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I. BENTON

2,288,602

CAN

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Fig. 1

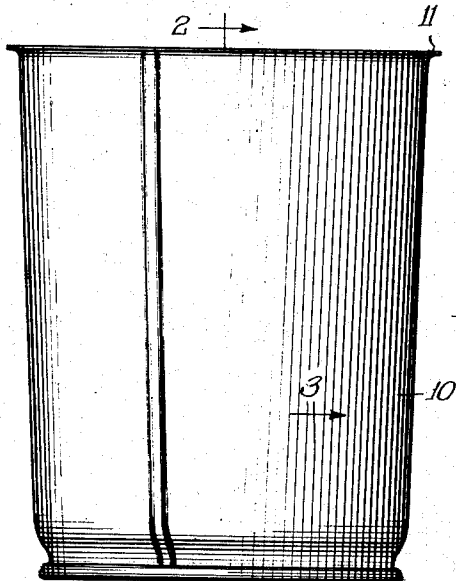


Fig. 2

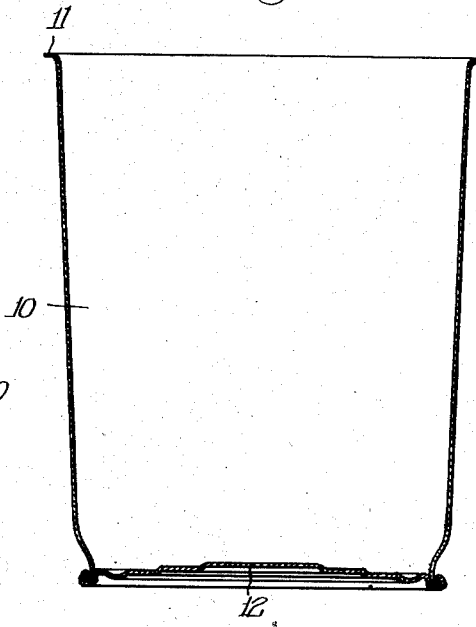


Fig. 3

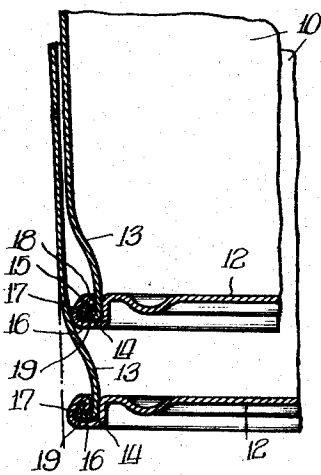


Fig. 4

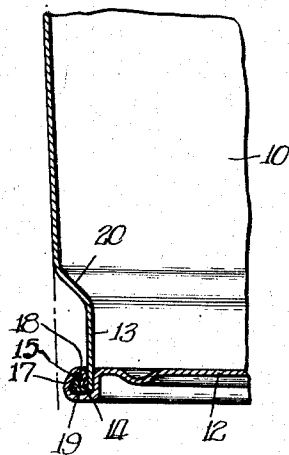
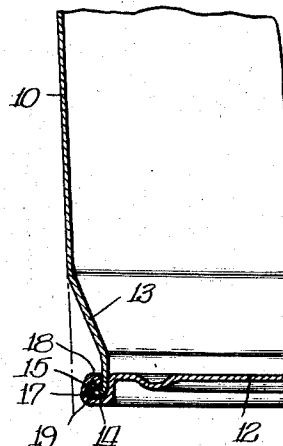


Fig. 5



INVENTOR.
Ian Benton
BY *Norman G. H. H. H. H.*
ATTORNEYS.

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CAN

Ian Benton, El Paso, Tex.

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2 Claims. (Cl. 220-97)

The present invention relates generally to cans. More particularly the invention relates to that type of can which is especially designed for the packaging and preservation of food.

It is the main and primary object of the present invention so to construct cans of this type that the same readily may be packed for shipment, and actually shipped in transportation to their points of use, at a greatly reduced cost to the purchaser or user. Thus, the cans may be placed in the hands of the user, even though the latter may be located at distant points, at figures that are relatively low, but greatly reduced as compared with the cost of the cans under former practices.

To the accomplishment of the foregoing ends, the present invention contemplates the provision of an improved form of can possessing generally a conical shape and other features of structure, whereby to enable the same to be nested with like or similar cans, and by which the consumer may obtain the same at the most economical price. At the present, fruit canning industries located far from industrial centers are compelled to choose between two courses, both of which are disadvantageous to them. Either they must pay a very high freight rate on made-up cans, which freight to distant points may amount to as high as 100% of the value of the original cans; or, to save such heavy freight rates, they must install expensive can making machinery at heavy capital expense, with the possibility of having such extra equipment idle for two-thirds of the year, and the resultant expense of interest charges combining to aggregate as much expense as if the extra high freight charges had been paid on the empty cans.

By the present invention the objectionable features above indicated are avoided, and a highly satisfactory type of packing can is provided.

Other objects of the invention and the various advantages and characteristics of the improved can will appear as the nature of the improvements is better understood, the invention consisting substantially in the novel form, construction and combination of parts hereinafter fully described, illustrated in the accompanying drawing, and finally pointed out in the appended claims.

While the forms of the invention herein shown and described are the preferred embodiments thereof, it is to be understood that the same are susceptible to change, modification and variation in form, proportion and minor details of construction, and the right is reserved to resort to

such changes as lie within the scope of the invention.

In the drawing

Fig. 1 is a side elevation of a packing can constructed in accordance with the present invention, the cover thereof being omitted;

Fig. 2 is a vertical transverse sectional view thereof;

Fig. 3 is a partial transverse sectional view, on an enlarged scale, illustrating one embodiment of the can, and showing the manner in which the cans of that form are packed in nested relation for shipment; and

Figs. 4 and 5 are similar views illustrating alternative or modified constructions of the can illustrated in Fig. 3.

Referring in detail to the accompanying drawing, the numeral 10 designates the body or side wall of the hereindescribed can. This is formed of suitable sheet metal designed for the purpose, and its shape is generally tapered from the top to the bottom. The main body portion of the side wall is straight sided, as shown in the drawing, and is uniformly tapered from top to bottom. At its top edge the cup is provided with an outwardly extending horizontally-disposed flange 11 which encircles the body of the can, and is designed for the purpose of attaching to the body 10 a suitable cover of the desired construction (not shown). If desired, the flange 11 may be omitted, and the upper edge of the side wall of the can permitted to remain free of the flange 11, or provided otherwise for the attachment of the cover referred to.

At the lower end of the body 10 is arranged a bottom 12. This may be crimped or otherwise provided with a suitable formation to impart strength and rigidity thereto.

The lower end of the body 10 is of a reduced diameter so as to permit the application of the bottom 12 to such end in such manner that when the bottom is so applied the outside diameter thereof shall not exceed the external diameter of the body 10 at a point above such reduced diameter. Preferably, the outside diameter of the bottom 12 should not exceed the diameter of the inside of the body at a point above the tapered portion of the body. The purpose of this will presently appear. In Figs. 3, 4 and 5 of the drawing, differing constructions of the lower ends of the body 12 appear. As shown in Fig. 3, it will be observed that the tapered portion of the body 10 is in the form of a compound curve 13, in the cross-section of the portion of the body beneath the body 10. The lower end of this

tapered portion 13 is truly cylindrical and has a ring-shaped outwardly extending integral horizontal flange 14 which terminates in an upwardly-extending ring-shaped flange 15. The flange 14 is received by an outwardly-extending horizontal flange 16 on the bottom 12. This flange 16 is of greater width than the flange 14 connected to the horizontal flange 16 by a substantially right angle bend is a substantially vertical flange 17 that embraces or laps the flange 15. The flange 17 terminates in an inwardly and downwardly bent flange 18 that is received between the upwardly-extending flange 15 and the lower end of the body or side wall of the can. Eventually, the flanges 14, 15, 16, 17 and 18 are tightly crimped together, as by compressing, so as tightly to join the lower end of the body 10 to the margin of the bottom 12.

That the joint between the edges of the bottom 12 and the lower edges of the body 10 may be rendered water-proof, and, therefore, tight against the passage of the liquid contents of the can or admission of air to the interior of the can, a lining 19, preferably in the form of a rubber paint, is arranged in the joint. A paper washer may be substituted for the rubber paint and serve the same purpose.

In the assembly of a plurality of the cans, as shown in Fig. 3, it will be observed that these are so related or nested that the bottom of each can rests upon the inwardly-extending tapered portion 13 of the can that is immediately adjacent thereto, and disposed immediately therebeneath, as shown in Fig. 3. In this associated relation of the cans the sealed bottom of the super-imposed can rests upon the inwardly-inclined tapered portion 13. In such position the sides of the adjacent cans are separated, as clearly illustrated in Fig. 3, so that they do not contact, but are free from engagement with each other, and in such position it is obvious that the innermost can readily may be separated from the can next adjacent thereto when it is desired to separate the several cans from each other.

In the assembled relation of the cans referred to, the positioning of the bottom of each of the innermost cans upon the next adjacent tapered portion 13 of the subjacent can, maintain the bottom 12 in separated relation with respect to the bottom of the subjacent can, and this serves also to maintain the free capacity of separation of each of the cans from the next adjacent can on which its bottom rests.

When the cans are assembled in the relation just described, it is important to observe that the bottoms of the several cans do not extend beyond the extreme outer diameter of the body portion of the cans with which the bottoms are assembled. This maintains the stack of the assembled cans in such fashion that there are no projecting portions of the bottoms lying beyond the extreme outside diameters of the can bodies themselves. Thus, the entire stack of cans is maintained in such fashion that no sticking of the respective cans ensues, but there is always perfect freedom for separating the respective cans from the entire stack when this is desired.

In Fig. 4 is disclosed another form of can. As distinguished from the form shown in Fig. 3, the tapered portion has an abrupt shoulder 20, that is, a shoulder having a greater degree of angular inclination than the tapered portion 13 illustrated in the form disclosed in Fig. 3. This affords a more pronounced seat for the lower end of the next innermost can body 10 that is

arranged in super-imposed relation with the shoulder 20.

The joinder of the bottom 12 with the body or side wall of this particular form of can is the same as in the form shown in Fig. 3.

Fig. 5 illustrates another form of the can in which the tapered portion 13 is of greater extent than in the forms shown in Figs. 3 and 4. This tapered portion of the body 10 is of less angularity than what is shown in Fig. 4, but the same positions the joint between the bottom 12 and the body 10 within the outer diameter of the latter so as to position this joint in such fashion as not to extend beyond the sides of the body 10.

The bottom 12 of the form shown in Fig. 5 likewise is joined to the body of the can in the same manner as is true of the forms shown in Figs. 3 and 4.

The arrangement of the can bodies in the stacked relation shown and described is such that the conical ends will afford a strong substantial support for the cans above and thereby maintain them in such relationship.

I claim:

1. As a new article of manufacture, a can designed to be nested with cans of the same size and construction and comprising an annular one-piece side wall having a straight sided main body portion with a comparatively small taper from top to bottom, a narrow intermediate portion at the bottom of the body portion and with a greater downward taper in order that it defines an interior ring-shaped shoulder for supporting a nested can thereabove, and a narrow substantially cylindrical bottom portion connected to the bottom of said intermediate portion and embodying an outwardly and upwardly extending ring-shaped flange and a separately formed disc-like bottom member extending across and serving to close the bottom portion of the side wall and embodying a ring-shaped flange having an outwardly extending portion underlying the outwardly extending part of the first mentioned flange and an upwardly extending portion connected to said outwardly extending portion by a substantially right angle bend and in lapped relation with the upwardly extending part of said first mentioned flange, the second mentioned flange being of less diameter than the smallest internal diameter of the main body portion of said side wall and adapted when the can is in nested relation with a subjacent can to have the bend between the outwardly and upwardly extending portions thereof rest loosely on the interior ring-shaped shoulder of said subjacent can and center the main body portion so that it is in spaced parallel relation with the body portion of the subjacent can.

2. As a new article of manufacture, a can adapted to be nested with like or similar cans and comprising an annular one-piece sheet metal side wall having a straight sided main body portion with a comparatively small taper from top to bottom, a narrow intermediate portion at the bottom of the body portion and with a greater downward taper in order that it defines an interior ring-shaped shoulder for supporting a nested can thereabove, and a narrow cylindrical bottom portion connected to the bottom of said intermediate portion and embodying an integral ring-shaped flange extending outwards from the bottom of said body portion and then upwards, and a separately formed disc-like sheet metal bottom member extending across and serving to

close the bottom portion of the side wall and embodying an integral ring-shaped flange having an outwardly extending portion underlying the outwardly extending part of the first mentioned flange, an upwardly extending portion connected 5 to said outwardly extending portion by a substantially right angle bend and in lapped relation with the upwardly extending part of said first mentioned flange, and a downwardly extending portion connected by a U-shaped bend to 10 the top of said upwardly extending portion and fitting between said upwardly extending part of said first mentioned flange and the adjacent

outer surface of the bottom portion of said side wall, the second mentioned flange being of less diameter than the internal diameter of the smallest part of the main body portion of said side wall and adapted when the can is in nested relation with a subjacent can to have the bend between the outwardly and upwardly extending portions thereof rest loosely on the interior ring-shaped shoulder of said subjacent can and center the main body portion so that it is in spaced parallel relation with the body portion of the subjacent can.

IAN BENTON.