May 22, 1951 G. E. ECKMAN 2,553,559

COMPARTMENT CONTAINER ASSEMBLY

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Fig. 1

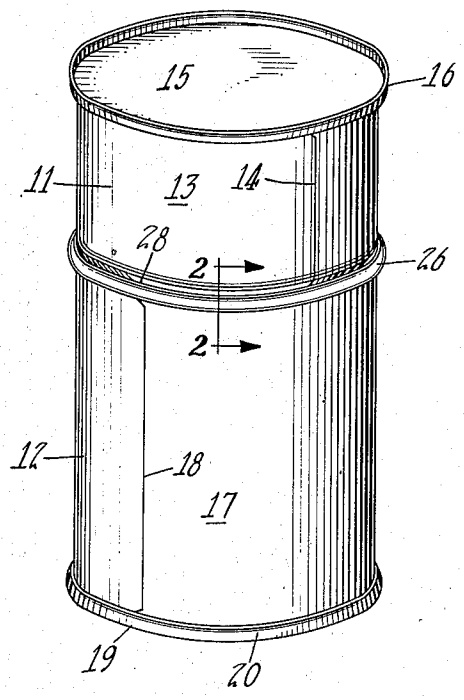
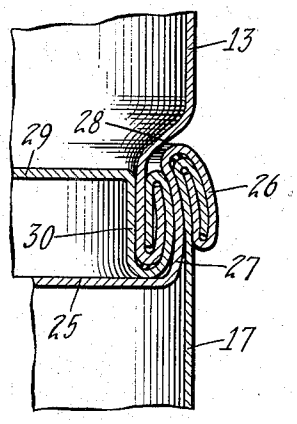



Fig. 2




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## COMPARTMENT CONTAINER ASSEMBLY

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6 Claims. (Cl. 220—20)

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The present invention relates to containers and has particular reference to a compartment container assembly formed of a plurality of individual hermetically sealed cans having their adjacent end seams inseparably secured together to form a rigid unitary package.

In the merchandising of certain products such as chemicals, photographic supplies, paint supplies, foodstuffs, etc. it is often desirable to package together two or more different commodities which are to be sold and used together but which must not be mixed prior to being used. Previous attempts at supplying packages for such products have usually resulted in specially constructed containers or separate locking bands which have been unattractive in appearance, expensive, and often impractical.

The present invention overcomes these disadvantages by providing a compartment container formed from two individual, inexpensive, hermetically sealed, double seamed cans which are permanently locked together by means of their end seams in a simple clinching operation without requiring the use of special or separate connecting devices.

The container assembly is particularly useful in the packaging of foodstuffs which require different processing conditions, since the individual cans may vary in capacity and may be separately filled, sealed, and processed, and then seamed together to form a compact compartment container.

A compartment container made according to the present invention may, of course, be advantageously used to package under vacuum a single product such as coffee. One compartment may be opened and its contents used without exposing the contents of the other compartment to the deleterious effects of the atmosphere.

The invention is also adaptable to provide a continuous collective rigid column unit of cans containing explosives. The column may be formed of two or more cans and can easily be made of any desired length.

An object of the invention, therefore, is the provision of a simple container structure capable of numerous and diversified uses wherein two or more individual cans are permanently locked together to form a compartment container without requiring the use of separate connecting devices.

Another object of the invention is the provision of an end-to-end container assembly wherein adjoining end seams on adjacent cans are permanently clinched together in a smooth neat joint

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to form an inexpensive compartment container of pleasing appearance.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of a compartment container assembly embodying the instant invention; and

Fig. 2 is an enlarged sectional detail taken substantially along the line 2—2 in Fig. 1.

As an exemplary embodiment of the instant invention, the drawing discloses a compartment container composed of two cylindrical cans 11 and 12 permanently connected together to form a rigid unitary package.

The upper can 11 is formed with a tubular body 13 made from a single blank having its marginal edge portions joined in a side seam 14. A suitable end closure member 15 is secured to the upper end of the body 13, preferably, although not necessarily, by means of a conventional hermetic double seam 16. The lower can 12, shown here as being of greater height and capacity than the upper can 11, is similarly formed with a body 17 having a side seam 18, an end closure member 19 being double seamed at 20 to the lower end of the body 17.

The upper end of the lower can body 17 is closed by means of a countersunk end closure member 25 which is secured thereto in an interfolded double seam 26 and which is provided with a countersink wall 27 (Fig. 2).

The upper body 13 preferably is of the same diameter as the lower body 17 in order to make the compartment container assembly substantially uniform in diameter. The body 13 is, however, necked inwardly at 28 to reduce the diameter of its bottom peripheral portion. An end closure member 29, smaller in diameter than the end closure member 25, is attached to the reduced bottom portion of the body 13 by means of a double seam 30.

The body 13 is necked-in sufficiently so that the external diameter across the double seam 30 is just equal to or slightly less than the internal diameter of the double seam 26, with the result that the double seam 30 fits telescopically into the countersunk end 25 for the full depth of the countersink wall 27. As seen in Fig. 2, the countersink wall 27 is deeper than and extends below the double seam 26. The depth of the countersink wall 27 also exceeds the height of

the end seam 30. Hence, the double seam 30 rests concentrically within but in a slightly lower position than the double seam 26, both seams being substantially equal in height.

When the cans are thus positioned, the seam 26 is rolled or clinched inwardly around and over the seam 30 (Fig. 2). Such a clinching operation may be performed in any suitable manner, and results in the seam 26 being offset inwardly in such a manner that the countersink wall 27 closely engages or embraces the curved outer layer of the seam 30. The upper portion of the seam 26 actually overhangs a portion of the seam 30 since the inside diameter of this deformed portion of the seam 26 is less than the outside diameter of the seam 30. Hence, the cans are rigidly and inseparably locked together to form a unitary compartment container. The tight, permanent seal between the cans is made possible by the fact that the countersink wall 27 is greater in depth than the height of the seam 30, thus permitting the upper portion of the seam 26 to be inwardly offset over the top of the seam 30. The stiffness of the metal in the five layers of the double seam 26 resists any tendency which it might have to spring outwardly and release the upper can 11. Although in the preferred form of the invention the end closure members are double seamed to the bodies, it will be obvious that the invention is not limited to the use of double seams, and that any type seam which is sufficiently rigid may be advantageously employed.

While preferably the seam 26 is clinched inwardly or offset around its whole periphery, successful results can be obtained by indenting it inwardly at spaced peripheral points.

Similarly, other modifications may be made in the structure of the compartment container assembly without losing the main advantages of the invention. As an example, to eliminate the necessity of necking-in the body of the upper can, this can body may be made with the usual straight side walls and of a diameter to permit the usual end seam of such a can to telescope into the countersunk end closure of the lower can in the desired manner as explained above.

In another modified form, both the upper and lower can bodies may be equal in diameter, the upper peripheral portion of the lower body being flared outwardly to enable its top end seam to fit around the bottom end seam of the upper body.

It should be understood that the terms "upper" and "lower" as employed in the specification and claims are used only with relation to the position of the compartment container in the drawings and not in any limiting sense whatsoever, it being obvious that the position of the compartment container may be reversed without detracting in any way from the advantages of the invention.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A compartment container assembly, comprising a first container having an end member secured thereto in a first end seam, and a second container having an end member secured thereto in a second end seam, said first end seam being smaller in diameter than said second end seam and positioned within said second seam, at least a portion of said second seam extending beyond and being offset inwardly around a portion of said first named seam to thereby lock said containers together.

2. A compartment container assembly, comprising at least two containers having end seams and positioned in end to end relationship, one of said end seams having a larger diameter than the other and telescopingly receiving said other smaller diameter end seam, at least a portion of said larger diameter end seam extending beyond and being bent inwardly over said smaller diameter end seam to lock said seams together to provide a multiple compartment container.

3. A compartment container assembly, comprising a lower container, a countersunk top end member secured to said lower container in an upstanding top seam, an upper container, and a bottom end member secured to said upper container in a bottom seam, said bottom seam fitting into said countersunk top end member within said upstanding top seam, a portion of said upstanding top seam extending upwardly beyond said bottom seam and being offset inwardly around a portion of said bottom seam to thereby lock said containers together.

4. A compartment container assembly, comprising an upper container, a bottom end member secured to said upper container in a bottom seam, a lower container, a countersunk top end member secured to said lower container in an upstanding top seam, and a countersink wall in said countersunk top end member, said countersink wall being greater in depth than the height of said bottom seam, said bottom seam fitting into said countersunk end member within said upstanding end seam for the full depth of said countersink wall and with at least a portion of said upstanding seam extending upwardly beyond said bottom seam, said upstanding top seam being clinched inwardly around said bottom seam to thereby lock said containers together.

5. A compartment container assembly, comprising at least two containers having bodies of equal diameter, a countersunk end member secured to one of said bodies in an end seam, a reduced peripheral marginal portion in the other of said bodies, an end member secured to said reduced body portion in an end seam reduced in diameter with respect to said first named end seam, a countersink wall in said countersunk end member, said countersink wall being greater in depth than the height of said reduced end seam, said reduced end seam fitting into said countersunk end member for the full depth of said countersink wall and with at least a portion of said first named end seam extending beyond said reduced end seam, said first named end seam, including said extended portion thereof, being clinched inwardly around said reduced seam to thereby lock said containers together.

6. A compartment container assembly, comprising at least two hermetically sealed containers positioned in end to end relationship, said containers having tubular bodies, the ends of which are closed by means of countersunk end closure members secured thereto in double seams, one of said double seams on one of said containers being telescopically fitted within the adjacent countersunk end member of said other container to a depth greater than the height of said inner

telescoped double seam, at least a portion of the outer telescoped double seam, which joins said adjacent countersunk end member to said other container, extending longitudinally beyond said inner telescoped double seam and being offset inwardly to engage and to overhang said inner telescoped double seam to inseparably lock said containers together to form a unitary package.

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