Feb. 23, 1954 T. H. THOMPSON 2,670,098

SEAL FOR CANS

Filed Jan. 10, 1951

FIG. 1

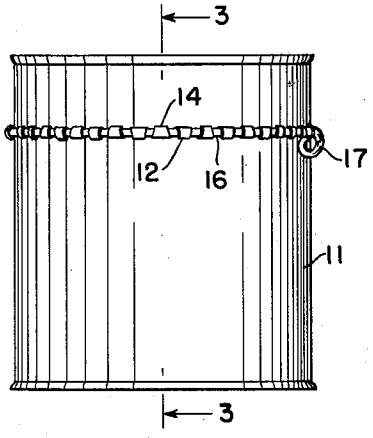
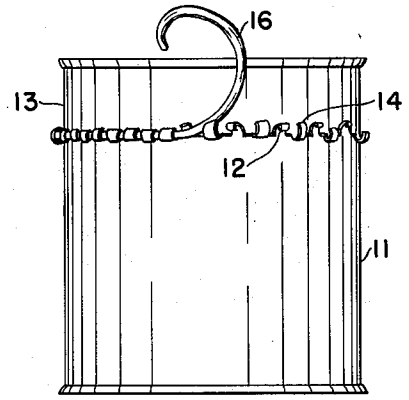


FIG. 2



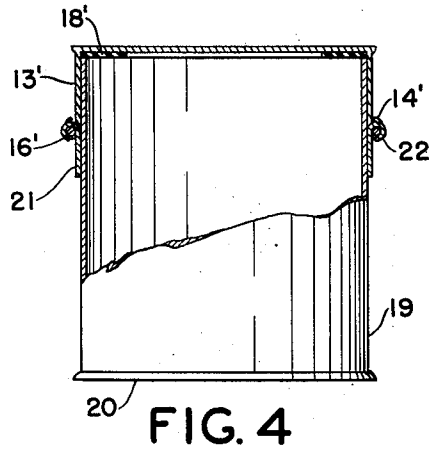


FIG. 4

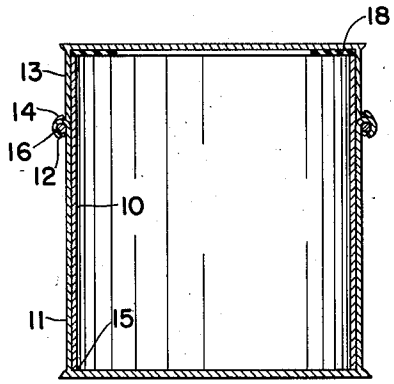
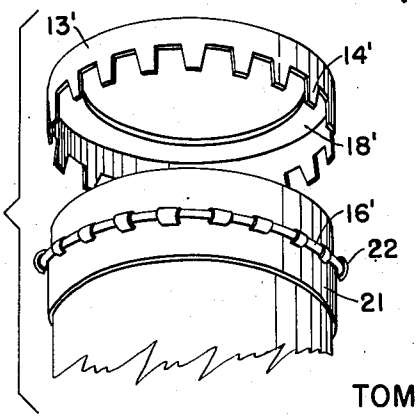


FIG. 3

FIG. 5



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2,670,098

SEAL FOR CANS

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5 Claims. (Cl. 220—47)

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My invention relates to seals for containers generally, but more in particular to a specially prepared can for food and the like with a lid therefor which may be removed from the can after sealing without the use of a can opener, key or other instrument.

For a number of years, various foods and other items have been preserved by means of canning, and the canning industry has made great strides both in the type of material used and the coating of metal cans and in the method of pressure sealing. However, little effort has been put forth to provide a can for such commodities which may be hermetically sealed and yet provide a means of opening without the use of a can opener or other instrument.

With so many foods and other commodities now being canned, substantially every home is provided with one or more can openers varying from the single pointed "knife" type to elaborate "wheeled" mechanisms, each and all of which are dangerous in that they actually cut the metal top of the can above the contents and create the possibility of metal chips falling into the can. Housewives not supplied with the more expensive types of openers often spend laborious minutes opening a can with some dull instrument while they simultaneously subject their hands to injury as well as the contents of the can.

It is an object of the present invention to provide a specially prepared can and a lid therefor whereby the lid may be easily applied to the can for sealing the contents and whereby the lid may be removed by hand without the use of a conventional can opener or key.

Another object of the invention is to provide a can for foods and the like comprising an open ended cylinder with sealing jackets for each end meeting and locking with each other at a medial point on the cylinder, the locking joint being easily disjoined by hand to open the can.

Further objects and advantages of the invention will be found in the course of the following detailed description when viewed together with the accompanying drawing in which:

Fig. 1 is an elevational view of a can made in accordance with the teachings of the present invention, the same being shown in the completely sealed position.

Fig. 2 is a view similar to that of Fig. 1, but showing a step in removing the sealed lid from the can.

Fig. 3 is a cross sectional view taken along the line 3—3 of Fig. 1.

Fig. 4 is an elevational view partly in cross-section showing the invention in modified form.

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Fig. 5 is an exploded detail view of the assembly illustrated in Fig. 4 showing the lid removed.

In the drawing, numeral 10 designates an open ended cylinder of any length conforming to a standard of can sizes. To close one end of the cylinder, I have prepared a bottom portion 11 adapted to slidably receive the cylinder end, the side walls thereof extending upwardly along the cylinder to any point along the cylinder length. The upper rim of the bottom portion 11 is provided with serrations more nearly resembling gear teeth 12 as shown in detail in the modified view of Fig. 5. The upper rim of the bottom portion must be divided into a number of whole teeth, that is, each tooth and tooth space must be uniform so that the interlocking teeth of the lid will be perfectly matched therewith. It will also be noted that the number of teeth placed on the rim is unimportant so long as the spacing is equally divided.

I have also prepared an upper lid 13 made similar to the bottom portion 11. This lid is also provided with teeth 14 of the same size and shape as those 12 on the lower portion and also of the same number.

To prepare the can for use, the bottom portion 11 is slipped over the cylinder 10. When the lower rim of the cylinder 10 abuts the bottom of the portion 11 the point of junction 15 may be soldered or any of the well known lock joints may be run around the can to seal the two members together.

The next step in preparing the can for sealing is to place a split ring 16 around the bottom portion 11 just below the base of the teeth 12. Each of the teeth on the bottom portion is then folded around the ring 16 in the manner best illustrated in Fig. 3. It will be understood that the ring 16 is made of material, circular in cross-section, of a strength and size sufficient to hold the lid, yet flexible enough so that the same may be "peeled" from the can as will be described later. As shown in Fig. 1 a short length 17 of the ring 16 is left protruding from the line of the teeth 12 to be used as a gripping means or handle when the same is stripped from the can.

When the lid 13 is ready to be placed on the can, the same is fitted over the upper end of the cylinder 10. On the inside of the lid 13 I have positioned a rubber sealing ring 18 which may be secured to the inside of the lid or placed loosely therein. When the lid is in the final assembled position, the sealing ring serves as a gasket between the inside of the lid 13 and the upper

edge of the cylinder 10 to hermetically seal the can.

The teeth 14 of the lid will, of course, be enmeshed with those of the bottom 11, these teeth also fitting behind the split ring 16. To lock the joint thus made, the upper teeth 14 are bent upwardly and folded around the split ring 16 in the same manner as those of the lower jacket. The can is now completely sealed and is ready for shipping or storage.

To open the can, it is only necessary to grasp the protruding end 17 of the split ring 16 and pull. The pulling force will deform and disengage the interlocked teeth in the manner illustrated in Fig. 2 and release the lid for removal.

While the position of the locked joint may be placed anywhere along the height of the can, it is preferred that the bottom portion be made longer than the upper removable lid, so that minimum effort will be required to slip it off the cylinder 10.

In the present construction it will be noted that the can is sealed as perfectly as if both ends were soldered in the conventional manner, and the contents are actually protected by a double wall against spoilage or damage.

In Figs. 4 and 5, I have illustrated my invention in a modified form which consists in providing a conventional can 19 with a conventional bottom 20. In this construction, a relatively narrow band 21, provided with teeth 22 on its upper rim edge of the size and shape as mentioned above, is soldered around the side walls of the can near the top thereof at a position sufficient to interlock with the teeth of the lid 13'. The split ring 16' is mounted around the band 21 by bending its teeth 22 over and around it in the manner illustrated in Fig. 5, and the lid 13' is then mounted in the same manner as above described. The sealing ring 18' is also used to hermetically seal the can, as shown.

As seen in the constructions shown and described, I have provided an unique can and a method of sealing not heretofore known or used in the prior art. The can is simple in construction and easily produced with presently known machinery. The can may be opened without the use of any can opener or other special instrument and may even be re-used by re-applying the split ring and locking the toothed joint as described. It may be made in any size whether for containing foods, paints, oils or the like and further modified in any manner within the purview of the following claims.

I claim:

1. Apparatus of the class described comprising an open ended cylinder, bottom means closing one end of said cylinder, a lid closing the other end of said cylinder, said lid having top and side wall portions, fastening means secured to said cylinder for fastening said lid on said cylinder, said fastening means being provided with spaced teeth, a split ring having free ends which are unattached, said ring being placed about said fastening means and held thereto by said spaced teeth which are contiguously bent about said split ring, teeth on the side wall portion of said lid engaging said split ring, said last mentioned teeth being bent about said split ring and interspersed between the teeth on said fastening means to lock said lid in sealed position on said cylinder, the top of said lid being drawn down by said teeth on the side wall portion of said lid to bind said lid in sealing relationship with said cylinder.

2. Apparatus of the class described comprising an open ended cylinder, bottom means closing one end of said cylinder, a lid closing the other end of said cylinder, said lid having top and side wall portions, fastening means secured to said cylinder for fastening said lid on said cylinder, said fastening means being provided with spaced teeth, a split ring having free ends which are unattached, said ring being placed about said fastening means and held thereto by said spaced teeth which are bent outwardly and downwardly about said split ring, teeth on the side wall portion of said lid engaging said split ring, said last mentioned teeth being bent outwardly and upwardly about said split ring and interspersed between the teeth on said fastening means to lock said lid in sealed position on said cylinder, the top of said lid being drawn down by said teeth on the side wall portion of said lid to bind said lid in sealing relationship with said cylinder, said last mentioned teeth being deformable by tension on said split ring to release said ring for removal of said lid.

3. Apparatus of the class described comprising an open ended cylinder, bottom means closing one end of said cylinder, a lid closing the other end of said cylinder, said lid having top and side wall portions, fastening means secured to said cylinder for fastening said lid on said cylinder, said fastening means being provided with spaced teeth, a split ring having free ends which are unattached, said ring being placed about said fastening means and held thereto by said spaced teeth which are bent about said split ring, teeth on the side wall portion of said lid engaging said split ring, said last mentioned teeth being bent about said split ring and interspersed between the teeth on said fastening means to lock said lid in sealed position on said cylinder, the top of said lid being drawn down by said teeth on the side wall portion of said lid to bind said lid in sealing relationship with said cylinder, said last mentioned teeth being deformable by tension on said split ring to release said ring for removal of said lid.

4. Apparatus of the class described comprising an open ended cylinder, bottom means closing one end of said cylinder, a lid closing the other end of said cylinder, said lid having top and side wall portions, fastening means secured to said cylinder for fastening said lid on said cylinder, said fastening means being provided with spaced teeth, a split ring having free ends which are unattached, said ring being placed about said fastening means and held thereto by said spaced teeth which are bent about said split ring, teeth on the side wall portion of said lid engaging said split ring, said last mentioned teeth being bent about said split ring and interspersed between the teeth on said fastening means to lock said lid in sealed position on said cylinder, resilient sealing material inside said lid, the top of said lid being drawn down by said teeth on the side wall portion of said lid to bind said resilient material in sealing relationship with said cylinder, said last mentioned teeth being deformable by tension on said split ring to release said ring for removal of said lid.

5. Apparatus of the class described comprising an open ended cylinder, bottom means closing one end of said cylinder, outer wall means secured to said bottom means and surrounding the lower portion of said cylinder, a lid closing the other end of said cylinder, said lid having top and side wall portions, fastening means secured to said

outer wall means for fastening said lid on said cylinder, said fastening means being provided with spaced teeth, a split ring having free ends which are unattached, said ring being placed about said fastening means and held thereto by said spaced teeth which are bent outwardly and downwardly about said split ring, teeth on the side wall portion of said lid engaging said split ring, said last mentioned teeth being bent outwardly and upwardly about said split ring and interspersed between the teeth on said fastening means to lock said lid in sealed position on said cylinder, resilient sealing material inside said lid, the top of said lid being drawn down by said teeth on the side wall portion of said lid to bind said resilient material in sealing relationship with

said cylinder, said last mentioned teeth being deformable by tension on said split ring to release said ring for removal of said lid.

TOM H. THOMPSON.

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