ABSTRACT: A dual functional stacking feature for a base member of a two-part container, the member having a flat central portion, and a marginally disposed groove immediately surrounding the central portion. The feature comprises a plurality of raised portions or bosses located on the underside of the base at spaced intervals along the inner perimeter of the groove. Packages incorporating such base member design are readily stackable as is desired for supermarket and like displays. Further benefit pertains to such base members as stacked separately prior to their dispensing, wherein the provision of such bosses effectively prevents successive bases from jamming or locking together.
CONTAINER STACKING FEATURE
DESCRIPTION OF THE INVENTION

The present invention relates to structure and concepts applicable for use in vacuumized luncheon meat, cheese and like packages, wherein there is provided a container having a base member including a flat central portion for receiving the product and a tub component which encloses the product and is hermetically joined to the base. To accommodate automatic apparatus for assembling such packages, the tub and base member are normally made stackable. That is, they incorporate suitable stacking features whereby such tub and base members can be dispensed or brought together from separate stacks of the same, respectively, and without a jamming or locking together thereof occurring in such stacks.

It is a prime object of the present invention to provide an improved stacking feature for such base members.

It is a further object of the present invention to provide such a stacking feature wherein the same is dual functional in that it aids both in the stacking of the base members prior to their incorporation into packages, and thereafter in the stacking of a plurality of such packages as is desired for supermarket displays and the like.

It is still a further object of the present invention to provide such a stacking feature wherein the feature is formed in such a manner as to minimize the requirements of raw material for forming base members incorporating the stacking feature structure.

Briefly, the present invention contemplates a dual functional stacking feature for a base member having a flat central portion, and a peripherally continuous groove depending downwardly from the central portion. The stacking feature comprises a plurality of bosses located on the underside of the base at spaced intervals along the inner perimeter of the groove. Collectively the define an inset region adapted to fit over or receive the upper extent of a like package thereof. Further benefit of the stacking feature pertains to the assembly of the package wherein stacks of such base members are prevented from jamming or locking together. The invention in its preferred form contemplates a base member formed of plastic foam material wherein the density of the foam comprising the bosses is less than that in regions remote therefrom.

Yet additional objects and advantages of the present invention, and its numerous and cognate benefits, are even more apparent and manifest in and by the ensuing description and specification taken in conjunction with the accompanying drawing, in which, wherever possible, like characters of reference designate corresponding material and parts throughout the several views thereof in which:

FIG. 1 is a top view of a base member constructed according to the principles of the present invention;

FIG. 2 is a bottom view of the base member of FIG. 1;

FIG. 3 is a partial and enlarged cross-sectional view of the base member of FIG. 1 as shown in stacked relationship with a base member of like construction; and

FIG. 4 is a partial and enlarged cross-sectional view of the base member of FIG. 1 as incorporated in a package assembly, and shows in stacked arrangement a plurality of such packages.

Referring now more particularly to the drawings, there is shown in FIG. 1 a base member or lid 10 including a flat central or product receiving portion 12, and a peripherally continuous groove 14 disposed in immediately surrounding relationship about central portion 12. Groove 14, as best shown in FIG. 3, includes a skirt or inner wall 16 depending generally downward from central portion 12, and an outer wall 18 which extends upwardly from inner wall 16. Groove 14 is of substantially square cross section, and thereafter terminates in an outwardly extending flange 22. Deposited in groove 14 is a tacky or pressure sensitive adhesive layer 36.

Referring to FIG. 2, the underside of base 10 includes a plurality of stacking bosses or shoulders 26 symmetrically spaced along the inner perimeter 28 of groove 14. Each boss 26 is integrally formed with the skirt 16 and central portion 12, and extends inwardly from skirt 16 toward the outer regions of the central portion. The depth X of bosses 26 is substantially equal to the depth of groove 14.

Base member 10 can be constructed of a laminate material including an upper ply 24 of plastic film, and a lower ply 27 of plastic foam, as is denoted in FIG. 3.

The detail or configuration of base 10 is obtained by thermforming a sheet of such film/foam laminate material with the foam portion thereof initially in a nonexpanded or only partially expanded state. In forming process, the sheet is clamped between upper and lower suitably configured dies (not shown), heated to a temperature appropriate to expand the foam portion thereof, and a vacuum pulled on each side of the sheet. Plug assist can be employed to form groove 14. The foregoing technique permits free or vacuum assisted expansion of the sheet material into the hollow die face portions defining bosses 26. The end result is that the foam comprising bosses 26 is of a lower density than that in regions of base member 10 remote from the bosses. Thus, the amount of material per unit volume required to incorporate bosses 26 into the structure of base member 10 is significantly less, and a proportionately greater percentage of sheet material is available to obtain the required detail in the base member 10 regions comprising groove 14.

Base member 10 is for use in combination with a clear plastic tub component 38 as shown in FIG. 4, which includes a peripherally disposed tongue member 40 fittable in groove 14. In assembling such packages, a product 42, such as sliced luncheon meat or cheese, is placed on central portion 12 and the tub fitted over the product and secured to base member 10 by means of adhesive layer 36. Assembly can be had in a vacuum chamber of conventional construction whereby a vacuum environment is created in the package for purposes of extending product shelf life.

For further detail concerning such base member and tub assemblies, reference can be had to commonly assigned U.S. Pat. application Ser. No. 659,213, now U.S. Pat. No. 3,454,158 filed May 17, 1967, in the name of Ruben A. Tigner, a coinventor of the present invention, the full disclosure of which is hereby incorporated into these present teachings.

Referring to FIG. 2, dotted line 30 generally denotes the imaginary inner perimeter defined collectively by bosses 26. Perimeter 30 constitutes the boundary of an inset region 32, which can be appropriately dimensioned to fit over the top part, i.e., the upper extent 44 of tub component 38 (see FIG. 4) of packages incorporating base member 10 structure. Inset region 32 confines lateral movement of such packages in a stacked arrangement of the same, thereby stabilizing the stack to accommodate supermarket and like displays of such packages.

Referring now to FIG. 3, bosses 26 rest on the outer extent 34 of central portion 12 in a stacked arrangement of base members 10, whereby entrance of grooves 14 into each other is positively avoided. Thus, bosses 26 permit base members 10 to be stacked without a jamming or locking together of grooves 14. Or instances where a pressure sensitive adhesive layer 36 is deposited in groove 14, prevents such adhesive from sticking to the underside of the base member 10 adjacent thereto.

While certain representative embodiments and details have been shown for the purpose of illustrating the invention, it will be apparent to those skilled in the art that various changes and modifications can be made therein without departing from the spirit and scope of the invention. Such changes can be in other structures and materials which serve to achieve the principles of this invention.

We claim:

1. A base member for use in combination with a tub having a top wall and an outwardly and downwardly sloping sidewall,
said base member comprising plastic foam and including a generally flat central portion, a peripherally continuous groove extending downwardly from said central portion, a plurality of bosses located on the underside of said base and disposed at spaced intervals from each along the inner perimeter of said groove, said bosses extending inwardly from said groove and being adapted to rest on the outer extent of the central portion of a base member therebelow when a plurality of said base members are in stacked relationship, said bosses also collectively defining an inset region at the underside of said base member, the plastic foam comprising said bosses being of a lesser density than the plastic foam comprising regions of said base member remote from said bosses.

2. The base member of claim 1 wherein said inset region is suitably dimensioned to fit over the upper extent of the tub used in combination with said base member to form a container.

3. The base member of claim 1 wherein said groove includes a skirt depending generally downwardly from said central portion, said bosses being integral with said skirt.

4. The base member of claim 1 wherein the depth of said bosses is substantially equal to the depth of said groove.

5. The base member of claim 1 wherein a tacky adhesive is deposited in said groove.

6. The base member of claim 5 wherein a plurality of said base members are stacked, the underside of said grooves being in spaced relationship, respectively, with the adhesive layer of said base member directly therebelow in the stack.