July 3, 1956 A. GRECO 2,753,077

ALIGNABLE CANS

Filed Oct. 20, 1952

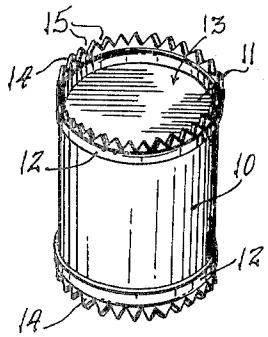


Fig. 1.

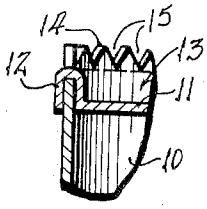


Fig. 4.

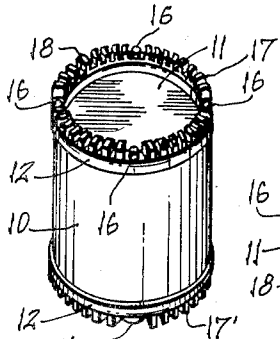


Fig. 5.

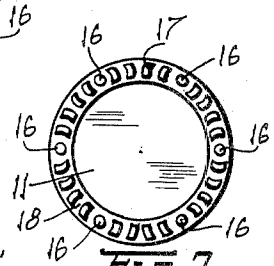


Fig. 7.

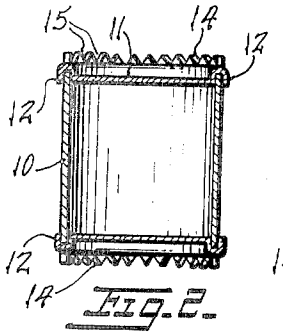


Fig. 2.

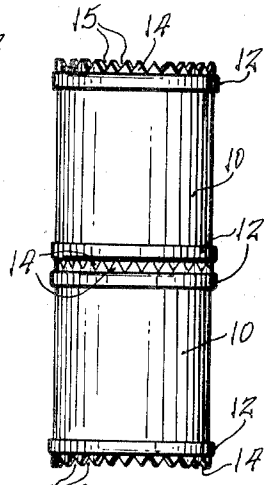


Fig. 3.

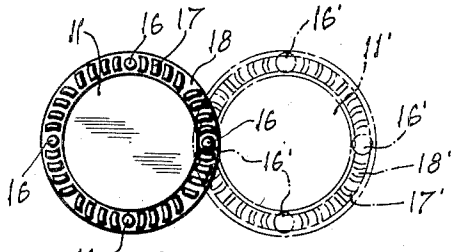


Fig. 6.

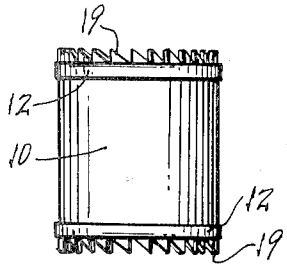


Fig. 9.

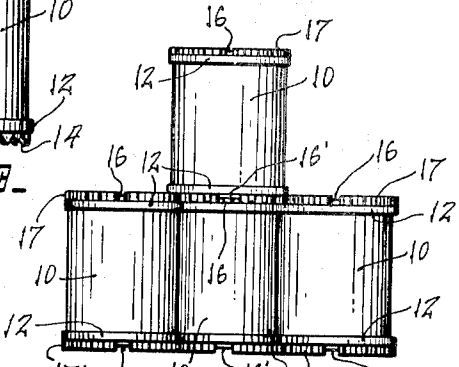


Fig. 8.

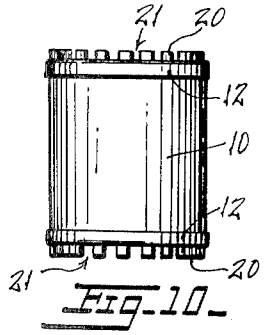


Fig. 10.

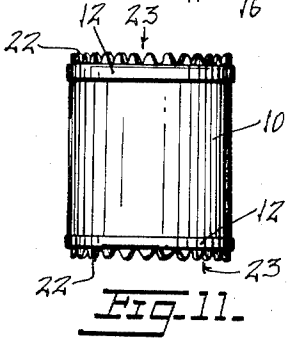


Fig. 11.

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ALIGNABLE CANS

Albert Greco, Mount Vernon, N. Y.

Application October 20, 1952, Serial No. 315,709

1 Claim. (Cl. 220—97)

This invention relates to improvements in cans or like containers.

The ordinary can containing foods, drinks and other products is provided with a cylindrical body having a cover with a projecting flange at each end thereof. The flanges have smooth outer surfaces so that when the cans are stacked upon one another, they tend to slip off and become displaced. It is therefore difficult to pile and maintain a plurality of such cans in equilibrium, alignment or balance with respect to one another.

It is the principal object of the present invention to provide a can or container with top and bottom ends having complementary interfitting portions that will guide the operator in piling the cans upon one another so that they can be positioned in alignment with one another in a convenient and efficient manner to maintain their equilibrium and balance with respect to one another.

Another object of the invention is to provide means on the can for guiding and adjusting the can to align with another can of similar construction automatically, whereby a plurality of cans can be piled upon one another in such a manner as to maintain their equilibrium with respect to each other, thereby providing means to pile a number of cans upon one another without danger of the cans tending to slip, fall or tumble off each other.

Another object of the invention is to provide an efficient and rapid means for piling a plurality of cans in a uniform and symmetrical fashion on a shelf or the like.

A further object of the invention is to provide means for piling a plurality of cans in pyramid fashion.

A still further object is to provide a non-slipping can which is simple in construction and economical to manufacture.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure

Fig. 1 is a front perspective view of a can embodying one form of the invention, looking down upon the top and one side thereof.

Fig. 2 is a vertical sectional view thereof.

Fig. 3 is an elevational view of two cans embodying the invention in stacked relation.

Fig. 4 is a fragmentary vertical sectional view of one end of the can.

Fig. 5 is a view similar to Fig. 1 but showing a modified form of the invention.

Fig. 6 is a top plan view thereof with the bottom of the can shown in silhouette in interlocking relation.

Fig. 7 is a similar view to Fig. 6 but showing a modified form of the invention.

Fig. 8 is an elevational view on a reduced scale showing the cans of Fig. 5 in stacked relation.

Fig. 9 is a side elevational view of another modified form of the invention.

Fig. 10 is a side elevational view of still another modified form of the invention.

Fig. 11 is a side elevational view of yet another modification of the invention.

Referring to the drawings, in Figs. 1 to 4, inclusive, a conventional can, having a cylindrical body **10** and an end closure or cover **11** at each end, is illustrated. The body is hollow and may be formed of any suitable material having the requisite rigidity, sealing properties and resistance to moisture, but sheet metal is preferred. The end closure or cover **11** is a flat disc of a diameter such as will fit fairly closely within the open can end and is formed with an annular, marginal flange **12** disposed to lie closely against the inner end surface of the body **10** and be bent over the end margin of said body and against and in overlying exterior relation with the outer end surface of said body. The bent-over portion of the flange is crimped, rolled, pressed, cemented or soldered to said body in accordance with conventional methods to perfect a sealed joint between meeting portions of the body **10** and cover **11**. The cover **11** is preferably of the same material as the body. The cover **11** is not flush with the outer margin of the corresponding end of the body, but the major plane of said cover is disposed inwardly of the body end sufficiently to provide a shallow, exterior recess **13** on the end of the finished can.

In accordance with the present invention, the outer surface of the bent-over portion of the flange **11** of each cover or end closure is formed with a plurality of spaced apart radially arranged protuberances in the form of teeth **14** projecting outwardly therefrom. The teeth are of triangular form with opposed sloping sides and are separated an equal distance from each other to provide spaces **15** therebetween.

When cans of the improved construction are superposed or stacked one upon another as seen in Fig. 3, the teeth **14** of the upper can engage and fit in the spaces **15** of the can located under it. The upper can is readily guided to its seat on the lower can by the teeth **14**.

In stacking the cans, it is immaterial which end is uppermost, either end being adapted for firm engagement with a like can which may be stacked thereon.

In the modified form of the invention shown in Figs. 5 to 8, inclusive, the flange **12** is formed with four circular protuberances **16** equally spaced around its circumference. On each side of each circular protuberance **16** is a plurality of arcuate-shaped protuberances **17**, spaced apart to form a recess **18** between adjacent protuberances. The arcuate-shaped protuberances **17** protrude slightly farther out than the circular protuberances **16**.

In the drawings, each circular protuberance **16** is shown provided with four such arcuate-shaped protuberances **17**, at each side thereof, said protuberances **17** being concentrically arranged with respect to each other and to the adjacent circular protuberance. At the other side of the can, the flange **12'** is formed with similar protuberances **16'** and **17'** and recesses **18'**. The protuberances **16** and **16'** are considerably smaller in height than the protuberances **17** and **17'** and the diameter of the protuberance **16'** is approximately twice the diameter of the protuberance **16**. The spacing and shape of the protuberances are such that the protuberances **16** will overlie the protuberance **16'** and the protuberance **17**

of an upper can engage in the spaces **18'** of a contacting can underneath.

Accordingly, when the cans are stacked upon one another, in pyramid fashion, as shown in Fig. 8, the protuberances **17** on the can overlie the recesses **18'** between the protuberances of a contacting can, at the two points of intersection of the can ends as shown in Fig. 6. There is thus provided an interlock between the cans, so that vagrant forces cannot move one can over the surface of the other.

When it is desired to remove a can from the stack, however, the interlock is quickly and readily broken by merely lifting the can straight upwardly.

In all other respects the form of the invention shown in Figs. 5 to 8, inclusive, is similar to that previously described and like reference numerals are used throughout to identify like parts.

The modification of the invention shown in Fig. 7 is similar to that shown in Fig. 5, but instead of four circular protuberances **16**, six of such protuberances are shown with arcuate-shaped protuberances **17** adjacent each circular protuberance. This form of the invention permits a greater number of cans to be stacked in pyramid fashion than the form of Fig. 6.

In Fig. 9, a modified form of protuberance **19** is shown in the shape of a sawtooth construction. These protuberances interlock in a fashion similar to the protuberances **14** of the form of Fig. 1.

In the modification of Fig. 10, the protuberances on both ends of the can are in the form of an annular accumulation of square-shaped corrugations **20** forming square shaped spaces **21** therebetween. The corrugations on the stacked cans interlock with one another automatically and in a tongue and groove fashion whereby the cans are held against displacement.

Fig. 11 shows the corrugations **22** and recesses **23** rounded instead of square-shaped as in Fig. 10.

It will be seen from the foregoing that the present invention provides a can structure with protuberances which serve as guides in stacking one can upon another, and which prevent slipping or displacement of such cans when stacked.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

A can having a hollow cylindrical body with flat disc closures at both ends thereof, and formed separately therefrom, each disc closure being disposed inwardly of the adjacent outer end edge of the body, each disc closure having a peripheral portion bent outwardly and extending along the inner surface of the protruding end edges of the body, across the top edge thereof and along the outer surface of said protruding end edge of the body, the portion crossing over the top edge constituting a bearing surface of appreciable width, a plurality of equally spaced circular protuberances extending axially outwardly of said bearing surface, and corresponding sets of spaced arcuate shaped concavo-convex protuberances extending axially outwardly of said bearing surface on opposite sides of each of said circular protuberances, said arcute protuberances being spaced apart a greater distance than the thickness of said protuberances, each protuberance of one set and the corresponding protuberance of the other set being equally spaced from its associate circular protuberance and forming arcs of a circle having the circular protuberance as its center, the arcuate-shaped protuberances protruding outwardly of the circular protuberances, the protuberances on the end disc closure being staggered with relation to the protuberances on the other disc closure.

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