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(54) **Anti-bending corrugated system for metallic containers.**

(57) This invention refers to an anti-bending corrugating system for metallic containers which can be applied to all kind of metallic containers of a shape that can be either trunco-pyramidal, prismatic, elliptical or similar to correct the usual bending produced when the body of the container is expanded, and it comprises two or more similar corrugations opposite one to the other and made on certain areas of the side wall of the body of the container, the number of corrugations depending on the size of the relevant deformation causing the bending. It has been foreseen that the corrugations are parallel to the base to absorb the excess material originated during the manufacturing expansion stage of the container itself.

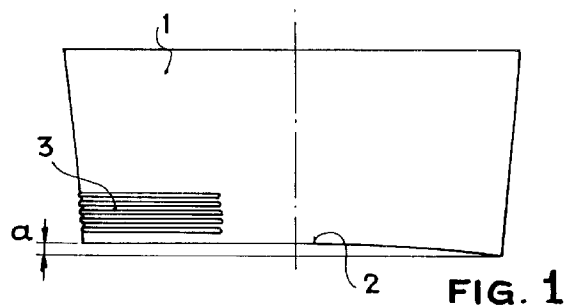


FIG. 1

The invention refers to a anti-bending corrugating system for metallic containers, the aim of which is to prevent the usual bending that normally appears in the metallic containers during the expansion operations carried out to obtaining or manufacturing such containers.

The corrugating system can be applied to all kind of metallic containers of a shape that can be either trunco-pyramidal, parallelepipedic, elliptical, etc.

As everybody knows, when the body of a metallic container is expanded, a deformation occurs due to stress of the material. Such deformation is called "bending" and happens in the bottom causing an uneven distribution of material in the periphery of the body of the container.

In the light of the above and to proceed with the manufacturing of the container it is necessary to correct such bending so that the whole periphery of the container is parallel, thus enabling such deformation to disappear.

Currently, there are two systems aimed to achieve the correction of the bending. The first one consists of cutting the material with its periphery already compensated prior to proceed to weld the body and its subsequent expansion. The second system consists of expanding the body of the container with concave expanding tools so that they can proportionately compensate the subsequent deformation.

In the first case, we find the inconvenience of the loss of material, while in the second one the inconvenience stems from a bad or defective configuration of the container itself.

The system proposed has been conceived to satisfactorily solve all those problems on the basis of a simple and efficient solution which the added advantage - when compared with the first conventional system referred above - of a better use of the raw material which, in turn and compared with the second conventional system, enables to obtain a more even and straight configuration of the wall of the container which makes the storage of the containers much easier.

These features or advantages are achieved by using the system which is the object of this invention. This consists of making two or more corrugations of the same dimension but opposite to each other so that such corrugations determine the folding of the excess material just in the areas where such excess has been produced.

Once the deformation or bending has been corrected, it is possible to continue with the following stages of the normal manufacturing process of the container.

To complement this description and in an effort to better understand the main characteristics of the invention, a set of drawings is attached to this descriptive report forming an integral part of it and where, as an illustration and without limitation, the following has

been represented:

Figure 1 shows a schematic view of the side of a container. One of the halves incorporates the preconized corrugations and the other half is shown without such corrugations and presents the relevant corrugations.

Figure 2 shows a plan view of a rectangular container with corrugations in one of its corners.

Figure 3 finally shows a section view of the corrugations made on the wall of a container presenting the compensation of excess material compared with the non-corrugated wall shown in the same figure.

In such figures, the numbering system correspond to the following parts and elements:

1. Container
2. Bending
3. Corrugations
4. Corrugated wall
- 4'. Non-corrugated wall
- a. Bending size (2)
- b. Size or depth of the corrugations (3).
- c. Length of the two corrugations (3)

As it can be observed in such figures, and specifically in the right half of figure 1, the container (1) when expanding suffers a bending deformation (2) which causes an uneven distribution of the material across the periphery of the container (1) itself so that to continue with the manufacturing of the container it is necessary to correct such bending (2) in order that the whole periphery of the container is parallel and the "a" deformation disappears.

Such disappearance or correction of the bending is achieved by means of a series of corrugations, specifically two corrugations (3), one opposite to the other, although their number will depend on the size of the bending (2).

The corrugations referred to above (3) are located at or affect specific areas as shown in figures 1 and 2 and all have a constant depth which corresponds to the size "b", quite narrow, and a length also constant corresponding to the size "c", so that such corrugations (3) fold the excess material at those areas where they have been made. The correction achieved with the corrugations (3) on the wall (4) of the container (1) with respect to the wall (4') with no corrugations can be compared in figure 3.

Claims

1. Anti-bending corrugating system for metallic containers which can be applied to all kind of metallic containers of a shape that can be either trunco-pyramidal, prismatic, elliptical or similar to correct the usual bending produced when the body of the container is expanded, essentially characterized because it comprises two or more similar corrugations but opposite one to the other and made

on certain areas of the side wall of the body of the container, the number of corrugations depending on the size of the relevant deformation causing the bending. It has been foreseen that the corrugations are parallel to the base to absorb the excess material originated during the manufacturing expansion stage of the container itself.

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