacent edge of layer **10***b*, the same then being reversely bent and extending along the inner side of the projecting portion $10a_1$. The sheet **10** is then bent into tubular or closed form so that the projecting portions $10a_1$ and $10b_1$ overlap and the portion of the strips **11** and **12** at the inner sides of the projecting portions will overlie each other. The portions $10a_1$ and $10b_1$ will then be securely connected or fastened together and the same will be sealed. There will thus be two layers of the sealing strip between the overlapping portions. It will also be seen that the edge of each layer has been covered by the sealing strip and these edges will also thus be covered and sealed. As stated, the ends of the sealing strips are disposed between layers **10***a* and **10***b* and there is no part of the strip on the interior of the container. The layers **10***a* and **10***b* are preferably not connected before being bent into tubular form. This makes possible any small relative movement of the layers due to the different radius of bending. The container will then be provided with suitable caps or covers at both ends and these caps or covers can be secured in any desired manner. In the embodiment of the invention illustrated, caps **15** and **16** are shown which have circumferential radially spaced flanges **15***a* and **15***b* formed thereon and the wall of the container extends between said flanges and is pressed and sealed therebetween.

From the above description it will be seen that I have provided a simple and yet very efficient and strong container. It has been found desirable in practice to cover and seal the edges of the layers **10***a* and **10***b*. With certain kinds of contents and conditions, moisture creeps in along the uncovered edges and produces objectionable effects. The container is easily made and is very strong. One product packed in the container is prepared and unbaked biscuits. These are packed under rather high pressure and complete sealing is very desirable. The container has been amply tested in actual practice, found to be very successful and efficient and the same is being commercially produced.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the device and in the steps and sequence of

steps of the method without departing from the scope of applicant's invention, which, generally stated, consists in a method and device capable of carrying out the objects above set forth, such as disclosed and defined in the appended claims.

What is claimed is:

1. A container formed from a sheet bent to have overlapping edges having in combination, a laminated sheet of material comprising two superposed laterally offset layers so that each of said layers has a portion adjacent one edge thereof projecting beyond the edge of the other, a strip of sealing material in the form of a tape having a portion disposed between said layers and over the adjacent edge of the inwardly offset layer, said strip being reversely bent along said edge and extending over the inner side of said outwardly projecting layer so that when said sheet is bent into tubular form, said projecting portions will overlap and be sealed and said edge will also be sealed.

2. A container formed from a sheet bent to have overlapping edges having in combination, a laminated sheet of material comprising two superposed laterally offset layers so that each of said layers has a portion adjacent one edge thereof extending beyond the edge of the other, a strip of sealing material in the form of a tape extending between said layers for a short distance, then over the adjacent edge of one layer, then reversely bent to lie along said edge and then extending over the inner side of said extending portion on the other layer, a similar strip at the other side of said sheet having a portion extending between said layers for a short distance, then over the adjacent edge of one layer, said latter strip being reversely bent to lie along said edge, and then extending over the inner side of the extending portion at that side of the sheet so that when said sheet is bent into tubular form and said extending portions are in overlapping relation, said container will be sealed and the overlapping portions connected and the edge of each layer sealed by the tape.

3. In a container formed from a laminated sheet of material comprising two superposed laterally offset layers providing a layer extending beyond the edge of its adjacent layer on oppositely disposed edges of the laminate, a joint structure comprising a sealing tape exhibiting adhesive characteristics disposed between the offset layers adjacent an offset edge of the laminate, a contiguous portion of the tape being reversely bent on itself into contact with the marginal inwardly offset edge of one of the layers and extending over and in contact with the inner face of the adjacent extending layer, a similar sealing tape disposed between the offset layers adjacent the oppositely disposed offset edge of the laminate, a contiguous portion of the last named tape being reversely bent on itself into contact with the marginal inwardly offset edge of the other layer and extending over and in contact with the inner face of its extending adjacent layer, said laminate on overlapped relationship of the extending layers and abutment between the adjacent inwardly disposed offset and extreme marginal edges, respectively, being adhesively secured over the overlapped extending layers and sealed along the abutting marginal edges by the sealing tape.

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