

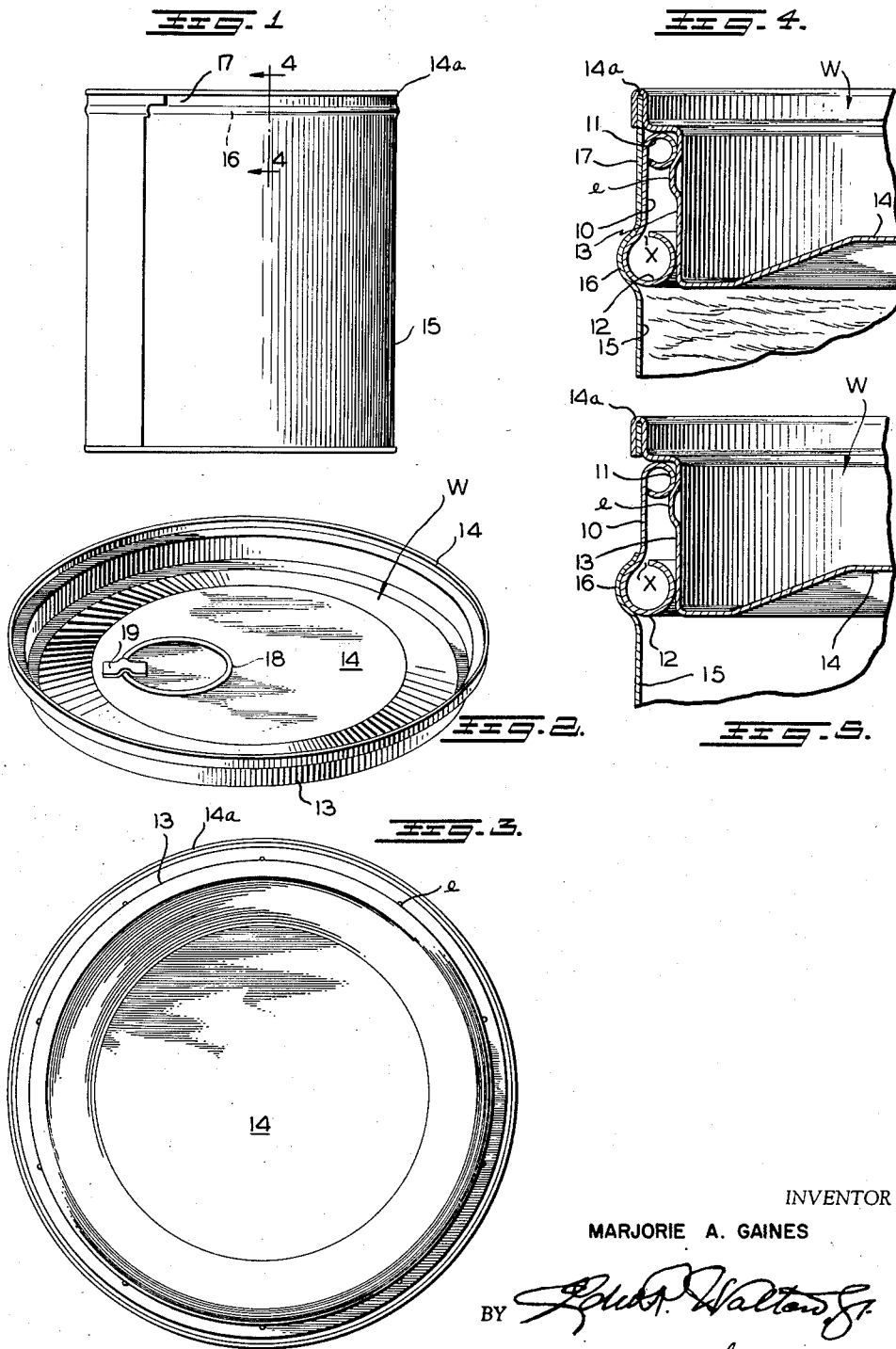
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SEALING RING FOR CONTAINERS

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SEALING RING FOR CONTAINERS

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The present invention relates to an improvement in containers having a plug-type cover or lid.

At the present time, metal containers are being employed for the packaging of various kinds of merchandise bought by the housewife and all of sizes which render them desirable as canisters for the preservation of foods, ingredients of foods and the like in the pantry, kitchen or other like places within the household, if such cans or containers were of a construction which, after their initial opening, presented a seal between the cover and the can body that is air and moisture proof. At the present time, these containers are discarded ordinarily and, therefore, are an economic loss after their original contents have been removed.

The main object and aim of the present invention relates to improvements in the construction of a can or container of the prior art, just mentioned, providing spaced double seals in a novel and economical manner between the cover and the can body and which insures against the admittance of air and moisture into the can when the cover is fully closed thereupon.

More specifically, the invention has for its object the provision of an annulus of sheet material, preferably metal, the body of which extends in a plane generally axially of the annulus and has rolled circumferential sealing beads formed around both edges of the annulus, the beads being dimensioned so that the diameter of the sealing surface of each bead is in the plane, or substantially the plane, of the circumferential surface of a circular wall of the lid or cover, to make a sealing pressing contact therewith, when the cover is inserted in the container; and, further, wherein one of said beads is disposed and sized so as to cooperate and interlock with a complementary groove in the body of the container to both hold and seal said ring on the container and to cooperate with a plug-type cover insertable into the annulus to form a sealing contact therewith.

The above and other objects and advantages of the invention will be apparent from the following detailed description of one embodiment of the invention as at present devised and as employed with the type of container illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of the container equipped with the present invention;

Figure 2 is an enlarged perspective view of the plug-type cover or lid for the container shown in Figure 1 and illustrating more particularly the upper surface thereof;

Figure 3 is a bottom plan of the cover or lid shown in Figure 2;

Figure 4 is an enlarged fragmentary sectional view taken substantially on line 4-4 of Figure 1 and illustrating the improvement of this invention with the cover or lid in closed and sealed position on the container as purchased with its contents; and

Figure 5 is an enlarged fragmentary sectional view similar to Figure 4 but wherein the sealing tear-strip has

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been removed or as the container may be manufactured for sale and use as a household canister.

Referring specifically to the drawings, in which like characters of reference refer to similar and like parts throughout the several views, the invention, shown more particularly in Figures 4 and 5, is to render a container useful as a household canister after its original contents have been removed, although it is within the purview of the invention to manufacture containers initially, employing my invention, for use as canisters.

The type of container 15, shown in Figure 1 and having a plug-cover 14 that engages with a bead 11 on a sealing-ring 10, is widely employed by packers of certain food-stuff which is purchased for the home and such containers are of such gradation of sizes as to serve admirably as household canisters for coffee, tea, sugar, flour, cookies or cakes, spices and the like. However, after the container has been unsealed, by removing the usual tear-strip 17, in the usual manner, to allow the cover or lid 14 to be removed and replaced, it has been found that a sufficiently good seal is not made or maintained between the bead 11 and the wall of the plug-cover 14 to exclude moisture and air from the interior of the container when used as a canister. This is probably due to the fact, among others, that the plug-cover lid 14 is formed with slight protuberances *e* projecting outwardly from the circular wall thereof at spaced distances apart around its circumference and positioned and of a size to snap over and under the bead 11 to lie immediately under said bead, when the lid 14 is inserted into closed position on the container, thereby acting as yieldable latches to hold the lid in closed position. Repeated opening and closing of the lid may cause passages to be made in the bead or the bead otherwise to become misshapen to allow admission of air and moisture into the container. This is merely a suggested reason for the failure of the containers 15 to be used as air and moisture tight canisters, the fact being that they do not.

To overcome the drawback, the present improvement comprises the provision of a sealing-ring 10, see Figures 4 and 5, constructed of a strip of suitable self-sustaining material—such as strip-metallic, fiber or resin material (the latter commonly referred to as "plastic" material)—jointed at its ends to form a ring having the width of the material extending generally in a direction axially of the ring and having its two marginal circumferential edges rolled to form beads 11 and 12. It is preferred, as shown, that the width of the strip material, comprising the ring, be such that the beads 11 and 12 are spaced one from the other for a distance; but, in any event, the inner circumferential outer surfaces of the beads 11 and 12 are positioned relative to each other to be contacted by the annular side wall 13 of a plug-type cover or lid 14, when such a lid of proper dimensions is inserted thereinto, as shown in Figures 4 and 5, thus forming a double seal against the passage of air and moisture therebetween.

It is also preferred that the beads 11 and 12 be rolled inwardly of the ring 10 and that the lower bead 12 be a loose roll—that is to say, the free extremity of the material forming the bead is slightly spaced from the opposing body portion of the ring—to provide a gap *x* so that the inner circumferential portion of the bead 12 will be slightly resiliently yieldable when contacted by the wall 13 of the lid 14, thus making a firm sealing contact therewith.

The sealing ring 10 may be attached to the open end of a container 15 in any desired manner in order to cooperate with the lid or cover 14; but the sealing-ring 10 here shown is attached to the container in the conventional manner, that is, by inserting the ring 10 into the open end of the container 15 and rolling the material of the can or container 15 partially about the outer circumferential por-

tion of the lower bead 12 on the ring 10, thereby forming a groove 16 interior of the container to retain the opposing portion of the bead 12 with a pressed fitted-contact, thus firmly holding the ring in position with a hermetic seal.

In so securing the seal-ring 10 to the container 15, the lower bead 12 is formed and positioned so that its outer circumferential portion extends outwardly beyond the plane of the intermediate body portion of the ring or, in other words, the plane of the body portion intersects the bead 12. Also, if the container is initially made to have a tear-strip 17 extending upwardly from the rolled groove portion 16 and having the rim edge 14^a of the cover or lid 14 seam-cripped about its upper end, as shown in Figures 4 and 5, the upper bead 11 should lie entirely inwardly of the ring 10 and the lower bead 12 must be of a size or dimension so that its inner circumferential outer surface will engage with the annular sealing wall 13 of the plug-cover or lid with a resilient pressing-fit. Thus, the cross-sectional diameter of the bead 12, per se, will be larger than the cross-sectional diameter of the bead 11, per se.

Accordingly, the well w of the lid 14 is made to provide the annular sealing wall 13 of the lid 14 with an extended or depending area having a smooth outer surface devoid of projections or depressions and concentric with the bead 12 and which moves over or slides against the resiliently yieldable bead 12. Although the showing in Figures 4 and 5 is exaggerated in size for the sake of clarity in this disclosure, the beads 11 and 12 will be closer together in the actual device and the lower bead 12 will be somewhat larger in diameter than the upper bead 11 to obtain the result above described, when the ring 10 is to be secured to the container as shown.

In the use of the present invention, the spaced latch projections e, shown in Figures 4 and 5, may be eliminated as the tight circumferential gripping of the lid 14 by the spaced beads 11 and 12 against its annular sealing-wall 13 will firmly hold the cover 14 in place.

In order to facilitate the removal of the lid 14 from its closed position on the container 15, the lid is provided with a suitable pull-handle or finger-piece 18 which may be of ring-form pivotally attached to the lid by pivot plate 19 welded thereto. While the pull-handle 18 may be disposed at any desired position on the lid, it is preferred to locate it adjacent the perimeter of the lid.

From the above, it is manifest that the improved sealing ring 10 in combination with a plug-type cover results in a structure providing a double-seal for a container, which assures a far greater degree of aridity to the interior of canisters for the lengthy preservation of food and other products, contained therein, that may be subject to damage from air and moisture; and that according to this invention a container of a type now

being widely used to merchandize food products may be readily modified to incorporate this invention to render them re-usable as air and moisture-proof canisters after they have been initially opened.

Having thus described the invention and its manner of construction and use, in connection with one form of container with which it may be employed, it is to be understood that the invention is not to be limited to the exact construction, or to the container, herein shown and described as it is susceptible of modification and variations that fall within the scope of the appended claims.

That which is claimed, as new and to be secured by Letters Patent, is:

1. In a container having an open end, a sealing ring secured within the open end portion of the container and comprising sheet material extending generally axially of the ring and having its opposite edges formed with circumferentially extending inwardly rolled beads lying inwardly of the sealing ring, a plug-type cover for the container having a circular wall concentric with the beads and adapted to extend into the open end of the container for at least the distance of the axial length of the ring, said beads being dimensioned to be engaged circumferentially on their inner diametric surfaces by said wall of the cover with a tight sliding fit, when the cover is inserted in closed position on the container, thereby to form a double air and moisture proof seal therearound.

2. The subject matter of claim 1 wherein at least a portion of said wall of the cover engageable by said lower bead is a smooth surface devoid of projections and depressions.

3. The subject matter of claim 1 wherein the rolled extremity of the lower bead is spaced from said ring to be resiliently yieldable under contact with the wall of said cover.

4. The subject matter of claim 1 wherein the outer circumferential portion of the lower bead extends beyond the body of the ring and projects with a tight seal fit into a complemental groove circumferentially extending on the interior surface of the side wall of the container adjacent its open end and wherein the circumferential extremity of the material forming the lower bead is spaced from the remainder of the ring whereby to render the inner circumferential portion of said bead resiliently yieldable under contact with the wall of said cover.

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